Sunoco Partners Marketing & Terminals L.P.

NPDES Application
Individual Permit

Marcus Hook Industrial Complex

ME-2X Project

Marcus Hook, Pennsylvania

December 2017

Environmental Resources Management
75 Valley Stream Parkway
Suite 200
Malvern, PA 19355

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1. Pennsylvania Department of Environmental Protection Form 3150-PM-BWEM0035 – Notice of Intent Checklist for the NPDES Individual Permit for Stormwater Discharges Associated with Construction Activities

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

COMPLETENESS REVIEW CHECKLIST

Check-off: C = Complete, NC = Not Complete

STANDARD E & S AND PCSM COMPLETENESS REVIEW CHECKLIST

General

Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 2	☐	☐	Fully completed, properly signed and notarized Notice of Intent Form (1 original and 2 copies)	
☒	Part 11	☐	☐	Permit filing fee of $500 (general permit) or $1500 (individual permit) payable to the appropriate Clean Water Fund	
☒	Part 11	☐	☐	Disturbed acre fee payable to the Commonwealth of Pennsylvania Clean Water Fund	
☒	Part 5	☐	☐	Proof of receipt of municipal and county Acts 14, 67, 68, and 127 notifications; copies of certified mail receipts or acknowledgment letters from the local municipality and county government.	
☒	Part 7	☐	☐	A signed PNDI receipt for the project area showing "No Known Impact", or "Avoidance Measures" or "Potential Impact" and proof of delivery to the appropriate jurisdictional agency(ies) where further coordination is required, as appropriate) (Reference the *Instructions for a General (PAG-02) OR Individual NPDES Permit for stormwater discharges associated with construction activities*- Pennsylvania Natural Heritage Program (PNHP) & Pennsylvania Natural Diversity Inventory)	
☒	Part 9	☐	☐	Complete Erosion and Sediment Control Plans (3 copies)	
☒	Part 10	☐	☐	Complete Post Construction Stormwater Management Plan (3 copies)	
☒	Part 3	☐	☐	Fully completed General Information Form (GIF) (Individual Permits	
☒	Part 8	☐	☐	PHMC coordination letter/clearance (Individual Permits for 10 acres or more of disturbance only)	
☒	Part 1	☐	☐	Appendix A land use questions	

Item Location: D = E&S Drawings, N = E&S Narrative, D or N = Drawings or Narrative
D & N = Drawings and Narrative

E&S Plan Planning & Design 102.4(b)(4)

Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9	☐	☐	The E&S Plan is separate from the PCSM Plan and labeled "E&S" or "Erosion and Sediment Control Plan" and is the final plan for construction.	D & N
☒	Part 9 Workshe et 22	☐	☐	Documentation provided that E&S Plan was prepared by person trained and experienced in E&S design methods and techniques applicable to the size and scope of the project	N
☒	Part 9 Sec 3.0 g. 6 /C-03-C-05	☐	☐	E&S Plan minimizes extent and & duration of earth disturbance	D & N
☒	Part 9 Sec 3.0 g. 6 /C-03-C-05	☐	☐	E&S Plan maximizes protection of existing drainage features and vegetation	D & N
☒	Part 9 Sec 2.1 pg. 5/C-03-C-05	☐	☐	E&S Plan minimizes soil compaction	D & N
☒	Part 9 Sec 2.1	☐	☐	E&S Plan utilizes other measures or controls that prevent or minimize generation of increased stormwater runoff	D & N

	pg. 4-5/C-03-C-05				
Existing topographic features of the project site and the immediate surrounding area §102.4(b)(5)(i)					
Applicant		**Reviewer**			
Included	**Page Number**	**C**	**NC**	**Item**	**Item Location**
☒	Part 9/ C-02-C-05	☐	☐	Topographic map(s) of the project site provided	D
☒	Part 9 /C-01	☐	☐	Location map (USGS quadrangle) provided	D or N

Types, depth, slope, locations and limitations of the soils §102.4(b)(5)(ii)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	App B	☐	☐	Soil map provided	D or N
☒	Part 9 pg. 5	☐	☐	Soil use limitations and their resolutions provided	D or N

Past, present and proposed land uses and proposed alteration to project site §102.4(b)(5)(iii)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9 narrative sec. 1.1	☐	☐	Past land uses for past 50 years addressed	N
☒	Part 9	☐	☐	Present land uses for last 5 years addressed	N
☒	Part 9/C-03-C-05	☐	☐	Proposed alteration/land uses shown on a plan map	D

Volume and rate of runoff from the project site and its upstream watershed area §102.4(b)(5)(iv)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	Drainage area maps provided for proposed channels, basins, and traps	D or N
☐	N/A	☐	☐	Runoff calculations provided for proposed channels	N

Location of all surface waters and their classification under Chapter 93 §102.4(b)(5)(v)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9/C-01	☐	☐	Surface waters shown on plan map(s)	D
☒	Part 9 pg. 5	☐	☐	Existing/designated uses of all streams, lakes, ponds, wetlands or other surface waters identified	D or N

Narrative description of the location and type of perimeter and onsite BMPs §102.4(b)(5)(vi)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9 pg. 6-7	☒	☐	E&S BMPs identified/described	N
☒	Part 9 C-03 &C-06	☐	☐	E&S BMPs shown on plan map(s)	D

Sequence of BMP installation and removal §102.4(b)(5)(vii)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9 C-06	☐	☐	Construction sequence provided	D

Supporting calculations and measurements §102.4(b)(5)(viii)					
Applicant		Department			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	Calculations provided for all proposed channels, traps, and basins	N
☐	N/A	☐	☐	Standard E&S worksheets or equivalents completely filled out	N

Plan drawings §102.4(b)(5)(ix)					
Applicant		Department			
Included	Page Number	C	NC	Item	Item Location
☒	C-03-C-	☐	☐	Plan map(s) showing proposed earthmoving provided	D

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	05				
☒	Part 9/C-06, C-07	☐	☐	Details and/or typicals provided for each proposed E&S BMP	D

Maintenance program §102.4(b)(5)(x)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9/ C-06 &07	☐	☐	Maintenance of proposed BMPs addressed	D
☒	Part 9/C-06 &07	☐	☐	Inspection schedule for proposed BMPs provided	D
☒	Part 9/C-06	☐	☐	Written report documenting inspections and repairs specified	D

Recycling or disposal of materials §102.4(b)(5)(xi)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	Sheet C-06/ Part 9 (sec. 1.2 pg. 3)& Part 10 (sec1.2 pg. 2)	☐	☒	Anticipated construction wastes identified	D
☒	Sheet C-06 note 33/ Part 9 (sec. 3 pg. 7) & Part 10 (sec. 3 pg. 5)	☐	☐	Instructions provided for proper recycling/disposal of materials provided	D

Geologic formations/soil conditions that may have the potential to cause pollution §102.4(b)(5)(xii)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9 sec. 2.3 pg. 5	☐	☐	Geologic/soil conditions addressed	D or N
☒	Sheet C-03	☐	☐	Where potential for pollution identified, measures provided to avoid/minimize/or mitigate	D

Potential thermal impacts to surface waters §102.4(b)(5)(xiii)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9 Sec 1.2 pg.3	☐	☐	Potential for thermal impacts addressed	D or N
☐	N/A	☐	☐	Where potential for impacts exists, measures provided to avoid/minimize/or mitigate	D

E&S Plan designed and implemented to be consistent with PCSM Plan §102.4(b)(5)(xiv)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A Additional gravel will be added in areas where accelerated erosion is noticed. No structural PCSM BMP	☐	☐	Proposed structural PCSM BMPs shown on the E&S plan map(s)	D

☐	N/A	☐	☐	Existing/proposed riparian buffers outside limits of disturbance	D
☐	N/A	☐	☐	Proposed infiltration BMPs outside proposed grading areas	D

Existing/proposed riparian forest buffers §102.4(b)(5)(xv)

Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	Existing/proposed riparian forest buffers shown on plan map(s)	D
☐	N/A	☐	☐	Existing/proposed riparian forest buffers outside limits of disturbance	D
☐	N/A	☐	☐	Protection provided for wetlands within riparian forest buffer	D or N
☐	N/A	☐	☐	Riparian buffer offset shown, if necessary	D

Antidegradation Analysis

Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A Stormwater is pretreated on-site then treated at DECLORA POTW	☐	☐	Equivalency demonstration for alternative BMPs to a riparian buffer or riparian forest buffer	
☐	N/A Stormwater is pretreated on-site then treated at DECLORA POTW	☐	☒	Evaluation of nondischarge alternatives, including demonstration that a nondischarge alternative does not exist for both E&S and PCSM	N
☐	N/A	☐	☐	ABACT included where a nondischarge alternative does not exist for both E&S and PCSM	D or N
☐	N/A	☐	☐	Nondischarge and ABACT BMPs have been identified for both E&S and PCSM	D or N

Item Location: D = PCSM Drawings, N = PCSM Narrative, D or N = Drawings or Narrative
D & N = Drawings and Narrative

General PCSM planning and design 102.8(b)

PCSM Plan - General

Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 10	☐	☐	The PCSM Plan is separate from the E&S Plan and labeled "PCSM" or "Post Construction Stormwater Management Plan" and is the final plan for construction.	D & N
☐	Pending	☐	☐	Municipal or county engineer consistency letter provided	N
☐	N/A	☐	☐	Act 167 plan is dated January 2005 or later	N
☒	Part 10 Worksheet 22	☐	☐	Documentation provided that PCSM Plan was prepared by person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the project	N
☒	Part 10 Sec 2.1 pg.3	☐	☐	Preserve the integrity of stream channels and maintain and protect the physical, biological and chemical qualities of the receiving stream	D or N
☒	Part 10 Sec 2.1 pg.3	☐	☐	Prevent an increase in the rate of stormwater runoff	D or N
☒	Part 10 Sec 4.0 pg. 6	☐	☐	Minimize any increase in stormwater runoff volume	D or N
☒	Part 10/ sec 2.1 pg.3 Sheet C-08	☒	☐	Minimize impervious areas	D & N
☒	Part 10 Sec 2.1 pg.3 / C-08	☐	☐	Maximize the protection of existing drainage features and existing vegetation	D & N
☒	Part 10 Sec 1.2 pg. 3 C-08	☒	☐	Minimize land clearing and grading	D & N
☒	Part 10 sec. 2.1 pg. 3	☐	☐	Minimize soil compaction	D or N
☒	Part 10 Sec 2.1 pg.3/ C-08	☐	☐	Utilize other structural or nonstructural BMPs that prevent or minimize changes in stormwater runoff	D & N

Existing topographic features of the project site and the immediate surrounding area §102.8(f)(1)

Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9 C-02	☐	☐	Topographic map(s) of the project site provided	D
☒	Part 9/ C-01	☐	☐	Location map (USGS quadrangle) provided	D
☒	Part 9 Covertype is made land and urban area as defined by NRCS Web Soil	☐	☐	Type of cover	D

	Survey in sec. 2.3 of the narrative. Soil map can be found in App B.				
Types, depth, slope, locations and limitations of the soils and geologic formations §102.8(f)(2)					
Applicant		**Reviewer**			
Included	**Page Number**	**C**	**NC**	**Item**	**Item Location**
☒	C-08 (Note)	☐	☐	Soil map provided	D
☒	Part 10 Sec 2.3 pg. 4	☐	☐	Soil use limitations and their resolutions provided	D or N
☐	N/A	☐	☐	Site characterization of soil and geology, including appropriate infiltration and geological studies that identify location, depths, and methodology	D & N
☐	N/A	☐	☐	Geologic mapping features addressed where appropriate	D or N

Characteristics of the project site, including the past, present and proposed land uses and the proposed alteration to the project site §102.8(f)(3)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	C-08	☐	☐	Permit boundaries	D
☒	C-08	☐	☐	Proposed limits of disturbance	D
☒	C-08	☐	☐	Proposed contours and grades	D
☒	C-08	☐	☐	Proposed improvements (i.e. roads, buildings, utilities etc.)	D
☒	Part 10 sec 1.1	☐	☐	Past, present and proposed land uses	N
☐	N/A	☐	☐	Proposed waterways and stormwater management facilities shown on the plan maps	D
☐	N/A	☐	☐	Proposed impervious areas minimized & shown on plan map(s)	D

Net change in volume and rate of stormwater §102.8(f)(4)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 10 sec 4.0 pg. 6	☐	☐	Design storm used for calculations identified	N
☐	N/A	☐	☐	Pre- and post-construction hydrology runoff rate and volume are identified for the each drainage area of entire project site	N
☐	N/A	☐	☐	The net change in runoff rate and volume are identified for each drainage area of the entire project site	N
☐	N/A	☐	☐	Summary table in NOI consistent with runoff calculations, when applicants have utilized the manual to meet design standards	N
☐	N/A	☐	☐	Documentation summarizing the PCSM requirements (rate, volume, and water quality) for a DEP approved Act 167 plan, if applicable	N
☐	N/A	☐	☐	Documentation summarizing the alternative approach's design criteria for rate, volume and water quality, if applicable	N

Receiving surface waters §102.8(f)(5)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	C-01	☐	☐	Existing streams, wetlands, floodways, and watercourses shown on plan map(s)	D
☒	Part 10 sec 2.2	☐	☐	Existing and designated uses identified	D or N
☐	N/A	☐	☐	Boundaries for HQ or EV watersheds shown on plan map(s)	D
☐	N/A	☐	☐	Wetland boundaries consistent with delineation report	D

Written Description of the PCSM BMPs §102.8(f)(6)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 10/C-08	☐	☐	All permanent PCSM BMPs identified in the narrative and shown on plan drawings	D & N
☐	N/A Additional gravel will be added in areas where potential erosion is noticed	☐	☐	Specifications for all permanent PCSM BMPs provided	D
☐	N/A	☐	☐	Proprietary BMP systems are illustrated on the drawings in accordance with their manufacturer's requirements	D

Sequence of PCSM BMP implementation or installation §102.8(f)(7)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	Complete and site specific sequence of BMP installations provided	D
☐	N/A	☐	☐	Construction sequence addresses all structural BMPs	D
☐	N/A	☐	☐	Sequence for individual BMP installation	D
☐	N/A	☐	☐	Critical stages of BMP installation are identified	D
☐	N/A	☐	☐	Protection provided for infiltration BMPs until drainage areas completely stabilized	D

Supporting calculations §102.8(f)(8)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Section 1	☐	☐	Worksheets from the Stormwater BMP Manual provided when applicants have utilized the manual to meet design standards	N
☒	Section 1 and 2 pg. 23 and pg. 5	☐	☐	Figures contained on worksheets consistent with those in NOI/application when applicants have utilized the manual to meet design standards	N
☐	N/A	☐	☐	Calculations for all permanent BMPs and points of interest provided	N
☐	N/A	☐	☐	Methodology used for all calculations is identified. Calculations demonstrating that rate, volume, and water quality were met in accordance with 102.8(g)(2)(i-iii) and 102.8(g)(3)(i-ii) AND/OR a DEP approved Act 167 plan OR an alternative approach	N
☐	N/A	☐	☐	Routing analysis to demonstrate peak control for the 2-, 10-, 50-, and 100-year/24-hour storm events, which considers benefits of proposed BMPs provided	N

Plan drawings §102.8(f)(9)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	Locations of all proposed BMPs shown along with tributary drainage areas	D
☐	N/A	☐	☐	Existing and proposed discharges & points of interest shown	D
☒	C-08	☐	☐	PCSM Plan drawings consistent with E&S Plan in relation to proposed contours, improvements, soils, wetlands, floodways, streams, discharge locations, etc.	D
☐	N/A	☐	☐	Construction details provided for all PCSM BMPs	D
☐	N/A	☐	☐	Dimensions and elevations consistent with those used in supporting calculations	D & N

Long-term operation and maintenance schedule §102.8(f)(10)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	Inspection schedule of each permanent BMP is provided	D
☒	Part 10/C-08	☐	☐	Directions for maintenance and/or replacement of each BMP provided	D

Recycling or disposal of materials §102.8(f)(11)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9&10	☐	☐	Project wastes identified	D
☒	Part 10/ C-08	☐	☐	Directions for recycling /disposal of wastes provided	D

Geologic formations or soil conditions §102.8(f)(12)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 10 Sec 2.3 pg. 4	☐	☐	Potential for geologic or soil conditions to cause pollution during construction identified	N
☒	C-08	☐	☐	Instructions for proper handling and/or disposal of all materials which could cause pollution are provided	D
☒	C-08	☐	☐	Typical details & instructions provided for proper handling and/or disposal of all such materials	D
☐	N/A	☐	☐	Locations of all such materials clearly shown on plan maps	D

Potential thermal impacts §102.8(f)(13)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 9 & 10 Sec 1.2 pg 2	☐	☐	Description provided of how thermal impacts of stormwater runoff from project site were avoided, minimized, or mitigated	N

Riparian forest buffer management plan §102.8(f)(14)					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	Existing and/or proposed riparian forest buffers shown on plan map(s)	D
☐	N/A	☐	☐	Impairment and TMDL status of the receiving water(s) for the project indicated	N
☐	N/A	☐	☐	Riparian buffer offset areas shown, if necessary	D & N
☐	N/A	☐	☐	Riparian buffer or riparian forest buffer equivalency demonstration included, if necessary	D & N
☐	N/A	☐	☐	Checklist for functional equivalency of riparian buffers and riparian buffers included	N

COMPLETENESS ITEMS BY PERMIT TYPE

Check-off: C = Complete, NC = Not Complete

Item Location: D = E&S/PCSM Drawings, N = E&S/PCSM Narrative, D or N = Drawings or Narrative
D & N = Drawings and Narrative

CHECKLIST FOR NEW NPDES PERMITS					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 1	☐	☐	1. All items included in the standard E&S and PCSM completeness review checklist	

CHECKLIST FOR NPDES PERMIT RENEWALS					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	1. If no changes have been made to the approved E & S and PCSM plan, the applicant does not need to submit these plans and letters again. However, if changes have been made to the plans, the revised plans must be resubmitted for approval and all letters must be reapplied for and included.	

CHECKLIST FOR PHASED NPDES PERMIT					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☒	Part 1	☐	☐	1. All items included in new NPDES permit application	
☒	App A	☐	☐	2. Anticipated project plan for entire project	
☒	Part 1	☐	☐	3. Estimated time frame for phases	

CHECKLIST FOR NPDES PERMIT MAJOR AMENDMENT					
Applicant		Reviewer			
Included	Page Number	C	NC	Item	Item Location
☐	N/A	☐	☐	1. All items included in new NPDES permit application.	

APPENDIX A

Land Use Information Questions

Responses to the following questions are required to determine applicability of DEP's Land Use Policy for Permitting of Infrastructure and Facilities.

Note: Applicants are encouraged to submit copies of local zoning approvals with their authorization application.

LAND USE INFORMATION		
1.	Is there an adopted county or multi-county comprehensive plan?	Yes ☒ No ☐
2.	Is there an adopted municipal or multi-municipal comprehensive plan?	Yes ☒ No ☐
3.	Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?	Yes ☒ No ☐
If the applicant answers NO to either Question 1, 2, or 3, the provisions of the PA MPC are not applicable and the applicant does not need to respond to questions 4 and 5 below. *If the applicant answers YES to questions 1, 2 and 3, the applicant should respond to questions 4 and 5 below.*		
4.	Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval? *If zoning approval has been received, attach documentation.*	Yes ☒ No ☐
5.	Have you attached Municipal and County Land Use Letters for the project?	Yes ☒ No ☐

APPENDIX B
SAMPLE COUNTY LAND USE LETTER*

**(This sample letter and form is provided for the convenience of the applicant and the County. It does not prohibit the applicant from using a different template nor does it prohibit the County from submitting a different form of response.)*

Date:

Dear County Planning Director:

Acts 14, 67, 68 and 127, which amended the Municipalities Planning Code, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities and infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code. The Pennsylvania Department of Environmental Protection's Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Permits for Facilities and Infrastructure (DEP's Land Use Policy) provides direction and guidance to DEP staff, permit applicants, and local and county governments for the implementation of Acts 67, 68 and 127 of 2000. This policy can be found at www.dep.pa.gov, keyword: Land Use.

In accordance with DEP's Land Use Policy, enclosed please find a County Land Use Letter that is to be submitted with our permit application to DEP for an NPDES Permit for Stormwater Discharges Associated with Construction Activities. Please complete the attached form and return within 30 days to:

Name of Applicant: _____

Address of Applicant: _____

Project Location: _____

Project Description: _____

_____

Please do not send this form to DEP, as we must include the County Land Use Letter with our permit application. If we do not receive a response from you **within 30 days**, we shall proceed to submit our permit application to DEP without the County Land Use Letter. If the County Land Use Letter is not submitted with our permit application, and we provide proof to DEP that we attempted to obtain it, DEP will assume there are no substantive land use conflicts and proceed with the normal application review process.

If you have any questions, please do not hesitate to contact me at (phone number and/or email).

Sincerely,

Attachment – Sample County Land Use Letter

cc: /county commissioners

APPENDIX B
SAMPLE COUNTY LAND USE LETTER

Date: _____

To: _____ (Name of Applicant)

From: _____ County Planning Agency/Commission

Re: _____ (Name of DEP Permittee)

The County of _____ states that it:

_____ has adopted a county or multi-county comprehensive plan.
If yes, please provide date of adoption:

_____ has not adopted a county or multi-county comprehensive plan.

If applicable:

The above referenced project:

___ is consistent with the adopted county or multi-county comprehensive plan.
___ is not consistent with the adopted county or multi-county comprehensive plan.

Additional Comments (attach additional sheets if necessary):

_____

_____

_____

_____

Submitted By:

Name	
Title	
Contact Information (Address & Phone)	
Signature	
Date	

APPENDIX C
SAMPLE MUNICIPAL LAND USE LETTER*

**(This sample letter and form is provided for the convenience of the applicant and the Municipality. It does not prohibit the applicant from using a different template nor does it prohibit the Municipality from submitting a different form of response.)*

Date:

Dear Municipal Secretary:

Acts 14, 67, 68 and 127, which amended the Municipalities Planning Code, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities and infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code. The Pennsylvania Department of Environmental Protection's Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Permits for Facilities and Infrastructure (DEP's Land Use Policy) provides direction and guidance to DEP staff, permit applicants, and local and county governments for the implementation of Acts 67, 68 and 127 of 2000. This policy can be found at www.dep.pa.gov, keyword: Land Use.

In accordance with DEP's Land Use Policy, enclosed please find a Municipal Land Use Letter that is to be submitted with our permit application to DEP for an NPDES Permit for Stormwater Discharges Associated with Construction Activities. Please complete the attached form and return within 30 days to:

Name of Applicant: _____

Address of Applicant: _____

Project Location: _____

Project Description: _____

_____

Please do not send this form to DEP, as we must include the Municipal Land Use Letter with our permit application. If we do not receive a response from you **within 30 days**, we shall proceed to submit our permit application to DEP without the Municipal Land Use Letter. If the Municipal Land Use Letter is not submitted with our permit application, and we provide proof to DEP that we attempted to obtain it, DEP will assume there are no substantive land use conflicts and proceed with the normal application review process.

If you have any questions, please do not hesitate to contact me at (phone number and/or email).

Sincerely,

Attachment – Sample County Land Use Letter

cc: /township supervisor chair

APPENDIX C
SAMPLE MUNICIPAL LAND USE LETTER

Date: _____

To: _____ (Name of Applicant)

From: _____ Township/Borough/City

Re: _____ (Name of DEP Permittee)

The municipality of _____ states that it:
_____ has adopted a municipal or multi-municipal comprehensive plan.
If yes, please provide date of adoption:

_____ has not adopted a municipal or multi-municipal comprehensive plan.

The municipality of _____ states that it:
_____ has adopted a county zoning ordinance, or a municipal or joint-municipal zoning ordinance.
_____ has not adopted a county zoning ordinance, or a municipal or joint-municipal zoning ordinance.

If applicable:

The municipality of _____ states that its zoning ordinance is generally consistent with its municipal comprehensive plan and the county comprehensive plan.

The above referenced proposed project
_____ meets the provisions of the local zoning ordinance

If zoning approval is required for the project to proceed, the above referenced project:
_____ has received zoning approval.
_____ has not received zoning approval.

If the proposed project has not received zoning approval:

What is the status of the zoning request for the proposed project? (e.g., Special Exception Approval from the Zoning Hearing Board required, Conditional Use approval from the Governing Body required)

_____
_____
_____
_____
_____
_____
_____
_____

Is there a legal challenge by the applicant with regard to zoning for the proposed project?

Name and Contact Information for Municipal Zoning Officer:

Additional Comments (attach additional sheets if necessary):

Submitted By:

Name	
Title	
Contact Information (Address & Phone)	
Signature	
Date	

Appendix D. Worksheets

Worksheet 1. General Site Information

INSTRUCTIONS: Fill out Worksheet 1 for each watershed

Date: 9/21/2017

Project Name: ME-2X Project

Municipality: Marcus Hook Borough

County: Delaware

Total Area (acres): 32.3

Major River Basin: Delaware

Watershed: Lower Delaware

Sub-Basin: Oldmans Creek, Repaupo Creek DE River

Nearest Surface Water(s) to Receive Runoff: Delaware River via DELCORA POTW

Chapter 93 – Designated Water Use/Existing Water Use: warm water fishes, migratory fishes, livestock water supply, irrigation

ıpaired according to Category 4 or 5 of the Integrated Water Quality Monitoring and Assessment Report? Yes ☒ No ☐

List Causes of Impairment: PCB

Is there an established TMDL that applies: Yes ☒ No ☐

Total Maximum Daily Loads (TMDLS)

Is project subject to, or part of: TMDLS 56.71 mg/day

Municipal Separate Storm Sewer System (MS4) Requirements? Yes ☐ No ☒

Existing or planned drinking water supply? Yes ☐ No ☒

If yes, distance from proposed discharge (miles):

Approved Act 167 Plan? Yes ☐ No ☒

Existing River Conservation Plan? Yes ☒ No ☐

Worksheet 2. Sensitive Natural Resources from PA Stormwater Best Management Practices Chapter 5

INSTRUCTIONS

1. Provide Sensitive Resources Map according to non-structural BMP 5.4.1 in Chapter 5. This map should identify wetlands, woodlands, natural drainage ways, steep slopes, and other sensitive natural areas.

2. Summarize the existing extent of each sensitive resource in the Existing Sensitive Resources Table (below, using Acres). If none present, insert 0.

3. Summarize Total Protected Area as defined under BMPs in Chapter 5.

4. Do not count any area twice. For example, an area that is both a floodplain and a wetland may only be considered once.

EXISTING NATURAL SENSITIVE RESOURCE	MAPPED? Yes/no/n/a	TOTAL AREA (Ac.)	PROTECTED AREA (Ac.)
Waterbodies	N/A		
Floodplains	N/A		
Riparian Areas	N/A		
Wetlands	N/A		
Woodlands	N/A		
Natural Drainage Ways	N/A		
Steep Slopes, 15% - 25%	N/A		
Steep Slopes, over 25%	N/A		
Other:	N/A		
Other:	N/A		
TOTAL EXISTING:			

Worksheet 3. Nonstructural BMP Credits from PA Stormwater Best Management Practices Manual (SW BMP Manual)

PROTECTED AREA

1.1 Area of Protected Sensitive/Special Value Features (see WS 2) _____ **Ac.**

1.2 Area of Riparian Forest Buffer Protection (see WS 2) _____ **Ac.**

3.1 Area of Minimum Disturbance/Reduced Grading (See Chapter 8, page 21 – SW BMP Manual) _____ **Ac**

TOTAL _____ **Ac**

Site Area	Minus	Protected Area	=	Stormwater Management Area
32.3	-	0	=	32.3

This is the area that requires stormwater management

VOLUME CREDITS

3.1 Minimum Soil Compaction (See Chapter 8, page 22 – SW BMP Manual)

Lawn _____ ft^2 x 1/4" x 1/12 = _____ ft^3

_____

Meadow _____ ft^2 x 1/3" x 1/12 = _____ ft^3

3.3 Protect Existing Trees (See Chapter 8, page 23 – SW BMP Manual)

For Trees within 100 feet of impervious area:

Tree Canopy _____ ft^2 x 1/2" x 1/12 = _____ ft^3

_____ _____

5.1 Disconnect Roof Leaders to Vegetated Areas (See Chapter 8 page 25 – SW BMP Manual)

For runoff directed to areas protected under 5.8.1 and 5.8.2

Roof Area _____ ft^2 x 1/3" x 1/12 = _____ ft^3

For all other disconnected roof areas

Roof Area _____ ft^2 x 1/4" x 1/12 = _____ ft^3

5.2 Disconnect Non-Roof impervious to Vegetated Areas (See Chapter 8, page 26 – SW BMP Manual)

For Runoff directed to areas protected under 5.8.1 and 5.8.2

Impervious Area _____ ft^2 x 1/3" x 1/12 = _____ ft^3

For all other disconnected roof areas

Impervious Area _____ ft^2 x 1/4" x 1/12 = _____ ft^3

TOTAL NON-STRUCTURAL VOLUME CREDIT* N/A _____ ft

**For use on Worksheet 5*

Worksheet 4. Change in Runoff Volume for 2-YR Storm Event

ROJECT: ME-2X Project
Drainage Area: 32.3 acres
2-Year Rainfall: 3.3 in

Total Site Area: 32.3 acres
Protected Site Area: 32.3 acres
Managed Area: 32.3 acres

Existing Conditions:

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
Woodland	N/A							
Meadow	N/A							
Impervious	made land	1,406,988	32.3	91	0.989	0.198	2.35	275,535
TOTAL:	made land							

Developed Conditions

Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	Ia (0.2*S)	Q Runoff[1] (in)	Runoff Volume[2] (ft^3)
gravel/sand	made land	1,406,988	32.3	91	0.989	0.198	2.35	275,535
TOTAL:								

2-Year Volume Increase (ft3):

2-Year Volume Increase = Developed Conditions Runoff Volume – Existing Conditions Runoff Volume

1. Runoff (in) = Q = $(P-0.2S)^2 / (P+0.8S)$ where
   P = 2-Year Rainfall (in)
   S = (1000/ CN)-10
2. Runoff Volume (CF) = Q x Area x 1/12
   Q = Runoff (in)
   Area = Land use area (sq. ft)

Note: Runoff Volume must be calculated for EACH land use type/condition and HSGI. The use of a weighted CN value for volume calculations is not acceptable.

