APPENDIX C

SUPPLEMENTAL DATA

Suitabilities and Limitations for Use – IRSIS

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
AbA	Abbottstown silt loam, 0 to 3 percent slopes	Moderately limited	Abbottstown (93%)	Potential seasonal high water table (0.80)	9,291.5	2.3%
AbB	Abbottstown silt loam, 3 to 8 percent slopes	Moderately limited	Abbottstown (93%)	Potential seasonal high water table (0.80)	18,361.1	4.6%
				Slope 0-12%; see land cover criteria (0.50)		
AbC	Abbottstown silt loam, 8 to 15 percent slopes	Moderately limited	Abbottstown (90%)	Seasonal high water table (0.92)	1,453.7	0.4%
				Slope 0-12%; see land cover criteria (0.50)		
AlA	Alton gravelly loam, 0 to 3 percent slopes	Not limited	Alton, gravelly loam (90%)		2,238.1	0.6%
AlB	Alton gravelly loam, 3 to 8 percent slopes	Slightly limited	Alton, gravelly loam (90%)	Slope 0-12%; see land cover criteria (0.50)	336.3	0.1%
AmA	Amwell silt loam, 0 to 3 percent slopes	Slightly limited	Amwell (90%)	Low potential seasonal high water table (0.47)	3,646.1	0.9%
AmB	Amwell silt loam, 3 to 8 percent slopes	Slightly limited	Amwell (90%)	Slope 0-12%; see land cover criteria (0.50)	5,133.8	1.3%
				Low potential seasonal high water table (0.47)		
AmC	Amwell silt loam, 8 to 15 percent slopes	Slightly limited	Amwell (90%)	Slope 0-12%; see land cover criteria (0.50)	116.5	0.0%
				Low potential seasonal high water table (0.47)		
ArB	Arendtsville gravelly silt loam, 3 to 8 percent slopes	Slightly limited	Arendtsville, gravelly loam (90%)	Slope 0-12%; see land cover criteria (0.50)	1,702.5	0.4%
ArC	Arendtsville gravelly silt loam, 8 to 15 percent slopes	Slightly limited	Arendtsville, gravelly loam (90%)	Slope 0-12%; see land cover criteria (0.50)	1,742.8	0.4%
ArD	Arendtsville gravelly silt loam, 15 to 25 percent slopes	Moderately limited	Arendtsville, gravelly loam (90%)	Slope 0-25%; see land cover criteria (0.75)	683.3	0.2%
BeA	Bedington channery silt loam, 0 to 3 percent slopes	Not limited	Bedington, channery silt loam (90%)		685.7	0.2%
BeB	Bedington channery silt loam, 3 to 8 percent slopes	Slightly limited	Bedington (85%)	Slope 0-12%; see land cover criteria (0.50)	1,312.4	0.3%

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
BeC	Bedington channery silt loam, 8 to 15 percent slopes	Slightly limited	Bedington (85%)	Slope 0-12%; see land cover criteria (0.50)	424.2	0.1%
Bo	Bowmansville-Knauers silt loams	Very limited	Bowmansville (40%)	Seasonal high water table (1.00)	16,599.4	4.2%
				Flooding (1.00)		
			Knauers (40%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
BrB	Brecknock channery silt loam, 3 to 8 percent slopes	Slightly limited	Brecknock (93%)	Slope 0-12%; see land cover criteria (0.50)	212.8	0.1%
				Potential bedrock near 16" (0.02)		
BrC	Brecknock channery silt loam, 8 to 15 percent slopes	Slightly limited	Brecknock (91%)	Slope 0-12%; see land cover criteria (0.50)	301.1	0.1%
				Potential bedrock near 16" (0.02)		
BrD	Brecknock channery silt loam, 15 to 25 percent slopes	Moderately limited	Brecknock (97%)	Slope 0-25%; see land cover criteria (0.75)	36.8	0.0%
				Potential bedrock near 16" (0.02)		
BrxD	Brecknock channery silt loam, 8 to 25 percent slopes, extremely stony	Moderately limited	Brecknock, extremely stony (90%)	Slope 0-25%; see land cover criteria (0.75)	116.7	0.0%
				Potential bedrock near 16" (0.02)		
BrxF	Brecknock channery silt loam, 25 to 60 percent slopes, extremely stony	Very limited	Brecknock, extremely stony (90%)	Slope > 25% too steep (1.00)	224.2	0.1%
				Potential bedrock near 16" (0.02)		
BsA	Brownsburg silt loam, 0 to 3 percent slopes	Not limited	Brownsburg (90%)		344.7	0.1%
BsB	Brownsburg silt loam, 3 to 8 percent slopes	Slightly limited	Brownsburg (90%)	Slope 0-12%; see land cover criteria (0.50)	2,088.2	0.5%
BsC	Brownsburg silt loam, 8 to 15 percent slopes	Slightly limited	Brownsburg (90%)	Slope 0-12%; see land cover criteria (0.50)	221.9	0.1%
BwB	Buckingham silt loam, 3 to 8 percent slopes	Moderately limited	Buckingham (88%)	Seasonal high water table (0.92)	5,988.0	1.5%
				Slope 0-12%; see land cover criteria (0.50)		
CaB	Califon loam, 3 to 8 percent slopes	Moderately limited	Califon (82%)	Low potential seasonal high water table (0.61)	109.7	0.0%
				Slope 0-12%; see land cover criteria (0.50)		
CbA	Chalfont silt loam, 0 to 3 percent slopes	Moderately limited	Chalfont (90%)	Seasonal high water table (0.92)	4,742.7	1.2%

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
CbB	Chalfont silt loam, 3 to 8 percent slopes	Moderately limited	Chalfont (90%)	Seasonal high water table (0.92)	1,918.5	0.5%
				Slope 0-12%; see land cover criteria (0.50)		
CdA	Chester silt loam, 0 to 3 percent slopes	Not limited	Chester (92%)		191.9	0.0%
CdB	Chester silt loam, 3 to 8 percent slopes	Not limited	Chester (91%)		1,263.1	0.3%
CdC	Chester silt loam, 8 to 15 percent slopes	Slightly limited	Chester (100%)	Slope 0-12%; see land cover criteria (0.50)	638.9	0.2%
CmB	Clarksburg silt loam, 3 to 8 percent slopes	Slightly limited	Clarksburg (90%)	Slope 0-12%; see land cover criteria (0.50)	1,004.8	0.3%
				Potential karst (0.30)		
				Low potential seasonal high water table (0.19)		
CwA	Croton silt loam, 0 to 3 percent slopes	Very limited	Croton (90%)	Seasonal high water table (1.00)	9,569.2	2.4%
CwB	Croton silt loam, 3 to 8 percent slopes	Very limited	Croton (90%)	Seasonal high water table (1.00)	6,372.6	1.6%
				Slope 0-12%; see land cover criteria (0.50)		
CwxB	Croton silt loam, 0 to 8 percent slopes, extremely stony	Very limited	Croton, extremely stony (85%)	Seasonal high water table (1.00)	623.0	0.2%
			Knauers (5%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
			Fluvaquents (2%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
CyB	Culleoka-Weikert channery silt loams, 3 to 8 percent slopes	Slightly limited	Culleoka (65%)	Slope 0-12%; see land cover criteria (0.50)	1,208.2	0.3%
				Potential bedrock near 16" (0.06)		
CyC	Culleoka-Weikert channery silt loams, 8 to 15 percent slopes	Slightly limited	Culleoka (65%)	Slope 0-12%; see land cover criteria (0.50)	1,661.2	0.4%
				Potential bedrock near 16" (0.06)		
DaA	Delaware fine sandy loam, 0 to 3 percent slopes	Very limited	Delaware (90%)	Flooding (1.00)	3,627.5	0.9%
			Hatboro (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
			Nanticoke (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
DaB	Delaware fine sandy loam, 3 to 8 percent slopes	Very limited	Delaware (90%)	Flooding (1.00)	224.9	0.1%
				Slope 0-12%; see land cover criteria (0.50)		
			Hatboro (2%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
			Nanticoke (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
DAM	Dam	Not rated	Dams (100%)		40.6	0.0%
DdA	Doylestown silt loam, 0 to 3 percent slopes	Very limited	Doylestown (85%)	Seasonal high water table (1.00)	5,394.5	1.4%
DdB	Doylestown silt loam, 3 to 8 percent slopes	Very limited	Doylestown (85%)	Seasonal high water table (1.00)	3,374.9	0.8%
				Slope 0-12%; see land cover criteria (0.50)		
DfB	Duffield silt loam, 3 to 8 percent slopes	Slightly limited	Duffield (90%)	Slope 0-12%; see land cover criteria (0.50)	1,794.6	0.5%
				Potential karst (0.30)		
DgC	Duffield-Ryder silt loams, 8 to 15 percent slopes	Slightly limited	Duffield (60%)	Slope 0-12%; see land cover criteria (0.50)	1,358.6	0.3%
				Potential karst (0.30)		
			Ryder (30%)	Slope 0-12%; see land cover criteria (0.50)		
				Potential karst (0.30)		
				Potential bedrock near 16" (0.06)		
DuA	Duncannon silt loam, 0 to 3 percent slopes	Not limited	Duncannon (85%)		2,870.3	0.7%
DuB	Duncannon silt loam, 3 to 8 percent slopes	Slightly limited	Duncannon (85%)	Slope 0-12%; see land cover criteria (0.50)	1,310.2	0.3%
EcB	Edgemont channery loam, 3 to 8 percent slopes	Slightly limited	Edgemont (93%)	Slope 0-12%; see land cover criteria (0.50)	92.2	0.0%
EcC	Edgemont channery loam, 8 to 15 percent slopes	Slightly limited	Edgemont (93%)	Slope 0-12%; see land cover criteria (0.50)	168.9	0.0%
EdB	Edgemont channery sandy loam, 0 to 8 percent slopes, extremely stony	Not limited	Edgemont, extremely stony (90%)		257.9	0.1%
EdD	Edgemont channery sandy loam, 8 to 25 percent slopes, extremely stony	Moderately limited	Edgemont, extremely stony (93%)	Slope 0-25%; see land cover criteria (0.75)	691.9	0.2%

