

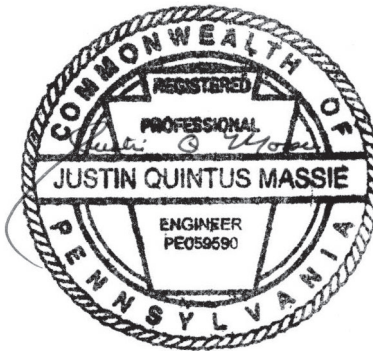
EROSION AND SEDIMENTATION CONTROL PLAN NARRATIVE

FOR

UPPER DUBLIN TOWNSHIP BUILDING

Upper Dublin Township
Montgomery County, Pennsylvania

PREPARED BY



May 26, 2021

TE #23015

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**A. EROSION AND SEDIMENTATION CONTROL
PLAN NARRATIVE**

EROSION AND SEDIMENTATION CONTROL PLAN NARRATIVE

FOR

UPPER DUBLIN TOWNSHIP BUILDING

Upper Dublin Township
Montgomery County, Pennsylvania

The following narrative was prepared in accordance with the Erosion and Sediment Pollution Control Program Manual, prepared by the Pennsylvania Department of Environmental Protection and dated March 2012. Each narrative item is in reference to the same item number in the E & S Control Plan Technical Review Checklist. This report also includes reference material, supporting data, calculations, and the applicable standard worksheets.

General Project Information:

Location: 801 Loch Alsh Avenue
Upper Dublin Township
Montgomery County, Pennsylvania

Facility Owner: Upper Dublin Township
370 Commerce Drive
Fort Washington, PA 19034+2619

Person(s) Responsible for Construction and Maintenance of Earthmoving Operations and Erosion and Sediment Pollution Controls:

No contractor has been selected at this time.

The contractor must notify the Montgomery County Conservation District in writing and by telephone three days prior to commencement of any earthmoving activities and set a date for an on-site pre-construction meeting.

102.4(b)(3) Erosion and Sedimentation Control Plan Preparer and Qualifications

Plan Preparer : Justin Q. Massie, P.E.

Formal Education: Penn State
Civil Engineering Curriculum
August 1995 to May 1999
Bachelor of Science, P.E.

Other Training: DEP Stormwater BMP Manual Seminar
November 16-17, 2006

Employment History: Barry Isett & Associates, Inc (May 1999-August 2008)

Current Employer: Terraform Engineering, LLC
484-895-4632

Recent Erosion and Sedimentation Control Plans Prepared:

1. Crooked Billet Elementary School
Hatboro Borough, Montgomery County
Montgomery County Conservation District
2. Keith Valley Middle School
Horsham Township, Montgomery County
Montgomery County Conservation District
3. Sandy Run Middle School
Upper Dublin Township, Montgomery County
Montgomery County Conservation District

The E&S design has been prepared in order to minimize the extent and duration of earth disturbance, maximize protection of existing drainage features and vegetation, minimize soil compaction, and utilizes measures and controls that prevent or minimize generation of increased stormwater runoff.

102.4(b)(5)(i) The Existing Topographic Features of the Project Site and the Immediate Surrounding Area

All existing topographic features of the project site and immediately surrounding areas (including contours, streams, wetlands, 100-year flood plains, receiving watercourses, roads, buildings, utilities, etc.) have been clearly depicted on the E&S Plan Sheets provided in the materials. A north arrow, graphic scale, and map legend are provided on the plans.

A U.S.G.S. 7.5-minute quadrangle (Ambler) Location Map, with the project area delineated, is included in this report.

102.4(b)(5)(ii) The Type, Depth, Slope, Location and Limitations of the Soils

The types of soils and their boundaries are shown on the plans. The following soils, defined by the Soil Conservation Service, are found on site:

LaB – Lansdale Loam, 3 to 8 Percent Slopes

This soil consists of well drained drained soils formed from residuum weathered from sandstone and/or residuum weathered from conglomerate. This soil is not hydric. The soil has been modeled as Hydrologic Soil Group B.

UdtB– Udorthents, shale and sandstone, 0 to 8 Percent Slopes

This soil consists of well drainage soil from graded areas of sandstone and shale. This soil is not hydric. The soil has been modeled as Hydrologic Soil Group C.

UgB – Urban Land, 0 to 8 percent slopes

Urban Land occurs on where pavement, buildings and other artificial covered areas obscure the original soils. Variability in urban land makes classification of these soils impractical. This soil is not a hydric soil. Urban soils are modeled as Hydrologic Soil Group C.

UusB – Urban Land-Udorthents, shale and sandstone complex, 0 to 8 percent slopes
Urban Land-Udorthents occurs on where pavement, buildings and other artificial covered areas obscure the original soils. Variability in urban land makes classification of these soils impractical. This soil is not a hydric soil. These soils are modeled as Hydrologic Soil Group A.

Refer to the attached Soil Map and the Soils Descriptions in Reference Materials for additional information. Please note that no known geologic or soil conditions are anticipated to cause pollution during construction.

102.4(b)(5)(iii) The Characteristics of the Earth Disturbance Activity, Including the Past, Present, and Proposed Land Uses and the Proposed Alteration to the Project Site

The proposed project is located on the existing Upper Dublin Township campus at 801 Alsh Avenue in Upper Dublin Township, Montgomery County, Pennsylvania. Currently, the site consists of an existing Township Municipal campus. For the past 50 years, the site has been a Township Municipal campus (constructed in 1964). The limits of Construction and proposed grades are shown on the Erosion & Sediment Control Plan.