Worksheet 5. Structural BMP Volume Credits

PROJECT: ME-2X Project
SUB-BASIN: Marcus Hook

Required Control Volume (ft^3) – *from Worksheet 4*: N/A stormwater is pretreated on-site and at DELCORA

Non-structural Volume Credit (ft^3) – *from Worksheet 3*: _____
(maximum is 25% of required volume)

Structural Volume Reqmt (ft^3) N/A stormwater is pretreated on-site and at DELCORA

(Required Control Volume minus Non-structural Credit)

Proposed BMPs from PA Stormwater Best Management Practices Manual Chapter 6		Area (ft^2)	Volume Reduction Permanently Removed (ft^3)
6.4.1	Porous Pavement		
6.4.2	Infiltration Basin		
6.4.3	Infiltration Bed		
6.4.4	Infiltration Trench		
6.4.5	Rain Garden/Bioretention		
6.4.6	Dry Well / Seepage Pit		
6.4.7	Constructed Filter		
6.4.8	Vegetated Swale		
6.4.9	Vegetated Filter Strip		
6.4.10	Berm		
6.5.1	Vegetated Roof		
6.5.2	Capture and Re-use		
6.6.1	Constructed Wetlands		
6.6.2	Wet Pond / Retention Basin		
6.7.1	Riparian Buffer/Riparian Forest Buffer Restoration		
6.7.2	Landscape Restoration / Reforestation		
6.7.3	Soil Amendment		
6.8.1	Level Spreader		
6.8.2	Special Storage Areas		
Other			

Total Structural Volume (ft^3): _____
Structural Volume Requirement (ft^3): _____

DIFFERENCE N/A stormwater is treated on-site and at DELCORA

Worksheet 6 – Small Site/Small Impervious Area Exception For Peak Rate Mitigation Calculations

The following conditions must be met for exemption from peak rate analysis for small sites under CG-1:

- ☐ The 2-Year/24-Hour Runoff Volume increase must be met in BMPs designed in accordance with Manual Standards
- ☐ Total Site Impervious Area may not exceed 1 acre
- ☐ Maximum Development Area is 5 Acres
- ☐ Maximum site impervious cover is 50%
- ☐ No more than 25% Volume Control can be in Non-structural BMPs
- ☐ Infiltration BMPs must have an infiltration of at least 0.5 in/hr.

Site Area	Percent Impervious	Total Impervious
5 acre	20%	1 acre
2 acre	50%	1 acre
1 acre	50%	0.5 acre
0.5 acre	50%	0.25 acre

Worksheet 10 – Water Quality Compliance for Nitrate

Does the site design incorporate the following BMPs to address nitrate pollution? A summary "yes" rating is achieved if at least 2 Primary BMPs for nitrate are provided across the site or 4 secondary BMPs for nitrate are provided across the site (or the equivalent) "provided across the site" is taken to mean the specifications for that BMP set forward in Sections 5 and 6 are satisfied.

Proposed BMPs from PA Stormwater Best Management Practices Manual Chapter 5 & 6

	Yes	No
Primary BMPs for Nitrate:	☐	☒
NS BMP 5.4.2 – Protect/Conserve/Enhance Riparian Buffers	☐	☐
NS BMP 5.5.4 – Cluster Uses at Each Site	☐	☐
NS BMP 5.6.1 – Minimize Total Disturbed Area	☐	☐
NS BMP 5.6.3 – Re-Vegetate/Re-Forest Disturbed Areas (Native Species)	☐	☐
NS BMP 5.9.1 – Street Sweeping/Vacuuming	☐	☐
Structural BMP 6.7.1 – Riparian Buffer Restoration	☐	☐
Structural BMP 6.7.2 – Landscape Restoration	☐	☐
	☐	☐
Secondary BMPs for Nitrate:	☐	☒
NS BMP 5.4.1 – Protect Sensitive/Special Value Features	☐	☐
NS BMP 5.4.3 – Protect/Utilize Natural Drainage Features	☐	☐
NS BMP 5.6.2 – Minimize Soil Compaction	☐	☐
Structural BMP 6.4.5 – Rain Garden/Bioretention	☐	☐
Structural BMP 6.4.8 – Vegetated Swale	☐	☐
Structural BMP 6.4.9 – Vegetated Filter Strip	☐	☐
Structural BMP 6.6.1 – Constructed Wetland	☐	☐
Structural BMP 6.7.1 – Riparian Buffer Restoration	☐	☐
Structural BMP 6.7.2 – Landscape Restoration	☐	☐
Structural BMP 6.7.3 – Soils Amendment/Restoration	☐	☐

Worksheet 11 – BMPs for Pollution Prevention

Does the site design incorporate the following BMPs to address nitrate pollution? A summary "yes" rating is achieved if at least 2 Primary BMPs are provided across the site. "Provided across the site" is taken to mean that the specifications for that BMP set forward in Chapters 5 and 6 are satisfied.

Proposed BMPs from PA Stormwater Best Management Practices Manual Chapter 5 & 6

	Yes	No
BMPs for Pollution Prevention:	☐	☒
NS BMP 5.4.1 – Protect Sensitive/Special Value Features	☐	☐
NS BMP 5.4.2 – Protect/Conserve/Enhance Riparian Buffers	☐	☐
NS BMP 5.4.3 – Protect/Utilize Natural Flow Pathways in Overall Stormwater Planning and Design	☐	☐
NS BMP 5.5.1 – Cluster Uses at Each Site; Build on the Smallest Area Possible	☐	☐
NS BMP 5.6.1 – Minimize Total Disturbed Area - Grading	☐	☐
NS BMP 5.6.2 – Minimize Soil Compaction in Disturbed Areas	☐	☐
NS BMP 5.6.3 – Re-Vegetate/Re-Forest Disturbed Areas (Native Species)	☐	☐
NS BMP 5.7.1 – Reduce Street Imperviousness	☐	☐
NS BMP 5.7.2 – Reduce Parking Imperviousness	☐	☐
NS BMP 5.8.1 – Rooftop Disconnection	☐	☐
NS BMP 5.8.2 – Disconnection from Storm Sewers	☐	☐
NS BMP 5.9.15 – Street Sweeping	☐	☐
Structural BMP 6.7.1 – Riparian Buffer Restoration	☐	☐
Structural BMP 6.7.2 – Landscape Restoration	☐	☐
Structural BMP 6.7.3 – Soils Amendment and Restoration	☐	☐

Worksheet 12 – Water Quality Analysis of Pollutant Loading from All Disturbed Areas

Total Site Area (AC)	32.3
Total Disturbed Area (AC)	32.3
Disturbed Area Controlled by BMPs (AC)	32.3

Total Disturbed Areas:

		Pollutant					Pollutant Load		
	Land Cover Classification	**TSS EMC (mg/l)**	**TP EMC (mg/l)**	**Nitrate-Nitrite EMC (mg/l as N)**	**Cover (Acres)**	**Runoff Volume (AF)**	**TSS** (LBS)**	**TP** (LBS)**	**NO_3 (LBS)**
Pervious Surfaces	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.3					
	Fertilized Planting Area	55	1.34	0.73					
	Native Planting Area	55	0.40	0.33					
	Lawn, Low-Input	180	0.40	0.44					
	Lawn, High-Input	180	2.22	1.46					
	Golf Course Fairway/Green	305	1.07	1.84					
	Grassed Athletic Field	200	1.07	1.01					
Impervious Surfaces	Rooftop	21	0.13	0.32					
	High Traffic Street/Highway	261	0.40	0.83					
	Medium Traffic Street	113	0.33	0.58					
	Low Traffic/Residential Street	86	0.36	0.47					
	Res. Driveway, Play Courts, etc.	60	0.46	0.47					
	High Traffic Parking Lot	120	0.39	0.60					
	Low Traffic Parking Lot	58	0.15	0.39					
	TOTAL LOAD								
	REQUIRED REUCTION (%)						85%	85%	50%
	REQUIRED REDUCTION (LBS)						N/A	N/A	N/A

*Pollutant Load = [EMC, mg/l] X [Volume, AF] X [2.7, Unit Conversion]

**TSS and TP calculations only required for projects not meeting CG1/CG2 or not controlling less than 90% of the disturbed area

Worksheet 13 – Pollutant Reduction Through BMP Applications*

Fill this worksheet out for each BMP type with different pollutant removal efficiencies. Sum pollutant reduction achieved for all BMP types on final sheet.

BMP Type: Stormwater is pretreated on-site then treated at DELCORA POTW

Disturbed Area Controlled by this BMPs (AC)

Disturbed Area Controlled by this BMPs:

		Pollutant					Pollutant Load**		
	Land Cover Classification	TSS EMC (mg/l)	TP EMC (mg/l)	Nitrate-Nitrite EMC (mg/l as N)	Cover (Acres)	Runoff Volume (AF)	TSS** (LBS)	TP** (LBS)	NO_3 (LBS)
Pervious Surfaces	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.3					
	Fertilized Planting Area	55	1.34	0.73					
	Native Planting Area	55	0.40	0.33					
	Lawn, Low-Input	180	0.40	0.44					
	Lawn, High-Input	180	2.22	1.46					
	Golf Course Fairway/Green	305	1.07	1.84					
	Grassed Athletic Field	200	1.07	1.01					
Impervious Surfaces	Rooftop	21	0.13	0.32					
	High Traffic Street/Highway	261	0.40	0.83					
	Medium Traffic Street	113	0.33	0.58					
	Low Traffic/Residential Street	86	0.36	0.47					
	Res. Driveway, Play Courts, etc.	60	0.46	0.47					
	High Traffic Parking Lot	120	0.39	0.60					
	Low Traffic Parking Lot	58	0.15	0.39					
	TOTAL LOAD TO THIS BMP TYPE								
	POLLUTANT REMOVAL EFFICIENCIES FROM APPENDIX A. STORMWATER MANUAL (%)								
	POLLUTANT REDUCITON ACHIEVED BY THIS BMP TYPE (LBS)								

POLLUTANT REDUCTION ACHIEVED BY ALL BMP TYPES (LBS)			
REQUIRED REDUCTION from WS12 (LBS)			

*Pollutant Load = [EMC, mg/l] X [Volume, AF] X [2.7, Unit Conversion]

**TSS and TP calculations only required for projects not meeting CG1/CG2 or not controlling less than 90% of the disturbed area

Worksheet 14 – Water Quality Analysis of Pollutant Loading from Disturbance in Buffer Area

Total Disturbed Area (AC)	
Disturbed Area Controlled by this BMPs (AC)	

Existing Condition

		Pollutant					Pollutant Load		
	Land Cover Classification	TSS EMC (mg/l)	TP EMC (mg/l)	Nitrate-Nitrite EMC (mg/l as N)	Cover (Acres)	Runoff Volume (AF)	TSS** (LBS)	TP** (LBS)	NO_3 (LBS)
	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.3					
						TOTAL LOAD			

Post-Development

		Pollutant					Pollutant Load		
	Land Cover Classification	TSS EMC (mg/l)	TP EMC (mg/l)	Nitrate-Nitrite EMC (mg/l as N)	Cover (Acres)	Runoff Volume (AF)	TSS** (LBS)	TP** (LBS)	NO_3 (LBS)
Pervious Surfaces	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.3					
	Fertilized Planting Area	55	1.34	0.73					
	Native Planting Area	55	0.40	0.33					
	Lawn, Low-Input	180	0.40	0.44					
	Lawn, High-Input	180	2.22	1.46					
	Golf Course Fairway/Green	305	1.07	1.84					
	Grassed Athletic Field	200	1.07	1.01					
Impervious Surfaces	Rooftop	21	0.13	0.32					
	High Traffic Street/Highway	261	0.40	0.83					
	Medium Traffic Street	113	0.33	0.58					
	Low Traffic/Residential Street	86	0.36	0.47					
	Res. Driveway, Play Courts, etc.	60	0.46	0.47					
	High Traffic Parking Lot	120	0.39	0.60					
	Low Traffic Parking Lot	58	0.15	0.39					
						TOTAL LOAD			
						Pollutant Load increase (LBS) =			

Pollutant Load increase (LBS) = Post development load – Pre-development load

*Pollutant Load = [EMC, mg/l] X [Volume, AF] X [2.7, Unit Conversion

Worksheet 15 – Pollutant Reduction Through BMP Applications*

Fill this worksheet out for each BMP type with different pollutant removal efficiencies. Sum pollutant reduction achieved for all BMP types on final sheet.

BMP Type: _____

Disturbed Area Controlled by this BMPs:

		Pollutant					Pollutant Load**		
	Land Cover Classification	TSS EMC (mg/l)	TP EMC (mg/l)	Nitrate-Nitrite EMC (mg/l as N)	Cover (Acres)	Runoff Volume (AF)	TSS** (LBS)	TP** (LBS)	NO_3 (LBS)
Pervious Surfaces	Forest	39	0.15	0.17					
	Meadow	47	0.19	0.3					
	Fertilized Planting Area	55	1.34	0.73					
	Native Planting Area	55	0.40	0.33					
	Lawn, Low-Input	180	0.40	0.44					
	Lawn, High-Input	180	2.22	1.46					
	Golf Course Fairway/Green	305	1.07	1.84					
	Grassed Athletic Field	200	1.07	1.01					
Impervious Surfaces	Rooftop	21	0.13	0.32					
	High Traffic Street/Highway	261	0.40	0.83					
	Medium Traffic Street	113	0.33	0.58					
	Low Traffic/Residential Street	86	0.36	0.47					
	Res. Driveway, Play Courts, etc.	60	0.46	0.47					
	High Traffic Parking Lot	120	0.39	0.60					
	Low Traffic Parking Lot	58	0.15	0.39					
	TOTAL LOAD TO THIS BMP TYPE								
	POLLUTANT REMOVAL EFFICIENCIES FROM APPENDIX A. STORMWATER MANUAL (%)								
	POLLUTANT REDUCTION ACHIEVED BY THIS BMP TYPE (LBS)								

POLLUTANT REDUCTION ACHIEVED BY ALL BMP TYPES (LBS)			
REQUIRED REDUCTION from WS 14 (LBS)			

*Pollutant Load = [EMC, mg/l] X [Volume, AF] X [2.7, Unit Conversion]

Checklist for Functional Equivalency of Riparian Buffers and Riparian Forest Buffers

	Riparian Buffer	Riparian Forest Buffer
Filtration of pollutants in runoff	☐	☐
Infiltration and maintenance of streamflow	☐	☐
Water quality maintenance	☐	☐
Habitat for wildlife and vegetation	☐	☐
Flood attenuation	☐	☐
Light control and water temperature moderation	☐	☐
Travel corridors for migration and dispersal	☐	☐
Ice damage control		☐
Stream width		☐
Food supply		☐
Wood debris input		☐
Support of aquatic food chains and webs as they relate to terrestrial food webs		☐
Channel and shoreline stability/decrease in erosion		☐
Reduced effects of storm events		☐
Instream pollutant processing		☐

2. Pennsylvania Department of Environmental Protection Form 31500-PM-BWEM0035 – Notice of Intent for Coverage Application for an Individual NPDES Permit for Stormwater Discharges Associated with Construction Activities

3150-PM-BWEW0035 Rev. 8/2016
Application

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

OFFICIAL USE ONLY
NPDES Permit ID # _____
Date Received _____
NOI Complete Date _____
Issue Date _____
Effective Date _____
Expiration Date _____

PERMIT APPLICATION
NOTICE OF INTENT FOR COVERAGE
UNDER THE GENERAL (PAG-02) NPDES PERMIT
OR
APPLICATION FOR AN INDIVIDUAL NPDES
PERMIT FOR STORMWATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION ACTIVITIES

PLEASE READ THE PERMIT SUMMARY SHEET AND INSTRUCTIONS PROVIDED IN THIS PERMIT APPLICATION PACKAGE BEFORE COMPLETING THIS FORM. COMPLETE THE ATTACHED CHECKLIST AND APPROPRIATE WORKSHEETS.

PLEASE PRINT OR TYPE INFORMATION IN BLACK OR BLUE INK.

PERMIT TYPE	**GENERAL** ☐	**INDIVIDUAL** ☒		
APPLICATION TYPE	**NEW** ☒	**RENEWAL** ☐	**MAJOR MODIFICATION** ☐	**PHASED** ☒

SECTION A. APPLICANT INFORMATION

Corporations for profit, corporations not-for-profit, limited liability companies, partnerships or sole proprietorships, limited partnerships, professional associations and business or statutory trusts that were not created or formed under the laws of Pennsylvania desiring to do business in this Commonwealth must register with the Pennsylvania Department of State.

Applicant/Organization Name Sunoco Partners Marketing and Terminals L.P.		Phone FAX	(610) 859-3309
Mailing Address 100 Green Street	City Marcus Hook	State PA	ZIP + 4 19061
Supplemental Mailing Address (if needed)			
Employer ID (EIN)			
Email Address	ERIKA.BRADLEY@energytransfer.com		
Contact Name Erika Bradley		Contact Title Specialist-Environmental Projects	
Contact Phone (610) 859-3309		Contact Email Address ERIKA.BRADLEY@energytransfer.com	
Co-Applicant/Organization Name		Phone FAX	
Mailing Address	City	State	ZIP + 4
Supplemental Mailing Address (if needed)			
Employer ID (EIN)			
Email Address			
Contact Name		Contact Title	
Contact Phone		Contact Email Address	

SECTION B. PROJECT INFORMATION

Project Name: ME- 2X Project

2. Total Project Site (Acres): 32.3

3. Total Disturbed Area (Acres): 32.3

4. Project Description: The Project is designed to process an incoming ethane stream into a saleable ethane product and consists of an ISBL and OSBL component. ISBL is comprised of three separate processing units including Amine Treating, Dehyddrations & Regen, and Refrigeration. Amine Treating, Dehy & Regen consists of amine circulation, contacting and filtration equipment while Dehy & Regen consists of molecular sieve beds and regeneration heaters and coolers. Refrigeration will use propane and ethane as refrigerants and include two large compressors, associated heat exchangers and a wet surface air cooler. Two 600,000 bbl cryogenic ethane storage tanks with vaporizers and four boil off gas compressors will also be constructed in the ISBL area. All compressors will be located within buildings that will also be constructed as part of the project. A new firewater fixed monitor loop and deluge system will also be installed as part of the project. OSBL is comprised of metering skids and pipe runs to connect to other units, utilities, and loading docks

5. Project Location or Physical Address:

Address	City	State	ZIP + 4
2nd and Green Street	Marcus Hook	PA	19061

Supplemental Address (If needed)

6.

Project County	Project Municipality	City	Boro	Twp
Delaware	Marcus Hook	☐	☒	☐
		☐	☐	☐

7. Type of Ownership:

☐ County Government ☐ Municipality (local) ☐ School District

☐ Federal Facility (U.S. Government) ☒ Non-Government ☐ State Government

☐ Mixed Ownership (e.g. Public/Private)

8. Project Latitude: 39 °/ 48 '/ 48.593 " Project Longitude: 75 °/ 25 '/ 20.153 "

8a. Collection Method: ☐ EMAP ☒ HGIS ☐ GISDR ☐ ITPMP ☐ GPS ☐ WAAS ☐ LORAN

8b. Horizontal reference datum (or projection datum) employed in the collection method. (EMAP has a known datum of WGS84 and HGIS (PNDI) has a known datum of NAD83) ☐ NAD27 ☒ NAD83 ☐ WGS84 (GEO84)

Enter the date of collection if the latitude and longitude coordinates were derived from GPS, WAAS or LORAN.
09 mm 21 dd 2017 yyyy

9. U.S.G.S. Quad Map Name(s) Marcus Hook, PA-NJ-DEL

10. Primary NAICS Code (check one):

☐ 236115 New Single-Family Housing Construction (except For-Sale Builders)
☐ 236116 New Multifamily Housing Construction (except For-Sale Builders)
☐ 236117 New Housing For-Sale Builders
☐ 236210 Industrial Building Construction
☐ 236220 Commercial and Institutional Building Construction
☐ 237110 Water and Sewer Line and Related Construction
☒ 237120 Oil and Gas Pipeline and Related Structures Construction
☐ 237130 Power and Communication Line and Related Structures Construction
☐ 237310 Highway, Street, and Bridge Construction
☐ 237990 Other Heavy and Civil Engineering Construction
☐ Other Primary NAICS Code (specify)

11. Additional NAICS Code(s) (list all additional codes that apply from the list above):

SECTION C. SITE ANALYSIS

1. Existing and Previous Uses of the Project Site:

1a. Existing Land Uses:	☐ Agriculture _____ %	☐ Forest/Woodland _____ %	☐ Barren _____ %
	☒ Urban 100 %	☐ Brownfield _____ %	☐ Other _____ _____ %
1b. Historical Land Uses:	☐ Agriculture _____ %	☐ Forest/Woodland _____ %	☐ Barren _____ %
	☒ Urban 100 %	☐ Brownfield _____ %	☐ Other _____ _____ %

2. Potential Toxic or Hazardous Pollutants: ☐ N/A

Pollutant	Concentration w/Units	Source	Sample Type	Date(s) / Number of Samples
There is a possibility that the existing soil could be contaminated from the refinery's past activities. The use of Best Management Practices (BMPs) and directing storm water to the on-site pretreatment after which storm water is conveyed to the DELCORA Publicly Owned Treatment Works (POTW) will prevent pollution.				

3. Fill Material

Will the applicant need to import or export fill for the project site? Clean fill can not be placed in or on waters of the Commonwealth. If fill will be imported or exported, Form FP-001 (Document # 258-2182-773) must be used to certify origin of the fill material.

Check the appropriate box

☐ Import fill – the applicant will, in most situations, be responsible to perform environmental due diligence and determine that all fill imported to the site meets the department's definition of clean fill. The plan designer must include a note on the drawings to identify the operator(s) responsibility and provide the definition of Clean Fill and Environmental Due Diligence.

☒ Export fill – the Applicant is responsible for performing environmental due diligence at the time this application was submitted to determine that any fill exported from the site will be certified as clean fill.

☐ Balance all cuts and fills with the amount of rock and soil available on the site.

4. Estimated Timetable for Phased Projects (Complete for phased projects only)

Phase No. or Name	Proposed Type of Activity	Total Area	Disturbed Area	Start Date	End Date
Phase 1	Demolition of existing foudations, septic tanks, underground piping, and a cooling tower basin. Minor storm sewer modifications.	32.3	9.1	April 2018	August 2018
Phase 2	Construction of process equipment and tankage related to the ME-2X Project	32.3	32.3	August 2018	August 2020

5 Waters to Which Project Discharges (Check all that apply)

5.a. ☐ Waters of the Commonwealth to which the project discharges or has the potential to discharge to (including EV wetlands) other than MS4s, CSOs, private storm sewers:

Name of Waters	Designated Use of Water	Existing Use of Water
Delware River	Warm Water Fishes, Migratory Fishes, Livestock Water Supply, ~~and Irrigation.~~	Same as designated use

☐ Combined Sewer Overflow System to which the project discharges:	☐ Municipal Separate Storm Sewer (MS4) to which the project discharges:	☒ Private Storm Sewer to which the project discharges: Stormwater is collected through storm inlets and sent to on-site pretreatment followed by treatment at the DELCORA treatment facility before being outfalled into the Delaware River.	☐ Non Surface Water: (including off-site discharges):

5b. Does the site discharge to waters classified as impaired according to Category 4 of PA Integrated Water Quality Monitoring and Assessment Report? ☐ Yes ☐ No

If yes, list source and cause of impairment: NA- Stormwater is pre-treated on-site then treated at the DELCORA treatment facility.

5c. Does the site discharge to waters with a TMDL according to Category 5 of the PA Integrated Water Quality Monitoring & Assessment Report? ☐ Yes ☐ No

If yes, list source and cause of impairment TMDL addresses: NA- Stormwater is pre-treated on-site then treated at the DELCORA treatment facility.

SECTION D. EROSION & SEDIMENTATION (E & S) AND POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM)

Note: For projects involving multiple points of discharge, please submit a complete, separate Section D for each additional point of discharge.

1. E & S Plan The E & S Plan must satisfy at least one of subparagraph A or B below.

A. ☒ E & S plan is designed using BMPs in the Pennsylvania Erosion & Sedimentation Pollution Control Manual (ESPC) (Technical Guidance #363-2134-008/March 2012)

OR

B. ☐ E & S plan is designed using an alternative BMP or design standard

2. PCSM Plan

The PCSM Plan must satisfy either subparagraph A, or B **or** C below.

A. ☐ Act 167 Plan approved on or after January 2005 – The attached PCSM Plan, in its entirety, is consistent with all requirements pertaining to rate, volume, and water quality from an approved Act 167 Stormwater Management Plan.

Complete the following table for all applicable approved Act 167 Stormwater Management Plans. (use additional sheets if necessary)

ACT 167 Plan Name	Date Adopted	Consistency Letter Included ☐ Consistency Letter Pending ☐

If the PCSM Plan is consistent with a DEP approved Act 167 plan from 2005 or later and the Act 167 plan is without variance consistent with the standard design criteria from the 25 Pa. Code Chapter 102.8(g)(2) and (3) then utilizing worksheets 1-5 and the *Summary table for Supporting Calculation and Measurement Data* are recommended, otherwise check the applicable box(es) in Section D.3

OR

B. ☒ The PCSM Plan meets the standard design criteria from the 25 Pa. Code Chapter 102.8(g)(2) and (3).

OR

C. ☐ Alternative Design Standard – The attached PCSM plan was developed using approaches other than those in 25 Pa. Code Chapter 102.8(g)(2) and (3). Demonstrate how this standard will be either more protective than what is required in 25 Pa. Code Chapter 102.8(g)(2) and (3). and will maintain and protect existing water quality and existing and designated uses as allowed in 102.8(g)(2)(iv) and 102.8(g)(3)(iii).

3. Summary Table for Supporting Calculation and Measurement Data

☐ Not Applicable in accordance with 102.8(g)(2)(iv)- provide supporting calculations and documentation in the Narrative. **If checked, proceed to Peak Rate Analysis** (provide supporting details to include a summary, calculations, and a statement and demonstration of attainment in the Narrative- Reference the *Instructions for a General (PAG-02) OR Individual NPDES Permit for stormwater discharges associated with construction activities* Section D)

☐ Not Applicable PCSM Plan satisfies an Act 167 Plan approved on or after January 2005, in its entirety- provide supporting calculations and documentation in the Narrative. **If checked proceed to Section D.4** (provide supporting details to include a summary, calculations and a statement and demonstration of attainment in the Narrative- Reference the *Instructions for a General (PAG-02) OR Individual NPDES Permit for stormwater discharges associated with construction activities* Section D)

Please reference the stormwater methodology used (Numbers generated in the table below should be consistent with Worksheets 3,4, and 5 and be accompanied by supporting calculations in the Narrative)

Rational Method

	Pre-construction	Post Construction	Net Change
Design storm frequency 2 year-24 hour Rainfall amount 3.3 inches			
Impervious area (acres)	1 32.3	2 32.3	3 0
Volume of stormwater runoff ☐ acre-feet or ☒ cubic feet (check appropriate box)	4 275,535	5 275,535	6 0
Volume of stormwater runoff ☐ acre-feet or ☒ cubic feet (check appropriate box)		7 275,535	8 0
Peak Rate Analysis: Complete Boxes 9-20 (Numbers generated in table should be accompanied by supporting calculations in the narrative) ☐ Exempt in accordance 102.8(g)(3)(ii), Complete Boxes 9-20 ☐ Not Applicable in accordance with 102.8(g)(3)(iii) {If any of the above is checked, provide supporting calculations and documentation in the Narrative}			
Stormwater peak discharge rate for the 2-year/24-hour storm (cubic feet per second (cfs))	9 0	10 0	11 ıwater discharge will be managed to prevent erosion or nuisance to off-site properties. The change to cover type for this project will be negligible as stormwater is collected and treated. As a result there will be no material change to rate or volume of runoff.
Stormwater peak discharge rate for 10-year/24-hour storm (cfs)	12	13	14 ıwater discharge will be managed to prevent erosion or nuisance to off-site

			properties. The change to cover type for this project will be negligible as stormwater is collected and treated. As a result there will be no material change to rate or volume of runoff.
Stormwater peak discharge rate for 50-year/24-hour storm (cfs)	15	16	17 water discharge will be managed to prevent erosion or nuisance to off-site properties. The change to cover type for this project will be negligible as stormwater is collected and treated. As a result there will be no material change to rate or volume of runoff.
Stormwater peak discharge rate for the 100-year/24-hour storm	18	19	20 water discharge will be managed to prevent erosion or nuisance to off-site properties. The change to cover type for this project will be negligible as stormwater is collected and treated. As a result there will be no material change to rate or volume of runoff.

Box 1. **Pre-construction impervious area**: The total acres of impervious area on the project site before construction activities begin, based on land use for five years preceding the planned project.

Box 2. **Post construction impervious area**: The total acres of impervious area on the project site after construction activities have been completed.

Box 3. **Net change of impervious area**: The change in the impervious area (acres) listed in Box 1 and Box 2. Zero or negative values are acceptable. (Box 2- Box 1)

Box 4. **Pre-construction stormwater runoff volume**: The amount of stormwater runoff volume from the project site that would result from the design storm occurrence before construction activities begin based on land use for five years preceding the project.

Box 5. **Post construction stormwater runoff volume**: The amount of stormwater runoff volume from the project site that would result from the design storm occurrence after construction activities have finished assuming that no non-structural/structural BMP(s) have been installed.

Box 6. **Net change in stormwater volume**: The change in stormwater runoff volumes listed in Box 4 and Box 5. (Box 5 - Box 4)

Box 7. **Post construction stormwater runoff volume reduction**: The amount of stormwater runoff volume reduction that would result from the planned non-structural/structural BMP(s) installation. (Total non-structural volume credit (*from worksheet 3*) + Total Structural volume (*from worksheet 5)*))

Box 8. **Net change in stormwater runoff volume with planned BMPs**: The change in stormwater runoff volume and volume reduction listed in Box 6 and Box 7. (Box 6 – Box 7)

Figures contained in the *"Summary table for supporting calculation and measurement data"* should be consistent with those on Worksheets 3, 4, and 5, when applicants have utilized the Stormwater Best Management Practices (BMP) Manual to meet design standards. Below is a depiction of which worksheet(s) corresponds (i.e. WKST 4) to each Box and where on the worksheet to find the information (i.e. 2-Year Volume Increase).

Numbers generated in the sumamry table should be consistent with Worksheets (WKST) 3, 4 and 5			
	Pre-construction	**Post Construction**	**Net Change**
Design storm frequency 2-year/24-hour storm Rainfall amount WKST 4 "2-Year Rainfall" inches			
Impervious area (acres)	1 WKST 4 Existing Condition: Impervious cover type	2 WKST 4 Developed Condition: Impervious cover type	3 Box 2 - Box 1
Volume of stormwater runoff ☒ acre-feet or ☐ cubic feet (check appropriate box)	4 WKST 4 Existing Condition: Total Runoff Volume	5 WKST 4 Developed Condition: Total Runoff Volume	6 WKST 4 2-Year Volume Increase
Volume of stormwater runoff ☒ acre-feet or ☐ cubic feet (check appropriate box)		7 WKST 3 Total non-structural volume credit + WKST 5 Total structural volume	8 WKST 5 Difference

Box 9. **Pre-construction stormwater discharge rate**: The stormwater runoff discharge rate for the 2-year/24-hour storm as determined by the land use for the past five years.