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
EdF	Edgemont channery sandy loam, 25 to 60 percent slopes, extremely stony	Very limited	Edgemont, extremely stony (93%)	Slope > 25% too steep (1.00)	334.1	0.1%
			Andover, extremely stony (3%)	Seasonal high water table (1.00)		
Fl	Fluvaquents	Very limited	Fluvaquents (85%)	Seasonal high water table (1.00)	1,259.0	0.3%
				Flooding (1.00)		
				Miscellaneous area (1.00)		
			Towhee (5%)	Seasonal high water table (1.00)		
			Nanticoke (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
FoA	Fountainville silt loam, 0 to 3 percent slopes	Slightly limited	Fountainville (90%)	Low potential seasonal high water table (0.35)	147.6	0.0%
				Potential bedrock near 16" (0.00)		
FoB	Fountainville silt loam, 3 to 8 percent slopes	Slightly limited	Fountainville (90%)	Slope 0-12%; see land cover criteria (0.50)	1,243.2	0.3%
				Low potential seasonal high water table (0.35)		
				Potential bedrock near 16" (0.00)		
FoC	Fountainville silt loam, 8 to 15 percent slopes	Slightly limited	Fountainville (85%)	Slope 0-12%; see land cover criteria (0.50)	74.6	0.0%
				Low potential seasonal high water table (0.35)		
				Potential bedrock near 16" (0.00)		
GlB	Gladstone gravelly loam, 3 to 8 percent slopes	Slightly limited	Gladstone (93%)	Slope 0-12%; see land cover criteria (0.50)	1,235.2	0.3%
GlC	Gladstone gravelly loam, 8 to 15 percent slopes	Slightly limited	Gladstone (90%)	Slope 0-12%; see land cover criteria (0.50)	1,221.2	0.3%
GlD	Gladstone gravelly loam, 15 to 25 percent slopes	Moderately limited	Gladstone (90%)	Slope 0-25%; see land cover criteria (0.75)	520.0	0.1%
GmB	Gladstone gravelly loam, 0 to 8 percent slopes, very bouldery	Slightly limited	Gladstone, very bouldery (90%)	Slope 0-12%; see land cover criteria (0.50)	9.8	0.0%