The proposed project consists of demolition of the old Township Building and construction of a new Township Building and additions to the Public Works Building. Proposed contours/grades, utilities, waterways, stormwater management facilities, roads, buildings, and other improvements are shown on the plans. A north arrow, graphic scale, and map legend are provided on the plans.

No existing facilities located outside the project construction limits, including vegetated areas on adjacent lands, will be utilized for E&S control purposes.

102.4(b)(5)(iv) The Amount of Run-Off from the Project Area and the Upstream Watershed Area

Pre-Development Analysis

In pre-development condition the project site drains to the offsite to two separate discharge points. Discharge point 001 is located at the southwestern corner of the property to where a 36” pipe discharges stormwater offsite. This pipe discharges via collection and conveyance systems to the unnamed tributary to the Wissahickon Creek. Discharge point 002 is located at the southeastern portion of the property where a 36” pipe discharges stormwater offsite. This pipe discharged via collection and conveyance system to the unnamed tributary to the Wissahickon Creek.

Post-Development Analysis

In the post-development condition the project area continues to drain offsite to two separate discharge points. Discharge point 001 is still located at the southwestern corner of the property to where a 36” pipe discharges stormwater offsite. This pipe discharges via collection and conveyance systems to the unnamed tributary to the Wissahickon Creek. This drainage area 001 has been reduced in area and impervious surface. Discharge point 002 is located at the southeastern portion of the property where a 36” pipe discharges stormwater offsite. This pipe discharged via collection and conveyance system to the unnamed tributary to the Wissahickon Creek. This drainage areas 002 has been broken into captured and bypass areas. The captured area is routed through the underground infiltration/detention basin and has been designed to meet the rate and volume control requirements for the site.

102.4(b)(5)(v) Location of Waters of the Commonwealth and their Classification

The site drains to an unnamed tributary of the Wissahickon Creek, which is classified as “Trout Stocked Fishery”, “Migratory Fish” (TSF, MF) according to Chapter 93.

102.4(b)(5)(vi) A Written Depiction of the Proposed BMP's

Rock construction entrances, sediment basin, sediment traps, compost socks, inlet protection, topsoil stockpiling, erosion control matting, construction sequencing, and permanent stabilization are the Best Management Practice Facilities proposed to control sediment pollution before, during, and after the earth disturbance activities. Non-impervious areas will be permanently stabilized with seeding.

102.4(b)(5)(vii) Staging of Earthmoving Activities and Installation of BMP's

CONSTRUCTION SCHEDULE

Approximate Starting Date for Construction: March 2024
Approximate Ending Date for Construction: August 2026

General Notes:

1. At least seven days before starting any earth disturbance activities, the Contractor shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials, the Erosion and Sedimentation Control Plan preparer, and a representative of the Montgomery County Conservation District to an on-site pre-construction meeting. Also, at least three days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System at 1-800-242-1776 for buried utilities location.
2. The Contractor must notify, in writing and by telephone, the Montgomery County Conservation District seven days prior to commencement of any earthmoving activities.
3. The cut-off date for seeding, including hydro-seeding (except rye grass), is November 15th. Any areas disturbed after this date, prior to the start of the growing season in the spring, must be stabilized with mulch.
4. All structures associated with the construction of sediment removal facilities must be available on-site prior to any earthmoving.
5. All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be complete before any following stages are initiated. Clearing and grubbing shall be limited to only those areas described in each stage.
6. Before initiating any revisions to the approved Erosion and Sediment Control Plans, which may affect the effectiveness of the approved Erosion and Sediment Control Plan, the operator must receive approval of the revisions from the Montgomery County Conservation District.

Stage 1 – Initial Erosion and Sediment Pollution Control Facility Installation

- A. Install the Rock Construction Entrance off Loch Alsh Avenue and off the existing driveway as specified on the E&S Plan. All construction vehicles must use these entrances to enter and exit the site. Care must be taken to eliminate sediment from being tracked onto any existing roads. The Contractor must inspect and clean off daily if this occurs. Also, mark (survey stakes, posts & rope, orange construction fence, etc) the limits of disturbance to ensure that no disturbance mistakenly occurs where it is not intended to occur.
- B. Install inlet protection on the existing inlets as indicated on the E&S Plan.

Stage 2 – Existing Township Building Demolition

- A. Begin demolition of the existing Township building.
- B. Remove the shed along the southern property boundary to be removed. Relocate the police storage shed along the southern property boundary.

Stage 3 – Public Works Addition Construction (can be concurrent with Stage 2)

- A. Install compost sock CS#1 downstream of the proposed garage addition.

- B. Install the stormwater collection and conveyance system from the existing 2'x6' inlet located at the southwest corner of the property to Storm MH TD 1 north of the garage addition. Follow the E&S Utility Installation Notes. Note that installation of the Snout in MH 4 (BMP 1) is a critical stage which requires oversight of a licensed professional.
- C. Install the sanitary sewer relocation line from the new manhole just south of the property line to the sanitary manhole located just north of the public work building. Follow the E&S Utility Installation Notes.
- D. Rough grade the areas of the new Public Works Garage building addition, adjacent parking areas, and new fueling station. Begin construction of the new Public Works Garage addition. Install concrete wash areas and utilize for any concrete was from the building construction.
- E. Install the new fueling station. Install proposed curbing for the new parking area north of the public works addition. Pave the areas north and west of the building addition.