Box 10. **Post construction stormwater discharge rate**: The stormwater runoff discharge rate for the 2-year/24-hour storm after all planned stormwater BMPs are installed.

Box 11. **Net change stormwater discharge rate**: The change in stormwater runoff discharge rates listed in Box 9 and Box 10. (Box 10 – Box 9)

Box 12. **Pre-construction stormwater discharge rate**: The stormwater runoff discharge rate for the 10-year/24-hour storm as determined by the land use for the past five years.

Box 13. **Post construction stormwater discharge rate**: The stormwater runoff discharge rate for the 10-year/24-hour storm after all planned stormwater BMPs are installed.

Box 14. **Net change stormwater discharge rate**: The change in stormwater runoff discharge rates listed in Box 12 and Box 13. (Box 13 – Box 12)

Box 15. **Pre-construction stormwater discharge rate**: The stormwater runoff discharge rate for the 50-year/24-hour storm as determined by the land use for the past five years.

Box 16. **Post construction stormwater discharge rate**: The stormwater runoff discharge rate for the 50-year/24-hour storm after all planned stormwater BMPs are installed.

Box 17. **Net change stormwater discharge rate**: The change in stormwater runoff discharge rates listed in Box 15 and Box 16. (Box 16 – Box 15)

Box 18. **Pre-construction stormwater discharge rate:** The stormwater runoff discharge rate for the 100-year/24-hour storm as determined by the land use for the past five years.

Box 19. **Post construction stormwater discharge rate:** The stormwater runoff discharge rate for the 100-year/24-hour storm after all planned stormwater BMPs are installed.

Box 20. **Net change stormwater discharge rate:** The change in stormwater runoff discharge rates listed in Box 18 and Box 19. (Box 19 – Box 18)

4. Summary Description of Post Construction Stormwater BMPs (consistent with the design or applicable worksheets)

Key: RC = Rate Control VC = Volume Control WQ = Water Quality

In the lists below, check the BMPs identified in the PCSM Plan, and their function(s) using the above Key. More than one function may be checked for a BMP. A BMP may have more than one function (rate, volume, water quality), therefore, there may be more than one volume/acres listed. For example, a Rain garden/Bio-retention BMP may have a volume treated and acres treated for volume control and water quality, that differs from the volume treated and acres treated for rate control. If any BMP in the PCSM Plan is not listed below, it must be described in the space provided after "Other". Attach additional sheet(s) as needed

For Rate Control provide the volume of stormwater treated and acres treated for the 100-year/24-hour storm event

For Volume Control and Water Quality provide the volume of stormwater treated and acres treated for the 2-year/24-hour storm event

BMP	Function(s)	Volume of stormwater treated	Acres treated
☐ Wet ponds	☐ VC ☐ RC ☐ WQ		
☐ Constructed wetlands	☐ VC ☐ RC ☐ WQ		
☐ Retention basins	☐ VC ☐ RC ☐ WQ		
☐ Detention basin	☐ VC ☐ RC ☐ WQ		
☐ Underground detention	☐ VC ☐ RC ☐ WQ		
☐ Dry Extended detention basin	☐ VC ☐ RC ☐ WQ		
☐ Sediment fore bay	☐ VC ☐ RC ☐ WQ		
☐ Infiltration trench	☐ VC ☐ RC ☐ WQ		
☐ Infiltration Berm/Retentive Grading	☐ VC ☐ RC ☐ WQ		
☐ Subsurface Infiltration bed	☐ VC ☐ RC ☐ WQ		
☐ Infiltration basin	☐ VC ☐ RC ☐ WQ		
☐ Pervious pavement	☐ VC ☐ RC ☐ WQ		
☐ Dry well/Seepage pit	☐ VC ☐ RC ☐ WQ		
☐ Bio-infiltration areas	☐ VC ☐ RC ☐ WQ		
☐ Rain gardens/Bio-retention	☐ VC ☐ RC ☐ WQ		
☐ Vegetated swales	☐ VC ☐ RC ☐ WQ		
☐ Constructed filters	☐ VC ☐ RC ☐ WQ		
☐ Protect Sensitive & Special Value Features	☐ VC ☐ RC ☐ WQ		
☐ Protect/Convert/Establish Riparian buffers	☐ VC ☐ RC ☐ WQ		
☐ Restoration: Buffers/ Landscape/Floodplain	☐ VC ☐ RC ☐ WQ		
☐ Disconnection from storm sewers	☐ VC ☐ RC ☐ WQ		
☐ Rooftop disconnection	☐ VC ☐ RC ☐ WQ		
☐ Vegetated roofs	☐ VC ☐ RC ☐ WQ		
☐ Runoff capture/Reuse	☐ VC ☐ RC ☐ WQ		
☐ Oil/grit separators	☐ WQ		
☐ Water quality inserts/inlets	☐ WQ		
☐ Street sweeping	☐ WQ		
☒ Other The addition of gravel to areas that show the potential for erosion will direct stormwater to stormwater inlets, followed by on-site treatment, and then treatment at DELCORA WWTP	☐ VC ☐ RC ☐ WQ		
☐ Other _____	☐ VC ☐ RC ☐ WQ		

5. Off Site Discharge Analysis

Does the project propose any off-site discharges to areas other than surface waters? ☐ Yes ☒ No

If yes, the applicant must have appropriate easement that provides the legal authority for this off-site discharge. In addition, applicant must provide a demonstration in both the E&S and PCSM plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Potential Pollution Causing Materials

Identify naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and include BMPs to avoid or minimize potential pollution and its impacts from the formation.

NA- Stormwater is pre-treated on-site then treated at the DELCORA treatment facility.

7. Riparian Buffers

A. Does the project discharge to a river, stream, creek, lake, pond or reservoir with a designated use of high quality or exceptional value? If so, is earth disturbance occurring within 150 feet of the river, stream, creek, lake, pond or reservoir?
☐ Yes ☒ No

If yes, go to B. If no, continue to Section 8.

B. Will you be protecting, converting, or establishing a 150 foot riparian buffer throughout the project area?

Protect ☐ Yes ☐ No Convert ☐ Yes ☐ No Establish ☐ Yes ☐ No

If No to all above, the application must contain a demonstration of riparian buffer or riparian forest buffer equivalency. (Continue to C)

C. What BMPs will you be using that will be functionally equivalent to that of either a riparian buffer or a riparian forest buffer whatever is applicable to the project? Please attach an equivalency demonstration.

An equivalency demonstration must be completed, including worksheets 12-15 and a narrative that shows that the alternative BMPs implemented will be functionally equivalent to that of either a riparian buffer or a riparian forest buffer, whichever is applicable to the project according to 102.14(a)(1) and (2).

D. Will the project propose any earth disturbance within 100 feet of a surface water? ☐ Yes ☐ No

If yes, the applicant shall provide an offset riparian forest buffer at a ratio of one to one for the disturbed area.

8. Thermal Impacts Analysis

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

The use of Best Management Practices (BMPs) and directing stormwater to the on-site pretreatment, which then is conveyed to the DELCORA Publicly Owned Treatment Works (POTW), will minimize thermal impacts. Stormwater is collected through inlets/sewers and sent to pretreatment on site and then to the DELCORA treatment facility. The limit of disturbance was reduced to vital construction areas, which reduces the overall footprint and thermal impacts associated with construction related disturbances.

9. Critical Stages

Identify the critical stages of implementation of the PCSM plan for which a licensed professional or designee shall be present on the project site. NA

SECTION E. ANTIDEGRADATION ANALYSIS MODULE

This Section is to be completed for Special Protection Waters Only (Projects that drain to HQ/EV Waters and EV Wetlands).

PART 1 NONDISCHARGE ALTERNATIVES EVALUATION

E & S Plan	Official Use Only	PCSM Plan	Official Use Only
Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used prior to, during, and after earth disturbance activities that have been incorporated into the E & S Plan based on the site analysis. For BMPs not checked, provide an explanation of why they were not utilized, attach additional sheets if necessary. NA- Stormwater is pre-treated on-stie then treated at the DELCORA treatment facility.		Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used after construction that have been incorporated into the PCSM Plan based on the site analysis. For BMPs not checked, provide an explanation of why they were not utilized, attach additional sheets if necessary. The addition of gravel to areas that show the potential for erosion will direct stormwater to stormwater inlets for on-site treatment followed by treatment at the DELCORA WWTP.	
Nondischarge BMPs ☐ Alternative Siting ☐ Alternative location ☐ Alternative configuration ☐ Alternative location of discharge ☐ Limited Disturbed Area ☐ Limiting Extent & Duration of Disturbance (Phasing, Sequencing) ☐ Riparian Buffers (150 ft min) ☐ Riparian Forest Buffer (150 ft min) ☐ Other* _____		**Nondischarge BMPs** ☐ Alternative Siting ☐ Alternative location ☐ Alternative configuration ☐ Alternative location of discharge ☐ Low Impact Development (LID / BSD) ☐ Riparian Buffers (150 ft min) ☐ Riparian Forest Buffer (150 ft min) ☐ Infiltration ☐ Water Reuse ☐ Other* _____	

*☐ Identify any and all best management practices, design standards and alternatives that collectively are substantially equivalent to a riparian buffer or riparian forest buffer in effectiveness, to minimize the potential for accelerated erosion and sedimentation and to protect, maintain, reclaim and restore water quality and for existing and designated uses of a perennial or intermittent river, stream or creek or lake, pond or reservoir of this Commonwealth to ensure compliance with 25 Pa. Code Chapter 93 (relating to water quality standards).

Will the nondischarge alternative BMPs eliminate the change in rate, volume, or quality during construction? ☐ Yes ☐ No If yes, the antidegradation analysis is complete. If no, proceed to Part 2.	Will the nondischarge alternative BMPs eliminate the change in rate, volume, or quality after construction? ☐ Yes ☐ No If yes, the antidegradation analysis is complete. If no, proceed to Part 2.

Part 2 Antidegradation Best Available Combination of Technologies (ABACT)

'f the net change in stormwater discharge during or after construction is not fully eliminated by nondischarge BMPs, the applicant must .ilize ABACT BMPs to manage the change. The applicant must specify whether the discharge will occur during construction, post-construction or both, and identify the technologies that will be used to ensure that the discharge will be a non-degrading discharge.

E & S Plan	Official Use Only	PCSM Plan	Official Use Only
☐ **Treatment BMPs:** ☐ Sediment basin with skimmer ☐ Sediment basin ratio of 4:1 or greater (flow length to basin width) ☐ Sediment basin with 4-7 day detention ☐ Flocculants ☐ **Land disposal:** ☐ Vegetated filters ☐ Riparian buffers <150ft. ☐ Riparian Forest Buffer <150ft. ☐ **Pollution prevention:** ☐ PPC Plans ☐ Immediate stabilization ☐ Street sweeping ☐ Channels, collectors and diversions lined with permanent vegetation, rock, geotextile or other non-erosive materials ☐ **Stormwater reuse technologies:** ☐ Sediment basin water for dust control ☐ Sediment basin water for irrigation ☒ **Other* NA- Stormwater is pre-treated on-stie then eated at the DELCORA treatment facility.**		☐ **Treatment BMPs:** ☐ Infiltration Practices ☐ Wet ponds ☐ Created wetland treatment systems ☐ Vegetated swales ☐ Manufactured devices ☐ Bio-retention/infiltration ☐ Green Roofs ☐ **Land disposal:** ☐ Vegetated filters ☐ Riparian Buffers <150ft. ☐ Riparian Forest Buffer <150ft. ☐ **Pollution prevention:** ☐ Disconnection of roof drainage ☐ Bio-retention/bio-infiltration ☐ Street sweeping ☐ Nutrient, pesticide, herbicide or other chemical application plan alternatives ☐ PPC Plans ☐ Non-structural Practices ☐ Land Preservation ☐ Restoration BMPs ☐ **Stormwater reuse technologies:** ☐ Cisterns ☐ Rain barrels ☐ Dry hydrant with underground storage ☐ Spray/Drip Irrigation ☒ **Other* NA- Stormwater is pre-treated on-stie then treated at the DELCORA treatment facility.**	

*☐ Identify any and all best management practices, design standards and alternatives that collectively are substantially equivalent to a riparian buffer or riparian forest buffer in effectiveness, to minimize the potential for accelerated erosion and sedimentation and to protect, maintain, reclaim and restore water quality and for existing and designated uses of a perennial or intermittent river, stream or creek or lake, pond or reservoir of this Commonwealth to ensure compliance with 25 Pa. Code Chapter 93 (relating to water quality standards).

Are the ABACT BMPs selected sufficient to minimize E & S discharges to the extent that existing or designated surface water uses are protected? ☒ Yes If yes, antidegradation analysis is complete. ☐ No If no, and the project discharges to a HQ water, proceed to Part 3. If no and the project discharges to an EV Water, contact the local conservation district or Department regional office.		Are the ABACT BMPs selected sufficient to achieve no net change and assure that existing or designated surface water uses are protected? ☒ Yes If yes, antidegradation analysis is complete. ☐ No If no, and the project is located in a HQ water, proceed to Part 3. If no and the project discharges to an EV Water, contact the local conservation district or Department regional office.	

Part 3 Social or Economic Justification (SEJ) (for projects in high quality waters only)

If the project discharges to HQ waters only, is there an important economic or social justification for the project?

☐ Yes ☒ No If yes, please contact the Department regional office for the county in which the project is located.

SECTION F. CONSULTANT FOR THIS PROJECT

Plan Preparer's Name		eFACTS Consultant ID
ohn Hazard		
Title	Consulting Firm	Seal (if applicable)
Partner, PE	Environmental Resources Management (ERM)	

Mailing Address			
75 Valley Stream Parkway			
City	State	ZIP+4	
Malvern	PA	19355	
Email		Phone	Ext
		FAX	

SECTION G. COMPLIANCE HISTORY REVIEW

Is/was the applicant(s) in violation of any Department regulation, order, schedule of compliance or permit or in violation of any Department regulated activities within the past five years?

☐ Yes ☒ No

If yes, list each permit order, schedule of compliance or project that is/was in violation and provide compliance status of the activity (use additional sheets to provide information on all permits).

Permit Program or Activity: Permit Number (if applicable):

Brief description of non-compliance:

Steps taken to achieve compliance	Date(s) compliance achieved

Current Compliance Status: ☒ In-Compliance ☐ In Non-Compliance

If in non-compliance, please attach schedule for achieving compliance.

SECTION H. PERMIT COORDINATION

1. Are there pending permits or any other permits, approvals or planning requirements for this project?

   ☒ Yes ☐ No If yes, list each permit or approval, permit number, and description.

   SPMT ME-2X Plan Approval 23-0119I

2. Does the project involve any of the following: placement of fill and/or excavation within or a placement of a structure located in, along, across, or projecting into a water course, floodway or body of water (including wetlands)?

   ☐ Yes ☒ No If yes, identify which authorization under Chapter 105 is applicable.

   ☐ Joint Permit ☐ General Permit ☐ Waiver

3. What is the project's 537 Plan status? Please note that 537 Plan approval is required prior to initiation of earth disturbance activity.

   A change to the current 537 Plan is not required because new development is not proposed.

4. Is the project associated with a brownfield remediation and/or requires an Act 2 approval? ☐ Yes ☒ No If yes, please indicate any coordination to date with the Department's Environmental Cleanup Program.

SECTION I. CERTIFICATION

Applicant Certification

I certify under penalty of law that this application and all related attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel 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 NPDES permit, and that BMP's, E&S Plan, PPC Plan, PCSM Plan, and other controls are being 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 pursuant to Section 309(c)(4) of the Clean Water Act and, 18 Pa. C.S. §§4903-4904.

I grant permission to the agencies responsible for the permitting of this work, or their duly authorized representative to enter the project site for inspection purposes. I will abide by the conditions of the permit if issued and will not begin work prior to permit issuance.

(For individuals no indication of title is necessary, choose the box below. All others proceed to the next paragraph)

☐ **Individual; proceed to signature portion.**

I hereby certify that I am the signatory pursuant to 25 Pa, Code § 92a.22 and 40 CFR §122.22 and that I am the person who is responsible for decision-making regarding environmental compliance functions for Marcus Hook Industrial Complex, the manager of one or more manufacturing, production, or operating facilities of the applicant and am authorized to make management decisions which govern the operation of regulated facility including having explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure the applicant's long term environmental compliance with environmental laws and regulations; and I am responsible for ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements.

(choose one of the following; not applicable for individuals):

☒ The responsible corporate officer ☐ president ☐ vice president ☐ secretary ☐ treasure of Marcus Hook Industrial Complex Corporation/Company

Entity name

☐ The ☐ member or ☐ manager of _____ LLC
Entity name

☐ The general partner of _____ partnership/LP/LLP
Entity name

☐ The principal executive officer or ranking elected official of _____ Municipality/State/Federal/other public agency
Entity name

☐ Power of Attorney/delegation of contractual authority (documentation supporting delegation of contracting authority must be provided) for

_____
Entity name

SIGNATURES

Applicant	Co-Applicant (if applicable)
Edward Human- Director of Operations	
Print Name and Title of Person Signing	Print Name and Title of Person Signing
Signature of Applicant	Signature of Co-Applicant
12/15/17	
Date Signed	Date Signed

Please note below the name, address and telephone number of the individual that should be contacted in the event additional information is required.

Name Tyler Gansner

Phone 610-719-7376

FAX 484-913-0301

Notarization:

Commonwealth of Pennsylvania

County of Delaware

Sworn to and Subscribed to Before Me This

15 Day of December, 20 17

COMMONWEALTH OF PENNSYLVANIA
NOTARY SEAL
NOTARIAL SEAL
Dawn M. Coale, Notary Public
Marcus Hook Boro, Delaware County
My Commission Expires July 31, 2019
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Dawn M Coale

Notary Public

My Commission Expires: 7/31/19

3. Pennsylvania Department of Environmental Protection
Form 1300-PM-BIT0001 – General Information
Form – Authorization Application

1300-PM-BIT0001 5/2012
Form

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

GENERAL INFORMATION FORM – AUTHORIZATION APPLICATION

Before completing this General Information Form (GIF), read the step-by-step instructions provided in this application package. This version of the General Information Form (GIF) must be completed and returned with any program-specific application being submitted to the Department.

Related ID#s (If Known)		DEP USE ONLY
Client ID# 161585	**APS ID#**	Date Received & General Notes
Site ID# 270459	**Auth ID#**	
Facility ID#		

CLIENT INFORMATION

DEP Client ID#	**Client Type / Code** NPACO			
Organization Name or Registered Fictitious Name Sunoco Partners Marketing & Terminals L.P.		**Employer ID#** (EIN) 23-3102655	**Dun & Bradstreet ID#**	
Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Additional Individual Last Name	**First Name**	**MI**	**Suffix**	**SSN**
Mailing Address Line 1 100 Green Street		**Mailing Address Line 2**		
Address Last Line – City Marcus Hook	**State** PA	**ZIP+4** 19061-0426	**Country** USA	
Client Contact Last Name Bradley	**First Name** Erika	**MI**	**Suffix**	
Client Contact Title Specialist – Environmental Projects		**Phone** (610) 859-3309	**Ext**	
Email Address ERIKA.BRADLEY@energytransfer.com		**FAX**		

SITE INFORMATION

DEP Site ID#	**Site Name** Marcus Hook Industrial Complex				
EPA ID#	**Estimated Number of Employees to be Present at Site**				
Description of Site Storage and Marine Loading Facility					
County Name Delaware	**Municipality** Marcus Hook	**City** ☐	**Boro** ☒	**Twp** ☐	**State**
County Name	**Municipality**	**City** ☐	**Boro** ☐	**Twp** ☐	**State**
Site Location Line 1		**Site Location Line 2**			
Site Location Last Line – City Marcus Hook Facility		**State** PA	**ZIP+4** 19061-0426		
Detailed Written Directions to Site Follow I-95 S; Take the MARKET STREET / PA-452 exit- EXIT 2; Turn LEFT onto MARKET ST / PA-452. Continue to follow MARKET ST.; Turn RIGHT onto 11TH ST.; Turn LEFT onto GREEN ST. Enter at Visitors Entrance. Request escort by Environmental Dept. Personnel					
Site Contact Last Name Bradley	**First Name** Erika	**MI** W	**Suffix**		
Site Contact Title Specialist – Environmental Projects		**Site Contact Firm** Sunoco Partners Marketing & Terminals, L.P.			
Mailing Address Line 1 100 Green Street		**Mailing Address Line 2**			

Mailing Address Last Line – City	State	ZIP+4
Marcus Hook	PA	19061

Phone	Ext	FAX	Email Address
(610) 859-3309			ERIKA.BRADLEY@energytransfer.com

NAICS Codes (Two- & Three-Digit Codes – List All That Apply)	6-Digit Code (Optional)
493	493190

Client to Site Relationship
OWNOP

FACILITY INFORMATION

Modification of Existing Facility

		Yes	No
1.	**Will this project modify an existing facility, system, or activity?**	☒	☐
2.	**Will this project involve an addition to an existing facility, system, or activity?**	☒	☐

If "Yes", check all relevant facility types and provide DEP facility identification numbers below.

	Facility Type	DEP Fac ID#		Facility Type	DEP Fac ID#
☐	Air Emission Plant		☐	Industrial Minerals Mining Operation	
☐	Beneficial Use (water)		☐	Laboratory Location	
☐	Blasting Operation		☐	Land Recycling Cleanup Location	
☐	Captive Hazardous Waste Operation		☐	MineDrainageTrmt/LandRecyProjLocation	
☐	Coal Ash Beneficial Use Operation		☐	Municipal Waste Operation	
☐	Coal Mining Operation		☐	Oil & Gas Encroachment Location	
☐	Coal Pillar Location		☒	Oil & Gas Location	29270
☐	Commercial Hazardous Waste Operation		☐	Oil & Gas Water Poll Control Facility	
☐	Dam Location		☐	Public Water Supply System	
☐	Deep Mine Safety Operation -Anthracite		☐	Radiation Facility	
☐	Deep Mine Safety Operation -Bituminous		☐	Residual Waste Operation	
☐	Deep Mine Safety Operation -Ind Minerals		☐	Storage Tank Location	
☐	Encroachment Location (water, wetland)		☐	Water Pollution Control Facility	
☐	Erosion & Sediment Control Facility		☐	Water Resource	
☐	Explosive Storage Location		☐	Other:	

Latitude/Longitude Point of Origin	Latitude			Longitude		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
Plant Entrance	39	48	48	-75	25	20.153

Horizontal Accuracy Measure Feet --or-- Meters 3

Horizontal Reference Datum Code
- ☐ North American Datum of 1927
- ☒ North American Datum of 1983
- ☐ World Geodetic System of 1984

Horizontal Collection Method Code WAAS

Reference Point Code CNTAR

Altitude Feet 12 --or-- Meters

Altitude Datum Name
- ☐ The National Geodetic Vertical Datum of 1929
- ☒ The North American Vertical Datum of 1988 (NAVD88)

Altitude (Vertical) Location Datum Collection Method Code TOPO

Geometric Type Code Point

Data Collection Date 9/21/2017

Source Map Scale Number 1 Inch(es) = 2000 Feet
--or-- Centimeter(s) = Meters

PROJECT INFORMATION

Project Name
ME- 2X Project

Project Description
See attached cover letter

Project Consultant Last Name	First Name	MI	Suffix
Gansner	Tyler	M	

Project Consultant Title	Consulting Firm
Senior Project Scientist	Environmental Resources Management

Mailing Address Line 1	Mailing Address Line 2
75 Valley Stream Parkway	Suite 200

Address Last Line – City			State	ZIP+4
Malvern			PA	19355
Phone	**Ext**	**FAX**	**Email Address**	
610-719-7376	**0**	484-913-0301	tyler.gansner@erm.com	

Time Schedules	Project Milestone (Optional)
Phase 1	Start: April 2018/ End Date: August 2018
Phase 2	**Start: August 2018/ End August 2020**

1. **Have you informed the surrounding community and addressed any concerns prior to submitting the application to the Department?** ☒ Yes ☐ No
2. **Is your project funded by state or federal grants?** ☐ Yes ☒ No
   Note: If "Yes", specify what aspect of the project is related to the grant and provide the grant source, contact person and grant expiration date.
   Aspect of Project Related to Grant
   Grant Source: _____
   Grant Contact Person: _____
   Grant Expiration Date: _____
3. **Is this application for an authorization on Appendix A of the Land Use Policy? (For referenced list, see Appendix A of the Land Use Policy attached to GIF instructions)** ☒ Yes ☐ No
   Note: If "No" to Question 3, the application is not subject to the Land Use Policy.
   If "Yes" to Question 3, the application is subject to this policy and the Applicant should answer the additional questions in the **Land Use Information** section.

LAND USE INFORMATION

Note: Applicants are encouraged to submit copies of local land use approvals or other evidence of compliance with local comprehensive plans and zoning ordinances.

1. **Is there an adopted county or multi-county comprehensive plan?** ☒ Yes ☐ No
2. **Is there an adopted municipal or multi-municipal comprehensive plan?** ☒ Yes ☐ No
3. **Is there an adopted county-wide zoning ordinance, municipal zoning ordinance or joint municipal zoning ordinance?** ☒ Yes ☐ No
   Note: If the Applicant answers "No" to either Questions 1, 2 or 3, the provisions of the PA MPC are not applicable and the Applicant does not need to respond to questions 4 and 5 below.
   If the Applicant answers "Yes" to questions 1, 2 and 3, the Applicant should respond to questions 4 and 5 below.
4. **Does the proposed project meet the provisions of the zoning ordinance or does the proposed project have zoning approval?** If zoning approval has been received, attach documentation. ☒ Yes ☐ No
5. **Have you attached Municipal and County Land Use Letters for the project?** ☒ Yes ☐ No

COORDINATION INFORMATION

Note: The PA Historical and Museum Commission must be notified of proposed projects in accordance with DEP Technical Guidance Document 012-0700-001 and the accompanying Cultural Resource Notice Form.

If the activity will be a mining project (i.e., mining of coal or industrial minerals, coal refuse disposal and/or the operation of a coal or industrial minerals preparation/processing facility), respond to questions 1.0 through 2.5 below.

If the activity will not be a mining project, skip questions 1.0 through 2.5 and begin with question 3.0.