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
GmD	Gladstone gravelly loam, 8 to 25 percent slopes, very bouldery	Moderately limited	Gladstone, very bouldery (90%)	Slope 0-25%; see land cover criteria (0.75)	1,239.6	0.3%
GmF	Gladstone gravelly loam, 25 to 55 percent slopes, very bouldery	Very limited	Gladstone, very bouldery (90%)	Slope > 25% too steep (1.00)	48.4	0.0%
			Cokesbury (5%)	Seasonal high water table (1.00)		
GnD	Gladstone-Parker gravelly loams, 15 to 25 percent slopes	Moderately limited	Gladstone (58%)	Slope 0-25%; see land cover criteria (0.75)	65.9	0.0%
			Parker (42%)	Slope 0-25%; see land cover criteria (0.75)		
				Slight voided fragments (0.08)		
GrA	Glenville silt loam, 0 to 3 percent slopes	Slightly limited	Glenville (90%)	Low potential seasonal high water table (0.47)	959.2	0.2%
GrB	Glenville silt loam, 3 to 8 percent slopes	Slightly limited	Glenville (90%)	Slope 0-12%; see land cover criteria (0.50)	1,286.4	0.3%
				Low potential seasonal high water table (0.47)		
Ha	Hatboro silt loam	Very limited	Hatboro (95%)	Seasonal high water table (1.00)	4,846.2	1.2%
				Flooding (1.00)		
Ho	Holly silt loam	Very limited	Holly (90%)	Seasonal high water table (1.00)	90.3	0.0%
				Flooding (1.00)		
			Brinkerton (2%)	Seasonal high water table (1.00)		
KlB	Klinesville very channery silt loam, 3 to 8 percent slopes	Moderately limited	Klinesville (85%)	Potential bedrock near 16" (0.77)	3,181.1	0.8%
				Slope 0-12%; see land cover criteria (0.50)		
				Slight voided fragments (0.14)		
KlC	Klinesville very channery silt loam, 8 to 15 percent slopes	Moderately limited	Klinesville (85%)	Potential bedrock near 16" (0.77)	4,157.5	1.0%
				Slope 0-12%; see land cover criteria (0.50)		
				Slight voided fragments (0.14)		
KlD	Klinesville very channery silt loam, 15 to 25 percent slopes	Moderately limited	Klinesville (85%)	Potential bedrock near 16" (0.77)	2,743.4	0.7%
				Slope 0-25%; see land cover criteria (0.75)		
				Slight voided fragments (0.14)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
KlE	Klinesville very channery silt loam, 25 to 45 percent slopes	Very limited	Klinesville (85%)	Slope > 25% too steep (1.00)	409.1	0.1%
				Potential bedrock near 16" (0.77)		
				Slight voided fragments (0.14)		
			Croton (1%)	Seasonal high water table (1.00)		
LfA	Lamington silt loam, 0 to 3 percent slopes	Very limited	Lamington (85%)	Seasonal high water table (1.00)	279.4	0.1%
LgA	Lansdale loam, 0 to 3 percent slopes	Not limited	Lansdale (87%)		647.6	0.2%
LgB	Lansdale loam, 3 to 8 percent slopes	Slightly limited	Lansdale (92%)	Slope 0-12%; see land cover criteria (0.50)	5,642.5	1.4%
				Potential bedrock near 16" (0.00)		
LgC	Lansdale loam, 8 to 15 percent slopes	Slightly limited	Lansdale (92%)	Slope 0-12%; see land cover criteria (0.50)	1,876.1	0.5%
				Potential bedrock near 16" (0.00)		
LgD	Lansdale loam, 15 to 25 percent slopes	Moderately limited	Lansdale (92%)	Slope 0-25%; see land cover criteria (0.75)	243.2	0.1%
				Potential bedrock near 16" (0.00)		
LhB	Lansdale loam, 0 to 8 percent slopes, extremely stony	Not limited	Lansdale, extremely stony (85%)		637.3	0.2%
LhD	Lansdale loam, 8 to 25 percent slopes, extremely stony	Moderately limited	Lansdale, extremely stony (85%)	Slope 0-25%; see land cover criteria (0.75)	1,563.8	0.4%
LhE	Lansdale loam, 25 to 50 percent slopes, extremely stony	Very limited	Lansdale, extremely stony (85%)	Slope > 25% too steep (1.00)	1,243.3	0.3%
LkA	Lawrenceville silt loam, 0 to 3 percent slopes	Slightly limited	Lawrenceville (81%)	Low potential seasonal high water table (0.19)	5,295.5	1.3%
LkB	Lawrenceville silt loam, 3 to 8 percent slopes	Slightly limited	Lawrenceville (83%)	Slope 0-12%; see land cover criteria (0.50)	5,133.6	1.3%
				Low potential seasonal high water table (0.19)		
LmA	Lehigh channery silt loam, 0 to 3 percent slopes	Moderately limited	Lehigh (90%)	Low potential seasonal high water table (0.61)	911.1	0.2%
LmB	Lehigh channery silt loam, 3 to 8 percent slopes	Moderately limited	Lehigh (90%)	Low potential seasonal high water table (0.61)	4,034.1	1.0%
				Slope 0-12%; see land cover criteria (0.50)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
LmC	Lehigh channery silt loam, 8 to 15 percent slopes	Moderately limited	Lehigh (90%)	Low potential seasonal high water table (0.61)	778.0	0.2%
				Slope 0-12%; see land cover criteria (0.50)		
LnB	Lehigh channery silt loam, 0 to 8 percent slopes, extremely stony	Moderately limited	Lehigh, extremely stony (90%)	Low potential seasonal high water table (0.61)	79.7	0.0%
LnD	Lehigh channery silt loam, 8 to 25 percent slopes, extremely stony	Moderately limited	Lehigh, extremely stony (90%)	Slope 0-25%; see land cover criteria (0.75)	520.2	0.1%
				Low potential seasonal high water table (0.61)		
Lt	Linden loam	Very limited	Linden (95%)	Flooding (1.00)	403.5	0.1%
			Holly (3%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
MaB	Manor loam, 3 to 8 percent slopes	Slightly limited	Manor (95%)	Slope 0-12%; see land cover criteria (0.50)	241.9	0.1%
MaC	Manor loam, 8 to 15 percent slopes	Slightly limited	Manor (95%)	Slope 0-12%; see land cover criteria (0.50)	556.7	0.1%
MaD	Manor loam, 15 to 25 percent slopes	Moderately limited	Manor (97%)	Slope 0-25%; see land cover criteria (0.75)	187.1	0.0%
MbD	Manor loam, 8 to 25 percent slopes, extremely stony	Moderately limited	Manor, extremely stony (90%)	Slope 0-25%; see land cover criteria (0.75)	185.1	0.0%
MbF	Manor loam, 25 to 60 percent slopes, extremely stony	Very limited	Manor, extremely stony (90%)	Slope > 25% too steep (1.00)	104.5	0.0%
			Hatboro (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
McA	Matapeake silt loam, 0 to 3 percent slopes	Not limited	Matapeake (95%)		384.9	0.1%
McB	Matapeake silt loam, 3 to 8 percent slopes	Slightly limited	Matapeake (95%)	Slope 0-12%; see land cover criteria (0.50)	235.1	0.1%
MdA	Mattapex silt loam, 0 to 3 percent slopes	Slightly limited	Mattapex (95%)	Low potential seasonal high water table (0.19)	273.5	0.1%
MlA	Mount Lucas silt loam, 0 to 3 percent slopes	Slightly limited	Mount Lucas (93%)	Low potential seasonal high water table (0.47)	856.7	0.2%
MlB	Mount Lucas silt loam, 3 to 8 percent slopes	Slightly limited	Mount Lucas (94%)	Slope 0-12%; see land cover criteria (0.50)	3,372.3	0.8%
				Low potential seasonal high water table (0.47)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
MIC	Mount Lucas silt loam, 8 to 15 percent slopes	Slightly limited	Mount Lucas (95%)	Slope 0-12%; see land cover criteria (0.50)	538.6	0.1%
				Low potential seasonal high water table (0.47)		
MmB	Mount Lucas silt loam, 0 to 8 percent slopes, extremely stony	Slightly limited	Mount Lucas, extremely stony (91%)	Low potential seasonal high water table (0.47)	7,053.5	1.8%
MmD	Mount Lucas silt loam, 8 to 25 percent slopes, extremely stony	Moderately limited	Mount Lucas, extremely stony (91%)	Slope 0-25%; see land cover criteria (0.75)	2,293.7	0.6%
				Low potential seasonal high water table (0.47)		
MW	Miscellaneous water	Not rated	Water (100%)		18.1	0.0%
Na	Nanticoke-Hatboro silt loams	Very limited	Nanticoke (60%)	Seasonal high water table (1.00)	603.4	0.2%
				Flooding (1.00)		
			Hatboro (30%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
NbB	Neshaminy silt loam, 3 to 8 percent slopes	Slightly limited	Neshaminy (97%)	Slope 0-12%; see land cover criteria (0.50)	1,829.1	0.5%
NbC	Neshaminy silt loam, 8 to 15 percent slopes	Slightly limited	Neshaminy (95%)	Slope 0-12%; see land cover criteria (0.50)	724.1	0.2%
NhB	Neshaminy gravelly silt loam, 0 to 8 percent slopes, extremely bouldery	Not limited	Neshaminy, extremely bouldery (95%)		5,160.6	1.3%
NhD	Neshaminy gravelly silt loam, 8 to 25 percent slopes, extremely bouldery	Moderately limited	Neshaminy, extremely bouldery (97%)	Slope 0-25%; see land cover criteria (0.75)	7,156.2	1.8%