Stage 4 – Township Building Construction (can be concurrent with Stage 3)

- A. Rough grade the new building area. Excavate footprint of new Municipal Building and install foundations. Start construction of new building. Install utilities to proposed building.
- B. Install storm system from existing Storm MH to proposed detention/infiltration basin (BMP 1). Install the proposed detention/infiltration basin. This includes geotextile wrap, clean stone installation, distribution pipe, junction boxes, and outlet structure. Note that basin construction is a critical stage which requires oversight of a licensed professional. Bring stone subbase elevation over the basin area.
- C. Rough grade the proposed parking area between the new building and Loch Alsh Avenue. Install proposed retaining wall. Install the proposed storm system from the basin to yard drain 14 and to Inlet 20. Immediately install inlet protection. Install the proposed curbing. Stabilize the proposed pavement area with stone.
- D. Rough grade the area of the police parking lots south and east of the building. Install the proposed storm system from Inlet 13 to Inlet 5. Immediately install inlet protection. Install the proposed curbing and stabilize the proposed paved areas with stone.
- E. Install compost sock CS#2. Rough grade the driveway and parking area west of the new building, including removal of the curbing and pavement associated with the existing western parking lot that is being removed. Install the proposed stormwater from Inlet 26 to Inlet 23 including all laterals, from Inlet 29 to Inlet 27, and from EW 31 to Inlet 30. Immediately install inlet protection. Install the proposed curbing. Stabilize the proposed paved areas with stone.
- F. Install the geothermal system in the northwestern corner of the site.
- G. Install binder course of all pavement areas.
- H. Install proposed sidewalks where indicated.
- I. Final grade and stabilize the lawn areas. Install all proposed landscaping.
- J. Install final wearing course.

Stage 5 - Removal of the Soil Erosion Controls

- A. After the entire site is stabilized, the contractor is required to remove all remaining inlet protection, rock construction entrances, and compost socks. Re-stabilize any areas disturbed by the removal of the erosion controls.
- B. Upon permanent stabilization of earth disturbance activity under 25 Pa. Code Section 102.22(a)(2) (relating to permanent stabilization) and installation of BMPs in accordance with the approved plan prepared and implemented in accordance with 25 Pa. Code Sections 102.4 and 102.8, the permittee and/or co-permittee shall submit a Notice of Termination (NOT) to the Department of or authorized conservation district.

NOTES:

1. *An area shall be considered to have achieved final stabilization when it has a minimum uniform 70 percent 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. Immediately after earth disturbance activities cease, the operator 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 re-disturbed within one year must be stabilized in accordance with the temporary vegetative stabilization specifications. Disturbed areas which are at finished grade or which will not be re-disturbed within one year must be stabilized in accordance with the permanent vegetative stabilization specifications.*
2. *Temporary erosion control measures may only be removed after approval by the licensed professional, after the construction area and retained silt are stabilized and after lawn areas are established.*
3. *Within 30 days after the completion of earth disturbance activities authorized by this permit, including the permanent stabilization of the site and proper installation of PCSM BMPs in accordance with the approved PCSM Plan, or upon submission of the NOT if sooner, the permittee shall file with the department or authorized conservation district a statement signed by a licensed professional and by the permittee certifying that work has been performed in accordance with the terms and conditions of this permit and the approved E&S and PCSM Plans. Completion certificates are needed to ensure that all work is performed in accordance with the terms and conditions of the permit and the approved E&S and PCSM Plans.*

102.4(b)(5)(ix) Plan Drawings

The location and construction details of all temporary and permanent control measures and facilities proposed to be used on the project have been shown on Sheets C601 and C602. The standard worksheets for the controls have also been included in this report.

102.4(b)(5)(x) Maintenance Program

All erosion control facilities shall be checked after each run-off event to ensure that they are in good repair and working condition. Damage to any facility shall be repaired immediately.

Areas that contain sod shall be checked very carefully to ensure that joints between the sod strips are tight and secure. Where joint separation is in evidence, a careful inspection of each joint shall be made to determine whether undermining of the strips is occurring. If it is, the strips shall be rolled up, the subsurface shall be filled and graded as required, and the sod strips shall be relayed with tight joints and pegging.

Seeded areas that have washed away shall be filled and graded, as necessary, and then reseeded. A burlap or straw cover will be applied to retain seed until it has a chance to root properly.

The above procedure shall be repeated after each run-off event until no more signs of erosion are evident. At monthly intervals thereafter, inspections and necessary cleaning will be done.

Vegetation shall be mowed whenever necessary to maintain a pleasing appearance and discourage weed growth. All local regulations will be complied with.

Inspect inlet protections weekly, and after each run-off event, clean and/or replace filter material if it is clogged. Silt that has accumulated shall be removed, allowed to dry, and then used as fill wherever required on the site.

Any dry fill hauled off-site must be taken to a location with an erosion and sedimentation control plan, which has been reviewed by the local County Conservation District for adequacy.

Trash that is removed from any of the control devices shall be disposed of at an approved municipal disposal area.