1.0	**Is this a coal mining project?** If "Yes", respond to 1.1-1.6. If "No", skip to Question 2.0.	☐	Yes	☒	No
1.1	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be equal to or greater than 200 tons/day?**	☐	Yes	☐	No
1.2	**Will this coal mining project involve coal preparation/ processing activities in which the total amount of coal prepared/processed will be greater than 50,000 tons/year?**	☐	Yes	☐	No
1.3	**Will this coal mining project involve coal preparation/ processing activities in which thermal coal dryers or pneumatic coal cleaners will be used?**	☐	Yes	☐	No
1.4	**For this coal mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐	Yes	☐	No
1.5	**Will this coal mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐	Yes	☐	No
1.6	**Will this coal mining project involve underground coal mining to be conducted within 500 feet of an oil or gas well?**	☐	Yes	☐	No
2.0	**Is this a non-coal (industrial minerals) mining project?** If "Yes", respond to 2.1-2.6. If "No", skip to Question 3.0.	☐	Yes	☒	No
2.1	**Will this non-coal (industrial minerals) mining project involve the crushing and screening of non-coal minerals other than sand and gravel?**	☐	Yes	☐	No
2.2	**Will this non-coal (industrial minerals) mining project involve the crushing and/or screening of sand and gravel with the exception of wet sand and gravel operations (screening only) and dry sand and gravel operations with a capacity of less than 150 tons/hour of unconsolidated materials?**	☐	Yes	☐	No
2.3	**Will this non-coal (industrial minerals) mining project involve the construction, operation and/or modification of a portable non-metallic (i.e., non-coal) minerals processing plant under the authority of the General Permit for Portable Non-metallic Mineral Processing Plants (i.e., BAQ-PGPA/GP-3)?**	☐	Yes	☐	No
2.4	**For this non-coal (industrial minerals) mining project, will sewage treatment facilities be constructed and treated waste water discharged to surface waters?**	☐	Yes	☐	No
2.5	**Will this non-coal (industrial minerals) mining project involve the construction of a permanent impoundment meeting one or more of the following criteria: (1) a contributory drainage area exceeding 100 acres; (2) a depth of water measured by the upstream toe of the dam at maximum storage elevation exceeding 15 feet; (3) an impounding capacity at maximum storage elevation exceeding 50 acre-feet?**	☐	Yes	☐	No

3.0	**Will your project, activity, or authorization have anything to do with a well related to oil or gas production, have construction within 200 feet of, affect an oil or gas well, involve the waste from such a well, or string power lines above an oil or gas well?** If "Yes", respond to 3.1-3.3. If "No", skip to Question 4.0.	☐	Yes	☒	No
3.1	**Does the oil- or gas-related project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water (including wetlands)?**	☐	Yes	☐	No
3.2	**Will the oil- or gas-related project involve discharge of industrial wastewater or stormwater to a dry swale, surface water, ground water or an existing sanitary sewer system or storm water system?** If "Yes", discuss in *Project Description*.	☐	Yes	☐	No
3.3	**Will the oil- or gas-related project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☐	No
4.0	**Will the project involve a construction activity that results in earth disturbance?** If "Yes", specify the total disturbed acreage. **4.0.1 Total Disturbed Acreage** 32.3	☒	Yes	☐	No
5.0	**Does the project involve any of the following?** If "Yes", respond to 5.1-5.3. If "No", skip to Question 6.0.	☐	Yes	☒	No
5.1	**Water Obstruction and Encroachment Projects – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a watercourse, floodway or body of water?**	☐	Yes	☒	No
5.2	**Wetland Impacts – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a wetland?**	☐	Yes	☒	No
5.3	**Floodplain Projects by the commonwealth, a Political Subdivision of the commonwealth or a Public Utility – Does the project involve any of the following: placement of fill, excavation within or placement of a structure, located in, along, across or projecting into a floodplain?**	☐	Yes	☒	No
6.0	**Will the project involve discharge of stormwater or wastewater from an industrial activity to a dry swale, surface water, ground water or an existing sanitary sewer system or separate storm water system?**	☒	Yes	☐	No
7.0	**Will the project involve the construction and operation of industrial waste treatment facilities?**	☐	Yes	☒	No
8.0	**Will the project involve construction of sewage treatment facilities, sanitary sewers, or sewage pumping stations?** If "Yes", indicate estimated proposed flow (gal/day). Also, discuss the sanitary sewer pipe sizes and the number of pumping stations/treatment facilities/name of downstream sewage facilities in the *Project Description*, where applicable. **8.0.1 Estimated Proposed Flow (gal/day)**	☐	Yes	☒	No
9.0	**Will the project involve the subdivision of land, or the generation of 800 gpd or more of sewage on an existing parcel of land or the generation of an additional 400 gpd of sewage on an already-developed parcel, or the generation of 800 gpd or more of industrial wastewater that would be discharged to an existing sanitary sewer system?**	☐	Yes	☒	No
	9.0.1 Was Act 537 sewage facilities planning submitted and approved by DEP? If "Yes" attach the approval letter. Approval required prior to 105/NPDES approval.	☐	Yes	☐	No
10.0	**Is this project for the beneficial use of biosolids for land application within Pennsylvania?** If "Yes" indicate how much (i.e. gallons or dry tons per year). **10.0.1 Gallons Per Year (residential septage)** _____ **10.0.2 Dry Tons Per Year (biosolids)**	☐	Yes	☒	No
11.0	**Does the project involve construction, modification or removal of a dam?** If "Yes", identify the dam. **11.0.1 Dam Name**	☐	Yes	☒	No

12.0	**Will the project interfere with the flow from, or otherwise impact, a dam?** If "Yes", identify the dam. **12.0.1 Dam Name**	☐	Yes	☒	No
13.0	**Will the project involve operations (excluding during the construction period) that produce air emissions (i.e., NOX, VOC, etc.)?** If "Yes", identify each type of emission followed by the amount of that emission. **13.0.1 Enter all types & amounts of emissions; separate each set with semicolons.** VOC = 9.23 tons per year; NOx = 5.14 tons per year; CO = 23.41 tons per year; PM = 0.28 tons per year; PM10 = 0.21 tons per year; PM2.5 = 0.001 tons per year; SO2 = 0.029 tons per year; CO2e = 13,015 tons per year	☒	Yes	☐	No
14.0	**Does the project include the construction or modification of a drinking water supply to serve 15 or more connections or 25 or more people, at least 60 days out of the year?** If "Yes", check all proposed sub-facilities. **14.0.1 Number of Persons Served** _____ **14.0.2 Number of Employee/Guests** _____ **14.0.3 Number of Connections** _____	☐	Yes	☒	No
	14.0.4 Sub-Fac: Distribution System	☐	Yes	☐	No
	14.0.5 Sub-Fac: Water Treatment Plant	☐	Yes	☐	No
	14.0.6 Sub-Fac: Source	☐	Yes	☐	No
	14.0.7 Sub-Fac: Pump Station	☐	Yes	☐	No
	14.0.8 Sub Fac: Transmission Main	☐	Yes	☐	No
	14.0.9 Sub-Fac: Storage Facility	☐	Yes	☐	No
15.0	**Will your project include infiltration of storm water or waste water to ground water within one-half mile of a public water supply well, spring or infiltration gallery?**	☐	Yes	☒	No
16.0	**Is your project to be served by an existing public water supply?** If "Yes", indicate name of supplier and attach letter from supplier stating that it will serve the project. **16.0.1 Supplier's Name** Chester Water Authority	☒	Yes	☐	No
	16.0.2 Letter of Approval from Supplier is Attached	☐	Yes	☒	No
17.0	**Will this project involve a new or increased drinking water withdrawal from a stream or other water body?** If "Yes", should reference both Water Supply and Watershed Management. **17.0.1 Stream Name**	☐	Yes	☒	No
18.0	**Will the construction or operation of this project involve treatment, storage, reuse, or disposal of waste?** If "Yes", indicate what type (i.e., hazardous, municipal (including infectious & chemotherapeutic), residual) and the amount to be treated, stored, re-used or disposed. **18.0.1 Type & Amount** Refer to Section 1.2 of the ESCP. The project is expected to generate miscellaneous solid waste, including trash, packaging materials (e.g., wood shipping crates), scrap plastic, wood and/or metal, and concrete. Where possible, materials will be recycled in lieu of disposal. The amount of waste material that will be generated is unknown.	☒	Yes	☐	No
19.0	**Will your project involve the removal of coal, minerals, etc. as part of any earth disturbance activities?**	☐	Yes	☒	No

20.0	**Does your project involve installation of a field constructed underground storage tank?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **20.0.1 Enter all substances & capacity of each; separate each set with semicolons.**	☐	Yes	☒	No
21.0	**Does your project involve installation of an aboveground storage tank greater than 21,000 gallons capacity at an existing facility?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **21.0.1 Enter all substances & capacity of each; separate each set with semicolons.** 2- 600,000 bbl ethane storage tanks	☒	Yes	☐	No
22.0	**Does your project involve installation of a tank greater than 1,100 gallons which will contain a highly hazardous substance as defined in DEP's Regulated Substances List, 2570-BK-DEP2724?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **22.0.1 Enter all substances & capacity of each; separate each set with semicolons.**	☐	Yes	☒	No
23.0	**Does your project involve installation of a storage tank at a new facility with a total AST capacity greater than 21,000 gallons?** If "Yes", list each Substance & its Capacity. **Note:** Applicant may need a Storage Tank Site Specific Installation Permit. **23.0.1 Enter all substances & capacity of each; separate each set with semicolons.**	☐	Yes	☒	No
24.0	**Will the intended activity involve the use of a radiation source?**	☐	Yes	☒	No

CERTIFICATION

I certify that I have the authority to submit this application on behalf of the applicant named herein and that the information provided in this application is true and correct to the best of my knowledge and information.

Type or Print Name Edward G. Human

Ed G. Human	Director of Marcus Hook Operations	12/15/17
Signature	**Title**	**Date**

4. Delaware County Conservation District Erosion and Sediment Pollution Control Plan Review Application

Delaware County Conservation District
Rose Tree Park - Hunt Club
1521 N. Providence Road
Media, PA 19063

Telephone Number : (610) 892-9484
Fax Number : (610)892-9489

Revised : 2015 – FORM

EROSION AND SEDIMENT POLLUTION CONTROL PLAN REVIEW APPLICATION

PROJECT NAME : ME-2X Project **TOTAL ACREAGE :** 32.3 **DISTURBED CREAGE :** 32.3 **WATERSHED :** Lower Delaware

MUNICIPALITY : Marcus Hook Boro **APPLICANT :** Erika Bradley

APPLICANTS PHONE # : (610) 859-3309 **ADDRESS :** 100 Green Street

POST OFFICE : Marcus Hook, PA **ZIP :** 19061 ***E-Mail :** ERIKA.BRADLEY@energytransfer.com

PLAN PREPARER INFORMATION

FIRM : Environmental Resources Management **PHONE # :** (484) 913-0300 **FAX#:** (484) 913-0301

CONTACT : Tyler Gansner **ADDRESS :** 75 Valley Stream Parkway

MAIL REVIEW LETTER TO : OR (NOT BOTH): X - APPLICANT; X - ENGINEER

Suite 200

***E-Mail :** _____

Malvern, PA 19355

SUBMISSION INFORMATION : Projects requiring an NPDES Permit should submit all information required by the permit. Projects not requiring an NPDES permit should submit 1 copy of plans, narratives, and calculations. (See Reverse Side for Service Fee Information)

____ - PRELIMINARY X - FIRST SUBMISSION ____ - SECOND SUBMISSION

___ - THIRD OR MORE.....$ 2,050 - AMOUNT OF CHECK ____ - N/A
(Fee May be Required Check latest District Comment Letter)

___ - EMERGENCY REVIEW ..... $ _____ - AMOUNT OF CHECK ____- N/A

NPDES CONSTRUCTION PERMIT : ____ - GENERAL X - INDIVDUAL ____ - N/A

CHAPTER 105 - Please Check the following : ____ - Enclosed ____ - Will be submitted

___ - G.P. #3 ___- G.P.#4 ___ - G.P.#5 ___ - G.P. #7 ___ - G.P. #8 OTHER G.P. # - _____

The applicant agrees to implement the attached plan during construction, which was developed to satisfy the requirements of Title 25 - Chapter 102 Erosion Control. The Applicant also authorizes the D.C.C.D. to make inspections as necessary.

Signature of Applicant

Edward G. Hunter
Print Name of Applicant

Date : 12/15/17

* - By providing E-mail your name could be added to Our E-mail distribution list for District Updates.

Checks for above made payable to :
"Delaware County Conservation District"

NPDES Base Fee should be made payable to :
"Delaware County Clean Water Fund"

NPDES Disturbed Acre Fee should be made payable to: "Commonwealth of PA Clean Water Fund"

EROSION AND SEDIMENT POLLUTION CONTROL PLAN REVIEW FEE SCHEDULE

Waiver of Fees

Fees will be waived only for an application filed under the name of a local municipality or the Commonwealth of Pennsylvania. School District and separate authorities are no longer exempt. This exemption also does not apply to any private, or non-profit organization.

Project Area Delineation

The **entire parcel controlled by the Developer will represent the project area. Open space areas are to be included in the total project area. Additional development on an already improved site will be determined by estimating the necessary area to build the new improvements. Example : A college campus proposing to add a new dormitory. The project area would not be the entire college campus, but only the area needed to construct the new dormitory.**

Applicability of Fee Schedule

The fee schedule below will apply whenever the application and Erosion and Sediment Pollution Control Plan are submitted for an adequacy determination. Each resubmission of a different project on the same tract of land will be charged an additional fee. The fee charged will cover the cost of an initial review plus one follow-up revision submitted in response to the first review letter (if necessary). To qualify for this provision, a cover letter based on the review letter, which details specifically the corrections made, must be included with the resubmitted plan. All changes (revisions) made on the resubmitted plan sets will be distinguished by using highlighting.

Plans which receive a letter of adequacy, and are resubmitted with minor revisions will be subject to a $150.00 processing fee only. Plans which require more than a second review, and have more than minor review comments will be subject to a review fee of 50% of the original fee. The Conservation District plan reviewer will notify the applicant of the need for additional fees in the second review letter.

Plans which are resubmitted with major revisions (such as lot layout, road layout, drainage design, etc.), but primary Erosion and Sediment Control BMP's remain unchanged shall be subject to a review fee of 50% of the original fee.

Emergency Review Provision

The applicant will pay a fee twice the normal review fee. The applicant will submit two checks. The normal fee will be deposited in the Delaware County General Fund. The additional charge will be deposited in the Conservation District's Affiliate Membership Fund. Prior approval from the Conservation District Manager must be obtained to start this process. 10 days will be the normal review time for the first submittals. For projects that require an NPDES Construction Permit the emergency review process will remain available, but will not be initiated until a complete permit package is submitted and found administratively complete.

The emergency review fee like the normal review fee will cover the cost of an initial review plus one follow-up revision submitted in response to the first review letter (if necessary).

The emergency review may be initiated after the conservation district's first review with the submission of a fee equal to 50% of the original review fee. This procedure is subject to all of the provisions of the standard review. This provision does not apply to those plans, which upon initial review are found to be either incomplete or insufficient. For those plans initiation of the emergency review process will require submittal of a fee equal to the total amount of the original review fee.

FEE SCHEDULE

Project Acres	Fee	Project Acres	Fee	Project Acres	Fee
0 - 0.99	$490.00	20 - 29.99	$1,705.00	75 - 99.99	$3,215.00
1 - 4.99	$780.00	30 - 39.99	$2,050.00	100 - above	$3,215.00
5 - 9.99	$1,120.00	40 - 49.99	$2,240.00	Plus $20.00 /acre over	
10 –19.99	$1,510.00	50 - 74.99	$2,730.00	100 acres	

* $150.00 will be charged to review a minimum earth disturbance activity such as: one residential unit, encroachment E&S Pollution Control Plan not associated with other construction and low hazard activities.

5. Act 67, 68 & 127 – County Notification Letter and Mail Receipt

Environmental Resources Management

75 Valley Stream Parkway
Suite 200
Malvern, PA 19355
(484) 913-0300

www.erm.com

26 September 2017

Delaware County Planning Commission
201 West Front Street,
Media, PA 19063

Subject: Sunoco Partners Marketing & Terminals L.P.
Marcus Hook Industrial Complex
ME-2X Project
PADEP, Individual NPDES Permit for Stormwater
Discharges Associated with Construction Activities
Marcus Hook Township, Delaware County, Pennsylvania

Dear Delaware County Commissioners:

Acts 67, 68 and 127, which amended the Municipalities Planning Code, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities and infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code. The Pennsylvania Department of Environmental Protection's (DEP) Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Permits for Facilities and Infrastructure (DEP's Land Use Policy) provides direction and guidance to DEP staff, permit applicants, and local and county governments for the implementation of Acts 67, 68 and 127. This policy can be found at www.depweb.state.pa.us; keyword: Land Use.

In accordance with DEP's Land Use Policy, enclosed please find a County Land Use Letter that is to be submitted with our permit application to DEP for an NPDES Permit for Stormwater Discharges Associated with Construction Activities. Please complete the attached form and return within 30 days to:

Applicant Contact: ERM
Attn: Tyler Gansner
75 Valley Stream Parkway
Suite 200
Malvern, PA 19355

Project Location:	Marcus Hook Borough, Delaware County, Pennsylvania (See Figure 1 for project location, attached)
Project Description:	Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install a system designed to process an incoming ethane stream into a saleable ethane product. Construction activities for the project are planned to occur in two phases. Phase 1 will consist of site preparation and demolition activities and Phase 2 will consist of the construction of the new facility. This Phase 1 ESCP solely addresses the demolition of existing process equipment, tankage, and buildings to a depth of 9 feet necessary for site preparation purposes.

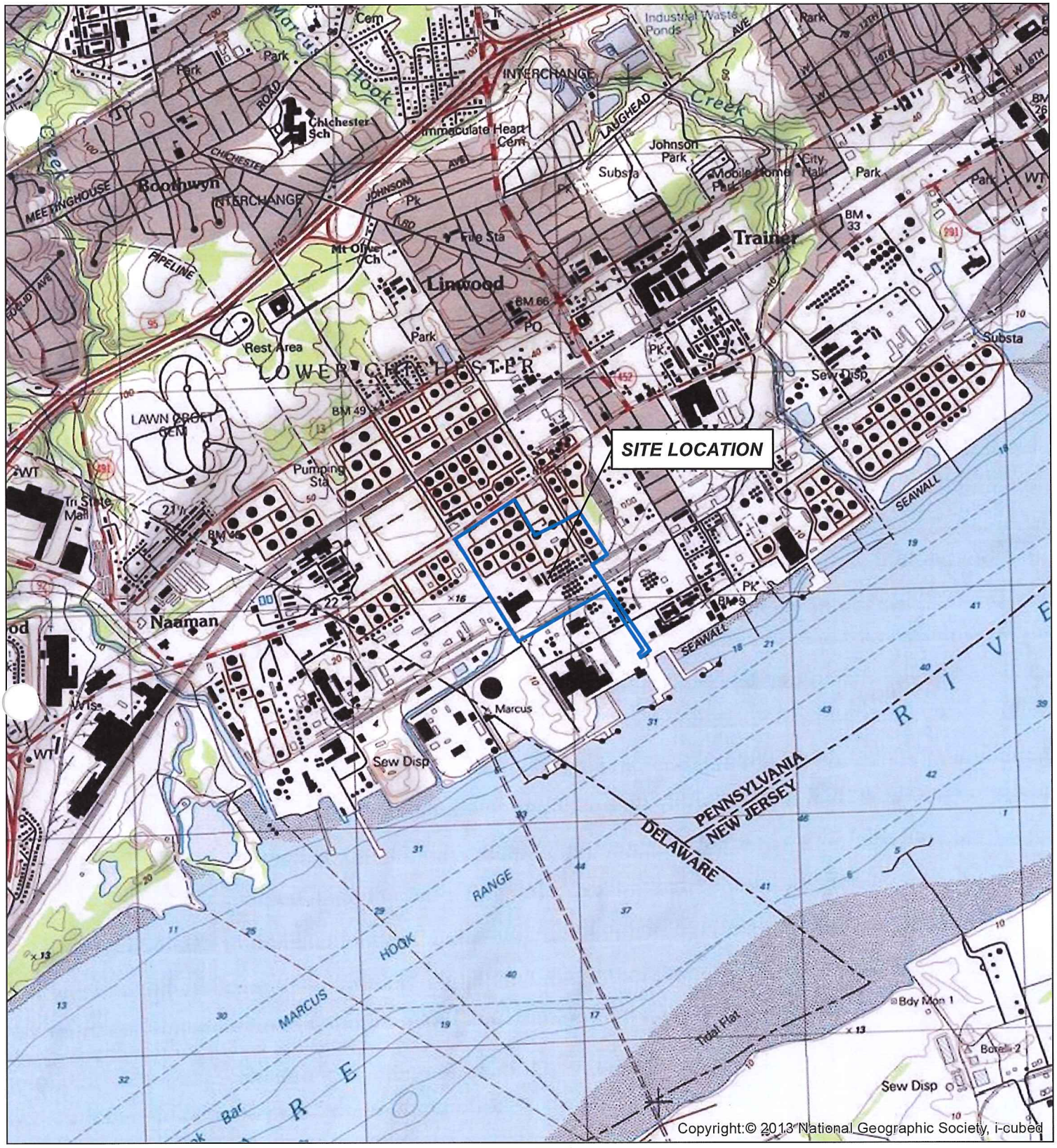
Please do not send this form to DEP, as we must include the County Land Use Letter with our permit application. If we do not receive a response from you within 30 days, we shall proceed to submit our permit application to DEP without the Municipal Land Use Letter. If the Municipal Land Use Letter is not submitted with our permit application, and we provide proof to DEP that we attempted to obtain it, DEP will assume there are no substantive land use conflicts and proceed with the normal application review process.

If you have any questions, please do not hesitate to contact me at (484) 913-0300 and/or tyler.gansner@erm.com.

Sincerely,

Tyler Gansner
Senior Project Scientist

Attachements: Sample County Land Use Letter, Figure 1- Site Location Map



Legend

Project Boundary

0 1,000 2,000

SOURCE: USGS Quad 7.5' Index: Marcus Hook, PA
SCALE: 1:24,000

ERM

SITE LOCATION MAP
Sunoco Partners Marketing & Terminals L.P.
Marcus Hook
Delaware County, Pennsylvania

Figure 1

J:\Projects\Sunoco Logistics_MXD\Figure1-SiteLocationMap_20170919.mxd - INITIALS

SAMPLE COUNTY LAND USE LETTER

Date: _____

To: _____ (Name of Applicant)

From: _____ County Planning Agency/Commission

Re: _____ (Name of DEP Permittee)

The County of _____ states that it:

_____ has adopted a county or multi-county comprehensive plan.
If yes, please provide date of adoption:

_____ has not adopted a county or multi-county comprehensive plan.

If applicable:

The above referenced project:

___ is consistent with the adopted county or multi-county comprehensive plan.
___ is not consistent with the adopted county or multi-county comprehensive plan.

Additional Comments (attach additional sheets if necessary):

_____

_____

_____

_____

Submitted By:

Name	
Title	
Contact Information (Address & Phone)	
Signature	
Date	

Tyler Gansner

From: TrackingUpdates@fedex.com
Sent: Wednesday, October 04, 2017 10:16 AM
To: Tyler Gansner
Subject: FedEx Shipment 770407952378 Delivered

Your package has been delivered

Tracking # 770407952378

Ship date:
Tue, 10/3/2017

Missy Gonzalez
Donna Bacon
Malvern, PA 19355
US

Delivered

Delivery date:
Wed, 10/4/2017
10:10 am

DELAWARE COUNTY PLANNING COMMISSION
201 WEST FRONT STREET
MEDIA, PA 19063
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	770407952378
Status:	Delivered: 10/04/2017 10:10 AM Signed for By: J.ALLSMAN
Reference:	0410329
Signed for by:	J.ALLSMAN
Delivery location:	MEDIA, PA
Delivered to:	Shipping/Receiving
Service type:	FedEx Priority Overnight
Packaging type:	FedEx Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday

Standard transit:	10/4/2017 by 10:30 am

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Thank you for your business.

6. Act 67, 68 & 127 – Municipal Notification Letter and Mail Receipt

Environmental Resources Management

75 Valley Stream Parkway
Suite 200
Malvern, PA 19355
(484) 913-0300
www.erm.com

26 September 2017

Marcus Hook Borough
10th and Green Street
Marcus Hook, PA 19061

Subject: Sunoco Partners Marketing &Terminals L.P.
Marcus Hook Industrial Complex
ME-2X Project
PADEP, Individual NPDES Permit for Stormwater Discharges Associated with Construction Activities
Marcus Hook Borough, Delaware County, Pennsylvania

Dear Marcus Hook Borough Secretary:

Acts 67, 68 and 127, which amended the Municipalities Planning Code, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities and infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code. The Pennsylvania Department of Environmental Protection's (DEP)Policy for Consideration of Local Comprehensive Plans and Zoning Ordinances in DEP Review of Permits for Facilities and Infrastructure (DEP's Land Use Policy) provides direction and guidance to DEP staff, permit applicants, and local and county governments for the implementation of Acts 67, 68 and 127. This policy can be found at www.depweb.state.pa.us; keyword: Land Use.

In accordance with DEP's Land Use Policy, enclosed please find a Municipal Land Use Letter that is to be submitted with our permit application to DEP for an NPDES Permit for Stormwater Discharges Associated with Construction Activities. Please complete the attached form and return within 30 days to:

Applicant Contact: ERM
Attn: Tyler Gansner
75 Valley Stream Parkway
Suite 200
Malvern, PA 19355

Project Location:	Marcus Hook Borough, Delaware County, Pennsylvania (See Figure 1 for project location, attached)
Project Description:	Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install a system designed to process an incoming ethane stream into a saleable ethane product. Construction activities for the project are planned to occur in two phases. Phase 1 will consist of site preparation and demolition activities and Phase 2 will consist of the construction of the new facility. This Phase 1 ESCP solely addresses the demolition of existing process equipment, tankage, and buildings to a depth of 9 feet (necessary for site preparation purposes).

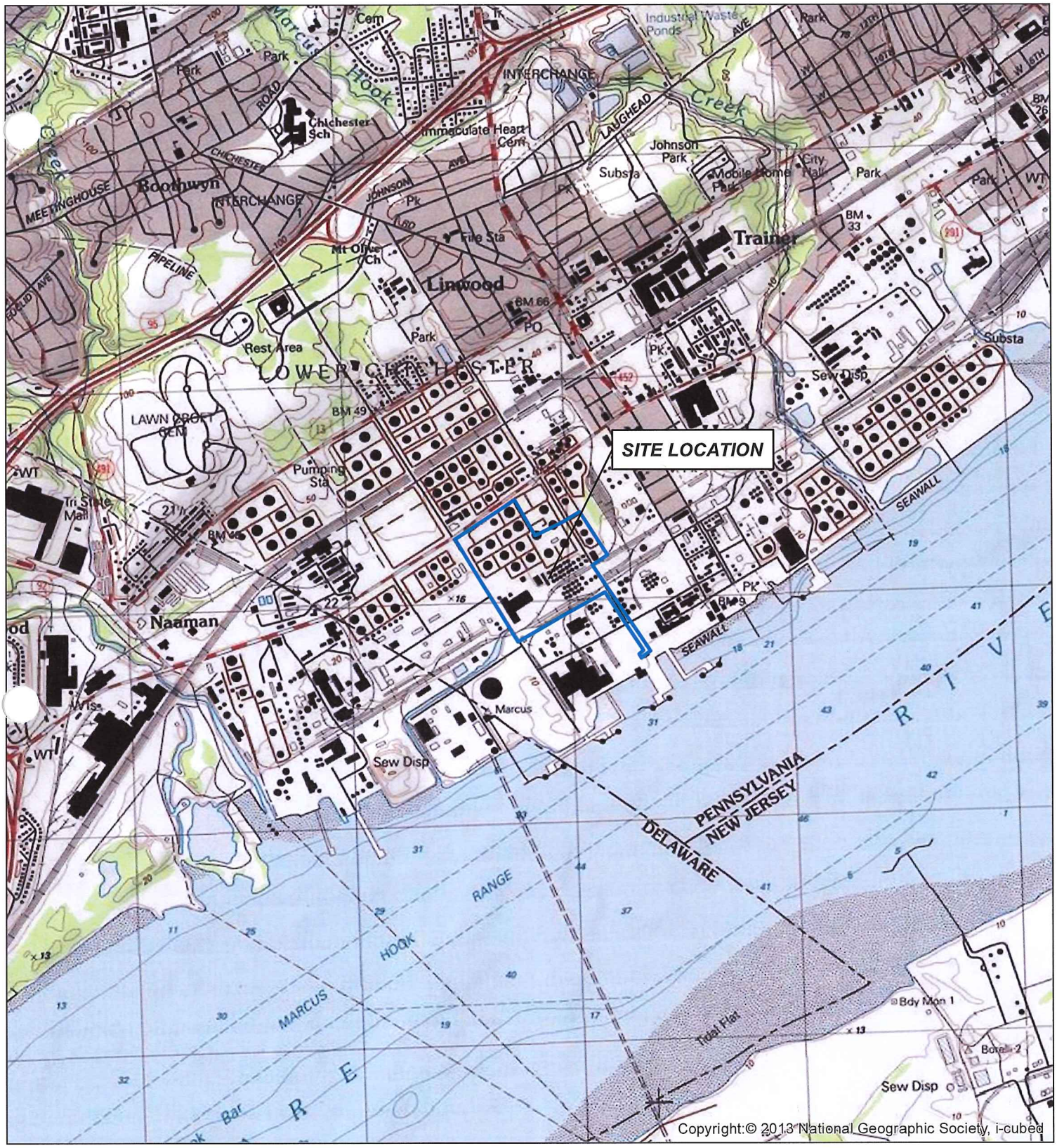
Please do not send this form to DEP, as we must include the Municipal Land Use Letter with our permit application. If we do not receive a response from you within 30 days, we shall proceed to submit our permit application to DEP without the Municipal Land Use Letter. If the Municipal Land Use Letter is not submitted with our permit application, and we provide proof to DEP that we attempted to obtain it, DEP will assume there are no substantive land use conflicts and proceed with the normal application review process.

If you have any questions, please do not hesitate to contact me at (484) 913-0300 and/or tyler.gansner@erm.com

Sincerely,

Tyler Gansner
Senior Project Scientist

Attachments: Sample Municipal Land Use Letter, Figure 1- Site Location Map



Legend

Project Boundary

0 1,000 2,000

SOURCE: USGS Quad 7.5' Index: Marcus Hook, PA
SCALE: 1:24,000

ERM

SITE LOCATION MAP
Sunoco Partners Marketing & Terminals LP.
Marcus Hook
Delaware County, Pennsylvania

Figure 1

J:\Projects\Sunoco Logistics_MXD\Figure1-SiteLocationMap_20170919.mxd - INITIALS

SAMPLE MUNICIPAL LAND USE LETTER

Date: _____

To: _____ (Name of Applicant)

From: _____ Township/Borough/City

Re: _____ (Name of DEP Permittee)

The municipality of _____ states that it:
_____ has adopted a municipal or multi-municipal comprehensive plan.
If yes, please provide date of adoption:

_____ has not adopted a municipal or multi-municipal comprehensive plan.

The municipality of _____ states that it:
_____ has adopted a county zoning ordinance, or a municipal or joint-municipal zoning ordinance.
_____ has not adopted a county zoning ordinance, or a municipal or joint-municipal zoning ordinance.

If applicable:

The municipality of _____ states that its zoning ordinance is generally consistent with its municipal comprehensive plan and the county comprehensive plan.

The above referenced proposed project
_____ meets the provisions of the local zoning ordinance

If zoning approval is required for the project to proceed, the above referenced project:
_____ has received zoning approval.
_____ has not received zoning approval.

If the proposed project has not received zoning approval:

What is the status of the zoning request for the proposed project? (e.g., Special Exception Approval from the Zoning Hearing Board required, Conditional Use approval from the Governing Body required)

_____

_____

_____

_____

_____

_____

Is there a legal challenge by the applicant with regard to zoning for the proposed project?

_____

_____

Name and Contact Information for Municipal Zoning Officer:

_____

_____

Additional Comments (attach additional sheets if necessary):

_____

_____

_____

Submitted By:

Name	
Title	
Contact Information (Address & Phone)	
Signature	
Date	

Tyler Gansner

From: TrackingUpdates@fedex.com
Sent: Wednesday, October 04, 2017 8:42 AM
To: Tyler Gansner
Subject: FedEx Shipment 770407829583 Delivered

Your package has been delivered

Tracking # 770407829583

Ship date:
Tue, 10/3/2017

Missy Gonzalez
Donna Bacon
Malvern, PA 19355
US

Delivered

Delivery date:
Wed, 10/4/2017
8:37 am

MARCUS HOOK BOROUGH
1015 GREEN STREET
MARCUS HOOK, PA
19061
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	770407829583
Status:	Delivered: 10/04/2017 08:37 AM Signed for By: M.MUHOLLAND
Reference:	0410329
Signed for by:	M.MUHOLLAND
Delivery location:	MARCUS HOOK, PA
Delivered to:	Receptionist/Front Desk
Service type:	FedEx First Overnight
Packaging type:	FedEx Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	10/4/2017 by 8:00 am

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 7:42 AM CDT on 10/04/2017.

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Thank you for your business.

7. Pennsylvania Natural Diversity Inventory (PNDI) Project Environmental Review Receipt and Clearance Letter

Environmental Resources Management

75 Valley Stream Parkway
Suite 200
Malvern, PA 19355
(484) 913-0300
www.erm.com

September 28, 2017

Pennsylvania Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA
16823

Subject: Sunoco Partners Marketing and Terminals L.P.
ME-2X Project Individual NPDES Permit
Marcus Hook Industrial Complex
Marcus Hook Borough, Delaware County, Pennsylvania

To Whom It May Concern:

Sunoco Partners Marketing & Terminals L.P. (SXL) is filing for an individual NPDES permit renewal related to a project to install and operate a facility at the Marcus Hook Industrial Complex (MHIC), as indicated on the attached Marcus Hook, Pennsylvania-New Jersey-Delaware U.S. Geological Survey (USGS) 7.5-minute quadrangle. A review of the online Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool has indicated that this project requires review by your agency to identify any known impacts the project may have. The Project Environmental Review Receipt has been included as an attachment to this document.

Please note that a portion of the project included in the current PNDI review was previously reviewed by the Pennsylvania Fish and Boat Commission (PFBC) as part of the ME2 NPDES Permit Renewal (see SIR #48111). Clearance for SIR #48111 was received from PFBC on 24 July 2017.

Ongoing activities within the assumed 50-foot floodway along the Delaware River includes installation of a new firewater fixed monitor loop and deluge system. Outside the assumed 50-foot floodway, project activities may include demolition of existing structures and the construction of new piping, process equipment, and tankage.

The total area disturbed will not exceed 32.3 acres, and the site is an active industrial facility, and ground cover in the areas of proposed demolition and construction currently consists of impervious surfaces.