NhF	Neshaminy gravelly silt loam, 25 to 60 percent slopes, extremely bouldery	Very limited	Neshaminy, extremely bouldery (97%)	Slope > 25% too steep (1.00)	1,048.6	0.3%
			Towhee, extremely stony (3%)	Seasonal high water table (1.00)		
NkA	Nockamixon silt loam, 0 to 3 percent slopes	Moderately limited	Nockamixon (90%)	Potential seasonal high water table (0.80)	431.2	0.1%
NkB	Nockamixon silt loam, 3 to 8 percent slopes	Moderately limited	Nockamixon (90%)	Potential seasonal high water table (0.80)	1,184.7	0.3%
				Slope 0-12%; see land cover criteria (0.50)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
NkC	Nockamixon silt loam, 8 to 15 percent slopes	Moderately limited	Nockamixon (95%)	Potential seasonal high water table (0.80)	179.1	0.0%
				Slope 0-12%; see land cover criteria (0.50)		
Ot	Othello silt loam	Very limited	Othello (90%)	Seasonal high water table (1.00)	1,445.1	0.4%
			Nanticoke (2%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
PeA	Penn channery silt loam, 0 to 3 percent slopes	Slightly limited	Penn (90%)	Potential bedrock near 16" (0.15)	440.8	0.1%
PeB	Penn channery silt loam, 3 to 8 percent slopes	Slightly limited	Penn (87%)	Slope 0-12%; see land cover criteria (0.50)	4,335.0	1.1%
				Potential bedrock near 16" (0.15)		
PeC	Penn channery silt loam, 8 to 15 percent slopes	Slightly limited	Penn (87%)	Slope 0-12%; see land cover criteria (0.50)	1,576.4	0.4%
				Potential bedrock near 16" (0.15)		
PeD	Penn channery silt loam, 15 to 25 percent slopes	Moderately limited	Penn (86%)	Slope 0-25%; see land cover criteria (0.75)	304.1	0.1%
				Potential bedrock near 16" (0.15)		
PkB	Penn-Klinesville channery silt loams, 3 to 8 percent slopes	Slightly limited	Penn (70%)	Slope 0-12%; see land cover criteria (0.50)	2,166.6	0.5%
				Potential bedrock near 16" (0.15)		
PkC	Penn-Klinesville channery silt loams, 8 to 15 percent slopes	Slightly limited	Penn (70%)	Slope 0-12%; see land cover criteria (0.50)	1,539.1	0.4%
				Potential bedrock near 16" (0.15)		
PkD	Penn-Klinesville channery silt loams, 15 to 25 percent slopes	Moderately limited	Penn (47%)	Slope 0-25%; see land cover criteria (0.75)	250.5	0.1%
				Potential bedrock near 16" (0.15)		
			Klinesville (40%)	Potential bedrock near 16" (0.77)		
				Slope 0-25%; see land cover criteria (0.75)		
				Slight voided fragments (0.25)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
PlE	Penn-Klinesville channery silt loams, 25 to 45 percent slopes, extremely stony	Very limited	Penn, extremely stony (65%)	Slope > 25% too steep (1.00)	3,656.0	0.9%
				Potential bedrock near 16" (0.15)		
			Klinesville, extremely stony (20%)	Slope > 25% too steep (1.00)		
				Potential bedrock near 16" (0.77)		
				Slight voided fragments (0.14)		
			Croton (1%)	Seasonal high water table (1.00)		
PnB	Penn-Lansdale complex, 3 to 8 percent slopes	Slightly limited	Penn (69%)	Slope 0-12%; see land cover criteria (0.50)	2,338.5	0.6%
				Potential bedrock near 16" (0.30)		
			Lansdale (25%)	Slope 0-12%; see land cover criteria (0.50)		
				Potential bedrock near 16" (0.00)		
PnC	Penn-Lansdale complex, 8 to 15 percent slopes	Slightly limited	Penn (50%)	Slope 0-12%; see land cover criteria (0.50)	879.5	0.2%
				Potential bedrock near 16" (0.30)		
			Lansdale (40%)	Slope 0-12%; see land cover criteria (0.50)		
				Potential bedrock near 16" (0.00)		
PnD	Penn-Lansdale complex, 15 to 25 percent slopes	Moderately limited	Penn (55%)	Slope 0-25%; see land cover criteria (0.75)	1,338.3	0.3%
				Potential bedrock near 16" (0.15)		
			Lansdale (35%)	Slope 0-25%; see land cover criteria (0.75)		
Pr	Pits, quarry	Not rated	Pits, quarries (80%)		1,901.1	0.5%
Ps	Psamments, dredged river material	Very limited	Psamments (100%)	Flooding (1.00)	681.2	0.2%
RaA	Raritan silt loam, 0 to 3 percent slopes	Slightly limited	Raritan (96%)	Low potential seasonal high water table (0.47)	46.4	0.0%
RaB	Raritan silt loam, 3 to 8 percent slopes	Slightly limited	Raritan (90%)	Slope 0-12%; see land cover criteria (0.50)	70.3	0.0%
				Low potential seasonal high water table (0.47)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
RaC	Raritan silt loam, 8 to 15 percent slopes	Slightly limited	Raritan (90%)	Slope 0-12%; see land cover criteria (0.50)	11.6	0.0%
				Low potential seasonal high water table (0.47)		
ReA	Readington silt loam, 0 to 3 percent slopes	Slightly limited	Readington (85%)	Low potential seasonal high water table (0.19)	3,307.5	0.8%
ReB	Readington silt loam, 3 to 8 percent slopes	Slightly limited	Readington (80%)	Slope 0-12%; see land cover criteria (0.50)	10,014.2	2.5%
				Low potential seasonal high water table (0.19)		
ReC	Readington silt loam, 8 to 15 percent slopes	Slightly limited	Readington (86%)	Slope 0-12%; see land cover criteria (0.50)	1,012.7	0.3%
				Low potential seasonal high water table (0.19)		
RlA	Reaville channery silt loam, 0 to 3 percent slopes	Slightly limited	Reaville (90%)	Low potential seasonal high water table (0.47)	3,086.2	0.8%
				Potential bedrock near 16" (0.20)		
RlB	Reaville channery silt loam, 3 to 8 percent slopes	Slightly limited	Reaville (90%)	Slope 0-12%; see land cover criteria (0.50)	15,513.2	3.9%
				Low potential seasonal high water table (0.47)		
				Potential bedrock near 16" (0.20)		
RlC	Reaville channery silt loam, 8 to 15 percent slopes	Slightly limited	Reaville (90%)	Slope 0-12%; see land cover criteria (0.50)	4,187.1	1.1%
				Low potential seasonal high water table (0.47)		
				Potential bedrock near 16" (0.20)		
Ro	Rowland silt loam	Very limited	Rowland (82%)	Flooding (1.00)	1,383.6	0.3%
				Low potential seasonal high water table (0.35)		
			Knauers (8%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
StB	Steinsburg gravelly loam, 3 to 8 percent slopes	Slightly limited	Steinsburg (85%)	Slope 0-12%; see land cover criteria (0.50)	857.6	0.2%
				Potential bedrock near 16" (0.25)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
StC	Steinsburg gravelly loam, 8 to 15 percent slopes	Slightly limited	Steinsburg (85%)	Slope 0-12%; see land cover criteria (0.50)	995.7	0.3%
				Potential bedrock near 16" (0.25)		
StD	Steinsburg gravelly loam, 15 to 25 percent slopes	Moderately limited	Steinsburg (85%)	Slope 0-25%; see land cover criteria (0.75)	272.1	0.1%
				Potential bedrock near 16" (0.25)		
ToA	Towhee silt loam, 0 to 3 percent slopes	Very limited	Towhee (96%)	Seasonal high water table (1.00)	3,556.8	0.9%
ToB	Towhee silt loam, 3 to 8 percent slopes	Very limited	Towhee (88%)	Seasonal high water table (1.00)	2,807.3	0.7%
				Slope 0-12%; see land cover criteria (0.50)		
			Watchung, silt loam (2%)	Seasonal high water table (1.00)		
TrB	Towhee silt loam, 0 to 8 percent slopes, extremely stony	Very limited	Towhee, extremely stony (88%)	Seasonal high water table (1.00)	10,382.4	2.6%
Ua	Udorthents, gravelly	Very limited	Udorthents, gravelly (90%)	Miscellaneous area (1.00)	2,301.7	0.6%
				Slight voided fragments (0.04)		
			Othello (1%)	Seasonal high water table (1.00)		
Ub	Udorthents, loamy	Very limited	Udorthents, loamy (95%)	Miscellaneous area (1.00)	984.9	0.2%
				Low potential seasonal high water table (0.47)		
UcB	Udorthents, sandy	Very limited	Udorthents, sandy (90%)	Miscellaneous area (1.00)	2,122.9	0.5%
			Othello (1%)	Seasonal high water table (1.00)		
UdB	Udorthents, shale and sandstone	Very limited	Udorthents, shale and sandstone (85%)	Miscellaneous area (1.00)	1,506.4	0.4%
			Croton (1%)	Seasonal high water table (1.00)		
				Slope 0-12%; see land cover criteria (0.50)		
UeB	Udorthents, sanitary landfill	Very limited	Udorthents, sanitary landfill (98%)	Miscellaneous area (1.00)	472.1	0.1%
				Slope 0-12%; see land cover criteria (0.50)		
			Croton (2%)	Seasonal high water table (1.00)		
				Slope 0-12%; see land cover criteria (0.50)		