The installation and maintenance of the temporary control facilities will be the responsibility of the Contractor. The temporary controls will be maintained in accordance with the Pennsylvania Department of Environmental Protection Program Manual Standards. Pennsylvania Department of Environmental Protection's regulations require a 70% uniform cover of erosion resistant perennial vegetative species be established over the disturbed area before a site can be considered to be permanently stabilized with vegetation. Until such time as the standard is achieved, interim stabilization and temporary erosion and sedimentation control measures and facilities that are used to treat the project run-off may be utilized.

The contractor is responsible for the removal of the temporary control facilities once the site is permanently stabilized with vegetation. The contractor shall also stabilize any areas disturbed by the removal of the soil erosion controls.

Once the site is permanently stabilized, the property owner will periodically check the detention basin and storm sewer facilities, graded areas, and swales to observe any erosion problems that may be developing. Any damaged areas should be repaired immediately.

General maintenance notes can be found on the E&S Control Detail Sheet in the plan drawings.

102.4(b)(5)(xi) Recycling and Disposal of Construction Wastes

Project construction wastes will most likely consists of stone, pavement, paper and other packaging materials. Any oil, gas, antifreeze or other pollutants, including organic and inorganic, must be stored and handled in accordance with state and local regulations.

As noted on the plans, the Contractor is responsible to ensure that the proper measures for recycling or disposal of materials will be undertaken in accordance with Department regulations. The operator shall assure that an Erosion and Sediment Control Plan has been 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. Disposal sites must be approved by the local Conservation District.

102.4(b)(5)(xii) Identification of the 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 Formations.

No geologic conditions are anticipated to exist on site that would have potential to cause pollution during earth disturbance activities.

102.4(b)(5)(xiii) Identification of potential thermal impacts to surface waters from the earth disturbance activity including BMPs to avoid, minimize or mitigate potential pollution from thermal impacts.

The project will result in a slight reduction in impervious surface so there should not be thermal impacts associated with the proeject. However, runoff will be collected into the underground infiltration/detention basin that will infiltrate water into the ground and thus cooling it. During construction thermal impacts will be minimized by collected runoff to compost socks and inlet protection which will reduce solar exposure.

102.4(b)(5)(xiv) The E&S Plan shall be planned, designed and implemented to be consistent with the PCSM Plan under § 102.8 (relating to PCSM requirements). Unless otherwise approved by the Department, the E&S Plan must be separate from the PCSM Plan and labeled “E&S” or “Erosion and Sediment Control Plan” and be the final plan for construction.

The E&S plans are separate from but coordinated with the PCSM plans.

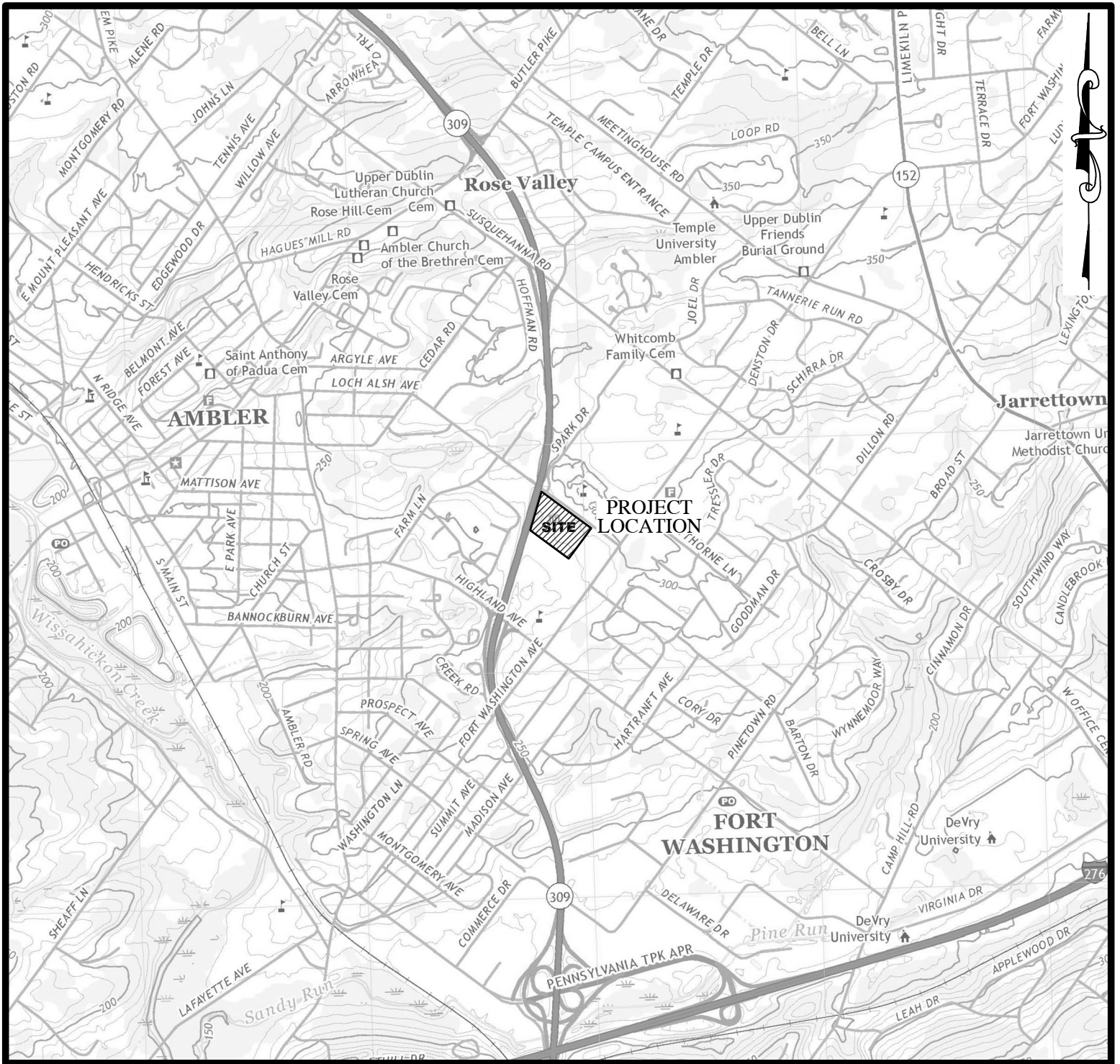
102.4(b)(5)(xv) Identification of existing and proposed riparian forest buffer.