Additional Project Details

Storm Water Management

Stormwater generated on the site is collected via storm drains and conveyed to the refinery wastewater pretreatment system. Pretreatment consists of pH neutralization and oil/water separation. After pretreatment, wastewater is conveyed to the DELCORA Publicly Owned Treatment Works (POTW), which discharges to the Delaware River.

The utilization of construction phase Best Management Practices (BMPs) will minimize soil erosion and prevent sediment laden runoff from entering waterways. Construction activities will be performed in a manner that minimizes the area of disturbance and BMPs will be installed. The following BMP's will be constructed and maintained in accordance with the Pennsylvania Stormwater Best Management Practices Manual:

Rock Construction Entrances

Rock construction entrances will be installed at locations where construction vehicles will access the construction right-of-way. Rock construction entrances minimize the amount of soil that is transported from the disturbed area onto roadways.

Filter Sock

Filter socks will be used on paved and graveled surfaces along the limits of disturbance. Filter socks remove sediment from runoff.

Storm Drain Inlet Protection

Storm drain inlets will be protected using geotextile around the grate which will keep sediment from entering the storm water collection/conveyance/treatment system.

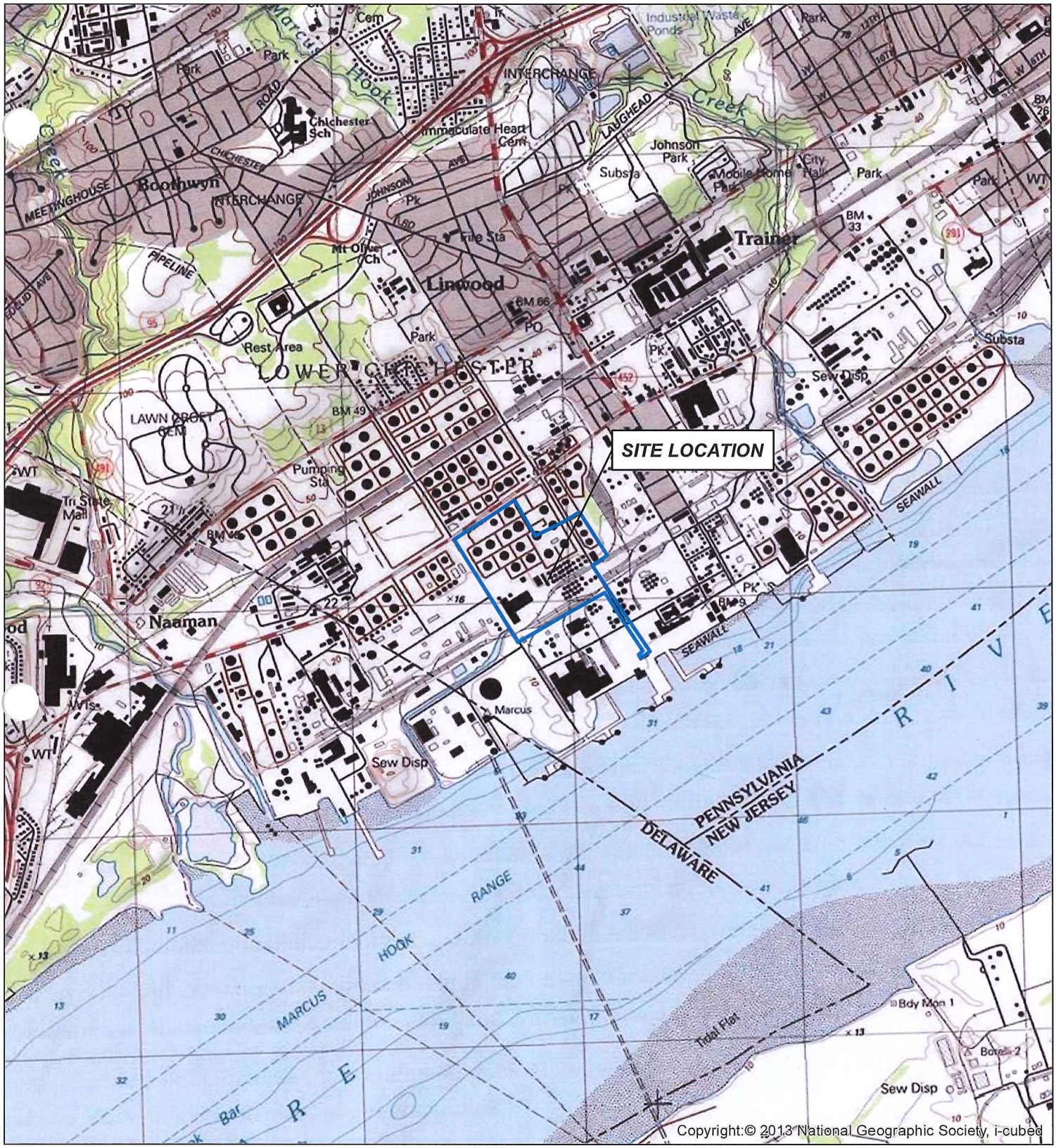
If you have any questions, please do not hesitate to contact me at (484) 913-0300 and/or tyler.gansner@erm.com.

Sincerely,

Environmental Resources Management

Tyler Gansner
Senior Project Scientist

Attachments: Marcus Hook, Pennsylvania-New Jersey-Delaware U.S. Geological Survey (USGS) 7.5-minute quadrangle
PNDI Project Environmental Review Receipt



Legend

Mariner East 2XProject Boundary

0 1,000 2,000

SOURCE: USGS Quad 7.5' Index: Marcus Hook, PA
SCALE: 1:24,000

ERM

SITE LOCATION MAP
Sunoco Partners Marketing & Terminals L.P.
Marcus Hook
Delaware County, Pennsylvania

Figure
1

J:\Projects\Sunoco Logistics_MXD\Figure1-SiteLocationMap_20170919.mxd - INITIALS

1. PROJECT INFORMATION

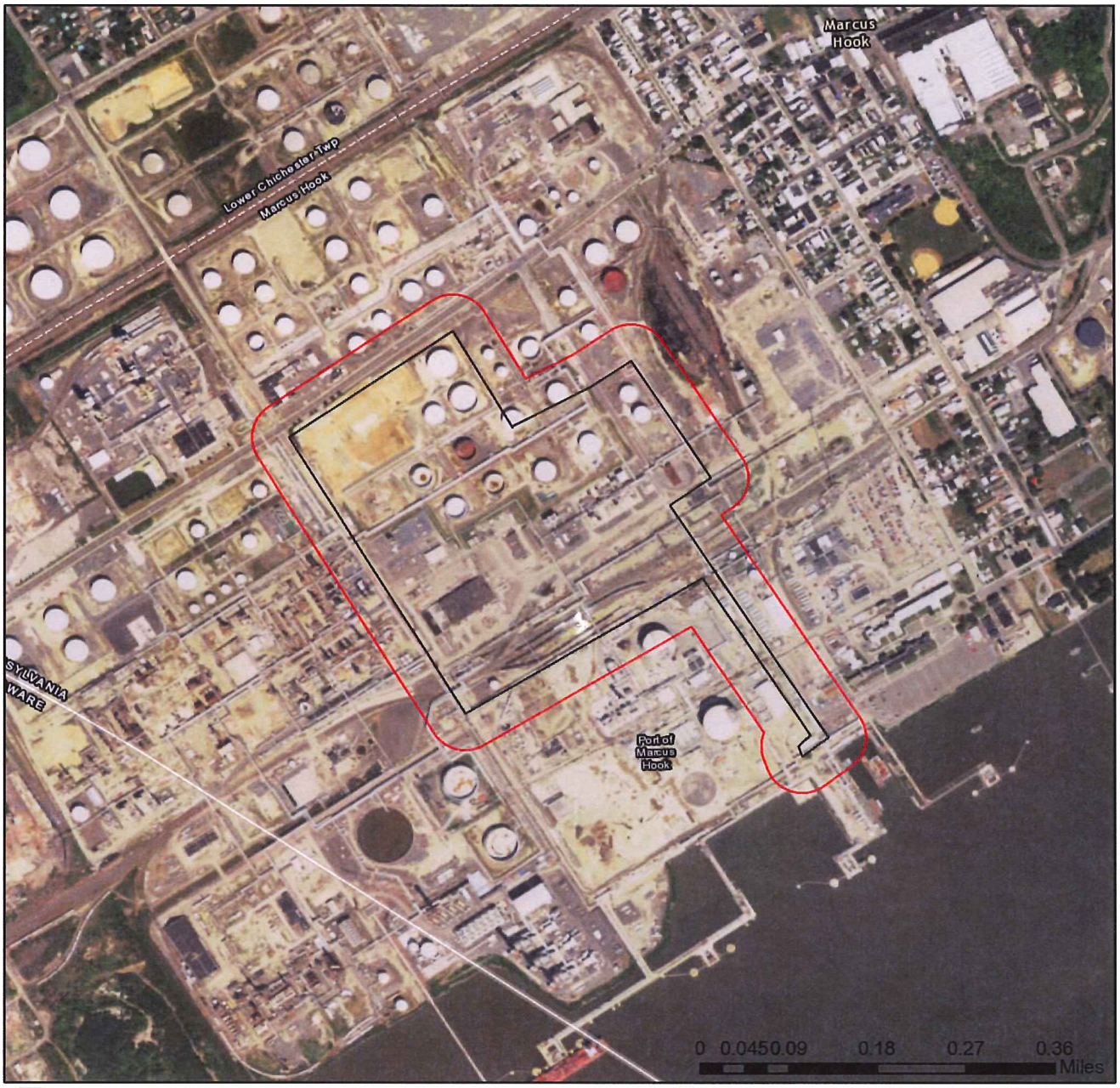
Project Name: **Mariner East 2X Project**
Date of Review: **9/28/2017 04:13:11 PM**
Project Category: **Energy Storage, Production, and Transfer, Energy Storage, Other**
Project Area: **64.13 acres**
County(s): **Delaware**
Township/Municipality(s): **MARCUS HOOK**
ZIP Code: **19061**
Quadrangle Name(s): **MARCUS HOOK**
Watersheds HUC 8: **Lower Delaware**
Watersheds HUC 12: **Oldmans Creek-Delaware River; Repaupo Creek-Delaware River**
Decimal Degrees: **39.813497, -75.422268**
Degrees Minutes Seconds: **39° 48' 48.5879" N, 75° 25' 20.1658" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Mariner East 2X Project

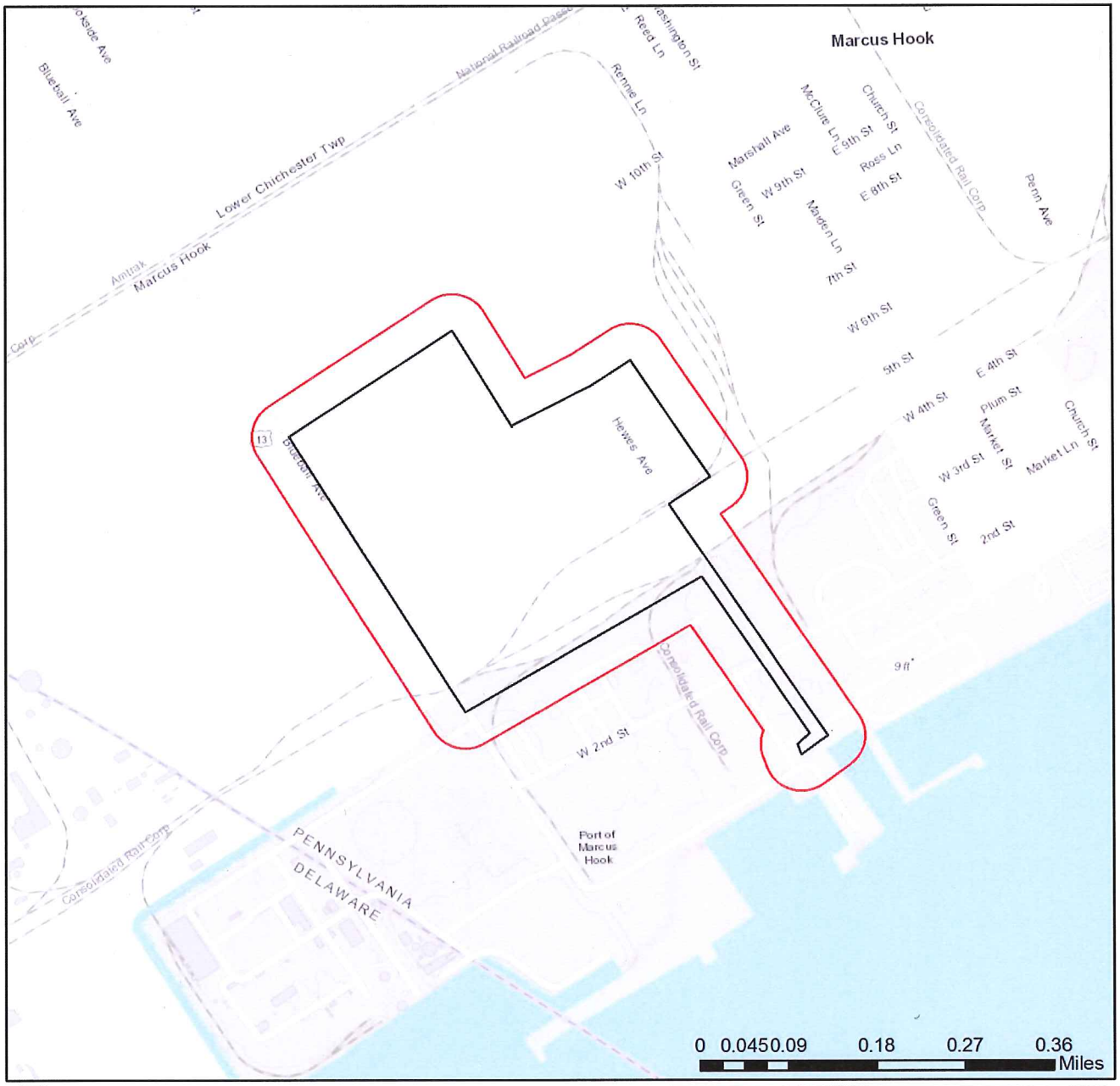


Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user

Mariner East 2X Project



Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PFBC Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below.)

Scientific Name	Common Name	Current Status
Sensitive Species**		Endangered
Sensitive Species**		Endangered
Sensitive Species**		Threatened

U.S. Fish and Wildlife Service

RESPONSE:

No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq. is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.
** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found here. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).
***Note:** U.S.Fish and Wildlife Service requires applicants to mail project materials to the USFWS PA field office (see AGENCY CONTACT INFORMATION). USFWS will not accept project materials submitted electronically (by upload or email).

Check-list of Minimum Materials to be submitted:
____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
In addition to the materials listed above, USFWS REQUIRES the following
____**SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

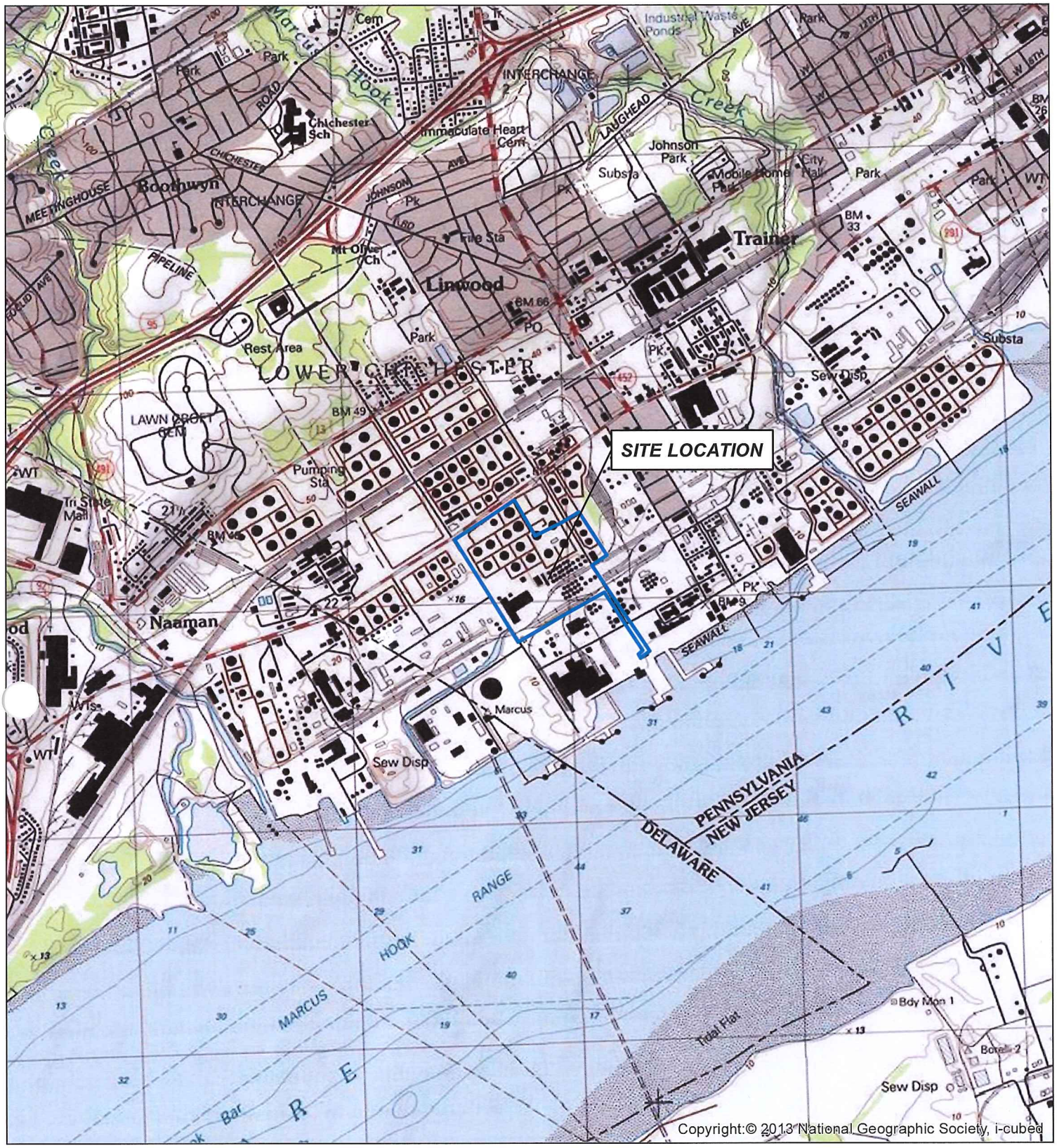
7. PROJECT CONTACT INFORMATION

Name: Tyler Gansner
Company/Business Name: ERM
Address: 75 Valley Stream Parkway
City, State, Zip: Malvern PA, 19355
Phone: (610) 712-7326 Fax: ( )
Email: tyler.gansner@erm.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

applicant/project proponent signature 9/28/17 date



Legend

Project Boundary

0 1,000 2,000

SOURCE: USGS Quad 7.5' Index: Marcus Hook, PA
SCALE: 1:24,000

ERM

SITE LOCATION MAP
Sunoco Partners Marketing & Terminals LP.
Marcus Hook
Delaware County, Pennsylvania

Figure 1

J:\Projects\Sunoco Logistics_MXD\Figure1-SiteLocationMap_20170919.mxd - INITIALS

Pennsylvania Fish & Boat Commission

established 1866

Division of Environmental Services
Natural Diversity Section
595 E Rolling Ridge Dr.
Bellefonte, PA 16823
814-359-5237

October 11, 2017

IN REPLY REFER TO
SIR# 48498

ERM
Tyler Gansner
75 Valley Stream Parkway
Malvern, Pennsylvania 19355

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 640381_1
Mariner East 2X Project
DELAWARE County: Marcus Hook Borough

Dear Tyler Gansner:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

An element occurrence of a rare, candidate, threatened, or endangered species under our jurisdiction is known from the vicinity of the proposed project. However, given the nature of the proposed project, the immediate location, or the current status of the nearby element occurrence(s), no adverse impacts are expected to the species of special concern.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Kathy Gipe at 814-359-5186 and refer to the SIR # 48498. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/dn

8. Pennsylvania Historical and Museum Commission Notification and Clearance Letter

Environmental Resources Management

75 Valley Stream Parkway
Suite 200
Malvern, PA 19355
(484) 913-0300
www.erm.com

28 September 2017

Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
State Museum Building
300 North Street
Harrisburg, PA

Subject: Sunoco Partners Marketing & Terminals L.P.
Marcus Hook Industrial Complex
ME- 2X Project
PADEP, Individual NPDES Permit
Marcus Hook Borough, Delaware County, Pennsylvania

Dear Pennsylvania Historical and Museum Commission:

Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install and operate a facility (ME-2X Project) at the Marcus Hook Industrial Complex (MHIC) in Marcus Hook, Delaware County, Pennsylvania as indicated on the attached Figure 1-Site Location Map. Please note that the construction activities associated with the proposed project do not include building demolition covered under federal approval or funding. However, the permit application for an individual NPDES permit for stormwater discharges associated with construction activities requires notifying The Pennsylvania Historical and Museum Commission when a project exceeds 10 acres of land disturbance. The proposed ME-2X Project land disturbance is estimated to be 32.3 acres. Please review this project narrative below and the attached site location map and indicate whether the design has any cultural resources impact, or provide a letter of consistency.

Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install a system designed to process an incoming ethane stream into a saleable ethane product. Construction activities for the project are planned to occur in two phases. Phase 1 will consist of site preparation and demolition activities and Phase 2 will consist of the construction of the new facility. This Phase 1 ESCP solely addresses the demolition of existing process equipment, tankage, and buildings to a depth of 9 feet (necessary for site preparation). The "Project Area" shown on enclosed Figure 1 is inclusive of both Phase 1 and Phase 2 limits of disturbance.

If you have any questions, please do not hesitate to contact me at (484) 913-0300 and/or tyler.gansner@erm.com

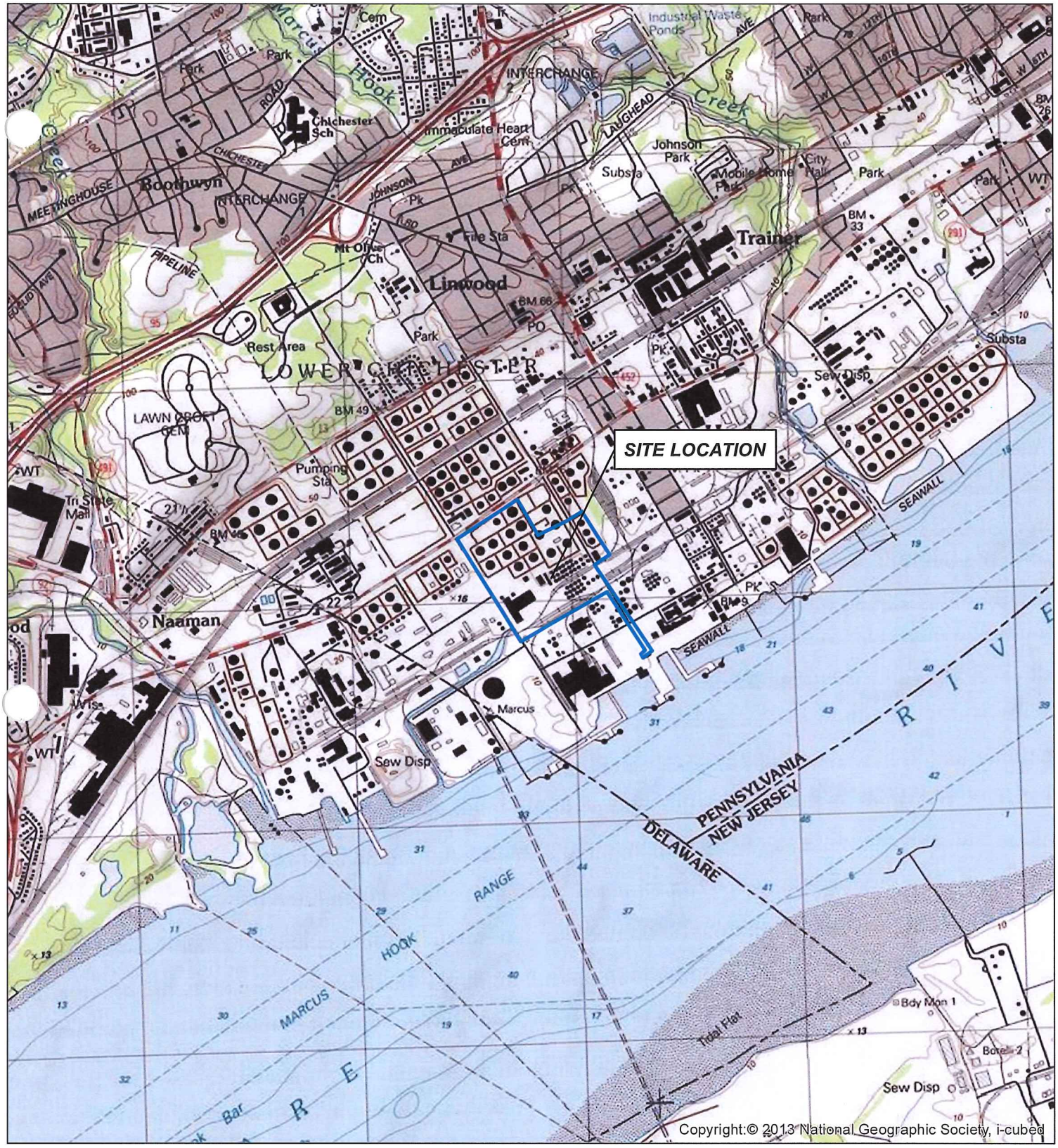
Sincerely,

Environmental Resources Management

Tyler Gansner
Senior Project Scientist

Attachements:

Figure 1-Site Location Map
Cultural Resource Notice Form and Checklist



Legend

Project Boundary

0 1,000 2,000

SOURCE: USGS Quad 7.5' Index: Marcus Hook, PA
ALE: 1:24,000

ERM

SITE LOCATION MAP
Sunoco Partners Marketing & Terminals L.P.
Marcus Hook
Delaware County, Pennsylvania

Figure 1

J:\Projects\Sunoco Logistics_MXD\Figure1-SiteLocationMap_20170919.mxd - INITIALS

0120-PM-PY0003 Rev. 5/2006
NOTICE

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CULTURAL RESOURCE NOTICE

DEP USE ONLY
Date Received

Read the instructions before completing this form.

SECTION A. APPLICANT IDENTIFIER

Applicant Name: Sunoco Partners Marketing & Terminals L.P. (Erika Bradley, Applicant Rep)

Street Address: 100 Green Street

City: Marcus Hook State: PA Zip: 19061

Telephone Number: (610) 859-3309

Project Title: ME-2X

SECTION B. LOCATION OF PROJECT

Municipality: Marcus Hook Borough County Name: Delaware DEP County Code: 23

SECTION C. PERMITS OR APPROVALS

Name of Specific DEP Permit or Approval Requested:

Anticipated federal permits:

- ☐ Surface Mining
- ☐ Army Corps of Engineers
- ☐ 401 Water Quality Certification
- ☐ 404 Water Quality Permit
- ☐ Federal Energy Regulatory Commission
- ☑ Other: Individual NPDES Permit for Stormwater Discharges Associated with Construction Activities

SECTION D. GOVERNMENT FUNDING SOURCES

- ☐ State: (Name) _____
- ☐ Federal: (Name) _____
- ☐ Local: (Name) _____
- ☐ Other: (Name) _____

SECTION E. RESPONSIBLE DEP REGIONAL, CENTRAL, DISTRICT MINING or OIL & GAS MGMT OFFICE

DEP Regional Office Responsible for Review of Permit Application

- ☐ Central Office (Harrisburg)
- ☒ Southeast Regional Office (Norristown)
- ☐ Northeast Regional Office (Wilkes-Barre)
- ☐ Southcentral Regional Office (Harrisburg)
- ☐ Northcentral Regional Office (Williamsport)
- ☐ Southwest Regional Office (Pittsburgh)
- ☐ Northwest Regional Office (Meadville)
- ☐ District Mining Office: _____
- ☐ Oil & Gas Office: _____

SECTION F. RESPONSIBLE COUNTY CONSERVATION DISTRICT, if applicable.

County Conservation District: Delaware County Conservation District

Telephone Number, if known: (610) 892-9484

SECTION G. CONSULTANT

Consultant, if applicable: Tyler Gansner

Street Address: 75 Valley Stream Parkway Suite 200

City: Malvern State: PA Zip: 19355

Telephone Number: (484) 913-0300

SECTION H. PROJECT BOUNDARIES AND DESCRIPTION

REQUIRED

Indicate the total acres in the property under review. Of this acreage, indicate the total acres of earth disturbance for the proposed activity.

Attach a 7.5' U.S.G.S. Map indicating the defined boundary of the proposed activity.

Attach photographs of any building over 50 years old. Indicate what is to be done to all buildings in the project area.

Attach a narrative description of the proposed activity.

Attach the return receipt of delivery of this notice to the Pennsylvania Historical and Museum Commission.

REQUESTED

Attach photographs of any building over 40 years old.

Attach site map, if available.

SECTION I. SIGNATURE BLOCK

Erika Bradley	10/2/2017
Applicant's Signature	Date of Submission of Notice to PHMC

0120-PM-PY0003 Rev. 5/2006
Checklist

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

CULTURAL RESOURCE NOTICE

APPLICANT'S ✓ CHECKLIST

Please check the following list to make sure that you have included all the required information. Place a checkmark in the column provided for all items completed and/or provided.

Failure to provide all of the requested information will delay the processing of the application and may result in the application being placed on hold with no action, or will be considered withdrawn and the application file closed.

	Requirement	Check ✓ If Included
1.	**Attachments, where appropriate**	
	a) Section B - Additional municipality information.	
	b) Section B - Additional county information.	
	c) Section H - 7.5' USGS Map (with defined boundaries of proposed activity).	✓
	d) Section H - Narrative description of proposed activity.	✓
	e) Section H - Photographs of any buildings over 50 years old. Indicate what is to be done to all buildings in the project area.	
	f) Section H - Total acres in property under review. Of this acreage, total acres of earth disturbance for the proposed activity.	✓
	g) Return receipt of delivery of Cultural Resource Notice to the Pennsylvania Historical and Museum Commission.	✓
2.	**Mailings**	
	a) Notice mailed to PHMC on 9/25/2017.	✓
	b) Received return receipt from PHMC on 9/26/17 (see attached FedEx proof of delivery .	✓
	c) Submitted application to DEP Regional, Central, District Mining or Oil and Gas Mgmt. Office on _____ with copy of return receipt from PHMC as proof of submittal. or d) Submitted application to County Conservation District Office on 9/30/2017 with copy of Return Receipt from PHMC as proof of submittal.	
	Requests	**Check ✓ If Included**
3.	**Attachments requested, where appropriate**	
	a) Section H - Photographs of any buildings over 40 years old.	
	b) Section H - Site maps of the proposed activity, if available.	