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
UfB	Udorthents, schist and gneiss	Very limited	Udorthents, schist and gneiss (95%)	Miscellaneous area (1.00)	592.3	0.1%
			Hatboro (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
UfuB	Urban land, 0 to 8 percent slopes	Not rated	Urban land (85%)		13,658.0	3.4%
Ufw	Urban land, occasionally flooded	Very limited	Urban land, occasionally flooded (99%)	Voided fragments (1.00)	408.3	0.1%
				Flooding (1.00)		
				Miscellaneous area (1.00)		
UgB	Urban land-Abbottstown complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		11,436.9	2.9%
UhB	Urban land-Berks complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		166.7	0.0%
UkB	Urban land-Chester complex, 0 to 8 percent slopes	Not rated	Urban land (50%)		8,271.6	2.1%
UkD	Urban land-Chester complex, 8 to 25 percent slopes	Not rated	Urban land (50%)		2,403.8	0.6%
UlB	Urban land-Delaware complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,008.2	0.3%
UmB	Urban land-Doylestown complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,178.0	0.3%
UnB	Urban land-Duffield complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		5,742.9	1.4%
UoB	Urban land-Gladstone complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		76.2	0.0%
UoD	Urban land-Gladstone complex, 8 to 25 percent slopes	Not rated	Urban land (65%)		64.2	0.0%
UpB	Urban land-Glenville complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		685.7	0.2%
UrB	Urban land-Lansdale complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		7,464.4	1.9%
UrC	Urban land-Lansdale complex, 8 to 15 percent slopes	Not rated	Urban land (50%)		2,926.3	0.7%

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
UsB	Urban land-Lawrenceville complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		9,193.7	2.3%
UtB	Urban land-Matapeake complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		12,119.1	3.0%
UuB	Urban land-Mattapex complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		72.6	0.0%
UvB	Urban land-Neshaminy complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		581.0	0.1%
UvD	Urban land-Neshaminy complex, 8 to 25 percent slopes	Not rated	Urban land (65%)		135.5	0.0%
Uw	Urban land-Othello complex	Not rated	Urban land (65%)		198.3	0.0%
UxB	Urban land-Penn complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,262.4	0.3%
UxD	Urban land-Penn complex, 8 to 25 percent slopes	Not rated	Urban land (65%)		572.7	0.1%
UyB	Urban land-Reaville complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,585.2	0.4%
UzaB	Urban land-Udorthents, gravelly complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		419.3	0.1%
UzbB	Urban land-Udorthents, sandy complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		1,027.1	0.3%
UzcaB	Urban land-Udorthents, schist and gneiss complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		32.0	0.0%
UzcB	Urban land-Udorthents, shale and sandstone complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		963.4	0.2%
UzcD	Urban land-Udorthents, shale and sandstone complex, 8 to 25 percent slopes	Not rated	Urban land (80%)		14.6	0.0%
			Udorthents, shale and sandstone (15%)			
W	Water	Not rated	Water (99%)		11,334.9	2.8%