No existing or proposed riparian forest buffers are located within the project area.

Antidegradation Analysis.

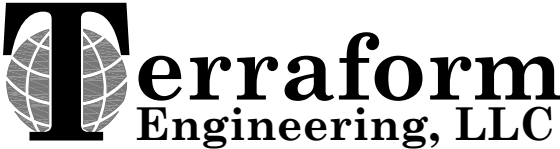
Due to the nature of the development and size of the site nondischarge alternatives are insufficient to address the E&S and storm control for the site. ABACT BMPs consisting of measures to meet the Chapter 102 requirements are provided for the E&S design. ABACT BMPs consisting of infiltration/detention basin and inlet filter are provided to address the PCSM requirements.

B. REFERENCE MATERIAL AND SUPPORTING DATA

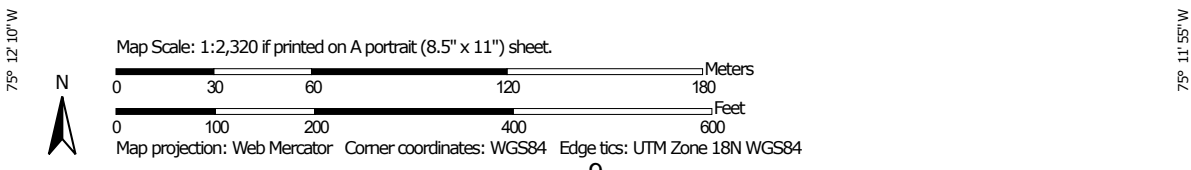


<p>LAT. 40° 9'6.91"N LONG. 75°12'1.84"W</p>	<p>AMBLER, P.A. MONTGOMERY COUNTY, PA 7.5 MINUTE SERIES (TOPOGRAPHIC)</p>
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SCALE: 1" = 2,000'

	<p>SITE LOCATION UPPER DUBLIN TOWNSHIP BUILDING 801 LOCH ALSH AVE, FORT WASHINGTON, PA 19034</p> <p style="text-align: right;">14</p>
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Custom Soil Resource Report Soil Map



Montgomery County, Pennsylvania

BwA—Buckingham silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2dvtx

Elevation: 150 to 950 feet

Mean annual precipitation: 38 to 48 inches

Mean annual air temperature: 46 to 57 degrees F

Frost-free period: 150 to 200 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Buckingham and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buckingham

Setting

Landform: Drainageways

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Head slope

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Parent material: Fine-loamy colluvium and old alluvium derived from shale and siltstone

Typical profile

A - 0 to 16 inches: silt loam

Bt - 16 to 40 inches: silt loam

Btx1 - 40 to 48 inches: silty clay loam

Btx2 - 48 to 62 inches: gravelly silt loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: 20 to 40 inches to fragipan; 80 to 99 inches to lithic bedrock

Drainage class: Somewhat poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest

Hydric soil rating: No

Minor Components

Penn

Percent of map unit: 13 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Croton

Percent of map unit: 5 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

Knauers

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

LaB—Lansdale loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2dzbs
Elevation: 70 to 1,000 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 55 degrees F
Frost-free period: 160 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lansdale and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lansdale

Setting

Landform: Hillsides
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from sandstone and/or residuum weathered from conglomerate

Typical profile

Ap - 0 to 8 inches: loam
Bt - 8 to 34 inches: channery sandy loam
C - 34 to 46 inches: channery sandy loam
R - 46 to 50 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 42 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F148XY025PA - Moist, Triassic, Upland, Mixed Oak - Hardwood - Conifer Forest
Hydric soil rating: No

Minor Components

Reaville

Percent of map unit: 8 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: No

UdtB—Udorthents, shale and sandstone, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2dtyn
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, nose slope, side slope

Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

Parent material: 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

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)

Depth to water table: About 60 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: C

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): Nose slope, side slope

Down-slope shape: Convex, linear

Across-slope shape: Linear, convex

Hydric soil rating: No

Abbottstown

Percent of map unit: 2 percent

Landform: Hillslopes

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Head slope, base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave, linear

Hydric soil rating: No

Custom Soil Resource Report

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

Readington

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Head slope, side slope, base 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): Summit, footslope
Landform position (three-dimensional): Interfluve, base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, 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

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: Linear, convex
Hydric soil rating: No

UgB—Urban land, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2dtyq
Elevation: 800 to 1,500 feet