RECEIVED
OCT 04 '17
Pennsylvania State
Historic Preservation Office

Environmental Resources Management

75 Valley Stream Parkway
Suite 200
Malvern, PA 19355
(484) 913-0300
www.erm.com

2 October 2017

Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
State Museum Building
300 North Street
Harrisburg, PA

Subject: Sunoco Partners Marketing & Terminals L.P.
Marcus Hook Industrial Complex
ME- 2X Project
PADEP, Individual NPDES Permit
Marcus Hook Borough, Delaware County, Pennsylvania

Dear Pennsylvania Historical and Museum Commission:

Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install and operate a facility (ME-2X Project) at the Marcus Hook Industrial Complex (MHIC) in Marcus Hook, Delaware County, Pennsylvania as indicated on the attached Figure 1-Site Location Map. Please note that the construction activities associated with the proposed project do not include building demolition covered under federal approval or funding. However, the permit application for an individual NPDES permit for stormwater discharges associated with construction activities requires notifying The Pennsylvania Historical and Museum Commission when a project exceeds 10 acres of land disturbance. The proposed ME-2X Project land disturbance is estimated to be 32.3 acres. Please review this project narrative below and the attached site location map and indicate whether the design has any cultural resources impact, or provide a letter of consistency.

Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install a system designed to process an incoming ethane stream into a saleable ethane product. Construction activities for the project are planned to occur in two phases. Phase 1 will consist of site preparation and demolition activities and Phase 2 will consist of the construction of the new facility. This Phase 1 ESCP solely addresses the demolition of existing process equipment, tankage, and buildings to a depth of 9 feet (necessary for site preparation) and minor storm sewer alterations . The "Project Area" shown on enclosed Figure 1 is inclusive of both Phase 1 and Phase 2 limits of disturbance.

ER No. 2018-0015-045-A
The project will have
NO EFFECT
on historic properties
Date 10.5.17 Reviewer LLD for Douglas McLearen

9. Erosion and Sediment Control Plan Narrative

Appendices

Appendix A Design Drawings (provided separately)

Appendix B Soils Map and Information

STANDARD E&S WORKSHEET # 22
PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES

NAME OF PLAN PREPARER: John Hazard, PE

FORMAL EDUCATION:

Name of College or Technical Institute: Lafayette College

Curriculum or Program: Metallurgical Engineering

Dates of Attendance: **From:** 1986 **To:** 1990

Degree Received B.S. Metallurgical Engineering
[Note - PA PE License No. 055816E is in Environmental Eng.]

OTHER TRAINING:

Name of Training:	Designing Temporary Erosion & Sediment Control Systems	
Presented By:	RedVector	
Date:	September 2017	

EMPLOYMENT HISTORY:

Current Employer: Environmental Resources Management

Telephone: 484-913-0300

Former Employer:

Telephone:

RECENT E&S PLANS PREPARED:

Name of Project:	Avtex Fibers Superfund Site (Multiple Landfill Closures at Site)	CLTL Superfund Site	Marcus Hook Industrial Complex ME-2X
County:	Warren Co, VA	Gloucester Co. NJ	Delaware
Municipality:	Front Royal	Logan	Marcus Hook
Permit Number:	NA (Permit Equivalency under CERCLA)	NA (Permit Equivalency under CERCLA)	ME-2 Renewal #PAI012312009
Approving Agency:	VADEQ/USEPA	NJDEP/Gloucester Co/ USEPA	Del. Co. Conserv. Distr.

Sunoco Partners Marketing & Terminals L.P.

Erosion and Sediment Control Plan

Marcus Hook Industrial Complex

ME-2X Project

Marcus Hook, Pennsylvania

December 2017

Environmental Resources Management
75 Valley Stream Parkway
Suite 200
Malvern, PA 19355

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A Design Drawings

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1.0 *PROJECT DESCRIPTION*

This Erosion and Sediment Control Plan (ESCP) has been prepared by Environmental Resources Management, Inc. (ERM) on behalf of Sunoco Partners Marketing & Terminals L.P. (SXL) for construction activities associated with the ME- 2X Project or "Project" at the Marcus Hook Industrial Complex (MHIC) Site located in Marcus Hook, Delaware County, Pennsylvania.

Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install a system designed to process an incoming ethane stream into a saleable ethane product. Construction activities for the project are planned to occur in two phases. Phase 1 will consist of site preparation and demolition activities and Phase 2 will consist of the construction of the new facility. This Phase 1 ESCP solely addresses the demolition of existing process equipment, tankage, buildings to a depth of 9 feet (necessary for site preparation), and minor storm sewer modifications.

The purpose of this ESCP is to provide for site erosion and sediment control measures which are designed to minimize or eliminate offsite sediment pollution, maximize infiltration of runoff, minimize maintenance, and protect the quality of the receiving waters for the area shown in the design drawings (Appendix A). This ESCP has been prepared in accordance with the ESCP guidance provided in the *Erosion and Sediment Pollution Control Program Manual* (Ref. 1). The ESCP applies best management practices (BMPs) consistent with site characteristics and water resource protection requirements.

1.1 *PROJECT BACKGROUND*

As stated previously, the proposed project activities are located at the MHIC in Marcus Hook, Delaware County, Pennsylvania. The site appears on the Marcus Hook, Pennsylvania-New Jersey-Delaware U.S. Geological Survey (USGS) 7.5-minute quadrangle. Site location information is included on the drawings, Sheet C-01 in Appendix A. The facility has been in industrial operation for more than 50 years and covers approximately 400 acres (excluding remote tank fields) and previously operated 24 hours per day as a thoroughly integrated refinery complex with a crude oil run capacity of approximately 180,000 barrels per day. The current MHIC receives liquefied blends of hydrocarbons, consisting primarily of ethane, propane, and butanes, as well as natural gasoline, and

provides storage and transportation functions. The proposed Project is designed to process an incoming ethane stream into a saleable ethane product.

1.2 *SITE CONSTRUCTION ACTIVITIES*

The Design Drawings for the proposed construction activities are provided in Appendix A. The associated construction phase erosion and sediment pollution control measures are further detailed in Section 3.0 and on the Drawings in Appendix A. The project is expected to generate miscellaneous solid waste, including trash, packaging materials (e.g., wood shipping crates), scrap plastic, wood and/or metal, and concrete. Where possible, materials will be recycled in lieu of disposal. Any material leaving the site will be managed in accordance with state, local, and federal regulations and the receiving disposal facility's guidelines.

The use of Best Management Practices (BMPs) and directing stormwater to the on-site pretreatment (both during construction and post costruction), which then is conveyed to the DELCORA Publicly Owned Treatment Works (POTW), will minimize thermal impacts. Stormwater is collected through inlets/sewers and sent to pretreatment on site and then to the DELCORA treatment facility. The limit of disturbance was reduced to vital construction areas, which reduces the overall footprint and thermal impacts associated with construction related disturbances.

2.0 *EXISTING TOPOGRAPHY/HYDROLOGY*

2.1 *SITE TOPOGRAPHY/STORMWATER RUNOFF*

The project site occupies approximately 32.3 acres of sand/gravel cover with small brick buildings, process equipment, pipe racks and minor concrete foundations for tankage and equipment. The topography is shown on the Marcus Hook, Pennsylvania-New Jersey-Delaware USGS Topographic Quadrangle. Site location information is included on the drawings, Sheet C-01 in Appendix A.

The facility's combined wastewater/stormwater drainage system is the principal means to prevent potential oil leaks, spills, or other releases from reaching the Delaware River.

Under normal conditions, stormwater generated on the site is collected via storm drains and conveyed to a wastewater pretreatment system. Pretreatment consists of pH neutralization and oil/water separation. After pretreatment, wastewater is conveyed to the DELCORA Publicly Owned Treatment Works (POTW), which discharges to the Delaware River under DELCORA's separate permit. Using BMPs in addition to the on-site stormwater drainage system will prevent stormwater from entering the Delaware River. Stormwater inlets are located within the limits of disturbance of this project, as well as throughout the MHIC to collect and convey stormwater to the treatment system.

Minor storm sewer re-routing will be required to allow for project construction. Storm sewers containing combined flows will be isolated upstream of disturbance area and flow will be rerouted while the tie in is being made. When possible, new piping will be constructed in advance to reduce the time period of altered flow. Timing of the storm sewer modifications will be coordinated with operations during a time of low flow and minimal threat for precipitation.

Filter sock barriers and storm sewer inlet protection will be used to prevent sediment from entering the Delaware River. New rock construction entrances will prevent off-site migration of sediments by vehicle traffic. In addition, the status of existing entrances to be used will be confirmed, and additional stone will be added as needed to maintain

the function of these entrances. After construction, gravel will be added to any area that might show potential for erosion.

There will be no clearing and except for a few minor grade changes depicted on Sheet C-03, the proposed site topography will conform to existing topography and there will be no material change in stormwater runoff conditions. Due to existing site impervious ground cover, storm water infiltration BMP's are not in use at the site, therefore soil compaction is not a concern.

2.2 *WATERSHED DESIGNATION*

The project area is located in the Delaware Estuary listed under Chapter 93 as part of the Delaware River Basin. The Pennsylvania Code, Title 25, Chapter 93 Water Quality Standards assign the Delaware Estuary a designated use of Warm Water Fishes (WWF), Migratory Fishes (MF), Livestock Water Supply (LWS), and Irrigation (IRS). The Delaware Estuary is listed under Chapter 93 as part of the Delaware River basin. The DEP does not list this watershed as Exceptional Value (EV) or High Quality (HQ), therefore it has no DEP defined existing use and is not a Special Protection Watershed.

2.3 *SITE SOILS*

Soil boundaries, as delineated in Appendix B, were obtained from the United States Department of Agriculture, Natural Resources Conservation Service, Soil Survey of Delaware County, Pennsylvania (Ref. 3). The soils mapped in the construction areas include the following:

<u>Made Land, gravelly materials</u>

- *udorthents, shale, sandstone, and similar soils, 0 to 8 percent slopes (Ma)*

The Made Land series consists of a mixture of gravelly material. There is a possibility that site soils could be impacted from historical industrial activity. The use of BMPs, including directing stormwater to the on-site pretreatment facility and conveyance to DELCORA, will prevent discharge of potentially impacted soil and stormwater. Soil information obtained from the Natural Resources Conservation Service did not include any soil limitations for Made Land. There are no other geologic or soil conditions of concern at the site.

3.0 *CONSTRUCTION PHASE - TEMPORARY EROSION AND SEDIMENT CONTROLS*

The utilization of construction phase BMPs will minimize soil erosion and sediment laden runoff from entering waterways and neighboring properties. Construction activities will be performed in a manner that minimizes the area of disturbance, and BMPs will be installed to protect existing drainage features as indicated on the Drawings in Appendix A. Due to existing site impervious ground cover, conditions do not support vegetative growth. The following BMPs will be used during construction for erosion and sediment control:

Rock Construction Entrances with Mountable Berm

Rock construction entrances with a mountable berm shall be installed at locations where construction vehicles will access the construction right-of-way. Rock construction entrances minimize the amount of sediment that is transported from the disturbed area onto roadways. The dimensions and construction details are included on the Drawings in Appendix A.

Filter Sock

Filter socks filter sediment out of runoff from disturbed construction areas. Filter socks will be used on paved and graveled surfaces along the limits of disturbance (LOD) to serve as a sediment barrier and to remove sediment in runoff from disturbed areas. Filter sock is not planned for construction areas located within existing bermed containment areas; however, filter sock will be installed around new rock construction entrances, the perimeter of small disturbance areas (i.e., less than 10,000 square feet), and the downgradient boundary of areas of disturbance greater than 10,000 square feet. Filter sock shall be installed according to the details provided in the Drawings in Appendix A.

Sump Pit

A sump pit will be installed, as necessary, to enable pumping of excavation water from the construction area to the site storm water collection/conveyance infrastructure and from there to pretreatment/DELCORA. The sump pit shall be installed according to the details provided in the Drawings in Appendix A.

Filter Bag Inlet Protection

Filter bags will be installed in storm drain inlets below the grate and serve as a sediment barrier to remove sediment in runoff and prevent it from entering the storm sewer system. Filter bags shall be installed in accordance with the details provided in the drawings in Appendix A.

Stockpile

A stockpile with perimeter control will be used for temporarily excavated soils. This project will utilize stockpiles already in place at the MHIC. Specific existing on-site stockpiles to be used shall be determined by the contractor prior to the start of construction. The stockpile controls will be installed according to the details provided in the drawings in Appendix A.

Wet Weather Procedures

After storm events, if water is collected in the excavated areas, a sump will be used to pump the water out of the excavated areas and into a storm water inlet that incorporates inlet protection and is conveyed for on-site pretreatment followed by discharge to DELCORA POTW.

Waste-Material Disposal

Any material leaving the site will be managed in accordance with state, local, and federal regulations and the receiving disposal facility's guidelines.

4.0 *STORMWATER MANAGEMENT*

The planned ESCP measures will aid in the prevention of sediment transport offsite. The proposed measures will decrease the impact of construction activities and slow the flow of stormwater runoff over disturbed areas.

The construction of the project will not result in a material change to the overall site topography nor cover type changes in the construction areas. The stormwater volume for the 2-year/24-hour storm event will not have a material change from existing conditions to post-construction conditions with the implementation of the Erosion and Sediment Controls and Post-Construction Stormwater Management Plan, the latter provided separately herein.

5.0 *MAINTENANCE OF EROSION AND SEDIMENT CONTROLS*

The following maintenance measures will be the responsibility of the Contractor until the completion of restoration:

Filter Sock

1. Filter sock will be inspected weekly and after each runoff event for evidence of erosion and undermining. Inadequate areas will be repaired and stabilized as necessary.
2. Sediment will be removed when accumulations reach one half the above ground height of the filter sock.

Sump Pit

1. The Sump Pit will be inspected weekly and after each runoff event for evidence of siltation/clogging and will be repaired as necessary.

Filter Bag Inlet Protection

1. Storm drain inlets will be inspected weekly and after each runoff event for evidence of erosion and undermining. Storm drain inlets will be repaired as necessary.
2. Sediment will be removed when accumulations reach one half the height of the filter bag.

Filter Sock Inlet Protection

1. Filter sock will be inspected weekly and after each runoff event for evidence of erosion and undermining. Inadequate areas will be repaired and stabilized as necessary.
2. Sediment will be removed when accumulations reach one half the above ground height of the filter sock.

Stockpile

1. The stockpile will be inspected weekly and after each rain event for evidence of erosion and undermining. Inadequately protected areas will be repaired and stabilized as necessary.
2. Sediment will be removed when accumulations reach one half the above ground height of the perimeter filter sock.

Applicable control measures will be left in place and maintained until construction is complete and the area is properly stabilized, at which time temporary erosion and sediment control measures will be removed and those areas will be stabilized as well.

REFERENCES

1. *Erosion and Sediment Pollution Control Program Manual.* Pennsylvania Department of Environmental Protection. Technical Guidance Number 363-2134-008. March 2012.

2. Pennsylvania Department of Environmental Protection. (2011). *The Pennsylvania Code.* (Title 25. Environmental Protection). Mechanicsburg, PA: Fry Communications, Inc.

3. "Custom Soil Resource Report for Delaware County, Pennsylvania." Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov>. Accessed September 2017.

Appendices

Appendix A
Design Drawings (provided separately)

Appendix B
Soils Map and Information

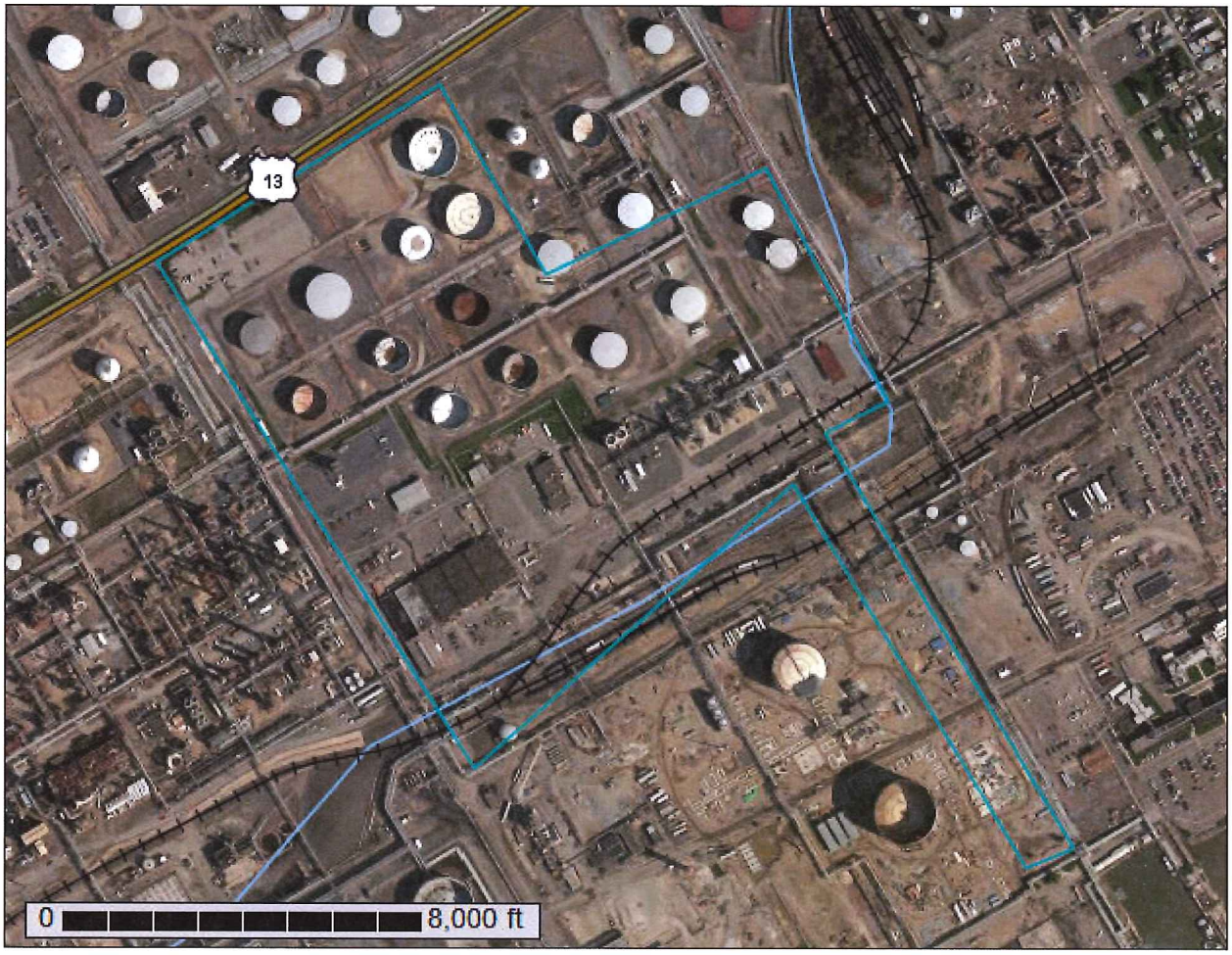
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Delaware County, Pennsylvania



September 21, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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Ma—Made land, gravelly materials 13
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

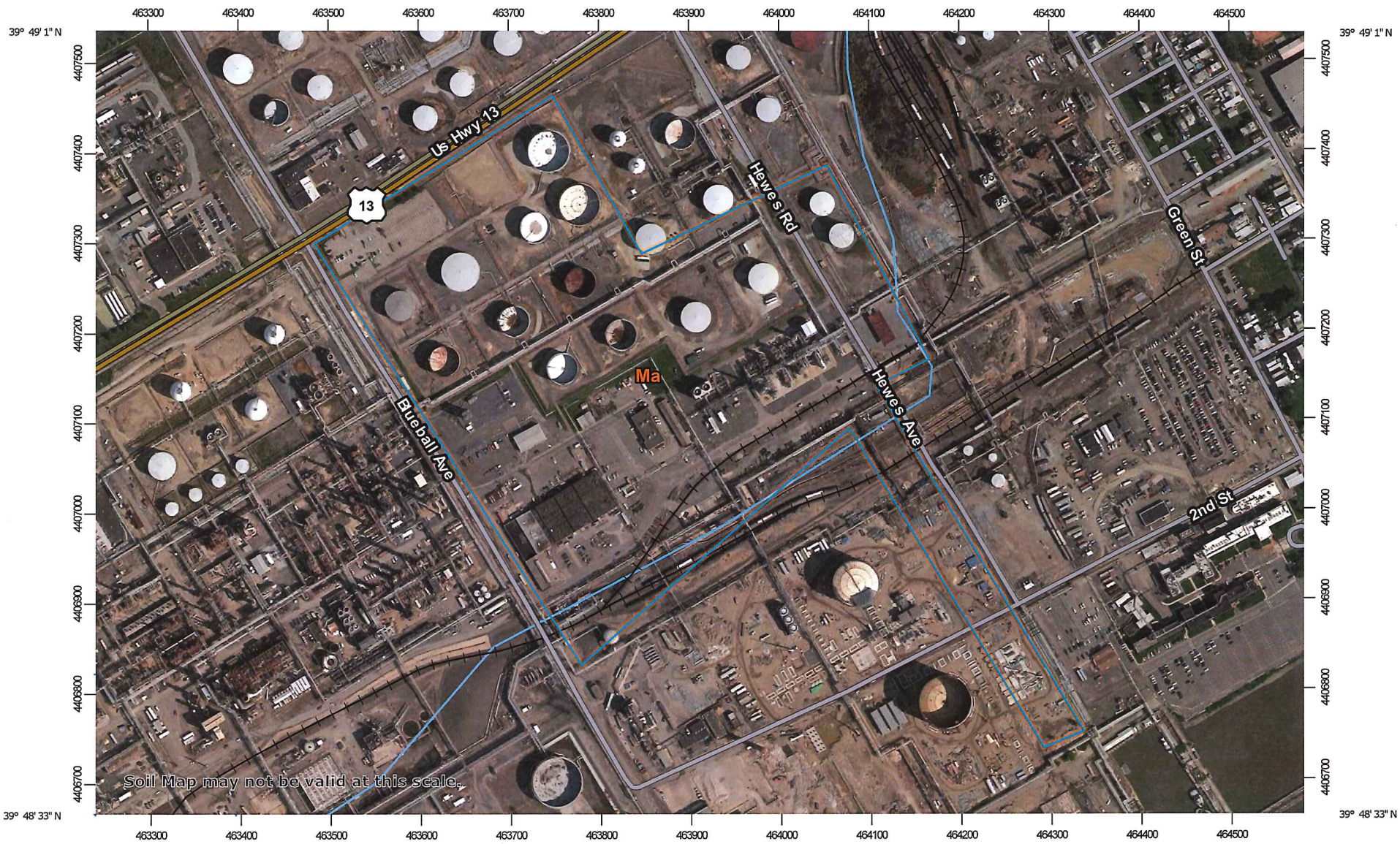
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



Map Scale: 1:6,130 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Delaware County, Pennsylvania
Survey Area Data: Version 11, Sep 19, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 18, 2014—Sep 22, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Delaware County, Pennsylvania (PA045)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Ma	Made land, gravelly materials	59.3	100.0%
Totals for Area of Interest		**59.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Delaware County, Pennsylvania

Ma—Made land, gravelly materials

Map Unit Setting

National map unit symbol: 121fv
Elevation: 200 to 1,500 feet
Mean annual precipitation: 36 to 55 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 160 to 214 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, shale and sandstone, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Shale And Sandstone

Setting

Landform: Ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope, nose slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Graded areas of shale and siltstone; graded areas of sandstone and shale

Typical profile

Ap - 0 to 6 inches: silt loam
C - 6 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 20 to 99 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 6.00 in/hr)
Depth to water table: About 60 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Penn

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Bowmansville

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: No

Abbottstown

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Readington

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope, head slope, side slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Reaville

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

Berks

Percent of map unit: 1 percent
Landform: Ridges, valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Croton

Percent of map unit: 1 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave

Hydric soil rating: Yes

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10. Post Construction Stormwater Mangagement Narrative

Sunoco Partners Marketing & Terminals L.P.

Post-Construction Stormwater Management Plan

Marcus Hook Industrial Complex
ME-2X Project
Marcus Hook, Pennsylvania

December 2017

Environmental Resources Management
75 Valley Stream Parkway
Suite 200
Malvern, PA 19355

STANDARD E&S WORKSHEET # 22
PLAN PREPARER RECORD OF TRAINING AND EXPERIENCE IN EROSION AND SEDIMENT POLLUTION CONTROL METHODS AND TECHNIQUES

NAME OF PLAN PREPARER: John Hazard, PE

FORMAL EDUCATION:

Name of College or Technical Institute: Lafayette College

Curriculum or Program: Metallurgical Engineering

Dates of Attendance: **From:** 1986 **To:** 1990

Degree Received B.S. Metallurgical Engineering
[Note - PA PE License No. 055816E is in Environmental Eng.]

OTHER TRAINING:

Name of Training:	Designing Temporary Erosion & Sediment Control Systems	
Presented By:	RedVector	
Date:	September 2017	

EMPLOYMENT HISTORY:

Current Employer: Environmental Resources Management

Telephone: 484-913-0300

Former Employer:

Telephone:

RECENT E&S PLANS PREPARED:

Name of Project:	Avtex Fibers Superfund Site (Multiple Landfill Closures at Site)	CLTL Superfund Site	Marcus Hook Industrial Complex ME-2X
County:	Warren Co, VA	Gloucester Co. NJ	Delaware
Municipality:	Front Royal	Logan	Marcus Hook
Permit Number:	NA (Permit Equivalency under CERCLA)	NA (Permit Equivalency under CERCLA)	ME-2 Renewal #PAI012312009
Approving Agency:	VADEQ/USEPA	NJDEP/Gloucester Co/ USEPA	Del. Co. Conserv. Distr.

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1.0 *PROJECT DESCRIPTION*

This Post-Construction Stormwater Management (PCSM) Plan has been prepared by Environmental Resources Management, Inc. (ERM) on behalf of Sunoco Partners Marketing & Terminals L.P. (SXL) for construction activities associated with the ME- 2X Project or "Project" at the Marcus Hook Industrial Complex (MHIC) Site located in Marcus Hook, Delaware County, Pennsylvania.

Sunoco Partners Marketing & Terminals L.P. (SXL) is proposing to install a system designed to process an incoming ethane stream into a saleable ethane product. Construction activities for the project are planned to occur in two phases. Phase 1 will consist of site preparation and demolition activities and Phase 2 will consist of the construction of the new facility. This Phase 1 ESCP solely addresses the demolition of existing process equipment, tankage, buildings to a depth of 9 feet (necessary for site preparation), and minor storm sewer modifications.

The purpose of this PCSM Plan is to provide for site restoration which is designed to minimize or eliminate offsite sediment pollution, maximize infiltration of runoff, minimize maintenance, and protect the quality of the receiving waters for the area as shown in the attached design drawings in Section 9, Appendix A. This PCSM Plan has been prepared in accordance with the PCSM guidance provided in the *Pennsylvania Stormwater Best Management Practice Manual* (Ref. 1). The PCSM Plan applies best management practices (BMPs) consistent with site characteristics and water resource protection requirements. It is noted that the soil mapping for the project is provided in Section 9, Appendix B (included herein) and not repeated within this PCSM.

1.1 *PROJECT BACKGROUND*

As stated previously, the proposed project activities are located at the MHIC in Marcus Hook, Delaware County, Pennsylvania. The site appears on the Marcus Hook, Pennsylvania-New Jersey-Delaware U.S. Geological Survey (USGS) 7.5-minute quadrangle. Site location information is included on the drawings, Sheet C-01 in Appendix A. The facility has been in industrial operation for more than 50 years and covers approximately 400 acres (excluding remote tank fields) and previously operated 24 hours per day as a thoroughly integrated refinery complex

with a crude oil run capacity of approximately 180,000 barrels per day. The current MHIC receives liquefied blends of hydrocarbons, consisting primarily of ethane, propane, and butanes, as well as natural gasoline, and provides storage and transportation functions. The proposed Project is designed to process an incoming ethane stream into a saleable ethane product.

1.2 *SITE CONSTRUCTION ACTIVITIES*

The associated permanent stormwater control measures are detailed in Section 3.0 of this PCSM plan and on the drawings located in Appendix A of the Erosion and Sediment Control Plan (Section 9). The associated permanent stormwater control measures are detailed specifically on Sheet C-08. The project is expected to generate miscellaneous solid waste, including trash, packaging materials (e.g., wood shipping crates), scrap plastic, wood and/or metal, and concrete. Where possible, materials will be recycled in lieu of disposal. Any material leaving the site will be managed in accordance with state, local, and federal regulations and the receiving disposal facility's guidelines.

The use of Best Management Practices (BMPs) and directing stormwater to the on-site pretreatment (both during construction and post construction), which then is conveyed to the DELCORA Publicly Owned Treatment Works (POTW), will minimize thermal impacts. Stormwater is collected through inlets/sewers and sent to pretreatment on site and then to the DELCORA treatment facility. The limit of disturbance was reduced to vital construction areas, which reduces the overall footprint and thermal impacts associated with construction related disturbances.

2.0 *EXISTING TOPOGRAPHY/HYDROLOGY*

2.1 *SITE TOPOGRAPHY/STORMWATER RUNOFF*

The project site occupies approximately 32.3 acres of sand/gravel cover with small brick buildings, process equipment, pipe racks and minor concrete foundations for tankage and equipment. The topography is shown on the Marcus Hook, Pennsylvania-New Jersey-Delaware USGS Topographic Quadrangle. Site location information is included on the drawings, Sheet C-01 in Appendix A.

The facility's combined wastewater/stormwater drainage system is the principal means to prevent potential oil leaks, spills, or other releases from reaching the Delaware River.

Under normal conditions, stormwater generated on the site is collected via storm drains and conveyed to a wastewater pretreatment system. Pretreatment consists of pH neutralization and oil/water separation. After pretreatment, wastewater is conveyed to the DELCORA Publicly Owned Treatment Works (POTW), which discharges to the Delaware River under DELCORA's separate permit. Using BMPs in addition to the stormwater drainage system will prevent stormwater from entering the Delaware River. Stormwater inlets are located throughout the limits of disturbance of this project to collect and convey stormwater to the treatment system.

During construction, filter sock barriers and storm sewer inlet protection will be used to prevent sediment from entering the Delaware River. New rock construction entrances will prevent off-site migration of sediments by vehicle traffic. In addition, the status of existing entrances to be used will be confirmed, and additional stone will be added as needed to maintain the function of these entrances. After construction, gravel will be added to any area that might show potential for erosion.