Suitabilities and Limitations for Use— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
WaB	Washington silt loam, 3 to 8 percent slopes	Slightly limited	Washington (90%)	Slope 0-12%; see land cover criteria (0.50)	844.1	0.2%
				Potential karst (0.30)		
WaC	Washington silt loam, 8 to 15 percent slopes	Slightly limited	Washington (90%)	Slope 0-12%; see land cover criteria (0.50)	38.4	0.0%
				Potential karst (0.30)		
WeB	Weikert channery silt loam, 0 to 8 percent slopes	Moderately limited	Weikert (90%)	Potential bedrock near 16" (0.77)	25.2	0.0%
				Slight voided fragments (0.08)		
WeC	Weikert channery silt loam, 8 to 15 percent slopes	Very limited	Weikert (80%)	Bedrock, above 16" (1.00)	63.7	0.0%
				Slope 0-12%; see land cover criteria (0.50)		
				Slight voided fragments (0.07)		
WeD	Weikert channery silt loam, 15 to 25 percent slopes	Moderately limited	Weikert (85%)	Bedrock, above 16" (0.91)	13.5	0.0%
				Slope 0-25%; see land cover criteria (0.75)		
				Slight voided fragments (0.09)		
WfD	Weikert-Culleoka complex, 15 to 25 percent slopes	Moderately limited	Weikert (60%)	Potential bedrock near 16" (0.77)	706.3	0.2%
				Slope 0-25%; see land cover criteria (0.75)		
				Slight voided fragments (0.08)		
			Culleoka (30%)	Slope 0-25%; see land cover criteria (0.75)		
				Potential bedrock near 16" (0.06)		
Totals for Area of Interest					**397,783.5**	**100.0%**

Suitabilities and Limitations for Use— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Slightly limited	119,543.5	30.1%
Very limited	89,044.6	22.4%
Moderately limited	77,958.8	19.6%
Not limited	14,682.1	3.7%
Null or Not Rated	96,554.4	24.3%
Totals for Area of Interest	**397,783.5**	**100.0%**

Description

This is a system of pressurized lines that distribute effluent from a septic tank into a sand filter tank and chlorination system and then through spray heads that disperse the effluent onto the surface of the soil. Only the part of the soils between depths of 0 and 16 inches is considered when the soils are rated.

The soil properties and site features considered are those that affect absorption of the effluent and construction and maintenance of the system and those that may affect public health. These include depth to a water table, depth to bedrock, content of rock fragments, flooding, slope, and saturated hydraulic conductivity (Ksat). Flooding is a serious problem because it can result in improper treatment of the

effluent and contamination of ground water or surface water. If Ksat is too fast or too slow, if the content of rock fragments is too high, or if the water table is too close to the surface, the effluent can contaminate the ground water. If this system is improperly installed on the steeper slopes, the effluent could flow along the surface of the soils. Additional grading may be needed in areas downslope from the system.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Slightly limited" indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. "Moderately limited" indicates that the soil has features that are somewhat favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

These ratings do not preclude the need for onsite investigation to determine the limitations affecting system placement.

Rating Options

Aggregation Method: Dominant Condition

Septic System Sand Mound Bed or Trench (PA)

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
AbA	Abbottstown silt loam, 0 to 3 percent slopes	Very limited	Abbottstown (93%)	Seasonal high water table (1.00)	9,291.5	2.3%
				Slope (0.18)		
			Croton (5%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
AbB	Abbottstown silt loam, 3 to 8 percent slopes	Very limited	Abbottstown (93%)	Seasonal high water table (1.00)	18,361.1	4.6%
				Slope (0.40)		
			Croton (6%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
AbC	Abbottstown silt loam, 8 to 15 percent slopes	Very limited	Abbottstown (90%)	Seasonal high water table (1.00)	1,453.7	0.4%
				Too steep (0.85)		
			Knauers (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
AlA	Alton gravelly loam, 0 to 3 percent slopes	Slightly limited	Alton, gravelly loam (90%)	Slope (0.18)	2,238.1	0.6%
AlB	Alton gravelly loam, 3 to 8 percent slopes	Slightly limited	Alton, gravelly loam (90%)	Slope (0.40)	336.3	0.1%
AmA	Amwell silt loam, 0 to 3 percent slopes	Moderately limited	Amwell (90%)	Potential seasonal high water table (0.98)	3,646.1	0.9%
				Slope (0.18)		
AmB	Amwell silt loam, 3 to 8 percent slopes	Moderately limited	Amwell (90%)	Potential seasonal high water table (0.98)	5,133.8	1.3%
				Slope (0.40)		
AmC	Amwell silt loam, 8 to 15 percent slopes	Moderately limited	Amwell (90%)	Potential seasonal high water table (0.98)	116.5	0.0%
				Too steep (0.85)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
ArB	Arendtsville gravelly silt loam, 3 to 8 percent slopes	Slightly limited	Arendtsville, gravelly loam (90%)	Slope (0.40)	1,702.5	0.4%
ArC	Arendtsville gravelly silt loam, 8 to 15 percent slopes	Moderately limited	Arendtsville, gravelly loam (90%)	Too steep (0.85)	1,742.8	0.4%
ArD	Arendtsville gravelly silt loam, 15 to 25 percent slopes	Very limited	Arendtsville, gravelly loam (90%)	Too steep (1.00)	683.3	0.2%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
BsB	Brownsburg silt loam, 3 to 8 percent slopes	Slightly limited	Brownsburg (90%)	Slope (0.40)	2,088.2	0.5%
BsC	Brownsburg silt loam, 8 to 15 percent slopes	Moderately limited	Brownsburg (90%)	Too steep (0.85)	221.9	0.1%
BwB	Buckingham silt loam, 3 to 8 percent slopes	Very limited	Buckingham (88%)	Seasonal high water table (1.00)	5,988.0	1.5%
				Slope (0.40)		
			Croton (2%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Knauers (2%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
CaB	Califon loam, 3 to 8 percent slopes	Very limited	Califon (82%)	Seasonal high water table (1.00)	109.7	0.0%
				Slope (0.35)		
			Baile (4%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Hatboro (4%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.18)		
CbA	Chalfont silt loam, 0 to 3 percent slopes	Very limited	Chalfont (90%)	Seasonal high water table (1.00)	4,742.7	1.2%
				Slope (0.18)		
			Doylestown (7%)	Seasonal high water table (1.00)		
				Slope (0.18)		
CbB	Chalfont silt loam, 3 to 8 percent slopes	Very limited	Chalfont (90%)	Seasonal high water table (1.00)	1,918.5	0.5%
				Slope (0.40)		
			Doylestown (5%)	Seasonal high water table (1.00)		
				Slope (0.18)		
CdA	Chester silt loam, 0 to 3 percent slopes	Slightly limited	Chester (92%)	Slope (0.25)	191.9	0.0%

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
CdB	Chester silt loam, 3 to 8 percent slopes	Slightly limited	Chester (91%)	Slope (0.31)	1,263.1	0.3%
CdC	Chester silt loam, 8 to 15 percent slopes	Moderately limited	Chester (100%)	Too steep (0.85)	638.9	0.2%
CmB	Clarksburg silt loam, 3 to 8 percent slopes	Moderately limited	Clarksburg (90%)	Low potential seasonal high water table (0.67)	1,004.8	0.3%
				Slope (0.40)		
				Potential karst (0.30)		
CwA	Croton silt loam, 0 to 3 percent slopes	Very limited	Croton (90%)	Seasonal high water table (1.00)	9,569.2	2.4%
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
CwB	Croton silt loam, 3 to 8 percent slopes	Very limited	Croton (90%)	Seasonal high water table (1.00)	6,372.6	1.6%
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
CwxB	Croton silt loam, 0 to 8 percent slopes, extremely stony	Very limited	Croton, extremely stony (85%)	Seasonal high water table (1.00)	623.0	0.2%
				Slow percolation 12-20" (1.00)		
				Slope (0.31)		
			Knauers (5%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
			Fluvaquents (2%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.79)		
				Slope (0.09)		
CyB	Culleoka-Weikert channery silt loams, 3 to 8 percent slopes	Slightly limited	Culleoka (65%)	Slope (0.40)	1,208.2	0.3%
CyC	Culleoka-Weikert channery silt loams, 8 to 15 percent slopes	Moderately limited	Culleoka (65%)	Too steep (0.85)	1,661.2	0.4%