Custom Soil Resource Report

Mean annual precipitation: 36 to 46 inches
Mean annual air temperature: 41 to 62 degrees F
Frost-free period: 130 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Parent material: Pavement, buildings and other artificially covered areas human transported material

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: No

Minor Components

Udorthents, unstable fill

Percent of map unit: 10 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

UusB—Urban land-Udorthents, shale and sandstone complex, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2dtz9
Elevation: 50 to 950 feet
Mean annual precipitation: 38 to 48 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 161 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 80 percent
Udorthents, shale and sandstone, and similar soils: 15 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform: Hills
Parent material: Pavement, buildings and other artificially covered areas

Typical profile

C - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: 10 to 99 inches to lithic bedrock

Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

Description of Udorthents, Shale And Sandstone

Setting

Landform: Ridges

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Interfluve, nose slope, side slope

Down-slope shape: Convex, linear

Across-slope shape: Convex, linear

Parent material: Graded areas of sandstone and shale

Typical profile

A - 0 to 6 inches: very channery loam

C - 6 to 60 inches: very channery silt loam

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: 20 to 99 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very low

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: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: 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): Nose slope, side slope

Down-slope shape: Convex, linear

Across-slope shape: Linear, convex

Hydric soil rating: No

SOIL USE LIMITATIONS AND THEIR RESOLUTIONS

LIMITATIONS PER TABLE E.1 IN PA E&S MANUAL

SOIL NAME	CUTBANKS CAVE	CORROSIVE TO CONCRETE/STEEL	DROUGHTY	EASILY ERODIBLE	FLOODING	DEPTH TO SATURATED ZONE/SEASONAL HIGH WATER TABLE	HYDRIC/HYDRIC INCLUSIONS	LOW STRENGTH/LANDSLIDE PRONE	SLOW PERCOLATION	PIPING	POOR SOURCE OF TOPSOIL	FROST ACTION	SHRINK-SWELL	POTENTIAL SINKHOLE	PONDING	WETNESS
BUCKINGHAM	X	C/S		X		X	X	X	X	X	X	X				X
LANSDALE LOAM	X	C	X					X	X		X	X				
UDORTHENTS, SHALE AND SANDSTONE	X	C/S	X	X				X	X		X	X				
URBAN LAND	X	C/S	X	X		X	X	X	X	X		X	X	X	X	X
URBAN LAND-UDORTHENTS	X	C/S	X	X				X	X		X	X				

RESOLUTIONS:

1. SOILS SUSEPTIBLE TO CUTBANKS CAVING SHALL PROVIDE TAKE APPROPRIATE PRECAUTIONS TO SAFEGUARD WORKERS DURING ALL TRENCHING AND EXCAVATION OPERATIONS. ALL APPLICABLE OSHA STANDARDS AND REGULATIONS MUST BE IMPLEMENTED AT ALL TIMES.
2. IN SOILS CORROSIVE TO CONCRETE AND/OR STEEL, SUITABLE PRECAUTIONS SHOULD BE TAKEN TO PROTECT ALL UNDERGROUND PIPES, CONDUITS, AND STORAGE TANKS.
3. IN DROUGHTY SOILS PERFORM SOIL TESTS OF TOPSOIL TO DETERMINE THE PROPER APPLICATION OF SOILS AMENDMENTS TO PROMOTE THE GROWTH OF DESIRED FOR VEGETATION.
4. IN EASILY ERODED SOILS VERIFY AND CHECK ON ALL E&S BMP FACILITIES FREQUENTLY. IMMEDIATELY STABILIZE THESE AREAS AND TAKE PRECAUTION TO LIMIT THESE SOILS TIME OF EXPOSURE.
5. IN SOILS PRONE TO FLOODING, TAKE PRECAUTIONS TO PROTECT STRUCTURES FROM THE FLOODING AS APPROPRIATE.
6. IN SOILS INDICATED TO HAVE SHALLOW DEPTHS TO SATURATED ZONES AND/OR SEASONAL HIGH WATER TABLES, IT SHOULD BE ASSUEMD THAT EXCAVATIONS INTO THESE SOILS WILL ENCOUNTER WATER AND APPROPRIATE MEANS TO HANDLE THAT WATER SHOULD BE PROVIDED.
7. IN SOILS INDICATED TO BE HYDRIC OR HAVE HYDRIC INCLUSIONS, IDENTIFY AND AVOID ANY WETALNDS. ALSO, ASSUME EXCAVATIONS INTO THESE SOILS WILL ENCOUNTER WATER AND TAKE APPROPRIATE MEANS TO HANDLE THAT WATER.
8. IN SOILS INDICATED TO HAVE LOW STRENGTH, PRECAUTIONS SHOULD BE TAKEN TO PREVENT SLOPE FAILURES DUE TO IMPROPERT CONSTRUCTION PRACTICES SUCH AS OVER-STEEPENING AND OVERLOADING OF SLOPES, REMOVAL OF LATERAL SUPPORT, AND FAILURE TO PREVENT SATURATION OF SLOPES. PERFORM SOIL TESTING TO DETERMINE SUITABILITY FOR ROAD FILL.
9. IN SOILDS INDICATED TO HAVE SLOW PERCOLATION SOIL TESTING TO CONFIRM INFILTRATION RATES SHOULD BE PERFORMED TO DETERMINE SUITABILITY FOR INFILTRATION BMPs.
10. IN SOIL INDICATED TO BE SUSEPTIBLE TO PIPING, COMPACTION OF SOIL MATERIALS AND SUITABLE TRENCH BEDDING SHALL BE UTILIZED.
11. SOILS INDICATED TO BE POOR SOURCES OF TOPSOIL SHOULD PERFORM SOIL TESTING TO DETERMINE WHAT AMENDMENTS ARE NECESSARY TO PROMOTE VEGETATION GROWTH.
12. SOILS SUSEPTIBLE TO FROST ACTION SHALL TAKE MEASURES TO PREVENT DAMAGE, ESPECIALLY TO ROADWAYS.
13. SOILS PRONE TO PONDING SHALL ENSURE THAT PROPOSED GRADING IS PERFORMED TO ELIMINATE LOW LYING AREAS.
14. SOILS INDICATED TO HAVE ISSUES WITH WETNESS SHALL BE ASSUMED THAT EXCAVATION WILL ENCOUNTER WATER AND APPROPRIATE MEANS TO HANDLE THAT WATER SHALL BE PROVIDED.