There will be no clearing and except for a few minor grade changes depicted on Sheet C-03, the proposed site topography will conform to existing topography and there will be no material change in impervious surface and stormwater runoff conditions. Due to existing site impervious ground cover, storm water infiltration BMP's are not in use at the site, therefore soil compaction is not a concern.

2.2 *WATERSHED DESIGNATION*

The project area is located in the Delaware Estuary listed under Chapter 93 as part of the Delaware River Basin. The Pennsylvania Code, Title 25, Chapter 93 Water Quality Standards assign the Delaware Estuary a designated use of Warm Water Fishes (WWF), Migratory Fishes (MF), Livestock Water Supply(LWS), and Irrigation (IRS). The Delaware Estuary is listed under Chapter 93 as part of the Delaware River basin. The DEP does not list this watershed as Exceptional Value (EV) or High Quality (HQ); therefore it has no existing use as defined by DEP and is not a Special Protection Watershed.

2.3 *SITE SOILS*

Soil boundaries, as delineated in Section 9, Appendix B were obtained from the United States Department of Agriculture, Natural Resources Conservation Service, and Soil Survey of Delaware County, Pennsylvania (Ref. 3). The soils mapped in the construction areas include the following:

<u>Made Land, gravelly materials</u>

- *udorthents, shale, sandstone, and similar soils, 0 to 8 percent slopes (Ma)*

The Made Land series consists of a mixture of gravelly material. There is a possibility that site soils could be impacted from historical industrial activity. The use of BMPs, including directing stormwater to the on-site pretreatment facility and conveyance to DELCORA, will prevent discharge of potentially impacted soil and stormwater. Soil information obtained from the Natural Resources Conservation Service did not include any soil limitations for Made Land. There are no other geologic or soil conditions of concern at the site.

3.0 *RESTORATION - PERMANENT EROSION AND SEDIMENT POLLUTION CONTROLS*

Installation of post-construction BMPs will return the soils to a stable condition. The following BMPs are planned to support restoration:

Gravel Stabilization

Where visible erosion is present, gravel (i.e.: D_{50} = ¾ inch, or AASHTO #57) shall be applied with minimum thickness of 6 inches to lateral limits of the visibly eroded area.

Waste-Material Disposal

The project is expected to generate miscellaneous solid waste, including trash, packaging materials (e.g., wood shipping crates), scrap plastic, wood and/or metal, and concrete. Where possible, materials will be recycled in lieu of disposal. Any material leaving the site will be managed in accordance with state, local, and federal regulations and the receiving disposal facility's guidelines.

4.0 *STORMWATER MANAGEMENT*

The planned restoration BMPs will return the disturbed soils to a stable condition. Construction activities associated with the project will not result in a material change to the overall site topography or cover type in the construction areas. The stormwater volume for the 2-year/24-hour event will not have a material change from existing conditions to post-construction conditions with the implementation of the restoration and PCSM plan. Post construction stormwater will be collected via storm drains and conveyed to the on-site pretreatment system. Following pretreatment, stormwater will be discharged to DELCORA.

5.0 *MAINTENANCE OF EROSION AND SEDIMENT POLLUTION CONTROLS*

The following maintenance measures shall be the responsibility of the Contractor until the completion of restoration:

Gravel Stabilization

1. Graveled areas shall be visually checked weekly as well as following each runoff event for evidence of erosion for at least 30 days after the completion of construction. Areas where erosion is found shall be repaired with the addition of supplementary gravel as needed.

Applicable control measures shall be left in place and maintained until construction is completed and the area is properly stabilized, at which time temporary erosion and sediment control measures shall be removed. Proper stabilization occurs when erosion has been minimized by gravel.

REFERENCES

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11. Checks:

- *Permit Filing Fee (Individual Permit)*
- *Disturbed Acre Fee*
- *DCCD ESPC Plan Review Fee*

vironmental Resources Management, Inc.

RM. Account Number:

VENDOR 081536

CHECK NUMBER 093610

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INVOICE NUMBER	DATE		VOUCHER NO.	AMOUNT
PERMITFEES	09/26/17		219663	1,500.00

TOTAL: 1,500.00

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Environmental Resources Management, Inc.
75 Valley Stream Parkway, Suite 200
Malvern, PA 19355-1406

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TO THE ORDER OF

COMMONWEALTH OF PENNSYLVANIA
CLEAN WATER FUND
PA DEPT OF ENVIRONMENTAL PROTECTION
2 E. MAIN STREET-SE REGIONAL OFFICE
NORRISTOWN, PA 19401

AUTHORIZED SIGNATURE

ORIGINAL CHECK IS PRINTED ON CHEMICAL REACTIVE PAPER WHICH CONTAINS A WATERMARK

⑈093610⑈ ⑆121000248⑆ 2000017966889⑈

nviromental Resources Management, Inc.

SAFEGUARD BUSINESS SYSTEMS 1-800-344-7104

vironmental Resources Management, Inc.

RM. Account Number:

VENDOR 081537

CHECK NUMBER 093619

▼ PLEASE DETACH AND RETAIN FOR YOUR RECORDS ▼

INVOICE NUMBER	DATE		VOUCHER NO.	AMOUNT
JRBEDACREFE	09/26/17		219667	3,200.00

TOTAL: 3,200.00

THIS DOCUMENT CONTAINS HEAT SENSITIVE INK. TOUCH OR PRESS RED LOGO NEAR SIGNATURE LINE - RED IMAGE DISAPPEARS WITH HEAT.

ERM®

Environmental Resources Management, Inc.
75 Valley Stream Parkway, Suite 200
Malvern, PA 19355-1406

WELLS FARGO

11-24
1210

093619

VOID VOID

DATE: 29-September-2017

NO. 093619

PAY THREE THOUSAND TWO HUNDRED AND XX / 100 DOLLARS $ **********3,200.00

VOID

TO THE ORDER OF

DELAWARE COUNTY CLEAN WATER FUND
1521 N. PROVIDENCE ROAD
MEDIA, PA 19063

AUTHORIZED SIGNATURE

ORIGINAL CHECK IS PRINTED ON CHEMICAL REACTIVE PAPER WHICH CONTAINS A WATERMARK

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Enviromental Resources Management, Inc.

SAFEGUARD BUSINESS SYSTEMS 1-800-344-7104

EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN

ME-2X PROJECT
MARCUS HOOK, DELAWARE COUNTY,PENNSYLVANIA

SITE LOCATION MAP

SOURCE MAP: U.S.G.S. QUADS, MARCUS HOOK, PA.-N.J.-DEL.

2000 1000 0 2000
SCALE IN FEET

ISSUED FOR PERMITTING
DECEMBER 2017

PREPARED FOR
SUNOCO PARTNERS
MARKETING & TERMINALS L.P.

PREPARED BY

ERM

Environmental Resources Management

Philadelphia Office 484-913-0300

JOHN E. HAZARD, P.E.
PA Professional Engineer License No. PE055816E

DRAWING INDEX

C-01	COVER SHEET
C-02	EXISTING CONDITIONS
C-03	EROSION AND SEDIMENT CONTROL PLAN - SHEET 1
C-04	EROSION AND SEDIMENT CONTROL PLAN - SHEET 2
C-05	EROSION AND SEDIMENT CONTROL PLAN - SHEET 3
C-06	EROSION AND SEDIMENT CONTROL DETAILS
C-07	EROSION AND SEDIMENT CONTROL DETAILS
C-08	POST CONSTRUCTION RESTORATION PLAN AND NOTES

PHASE 1 NPDES AREA - DEMOLITION AREA AND MODIFICATION OF EXISTING FACILITIES

KEY MAP
1"=400'

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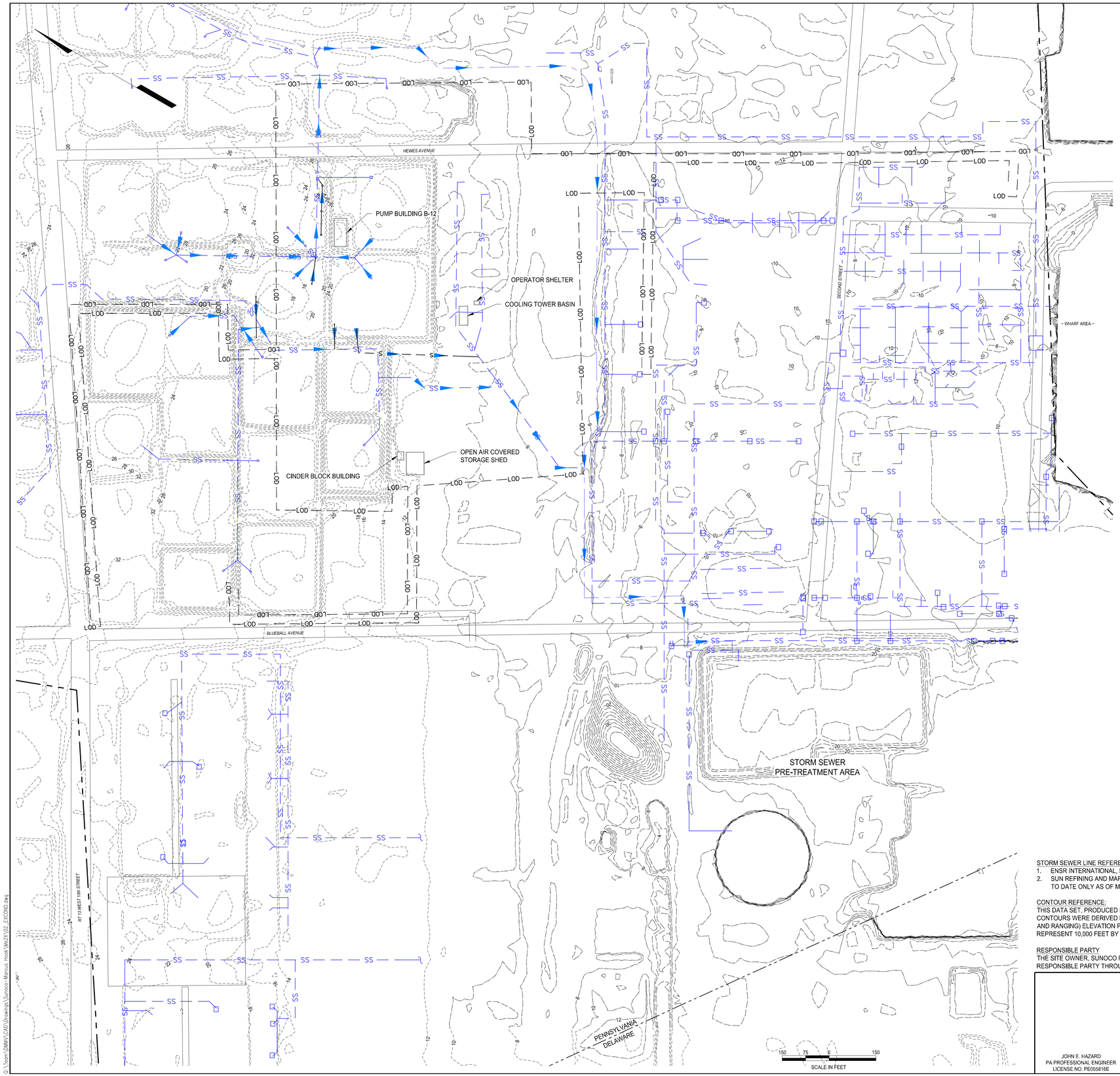

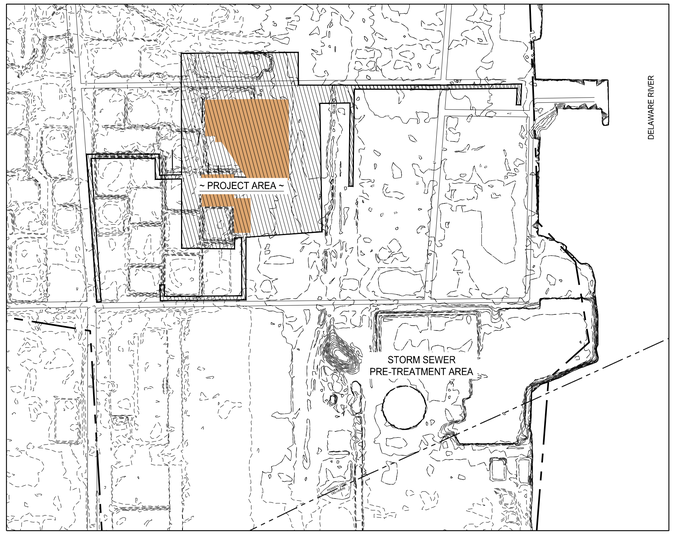

KEY MAP
1"= 500'

LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR (2 FT. INTERVAL)
- EXISTING STORM SEWER
- STORMWATER SEWER INLET
- STORMWATER MANHOLE
- LIMIT OF DISTURBANCE PHASE 1 AND PHASE 2 / NPDES BOUNDARY
- PHASE 1 NPDES AREA - DEMOLITION AREA AND MODIFICATION OF EXISTING FACILITIES

NOTE:
STORMWATER IS COLLECTED THROUGH INLETS AND SENT TO ON-SITE PRETREATMENT FOLLOWED BY DISCHARGE TO AND TREATMENT AT DELCORA.

STORM SEWER LINE REFERENCES:
1. ENSR INTERNATIONAL, SUNOCO-MARCUS HOOK REFINERY, SITE PLAN, NOV. 2006 (LOCATIONS ARE APPROXIMATE)
2. SUN REFINING AND MARKETING COMPANY, MARCUS HOOK REFINERY, SEWER REFINERY WIDE STORM SEWER SYSTEM, DEC. 2005 TO DATE ONLY AS OF MARCH 2010.

CONTOUR REFERENCE:
THIS DATA SET, PRODUCED BY THE PAMAP PROGRAM, CONSISTS OF TOPOGRAPHIC CONTOURS MAPPED AT AN INTERVAL OF 2 FEET. CONTOURS WERE DERIVED FROM A BARE-EARTH DIGITAL ELEVATION MODEL CONSTRUCTED FROM PAMAP LIDAR (LIGHT DETECTION AND RANGING) ELEVATION POINTS. PAMAP DATA ARE ORGANIZED INTO BLOCKS, WHICH DO NOT HAVE GAPS OR OVERLAPS, THAT REPRESENT 10,000 FEET BY 10,000 FEET ON THE GROUND.

RESPONSIBLE PARTY
THE SITE OWNER, SUNOCO PARTNERS MARKETING & TERMINALS, L.P. SHALL BE THE RESPONSIBLE PARTY THROUGHOUT CONSTRUCTION AND POST CONSTRUCTION.

Know what's below. Call before you dig.

JOHN E. HAZARD
PA PROFESSIONAL ENGINEER
LICENSE NO. PE055816E

Rev.	Date	Description	By	Chk

DRAWN BY PLS | DESIGNED BY TG | CHECKED BY CE

Environmental Resources Management
Philadelphia Office 484-913-0300

ME-2X PROJECT
SUNOCO PARTNERS MARKETING & TERMINALS L.P.
MARCUS HOOK PENNSYLVANIA

EXISTING CONDITIONS

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0410329	C-02	-

DATE / ISSUE: DECEMBER 2017

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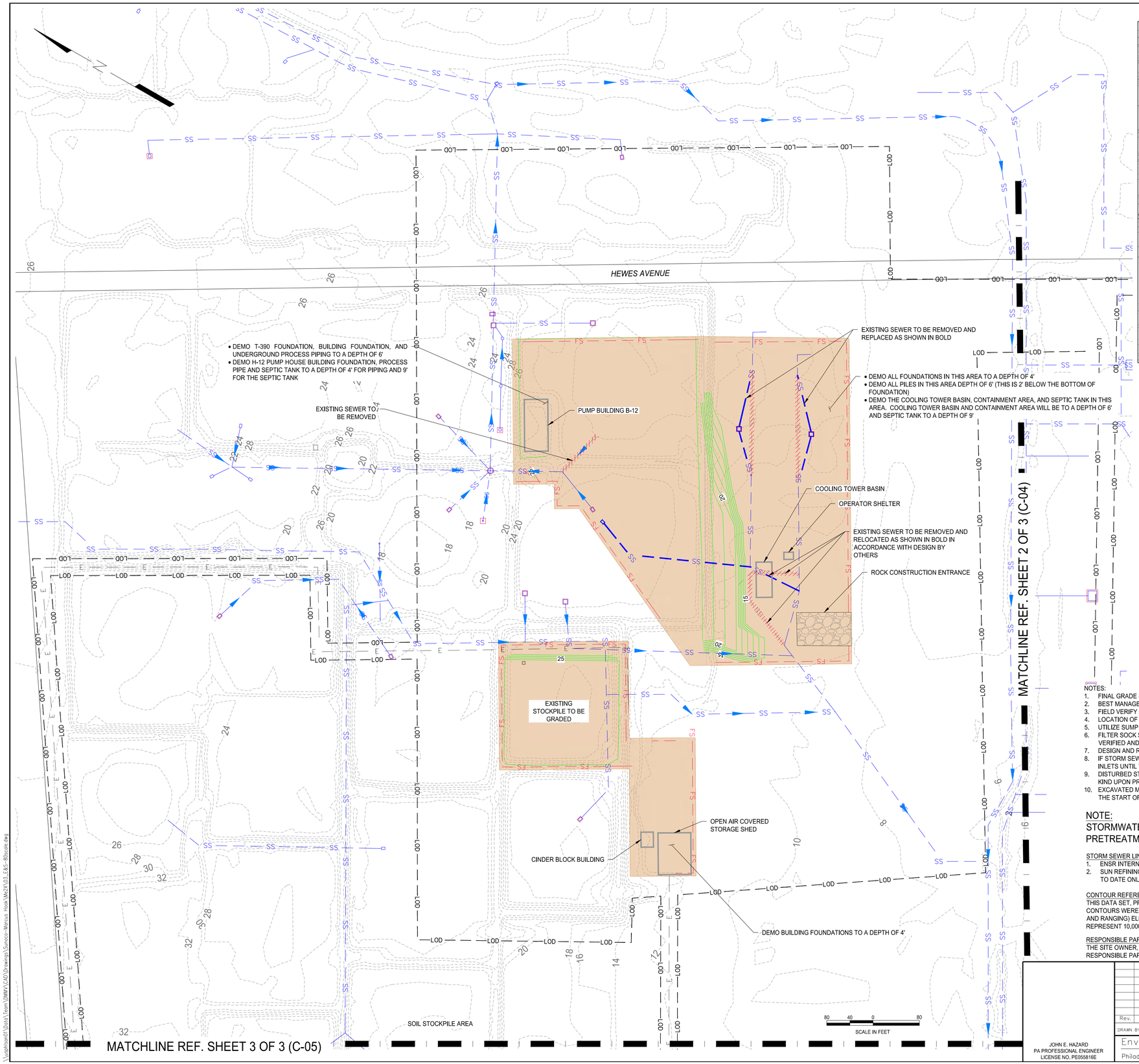

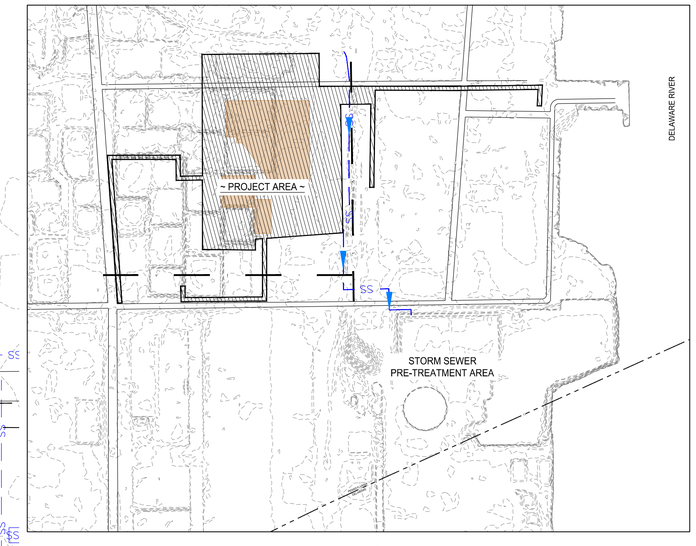

KEY MAP
1"= 500'

LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR (2 FT. INTERVAL)
- PROPOSED CONTOUR (2 FT. INTERVAL)
- LIMIT OF DISTURBANCE PHASE 1 AND PHASE 2 / NPDES BOUNDARY
- FILTER SOCK (REF. NOTE 6)
- OVERHEAD POWER
- EXISTING STORM SEWER
- STORMWATER SEWER INLET
- STORMWATER MANHOLE
- PHASE 1 NPDES AREA - DEMOLITION AREA AND MODIFICATION OF EXISTING FACILITIES (E&S DETAILS TO BE SUBMITTED UNDER SEPARATE COVER)
- EXISTING SEWER TO BE REMOVED

NOTES:

1. FINAL GRADE SHALL CONFORM TO EXISTING GRADE EXCEPT AS SHOWN.
2. BEST MANAGEMENT PRACTICES SHALL BE USED FOR CONSTRUCTION.
3. FIELD VERIFY ALL STORM SEWER INLET LOCATIONS AND INSTALL INLET PROTECTION IN ACCORDANCE WITH DETAIL REQUIREMENTS (SHEET C-06).
4. LOCATION OF ROCK CONSTRUCTION ENTRANCE MAY BE ADJUSTED TO ACCOMMODATE FIELD CONDITIONS (SEE C-07).
5. UTILIZE SUMP PIT, AS NECESSARY, FOR EXCAVATION DEWATERING IN ACCORDANCE WITH DETAIL REQUIREMENTS (SHEET C-07).
6. FILTER SOCK SHALL BE INSTALLED ALONG DOWNGRADIENT LIMIT OF LOD. LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED AND ADJUSTED BASED UPON ACTUAL TOPOGRAPHY AND LIMITS OF WORK.
7. DESIGN AND REQUIREMENTS FOR SEWER REPLACEMENT TO BE PROVIDED BY OTHERS.
8. IF STORM SEWER INLETS ARE TO BE REMOVED, INSTALL AND MAINTAIN FILTER SOCK INLET PROTECTION AROUND ALL EXISTING STORM SEWERS INLETS UNTIL THE TIME OF REMOVAL.
9. DISTURBED STORM SEWER LINES SHALL BE PLUGGED DURING CONSTRUCTION. ALL DISTURBED STORM SEWER LINES SHALL BE REPLACED IN KIND UPON PROJECT COMPLETION.
10. EXCAVATED MATERIAL WILL BE PLACED IN EXISTING ON-SITE STOCKPILES. SPECIFIC STOCKPILES TO BE USED WILL BE DETERMINED PRIOR TO THE START OF CONSTRUCTION.

NOTE:
STORMWATER IS COLLECTED THROUGH INLETS AND SENT TO ON-SITE PRETREATMENT FOLLOWED BY DISCHARGE TO AND TREATMENT AT DELCORA.

STORM SEWER LINE REFERENCES:

1. ENSR INTERNATIONAL, SUNOCO-MARCUS HOOK REFINERY, SITE PLAN, NOV. 2006 (LOCATIONS ARE APPROXIMATE)
2. SUN REFINING AND MARKETING COMPANY, MARCUS HOOK REFINERY, SEWER REFINERY WIDE STORM SEWER SYSTEM, DEC. 2005 TO DATE ONLY AS OF MARCH 2010.

CONTOUR REFERENCE:
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RESPONSIBLE PARTY
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Know what's below. Call before you dig.

JOHN E. HAZARD
PA PROFESSIONAL ENGINEER
LICENSE NO. PE055816E

Rev.	Date	Description	By	Chk

DRAWN BY PLS | DESIGNED BY TG | CHECKED BY CE

Environmental Resources Management
Philadelphia Office 484-913-0300

ME-2X PROJECT
SUNOCO PARTNERS MARKETING & TERMINALS L.P.
MARCUS HOOK PENNSYLVANIA
EROSION AND SEDIMENT CONTROL PLAN
SHEET 1 OF 3

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0410329	C-03	-
DATE / ISSUE: DECEMBER 2017			

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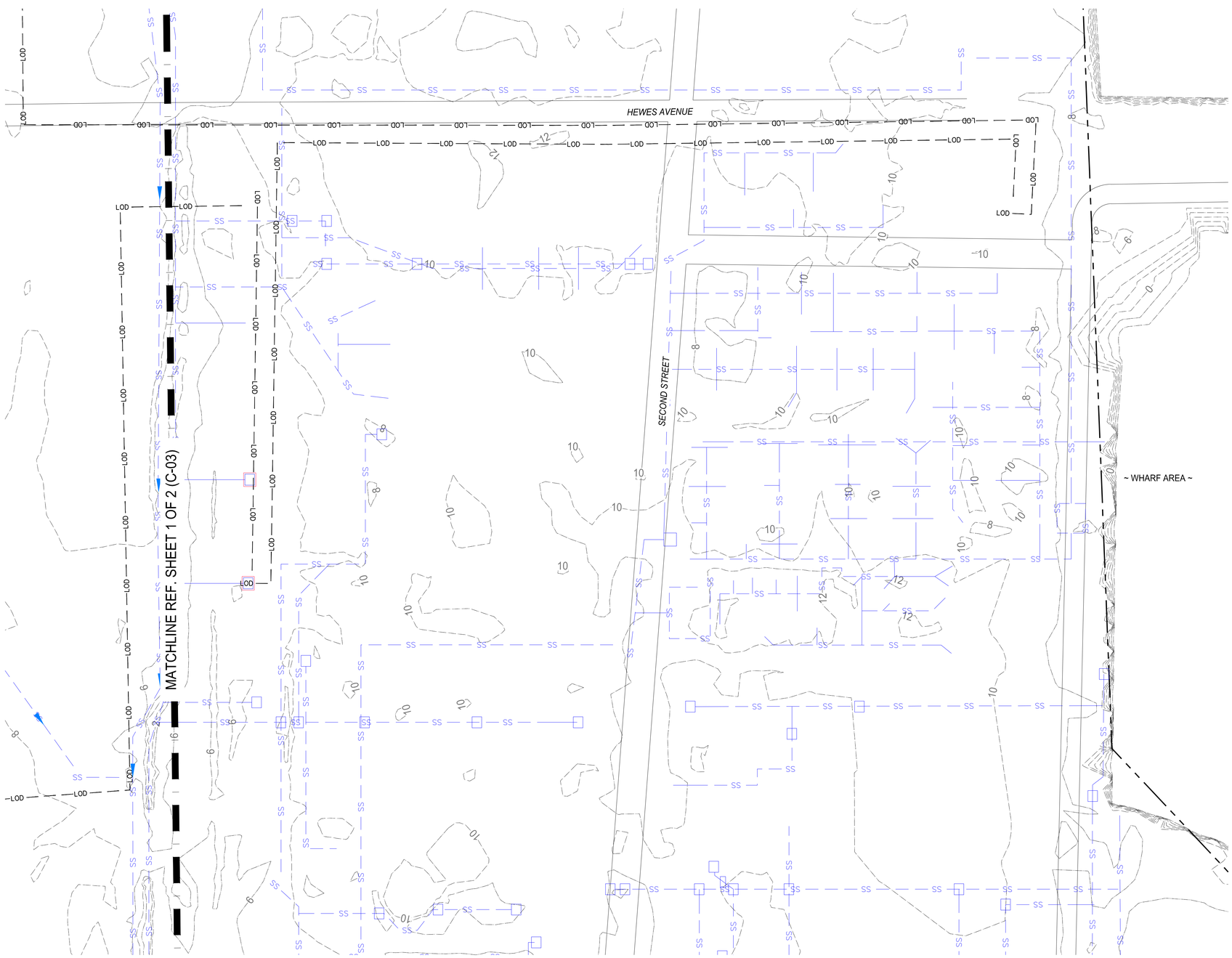

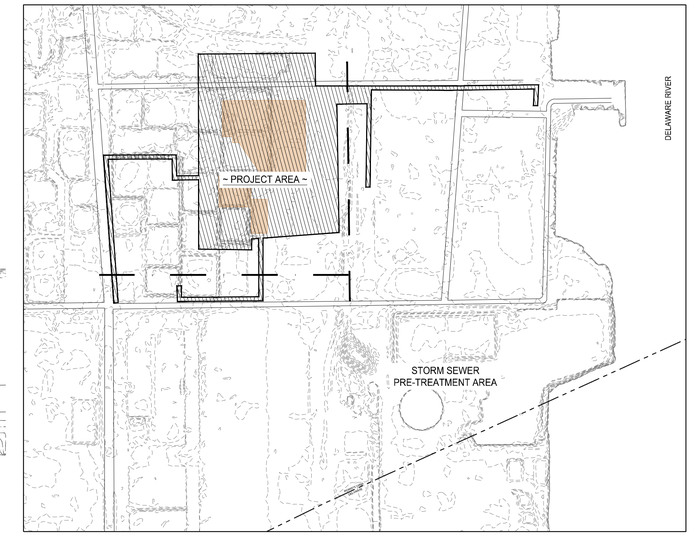

KEY MAP
1"= 500'

LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR (2 FT. INTERVAL)
- PROPOSED CONTOUR (2 FT. INTERVAL)
- LIMIT OF DISTURBANCE PHASE 1 AND PHASE 2 / NPDES BOUNDARY
- FILTER SOCK (REF. NOTE 6)
- EXISTING STORM SEWER
- STORMWATER SEWER INLET
- STORMWATER MANHOLE
- PHASE 1 NPDES AREA - DEMOLITION AREA AND MODIFICATION OF EXISTING FACILITIES

80 40 0 80
SCALE IN FEET

Know what's below. Call before you dig.