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
DaA	Delaware fine sandy loam, 0 to 3 percent slopes	Very limited	Delaware (90%)	Flooding (1.00)	3,627.5	0.9%
				Slope (0.18)		
			Hatboro (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.18)		
			Nanticoke (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.09)		
DaB	Delaware fine sandy loam, 3 to 8 percent slopes	Very limited	Delaware (90%)	Flooding (1.00)	224.9	0.1%
				Slope (0.40)		
			Hatboro (2%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.18)		
			Nanticoke (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.09)		
DAM	Dam	Not rated	Dams (100%)		40.6	0.0%
DdA	Doylestown silt loam, 0 to 3 percent slopes	Very limited	Doylestown (85%)	Seasonal high water table (1.00)	5,394.5	1.4%
				Slope (0.18)		
DdB	Doylestown silt loam, 3 to 8 percent slopes	Very limited	Doylestown (85%)	Seasonal high water table (1.00)	3,374.9	0.8%
				Slope (0.40)		
DfB	Duffield silt loam, 3 to 8 percent slopes	Slightly limited	Duffield (90%)	Slope (0.40)	1,794.6	0.5%
				Potential karst (0.30)		
DgC	Duffield-Ryder silt loams, 8 to 15 percent slopes	Moderately limited	Duffield (60%)	Too steep (0.85)	1,358.6	0.3%
				Potential karst (0.30)		
			Ryder (30%)	Too steep (0.85)		
				Potential karst (0.30)		
DuA	Duncannon silt loam, 0 to 3 percent slopes	Slightly limited	Duncannon (85%)	Slope (0.18)	2,870.3	0.7%
DuB	Duncannon silt loam, 3 to 8 percent slopes	Slightly limited	Duncannon (85%)	Slope (0.40)	1,310.2	0.3%

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
EcB	Edgemont channery loam, 3 to 8 percent slopes	Slightly limited	Edgemont (93%)	Slope (0.40)	92.2	0.0%
EcC	Edgemont channery loam, 8 to 15 percent slopes	Moderately limited	Edgemont (93%)	Too steep (0.85)	168.9	0.0%
EdB	Edgemont channery sandy loam, 0 to 8 percent slopes, extremely stony	Slightly limited	Edgemont, extremely stony (90%)	Slope (0.31)	257.9	0.1%
EdD	Edgemont channery sandy loam, 8 to 25 percent slopes, extremely stony	Very limited	Edgemont, extremely stony (93%)	Too steep (1.00)	691.9	0.2%
			Andover, extremely stony (3%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.31)		
EdF	Edgemont channery sandy loam, 25 to 60 percent slopes, extremely stony	Very limited	Edgemont, extremely stony (93%)	Too steep (1.00)	334.1	0.1%
			Andover, extremely stony (3%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.31)		
Fl	Fluvaquents	Very limited	Fluvaquents (85%)	Seasonal high water table (1.00)	1,259.0	0.3%
				Flooding (1.00)		
				Miscellaneous area (1.00)		
				Slow percolation 12-20" (0.79)		
				Slope (0.09)		
			Towhee (5%)	Seasonal high water table (1.00)		
				Slope (0.18)		
			Nanticoke (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.09)		
FoA	Fountainville silt loam, 0 to 3 percent slopes	Moderately limited	Fountainville (90%)	Low potential seasonal high water table (0.86)	147.6	0.0%
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
FoB	Fountainville silt loam, 3 to 8 percent slopes	Moderately limited	Fountainville (90%)	Low potential seasonal high water table (0.86)	1,243.2	0.3%
				Slope (0.40)		
FoC	Fountainville silt loam, 8 to 15 percent slopes	Moderately limited	Fountainville (85%)	Low potential seasonal high water table (0.86)	74.6	0.0%
				Too steep (0.85)		
GlB	Gladstone gravelly loam, 3 to 8 percent slopes	Slightly limited	Gladstone (93%)	Slope (0.40)	1,235.2	0.3%
GlC	Gladstone gravelly loam, 8 to 15 percent slopes	Moderately limited	Gladstone (90%)	Too steep (0.85)	1,221.2	0.3%
GlD	Gladstone gravelly loam, 15 to 25 percent slopes	Very limited	Gladstone (90%)	Too steep (1.00)	520.0	0.1%
			Cokesbury (5%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
GmB	Gladstone gravelly loam, 0 to 8 percent slopes, very bouldery	Slightly limited	Gladstone, very bouldery (90%)	Slope (0.40)	9.8	0.0%
GmD	Gladstone gravelly loam, 8 to 25 percent slopes, very bouldery	Very limited	Gladstone, very bouldery (90%)	Too steep (1.00)	1,239.6	0.3%
			Cokesbury (5%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
GmF	Gladstone gravelly loam, 25 to 55 percent slopes, very bouldery	Very limited	Gladstone, very bouldery (90%)	Too steep (1.00)	48.4	0.0%
			Cokesbury (5%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
GnD	Gladstone-Parker gravelly loams, 15 to 25 percent slopes	Very limited	Gladstone (58%)	Too steep (1.00)	65.9	0.0%
			Parker (42%)	Too steep (1.00)		
				Slight voided fragments (0.08)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
GrA	Glenville silt loam, 0 to 3 percent slopes	Moderately limited	Glenville (90%)	Potential seasonal high water table (0.98)	959.2	0.2%
				Slow percolation 12-20" (0.79)		
				Slope (0.18)		
GrB	Glenville silt loam, 3 to 8 percent slopes	Moderately limited	Glenville (90%)	Potential seasonal high water table (0.98)	1,286.4	0.3%
				Slow percolation 12-20" (0.79)		
				Slope (0.40)		
Ha	Hatboro silt loam	Very limited	Hatboro (95%)	Seasonal high water table (1.00)	4,846.2	1.2%
				Flooding (1.00)		
				Slope (0.18)		
Ho	Holly silt loam	Very limited	Holly (90%)	Seasonal high water table (1.00)	90.3	0.0%
				Flooding (1.00)		
				Slope (0.18)		
			Brinkerton (2%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
KlB	Klinesville very channery silt loam, 3 to 8 percent slopes	Very limited	Klinesville (85%)	Bedrock, above 20" (1.00)	3,181.1	0.8%
				Slope (0.40)		
				Slight voided fragments (0.14)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
KlC	Klinesville very channery silt loam, 8 to 15 percent slopes	Very limited	Klinesville (85%)	Bedrock, above 20" (1.00)	4,157.5	1.0%
				Too steep (0.85)		
				Slight voided fragments (0.14)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
KID	Klinesville very channery silt loam, 15 to 25 percent slopes	Very limited	Klinesville (85%)	Bedrock, above 20" (1.00)	2,743.4	0.7%
				Too steep (1.00)		
				Slight voided fragments (0.14)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
KIE	Klinesville very channery silt loam, 25 to 45 percent slopes	Very limited	Klinesville (85%)	Bedrock, above 20" (1.00)	409.1	0.1%
				Too steep (1.00)		
				Slight voided fragments (0.14)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
LfA	Lamington silt loam, 0 to 3 percent slopes	Very limited	Lamington (85%)	Seasonal high water table (1.00)	279.4	0.1%
				Slope (0.18)		
LgA	Lansdale loam, 0 to 3 percent slopes	Slightly limited	Lansdale (87%)	Slope (0.18)	647.6	0.2%
LgB	Lansdale loam, 3 to 8 percent slopes	Slightly limited	Lansdale (92%)	Slope (0.40)	5,642.5	1.4%
LgC	Lansdale loam, 8 to 15 percent slopes	Moderately limited	Lansdale (92%)	Too steep (0.85)	1,876.1	0.5%
LgD	Lansdale loam, 15 to 25 percent slopes	Very limited	Lansdale (92%)	Too steep (1.00)	243.2	0.1%
LhB	Lansdale loam, 0 to 8 percent slopes, extremely stony	Slightly limited	Lansdale, extremely stony (85%)	Slope (0.31)	637.3	0.2%
LhD	Lansdale loam, 8 to 25 percent slopes, extremely stony	Very limited	Lansdale, extremely stony (85%)	Too steep (1.00)	1,563.8	0.4%
LhE	Lansdale loam, 25 to 50 percent slopes, extremely stony	Very limited	Lansdale, extremely stony (85%)	Too steep (1.00)	1,243.3	0.3%
LkA	Lawrenceville silt loam, 0 to 3 percent slopes	Moderately limited	Lawrenceville (81%)	Low potential seasonal high water table (0.67)	5,295.5	1.3%
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
LkB	Lawrenceville silt loam, 3 to 8 percent slopes	Moderately limited	Lawrenceville (83%)	Low potential seasonal high water table (0.67)	5,133.6	1.3%
				Slope (0.40)		
LmA	Lehigh channery silt loam, 0 to 3 percent slopes	Very limited	Lehigh (90%)	Seasonal high water table (1.00)	911.1	0.2%
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Croton (3%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Doylestown (1%)	Seasonal high water table (1.00)		
				Slope (0.18)		
LmB	Lehigh channery silt loam, 3 to 8 percent slopes	Very limited	Lehigh (90%)	Seasonal high water table (1.00)	4,034.1	1.0%
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
			Croton (3%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Doylestown, extremely stony (1%)	Seasonal high water table (1.00)		
				Slope (0.18)		
LmC	Lehigh channery silt loam, 8 to 15 percent slopes	Very limited	Lehigh (90%)	Seasonal high water table (1.00)	778.0	0.2%
				Slow percolation 12-20" (1.00)		
				Too steep (0.85)		
			Croton (2%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Doylestown (1%)	Seasonal high water table (1.00)		
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
LnB	Lehigh channery silt loam, 0 to 8 percent slopes, extremely stony	Very limited	Lehigh, extremely stony (90%)	Seasonal high water table (1.00)	79.7	0.0%
				Slow percolation 12-20" (1.00)		
				Slope (0.31)		
			Croton, extremely stony (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.31)		
LnD	Lehigh channery silt loam, 8 to 25 percent slopes, extremely stony	Very limited	Lehigh, extremely stony (90%)	Seasonal high water table (1.00)	520.2	0.1%
				Too steep (1.00)		
				Slow percolation 12-20" (1.00)		
			Croton, extremely stony (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.31)		
Lt	Linden loam	Very limited	Linden (95%)	Flooding (1.00)	403.5	0.1%
				Slope (0.18)		
			Holly (3%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.18)		
MaB	Manor loam, 3 to 8 percent slopes	Slightly limited	Manor (95%)	Slope (0.40)	241.9	0.1%
MaC	Manor loam, 8 to 15 percent slopes	Moderately limited	Manor (95%)	Too steep (0.85)	556.7	0.1%
MaD	Manor loam, 15 to 25 percent slopes	Very limited	Manor (97%)	Too steep (1.00)	187.1	0.0%
MbD	Manor loam, 8 to 25 percent slopes, extremely stony	Very limited	Manor, extremely stony (90%)	Too steep (1.00)	185.1	0.0%
			Hatboro (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.18)		
MbF	Manor loam, 25 to 60 percent slopes, extremely stony	Very limited	Manor, extremely stony (90%)	Too steep (1.00)	104.5	0.0%
			Hatboro (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
McA	Matapeake silt loam, 0 to 3 percent slopes	Slightly limited	Matapeake (95%)	Slope (0.18)	384.9	0.1%
McB	Matapeake silt loam, 3 to 8 percent slopes	Slightly limited	Matapeake (95%)	Slope (0.40)	235.1	0.1%
MdA	Mattapex silt loam, 0 to 3 percent slopes	Moderately limited	Mattapex (95%)	Low potential seasonal high water table (0.67)	273.5	0.1%
				Slope (0.18)		
MlA	Mount Lucas silt loam, 0 to 3 percent slopes	Moderately limited	Mount Lucas (93%)	Potential seasonal high water table (0.98)	856.7	0.2%
				Slow percolation 12-20" (0.79)		
				Slope (0.18)		
MlB	Mount Lucas silt loam, 3 to 8 percent slopes	Moderately limited	Mount Lucas (94%)	Potential seasonal high water table (0.98)	3,372.3	0.8%
				Slow percolation 12-20" (0.79)		
				Slope (0.40)		
MlC	Mount Lucas silt loam, 8 to 15 percent slopes	Moderately limited	Mount Lucas (95%)	Potential seasonal high water table (0.98)	538.6	0.1%
				Too steep (0.85)		
				Slow percolation 12-20" (0.79)		
MmB	Mount Lucas silt loam, 0 to 8 percent slopes, extremely stony	Moderately limited	Mount Lucas, extremely stony (91%)	Potential seasonal high water table (0.98)	7,053.5	1.8%
				Slow percolation 12-20" (0.79)		
				Slope (0.31)		
MmD	Mount Lucas silt loam, 8 to 25 percent slopes, extremely stony	Very limited	Mount Lucas, extremely stony (91%)	Too steep (1.00)	2,293.7	0.6%
				Potential seasonal high water table (0.98)		
				Slow percolation 12-20" (0.79)		
			Towhee, extremely stony (9%)	Seasonal high water table (1.00)		
				Slope (0.31)		
MW	Miscellaneous water	Not rated	Water (100%)		18.1	0.0%