C. DESIGN WORKSHEETS

EROSION AND SEDIMENT POLLUTION CONTROL

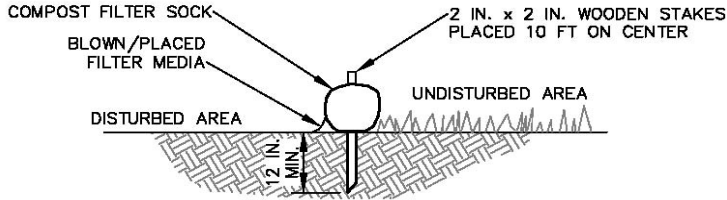
STANDARD E&S WORKSHEET #1

Compost Filter Socks

PROJECT: UPPER DUBLIN TOWNSHIP BLDG
 LOCATION: UPPER DUBLIN TWP
 COUNTY: MONTGOMERY

JOB # 23015
 DATE: 5/26/23
 REVISED:

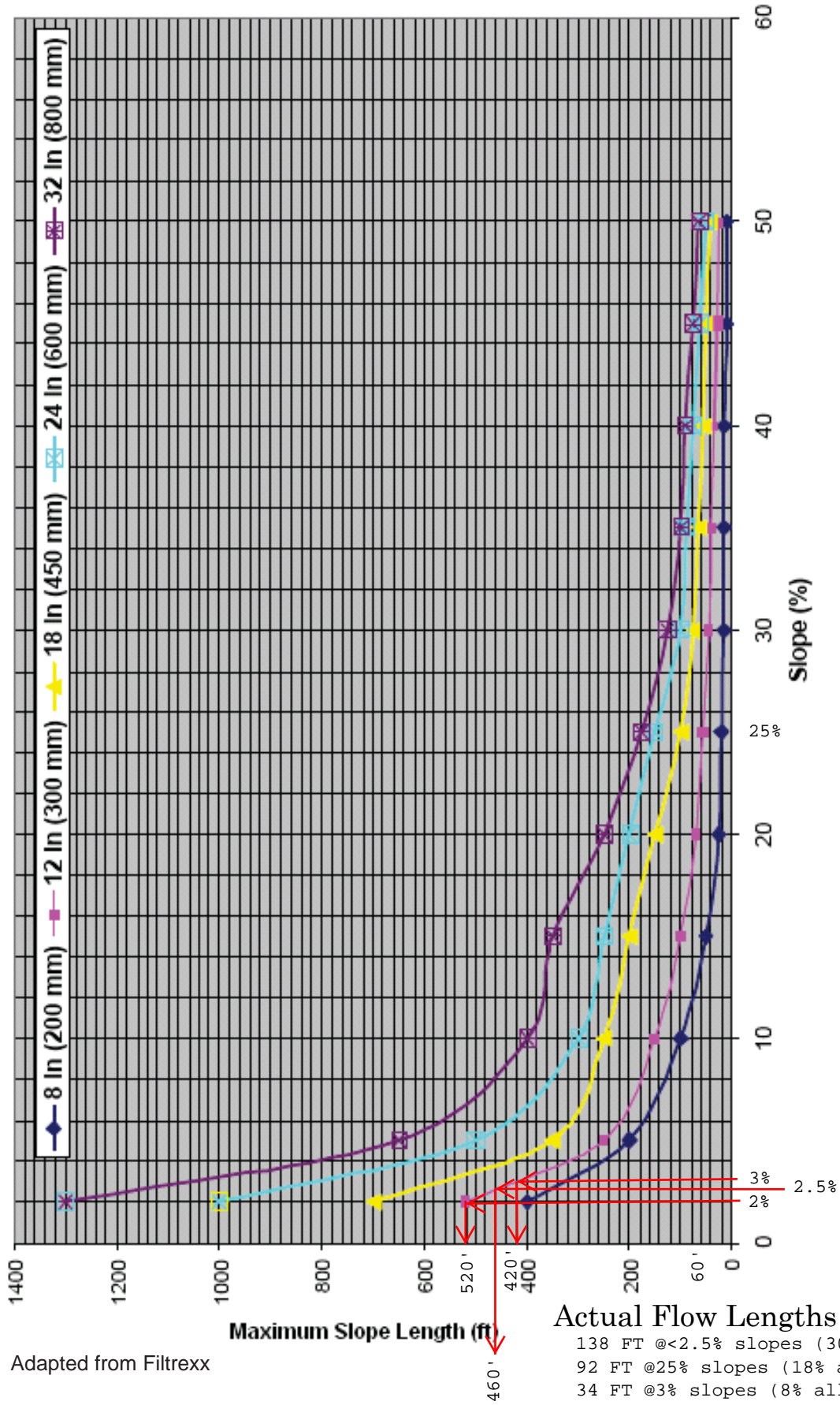
PREPARED BY: JQM
 CHECKED BY: JQM



SOCK NO.	Dia. In.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
CS#1	12	along southern property line	2.5; <2; 3	138; 92; 34
CS#2		along western property line	4; 2; 5	60; 119; 33