JOHN E. HAZARD
PA PROFESSIONAL ENGINEER
LICENSE NO. PE056816E

Rev.	Date	Description	By	Chk

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Philadelphia Office 484-913-0300
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ME-2X PROJECT
SUNOCO PARTNERS MARKETING & TERMINALS L.P.
MARCUS HOOK PENNSYLVANIA
EROSION AND SEDIMENT CONTROL PLAN
SHEET 2 OF 3

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0410329	C-04	-
DATE / ISSUE: DECEMBER 2017			

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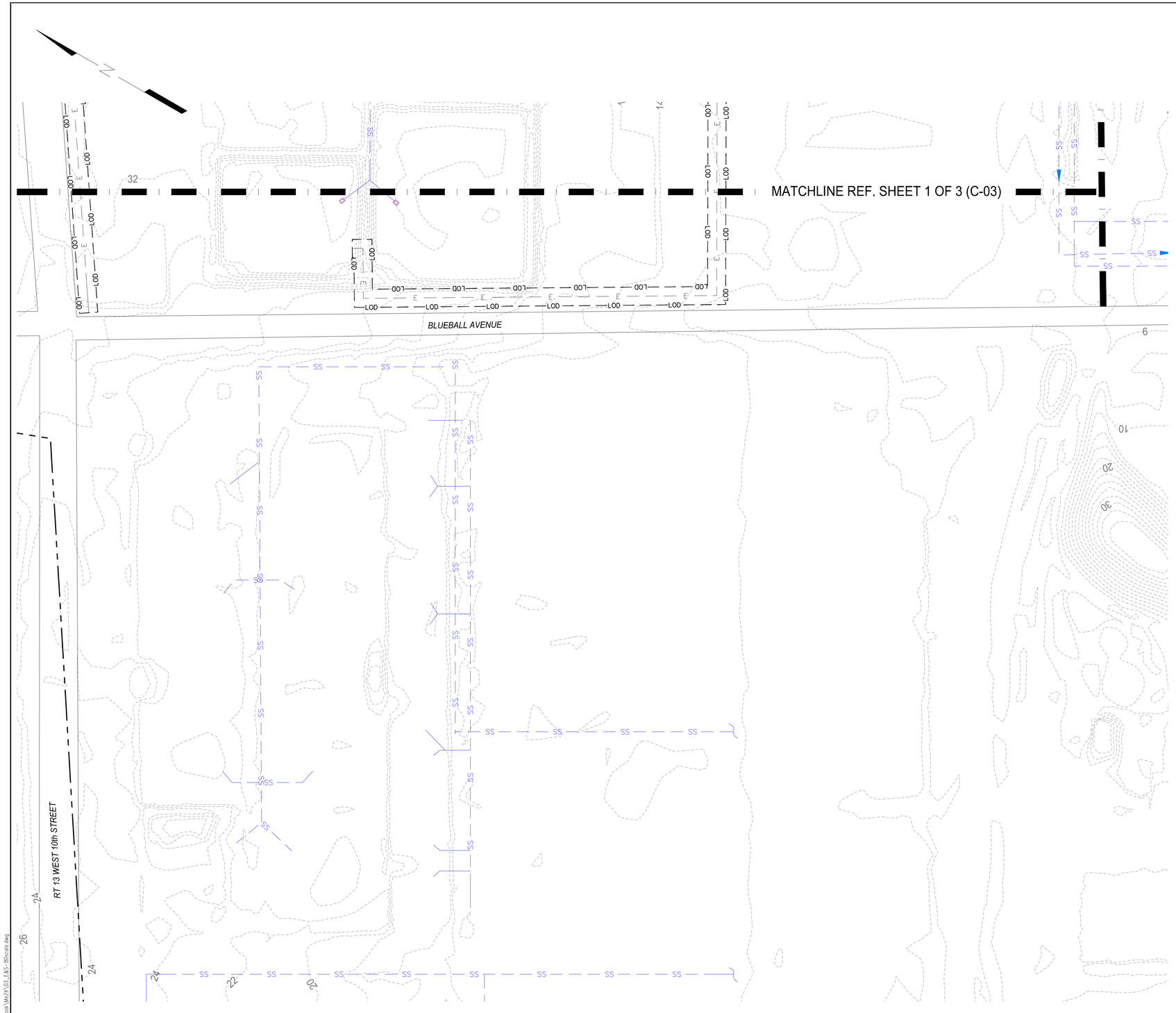

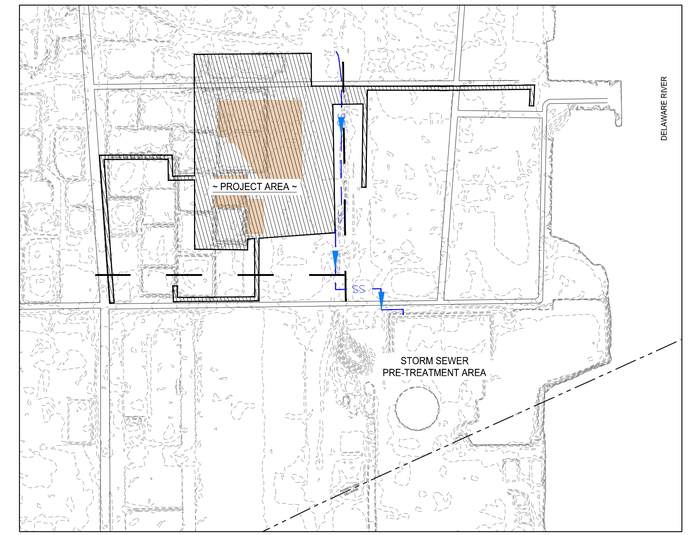

KEY MAP
1"= 500'

LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR (2 FT. INTERVAL)
- PROPOSED CONTOUR (2 FT. INTERVAL)
- LOD — LIMIT OF DISTURBANCE PHASE 1 AND PHASE 2 / NPDES BOUNDARY
- FS — FILTER SOCK (REF. NOTE 6)
- E — OVERHEAD POWER
- SS — EXISTING STORM SEWER
- STORMWATER SEWER INLET
- STORMWATER MANHOLE
- PHASE 1 NPDES AREA - DEMOLITION AREA AND MODIFICATION OF EXISTING FACILITIES (E&S DETAILS TO BE SUBMITTED UNDER SEPARATE COVER)

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80 40 0 80
SCALE IN FEET

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ME-2X PROJECT
SUNOCO PARTNERS MARKETING & TERMINALS L.P.
MARCUS HOOK PENNSYLVANIA
EROSION AND SEDIMENT CONTROL PLAN
SHEET 3 OF 3

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0410329	C-05	-
DATE / ISSUE: DECEMBER 2017			

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DELAWARE COUNTY SOIL CONSERVATION DISTRICT NOTES
STANDARD EROSION AND SEDIMENT CONTROL PLAN NOTES

1. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY TO NOR EXIT DIRECTLY FROM CONSTRUCTION AREA ONTO HEIVES AVENUE.
2. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
3. THE CONTRACTOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
4. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE CONTRACTOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES. THE CONTRACTOR SHALL MAINTAIN AND MAKE AVAILABLE TO LOCAL CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
5. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
6. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE CONTRACTOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE LOCAL CONSERVATION DISTRICT.
7. THE CONTRACTOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE LOCAL CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
8. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING TO THE STORM SEWER SYSTEM FOR SUBSEQUENT PRETREATMENT AND THEN DISCHARGE TO DECLORA.
9. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
10. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
11. THE E&S CONTROL PLAN MAPPING MUST DISPLAY A PA ONE CALL SYSTEM INCORPORATED SYMBOL INCLUDING THE SITE IDENTIFICATION NUMBER. (THIS IS A NUMBERED SYMBOL NOT A NOTE.)
12. ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO N/A FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE BMP'S.
13. EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
14. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
15. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OWNER OR OWNER'S REPRESENTATIVE SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.
16. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
17. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE CONTRACTOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
18. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

SEDIMENT BASINS

19. APPROVAL OF THE USE OF SKIMMER(S) DOES NOT APPROVE USE OF ANY SKIMMER(S) IN VIOLATION OF ANY PATENT, PATENT RIGHTS, AND/OR PATENT LAW.
20. BAFFLES MUST BE INSTALLED TO ALLOW BASIN MAINTENANCE AND CLEAN OUT.
21. UPON INSTALLATION OF THE TEMPORARY SEDIMENT BASIN RISER(S), AN IMMEDIATE INSPECTION OF THE RISER(S) SHALL BE CONDUCTED BY A QUALIFIED SITE REPRESENTATIVE AND LOCAL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING THAT THE RISER IS SEALED.
22. SEDIMENT BASINS MUST BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.

OTHER BMPS

23. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
24. AT STREAM CROSSINGS, 50' BUFFER AREAS SHOULD BE MAINTAINED. ON BUFFERS, CLEARING, SOD DISTURBANCES, EXCAVATION, AND EQUIPMENT TRAFFIC SHOULD BE MINIMIZED. ACTIVITIES SUCH AS STACKING LOGS, BURNING CLEARED BRUSH, DISCHARGING RAINWATER FROM TRENCHES, WELDING PIPE SECTIONS, REFUELING AND MAINTAINING EQUIPMENT SHOULD BE ACCOMPLISHED OUTSIDE OF BUFFERS.

TEMPORARY STABILIZATION & PERMANENT STABILIZATION

25. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
26. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
27. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
28. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
29. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
30. THE CONTRACTOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET DEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

OTHER ISSUES THAT NEED TO BE ADDRESSED AND PREFERABLY PLACED IN ONE SECTION.

31. THE NPDES BOUNDARY IS EQUAL TO THE LIMITS OF DISTURBANCE FOR THE SITE, AND ANY OFF-SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL. OFF-SITE FACILITIES SUCH AS: UTILITIES AND ROADWAY IMPROVEMENTS.
32. THE PROJECT'S RECEIVING WATERCOURSE IS DELAWARE RIVER, AND THE CHAPTER 93 CLASSIFICATION IS WARM WATER FISHES, MIGRATORY FISHES, LIVESTOCK WATER SUPPLY, AND IRRIGATION.
33. THE PROJECT IS EXPECTED TO GENERATE MISCELLANEOUS SOLID WASTE, INCLUDING TRASH, PACKAGING MATERIALS (E.G., WOOD SHIPPING CRATES), SCRAP PLASTIC, WOOD AND/OR METAL, AND CONCRETE. WHERE POSSIBLE, MATERIALS WILL BE RECYCLED IN LIEU OF DISPOSAL. ANY MATERIAL LEAVING THE SITE WILL BE MANAGED IN ACCORDANCE WITH STATE, LOCAL, AND FEDERAL REGULATIONS AND THE RECEIVING DISPOSAL FACILITY'S GUIDELINES.

CONSTRUCTION SEQUENCE

1. IDENTIFY AND MARK OUT UTILITIES IN THE VICINITY OF WORK AREAS AND SUPPORT AREAS.
2. FOR THE PHASE 1 AREA AND THE PHASE 2 LOD ENCOMPASSING THE PHASE 1 AREA, INSTALL PERIMETER EROSION AND SEDIMENT CONTROL MEASURES.
   A) INSTALL ROCK CONSTRUCTION ENTRANCE.
   B) INSTALL FILTER SOCK AS INDICATED ON DRAWINGS AND AS CONDITIONS WARRANT.
   C) INSTALL INLET PROTECTION FOR STORM DRAIN INLET GRATES.
   D) FOR PHASE 2, INSTALL ALL REMAINING EROSION AND SEDIMENT CONTROL MEASURES.
3. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
4. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE CONTRACTOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE LOCAL CONSERVATION DISTRICT.
5. EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
6. IMPLEMENT DEMOLITION OF PIPING, COOLING TOWER BASIN, TANK AND BUILDING FOUNDATIONS, AND OTHER STRUCTURES AND FEATURES IN ACCORDANCE WITH APPROVED DEMOLITION PLANS.
7. UTILIZE SUMP PIT, AS NECESSARY, FOR EXCAVATION DEWATERING.
8. INSTALL NEW FOUNDATIONS, TANKAGE, PIPE RACKS, PROCESS EQUIPMENT, AND APPURTENANCES.
9. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
10. UNTIL THE SITE IS PERMANENTLY STABILIZED, ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED PROPERLY AND INSPECTED BY THE CONTRACTOR DAILY AND AFTER EACH RAINFALL. ALL DAMAGED CONTROLS SHALL BE IMMEDIATELY REPLACED OR REPAIRED BY THE CONTRACTOR. ALL REPAIRS SHALL BE DOCUMENTED IN WRITTEN REPORT.

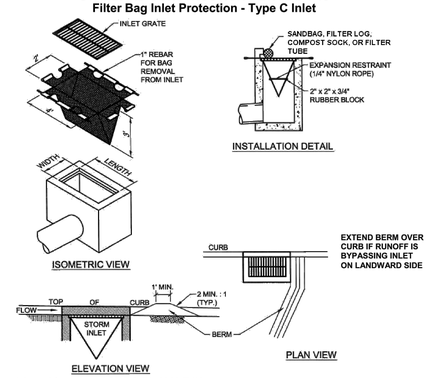
SOIL EROSION AND SEDIMENT CONTROL NOTES

1. AREA OF DISTURBANCE - 32.3 ACRES. MINIMIZE THE EXTENT OF AREAS THAT ARE TO BE EXPOSED AT ONE TIME.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH PENNSYLVANIA EROSION AND SEDIMENT CONTROL PROGRAM MANUAL (MARCH 2012). EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, STABILIZED AND FUNCTIONAL PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AS DESCRIBED ON THE EROSION AND SEDIMENT CONTROL PLANS.
3. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN WILL BE MAINTAINED ON THE PROJECT SITE FOR THE DURATION OF THE PROJECT.
4. SOIL STOCKPILE AREAS SHALL BE LOCATED ON AREAS WITH LITTLE TO NO SLOPE, WHEN FEASIBLE. THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE CONTROL PRACTICES TO PREVENT THE MIGRATION OF SEDIMENT FROM ALL STOCKPILE AREAS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
5. THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE DUST CONTROL TECHNIQUES AS NEEDED AND APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE TO PREVENT THE MIGRATION OF WIND BLOWN SEDIMENT AND FLUFF FROM ALL SITE AREAS. DUST CONTROLS MAY INCLUDE MULCHING, VEGETATIVE COVER OR FINE WATER SPRAYS/SPRINKLING.
6. SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF AND/OR SEDIMENT DISPLACEMENT.
7. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE CONTROLS SHALL BE STABILIZED.
8. MAXIMUM SLOPES OF EXPOSED SURFACES SHALL NOT EXCEED 2H:1V UNLESS OTHERWISE APPROVED BY THE ENGINEER. GRADES SHALL MATCH THE EXISTING GRADING WITH MINOR MODIFICATIONS AS NEEDED TO ACCOMMODATE THE PROPOSED STRUCTURES
9. CONTRACTOR SHALL NOTIFY EROSION & SEDIMENT CONTROL INSPECTOR AT LEAST 5 DAYS PRIOR TO START OF WORK.
10. AFTER STORM EVENTS, IF WATER COLLECTS IN EXCAVATION AREAS, A SUMP WILL BE USED TO PUMP WATER FROM EXCAVATED AREAS INTO A STORMWATER INLET THAT IS CONVEYED FOR ON-SITE PRETREATMENT AND THEN TREATMENT AT DELCORA TREATMENT FACILITY, AND WHICH INCORPORATES INLET PROTECTION.

MAINTENANCE NOTES

1. UNTIL THE SITE IS PERMANENTLY STABILIZED, ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED PROPERLY AND INSPECTED BY THE CONTRACTOR DAILY AND AFTER EACH RAINFALL. ALL DAMAGED CONTROLS SHALL BE IMMEDIATELY REPLACED OR REPAIRED BY THE CONTRACTOR. ALL REPAIRS SHALL BE DOCUMENTED IN WRITTEN REPORT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION, AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITHIN THE EROSION AND SEDIMENT CONTROL PLAN UNTIL THE PROJECT IS 100% COMPLETE AND FULLY STABILIZED.
3. SHOULD ANY OF THE EROSION AND SEDIMENT CONTROL MEASURES PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT OR OF STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES SHALL BE IMMEDIATELY IMPLEMENTED BY THE CONTRACTOR TO ELIMINATE ALL SUCH PROBLEMS.
4. THE FILTER SOCK SHALL BE CLEANED WHEN SEDIMENT DEPOSITS BEHIND THE FILTER SOCK REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE FILTER SOCK.
5. THE FILTER BAG INLET PROTECTION IN THE STORM WATER GRATE SHALL BE CLEANED WHEN SEDIMENT DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE FILTER BAG.
6. THE CONTRACTOR SHALL VISUALLY OBSERVE SILTATION OF THE STORM WATER INLETS AND REMOVE SILT AND RE-INSTALL INLET PROTECTION IF NEEDED.
7. DURING STORM EVENTS ½" OR HIGHER, THE CONTRACTOR SHALL VERIFY STORM WATER IS DIRECTED TO THE STORM WATER SEWERS SYSTEM, PRETREATMENT, DELCORA, AND MANAGED WITHIN BMP'S.

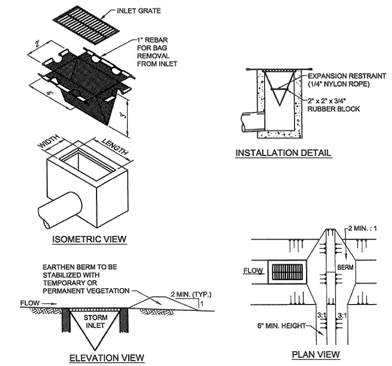
STANDARD CONSTRUCTION DETAIL # 4-15
Filter Bag Inlet Protection - Type C Inlet



Adapted from PennDOT RC-70, 2008 Edition

NOTES:
1. MAXIMUM DRAINAGE AREA = ½ ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP.
3. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
4. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
5. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL # 4-16
Filter Bag Inlet Protection - Type M Inlet



Adapted from PennDOT RC-70, 2008 Edition

NOTES:
1. MAXIMUM DRAINAGE AREA =½ ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP.
3. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
4. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
5. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

```
                    WinTR-55 Current Data Description

                         --- Identification Data ---

User:     M. Pettit                          Date:        10/30/2012
Project:  EEM - Marcus Hook                  Units:       English
SubTitle:                                    Areal Units: Acres
State:    Pennsylvania
County:   Delaware


                         --- Sub-Area Data ---

Name          Description              Reach       Area(ac)     RCN     Tc
-------------------------------------------------------------------------------
Total area:  (ac)


                         --- Storm Data  --

                   Rainfall Depth by Rainfall Return Period

   2-Yr        5-Yr        10-Yr       25-Yr       50-Yr       100-Yr      1-Yr
   (in)        (in)        (in)        (in)        (in)        (in)        (in)
-------------------------------------------------------------------------------
    3.3         4.2         5.0         5.7         6.4         7.3         2.6

Storm Data Source:              Delaware County, PA  (NRCS)
Rainfall Distribution Type:     Type II
Dimensionless Unit Hydrograph:  <standard>
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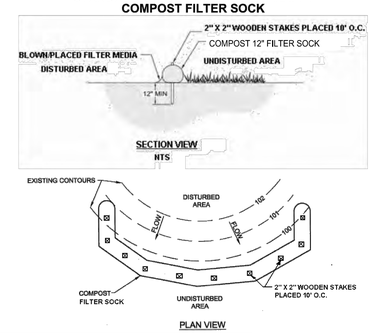
STANDARD CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK



NOTES:
1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 AND COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE MARCH 2012 PADEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL.
2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES AND SOCK SHALL BE REMOVED.
8. FILTER SOCK AROUND TRENCH DRAINS WILL BE ANCHORED BY CONCRETE BLOCKS OR SIMILAR.

JOHN E. HAZARD
PA PROFESSIONAL ENGINEER
LICENSE NO. PE055816E

Rev.	Date	Description	By	Chk

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Environmental Resources Management
Philadelphia Office 484-913-0300
ERM

ME-2X PROJECT
SUNOCO PARTNERS MARKETING & TERMINALS L.P.
MARCUS HOOK PENNSYLVANIA

EROSION AND SEDIMENT CONTROL DETAILS

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0410329	C-06	-
DATE / ISSUE: DECEMBER 2017			

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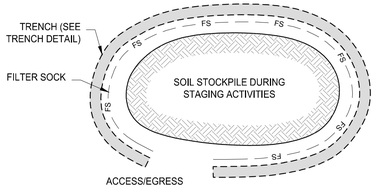
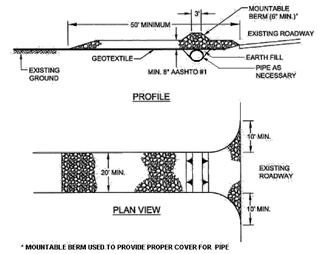


PLAN VIEW

NOTES:
1. ALTERNATIVE CONTROL MEASURES THAT ARE CONSISTENT/TECHNICALLY EQUIVALENT WITH CONTROLS UTILIZED DURING PHASE 1 & 2 ACTIVITIES MAY BE IMPLEMENTED. THESE ALTERNATES WILL BE REVIEWED/CONFIRMED WITH THE ON-SITE COUNTY INSPECTOR PRIOR TO USAGE.
2. FILTER SOCK TO BE PLACED AROUND THE PERIMETER OF THE STOCKPILE. IMMEDIATELY APPLY TEMPORARY SEEDING TO STOCKPILES WHICH WILL BE IN PLACE FOR 30 DAYS OR MORE.
3. STOCKPILES SHALL BE LOCATED ON AREAS WITH LITTLE OR NO SLOPE WHEN FEASIBLE. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
4. SPECIFIC EXISTING STOCKPILE TO BE USED SHALL BE DETERMINED BY CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.
5. AN IMPERMEABLE TARP SHALL BE PLACED BENEATH AND ON TOP OF THE STOCKPILE. ALL TARPS WILL BE SECURED WITH SANDBAG, HAY BALES, OR SIMILAR.

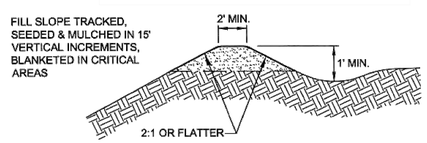
STOCKPILE AREA
N.T.S.



Modified from Maryland DOE

NOTES:
1. REMOVE SOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

ROCK CONSTRUCTION ENTRANCE DETAIL
N.T.S.



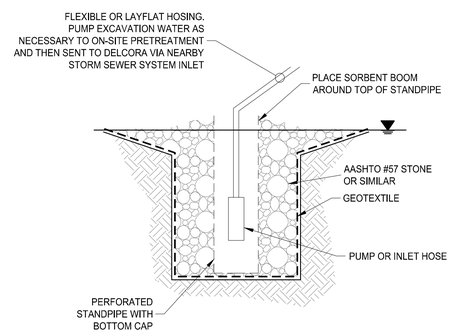
Adapted from North Carolina DENR

NOTES:
1. TEMPORARY BERMS SHALL BE PLACED, MAINTAINED, AND ADJUSTED CONTINUOUSLY UNTIL PROPER PCSM CONTROLS ARE IN PLACE.
2. BERMS SHALL PREVENT WATER TO ENTER THE DELAWARE RIVER AND RE-DIRECT FLOW TO STORM WATER INLETS FOLLOWED BY PRETREATMENT AND DELCORA TREATMENT FACILITY.
3. CHANNEL BEHIND BERM SHALL HAVE POSITIVE GRADE TO OUTLET AND AN APPROPRIATE PROTECTIVE LINING.
4. BERM SHALL BE ADEQUATELY COMPACTED TO PREVENT FAILURE.
5. AN ACCEPTABLE ALTERNATIVE TO TOP-OF-SLOPE BERM IS TO CONTINUOUSLY GRADE THE TOP OF FILL TO DIRECT RUNOFF AWAY FROM THE FILLSLOPE TO A COLLECTOR CHANNEL, SEDIMENT TRAP, OR SEDIMENT BASIN.

TOP-OF-SLOPE BERM DETAIL
N.T.S.

NOTE:
A SUMP SHALL BE INSTALLED AT THE LOW POINT WITHIN THE DITCH WHEN WATER BEGINS TO PUDDLE AND SHALL BE PUMPED INTO A STORM INLET WITH INLET PROTECTION AND THAT DISCHARGES TO ON-SITE PRETREATMENT AND THE DISCHARGE TO DECLORA.

TRENCH DETAIL FOR STOCKPILE AREA DETAIL
N.T.S.



SUMP PIT
N.T.S.

NOTE:
AFTER STORM EVENTS, IF WATER COLLECTS IN EXCAVATION AREAS, A SUMP WILL BE USED TO PUMP WATER FROM EXCAVATED AREAS INTO A STORMWATER INLET THAT IS CONVEYED FOR ON-SITE PRETREATMENT AND THEN TREATMENT AT DELCORA TREATMENT FACILITY AND WHICH INCORPORATES INLET PROTECTION.

JOHN E. HAZARD
PA PROFESSIONAL ENGINEER
LICENSE NO. PE055816E

Rev.	Date	Description	By	Chk

DRAWN BY PLS | DESIGNED BY TG | CHECKED BY CE

Environmental Resources Management
Philadelphia Office 484-913-0300
ERM

ME-2X PROJECT
SUNOCO PARTNERS MARKETING & TERMINALS L.P.
MARCUS HOOK **PENNSYLVANIA**

EROSION AND SEDIMENT CONTROL DETAILS

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0410329	C-07	-
DATE / ISSUE: DECEMBER 2017			

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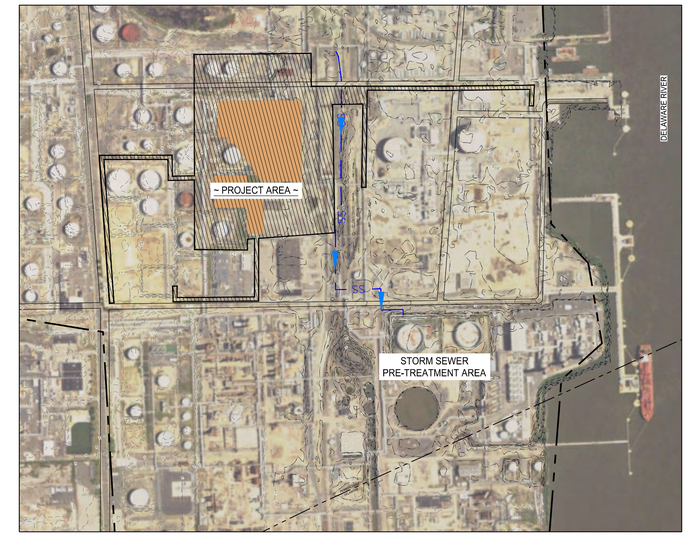

KEY MAP
1"= 500'

LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR (2 FT. INTERVAL)
- PROPOSED CONTOUR (2 FT. INTERVAL)
- LIMIT OF DISTURBANCE PHASE 1 AND PHASE 2 / NPDES BOUNDARY
- EXISTING STORM SEWER
- STORMWATER SEWER INLET
- STORMWATER MANHOLE
- PHASE 1 NPDES AREA - DEMOLITION AREA AND MODIFICATION OF EXISTING FACILITIES

NOTE:
STORMWATER IS COLLECTED THROUGH INLETS AND SENT TO ON-SITE PRETREATMENT FOLLOWED BY DISCHARGE TO AND TREATMENT AT DELCORA.

POST CONSTRUCTION BMP MAINTENANCE

1. WHERE VISIBLE EROSION IS PRESENT, GRAVEL (i.e.: D50 = 3/4 INCH OR AASHTO #57) SHALL BE APPLIED WITH MINIMUM THICKNESS OF 6 INCHES TO LATERAL LIMITS OF THE VISIBLY ERODED AREA.
2. BLOCKED GRATES SHALL BE CLEANED OUT AS NECESSARY TO ENSURE STORMWATER IS DIRECTED TO THE ONSITE WASTEWATER PRETREATMENT SYSTEM.

SITE RESTORATION NOTES

1. ALL AREAS THAT MIGHT SHOW POTENTIAL FOR EROSION SHALL BE GRADED WITH GRAVEL TO LIMIT SEDIMENT EROSION.
2. REMOVE ANY TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES.
3. ALL UNSTABILIZED AREAS SHOULD BE STABILIZED WITH GRAVEL (I.E.: D50 = 3/4 INCH OR AASHTO #57). ADDITIONAL GRAVEL WILL BE ADDED IF ACCELERATED EROSION IS NOTICED.

NOTES:

1. FINAL GRADE SHALL CONFORM TO EXISTING GRADE EXCEPT AS SHOWN.
2. BEST MANAGEMENT PRACTICES SHALL BE USED FOR CONSTRUCTION.
3. THE USE OF BMPS, INCLUDING DIRECTING STORMWATER TO THE ON-SITE PRETREATMENT FACILITY AND CONVEYANCE TO DELCORA, WILL PREVENT THE OFFSITE DISCHARGE OF POTENTIALLY IMPACTED SOIL AND STORMWATER.
4. ALL SOILS CONTAINED WITHIN THE LIMITS OF DISTURBANCE ARE CLASSIFIED AS MADE LAND BY THE NATURAL RESOURCES CONSERVATION SERVICE.
5. THE PROJECT IS EXPECTED TO GENERATE MISCELLANEOUS SOLID WASTE, INCLUDING TRASH, PACKAGING MATERIALS (E.G., WOOD SHIPPING CRATES), SCRAP PLASTIC, WOOD AND/OR METAL, AND CONCRETE. WHERE POSSIBLE, MATERIALS WILL BE RECYCLED IN LIEU OF DISPOSAL. ANY MATERIAL LEAVING THE SITE WILL BE MANAGED IN ACCORDANCE WITH STATE, LOCAL, AND FEDERAL REGULATIONS AND THE RECEIVING DISPOSAL FACILITY'S GUIDELINES.

STORM SEWER LINE REFERENCES:

1. ENSR INTERNATIONAL, SUNOCO-MARCUS HOOK REFINERY, SITE PLAN, NOV. 2006 (LOCATIONS ARE APPROXIMATE)
2. SUN REFINING AND MARKETING COMPANY, MARCUS HOOK REFINERY, SEWER REFINERY WIDE STORM SEWER SYSTEM, DEC. 2005 TO DATE ONLY AS OF MARCH 2010.

CONTOUR REFERENCE:
THIS DATA SET, PRODUCED BY THE PAMAP PROGRAM, CONSISTS OF TOPOGRAPHIC CONTOURS MAPPED AT AN INTERVAL OF 2 FEET. CONTOURS WERE DERIVED FROM A BARE-EARTH DIGITAL ELEVATION MODEL CONSTRUCTED FROM PAMAP LIDAR (LIGHT DETECTION AND RANGING) ELEVATION POINTS. PAMAP DATA ARE ORGANIZED INTO BLOCKS, WHICH DO NOT HAVE GAPS OR OVERLAPS, THAT REPRESENT 10,000 FEET BY 10,000 FEET ON THE GROUND.

RESPONSIBLE PARTY
THE SITE OWNER, SUNOCO PARTNERS MARKETING & TERMINALS, L.P. SHALL BE THE RESPONSIBLE PARTY THROUGHOUT CONSTRUCTION AND POST CONSTRUCTION.

811 Know what's below. Call before you dig.

JOHN E. HAZARD
PA PROFESSIONAL ENGINEER
LICENSE NO. PE055816E

Rev.	Date	Description	By	Chk

DRAWN BY PLS | DESIGNED BY TG | CHECKED BY CE

Environmental Resources Management
Philadelphia Office 484-913-0300
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ME-2X PROJECT
SUNOCO PARTNERS MARKETING & TERMINALS L.P.
MARCUS HOOK PENNSYLVANIA
POST CONSTRUCTION RESTORATION PLAN AND NOTES

SCALE	PROJECT NUMBER	SHEET	REV.
AS SHOWN	0410329	C-08	-

DATE / ISSUE: DECEMBER 2017

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