FIGURE 4.2

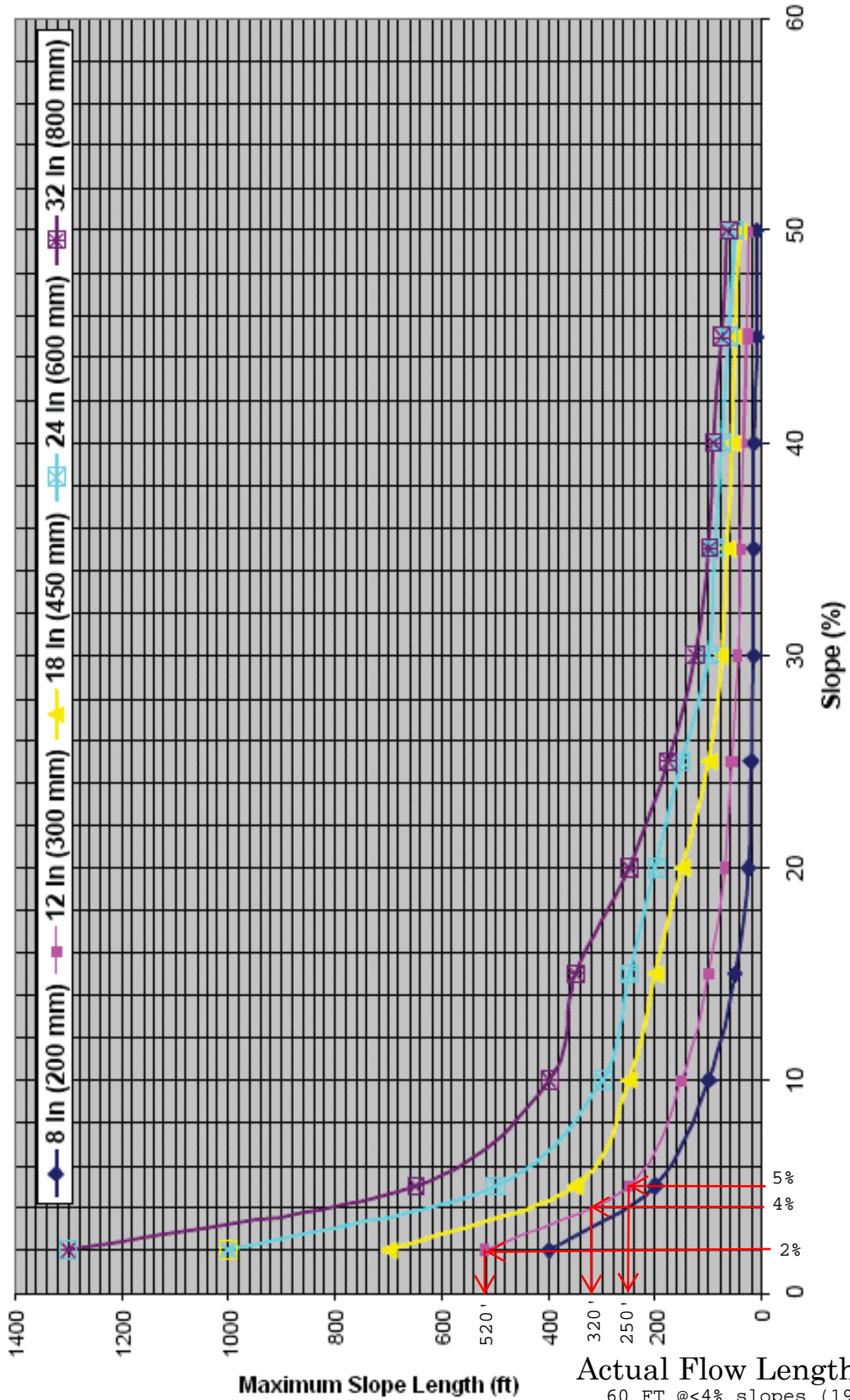
MAXIMUM PERMISSIBLE SLOPE LENGTH ABOVE COMPOST FILTER SOCKS



NOTE: 8" diameter socks should only be used to control small ($\leq 1/4$ acre) disturbed areas on individual house lots).

FIGURE 4.2

MAXIMUM PERMISSIBLE SLOPE LENGTH ABOVE COMPOST FILTER SOCKS



NOTE: 8" diameter socks should only be used to control small ($\leq 1/4$ acre) disturbed areas on individual house lots).

Adapted from Filtrexx

Actual Flow Lengths
 60 FT @<4% slopes (19% all)
 119 FT @2% slopes (23% all)
 33 FT @3% slopes (13% all)
 Total Allowable 55%