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
Na	Nanticoke-Hatboro silt loams	Very limited	Nanticoke (60%)	Seasonal high water table (1.00)	603.4	0.2%
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.09)		
			Hatboro (30%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.09)		
NbB	Neshaminy silt loam, 3 to 8 percent slopes	Moderately limited	Neshaminy (97%)	Slow percolation 12-20" (0.50)	1,829.1	0.5%
				Slope (0.40)		
NbC	Neshaminy silt loam, 8 to 15 percent slopes	Moderately limited	Neshaminy (95%)	Too steep (0.85)	724.1	0.2%
				Slow percolation 12-20" (0.50)		
NhB	Neshaminy gravelly silt loam, 0 to 8 percent slopes, extremely bouldery	Moderately limited	Neshaminy, extremely bouldery (95%)	Slow percolation 12-20" (0.50)	5,160.6	1.3%
				Slope (0.31)		
NhD	Neshaminy gravelly silt loam, 8 to 25 percent slopes, extremely bouldery	Very limited	Neshaminy, extremely bouldery (97%)	Too steep (1.00)	7,156.2	1.8%
				Slow percolation 12-20" (0.50)		
			Towhee, extremely stony (3%)	Seasonal high water table (1.00)		
				Slope (0.31)		
NhF	Neshaminy gravelly silt loam, 25 to 60 percent slopes, extremely bouldery	Very limited	Neshaminy, extremely bouldery (97%)	Too steep (1.00)	1,048.6	0.3%
				Slow percolation 12-20" (0.50)		
			Towhee, extremely stony (3%)	Seasonal high water table (1.00)		
				Slope (0.31)		
NkA	Nockamixon silt loam, 0 to 3 percent slopes	Very limited	Nockamixon (90%)	Seasonal high water table (1.00)	431.2	0.1%
				Slope (0.18)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
NkB	Nockamixon silt loam, 3 to 8 percent slopes	Very limited	Nockamixon (90%)	Seasonal high water table (1.00)	1,184.7	0.3%
				Slope (0.40)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
NkC	Nockamixon silt loam, 8 to 15 percent slopes	Very limited	Nockamixon (95%)	Seasonal high water table (1.00)	179.1	0.0%
				Too steep (0.85)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
Ot	Othello silt loam	Very limited	Othello (90%)	Seasonal high water table (1.00)	1,445.1	0.4%
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
			Nanticoke (2%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.09)		
PeA	Penn channery silt loam, 0 to 3 percent slopes	Slightly limited	Penn (90%)	Slope (0.18)	440.8	0.1%
				Potential bedrock near 20" (0.13)		
PeB	Penn channery silt loam, 3 to 8 percent slopes	Slightly limited	Penn (87%)	Slope (0.40)	4,335.0	1.1%
				Potential bedrock near 20" (0.13)		
PeC	Penn channery silt loam, 8 to 15 percent slopes	Moderately limited	Penn (87%)	Too steep (0.85)	1,576.4	0.4%
				Potential bedrock near 20" (0.13)		
PeD	Penn channery silt loam, 15 to 25 percent slopes	Very limited	Penn (86%)	Too steep (1.00)	304.1	0.1%
				Potential bedrock near 20" (0.13)		
			Croton (3%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
PkB	Penn-Klinesville channery silt loams, 3 to 8 percent slopes	Slightly limited	Penn (70%)	Slope (0.40)	2,166.6	0.5%
				Potential bedrock near 20" (0.13)		
PkC	Penn-Klinesville channery silt loams, 8 to 15 percent slopes	Moderately limited	Penn (70%)	Too steep (0.85)	1,539.1	0.4%
				Potential bedrock near 20" (0.13)		
PkD	Penn-Klinesville channery silt loams, 15 to 25 percent slopes	Very limited	Penn (47%)	Too steep (1.00)	250.5	0.1%
				Potential bedrock near 20" (0.13)		
			Klinesville (40%)	Bedrock, above 20" (1.00)		
				Too steep (1.00)		
				Slight voided fragments (0.25)		
			Croton (5%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
PlE	Penn-Klinesville channery silt loams, 25 to 45 percent slopes, extremely stony	Very limited	Penn, extremely stony (65%)	Too steep (1.00)	3,656.0	0.9%
				Potential bedrock near 20" (0.13)		
			Klinesville, extremely stony (20%)	Bedrock, above 20" (1.00)		
				Too steep (1.00)		
				Slight voided fragments (0.14)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.31)		
PnB	Penn-Lansdale complex, 3 to 8 percent slopes	Slightly limited	Penn (69%)	Slope (0.40)	2,338.5	0.6%
				Potential bedrock near 20" (0.35)		
			Lansdale (25%)	Slope (0.40)		
PnC	Penn-Lansdale complex, 8 to 15 percent slopes	Moderately limited	Penn (50%)	Too steep (0.85)	879.5	0.2%
				Potential bedrock near 20" (0.35)		
			Lansdale (40%)	Too steep (0.85)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
PnD	Penn-Lansdale complex, 15 to 25 percent slopes	Very limited	Penn (55%)	Too steep (1.00)	1,338.3	0.3%
				Potential bedrock near 20" (0.13)		
			Lansdale (35%)	Too steep (1.00)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
Pr	Pits, quarry	Not rated	Pits, quarries (80%)		1,901.1	0.5%
Ps	Psamments, dredged river material	Very limited	Psamments (100%)	Flooding (1.00)	681.2	0.2%
				Fast percolation 12-20" (0.50)		
				Slope (0.25)		
RaA	Raritan silt loam, 0 to 3 percent slopes	Moderately limited	Raritan (96%)	Potential seasonal high water table (0.98)	46.4	0.0%
				Slope (0.18)		
RaB	Raritan silt loam, 3 to 8 percent slopes	Moderately limited	Raritan (90%)	Potential seasonal high water table (0.98)	70.3	0.0%
				Slope (0.40)		
RaC	Raritan silt loam, 8 to 15 percent slopes	Moderately limited	Raritan (90%)	Potential seasonal high water table (0.98)	11.6	0.0%
				Too steep (0.85)		
ReA	Readington silt loam, 0 to 3 percent slopes	Moderately limited	Readington (85%)	Low potential seasonal high water table (0.67)	3,307.5	0.8%
				Slope (0.18)		
ReB	Readington silt loam, 3 to 8 percent slopes	Moderately limited	Readington (80%)	Low potential seasonal high water table (0.67)	10,014.2	2.5%
				Slope (0.40)		
ReC	Readington silt loam, 8 to 15 percent slopes	Moderately limited	Readington (86%)	Too steep (0.85)	1,012.7	0.3%
				Low potential seasonal high water table (0.67)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
RIA	Reaville channery silt loam, 0 to 3 percent slopes	Very limited	Reaville (90%)	Slow percolation 12-20" (1.00)	3,086.2	0.8%
				Potential seasonal high water table (0.98)		
				Potential bedrock near 20" (0.20)		
				Slope (0.18)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Knauers (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
RIB	Reaville channery silt loam, 3 to 8 percent slopes	Very limited	Reaville (90%)	Slow percolation 12-20" (1.00)	15,513.2	3.9%
				Potential seasonal high water table (0.98)		
				Slope (0.40)		
				Potential bedrock near 20" (0.20)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
			Knauers (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
RIC	Reaville channery silt loam, 8 to 15 percent slopes	Very limited	Reaville (90%)	Slow percolation 12-20" (1.00)	4,187.1	1.1%
				Potential seasonal high water table (0.98)		
				Too steep (0.85)		
				Potential bedrock near 20" (0.20)		
			Knauers (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
Ro	Rowland silt loam	Very limited	Rowland (82%)	Flooding (1.00)	1,383.6	0.3%
				Low potential seasonal high water table (0.86)		
				Slope (0.18)		
			Knauers (8%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
StB	Steinsburg gravelly loam, 3 to 8 percent slopes	Slightly limited	Steinsburg (85%)	Slope (0.40)	857.6	0.2%
				Potential bedrock near 20" (0.27)		
StC	Steinsburg gravelly loam, 8 to 15 percent slopes	Moderately limited	Steinsburg (85%)	Too steep (0.85)	995.7	0.3%
				Potential bedrock near 20" (0.27)		
StD	Steinsburg gravelly loam, 15 to 25 percent slopes	Very limited	Steinsburg (85%)	Too steep (1.00)	272.1	0.1%
				Potential bedrock near 20" (0.27)		
ToA	Towhee silt loam, 0 to 3 percent slopes	Very limited	Towhee (96%)	Seasonal high water table (1.00)	3,556.8	0.9%
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
ToB	Towhee silt loam, 3 to 8 percent slopes	Very limited	Towhee (88%)	Seasonal high water table (1.00)	2,807.3	0.7%
				Slope (0.40)		
			Watchung, silt loam (2%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.18)		
TrB	Towhee silt loam, 0 to 8 percent slopes, extremely stony	Very limited	Towhee, extremely stony (88%)	Seasonal high water table (1.00)	10,382.4	2.6%
				Slope (0.31)		
Ua	Udorthents, gravelly	Very limited	Udorthents, gravelly (90%)	Miscellaneous area (1.00)	2,301.7	0.6%
				Fast percolation 12-20" (0.50)		
				Slope (0.31)		
				Slight voided fragments (0.04)		
			Othello (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		
Ub	Udorthents, loamy	Very limited	Udorthents, loamy (95%)	Miscellaneous area (1.00)	984.9	0.2%
				Potential seasonal high water table (0.98)		
				Slope (0.31)		
				Potential fast percolation 12-20" (0.17)		
UcB	Udorthents, sandy	Very limited	Udorthents, sandy (90%)	Miscellaneous area (1.00)	2,122.9	0.5%
				Fast percolation 12-20" (0.50)		
				Slope (0.18)		
			Othello (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (0.50)		
				Slope (0.18)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
UdB	Udorthents, shale and sandstone	Very limited	Udorthents, shale and sandstone (85%)	Miscellaneous area (1.00)	1,506.4	0.4%
				Slope (0.31)		
				Potential fast percolation 12-20" (0.17)		
			Croton (1%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
UeB	Udorthents, sanitary landfill	Very limited	Udorthents, sanitary landfill (98%)	Miscellaneous area (1.00)	472.1	0.1%
				Slope (0.50)		
			Croton (2%)	Seasonal high water table (1.00)		
				Slow percolation 12-20" (1.00)		
				Slope (0.40)		
UfB	Udorthents, schist and gneiss	Very limited	Udorthents, schist and gneiss (95%)	Slow percolation 12-20" (1.00)	592.3	0.1%
				Miscellaneous area (1.00)		
				Slope (0.31)		
			Hatboro (1%)	Seasonal high water table (1.00)		
				Flooding (1.00)		
				Slope (0.18)		
UfuB	Urban land, 0 to 8 percent slopes	Not rated	Urban land (85%)		13,658.0	3.4%
Ufw	Urban land, occasionally flooded	Very limited	Urban land, occasionally flooded (99%)	Flooding (1.00)	408.3	0.1%
				Voided fragments (1.00)		
				Miscellaneous area (1.00)		
				Slope (0.18)		
UgB	Urban land-Abbottstown complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		11,436.9	2.9%
UhB	Urban land-Berks complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		166.7	0.0%
UkB	Urban land-Chester complex, 0 to 8 percent slopes	Not rated	Urban land (50%)		8,271.6	2.1%

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
UkD	Urban land-Chester complex, 8 to 25 percent slopes	Not rated	Urban land (50%)		2,403.8	0.6%
UlB	Urban land-Delaware complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,008.2	0.3%
UmB	Urban land-Doylestown complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,178.0	0.3%
UnB	Urban land-Duffield complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		5,742.9	1.4%
UoB	Urban land-Gladstone complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		76.2	0.0%
UoD	Urban land-Gladstone complex, 8 to 25 percent slopes	Not rated	Urban land (65%)		64.2	0.0%
UpB	Urban land-Glenville complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		685.7	0.2%
UrB	Urban land-Lansdale complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		7,464.4	1.9%
UrC	Urban land-Lansdale complex, 8 to 15 percent slopes	Not rated	Urban land (50%)		2,926.3	0.7%
UsB	Urban land-Lawrenceville complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		9,193.7	2.3%
UtB	Urban land-Matapeake complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		12,119.1	3.0%
UuB	Urban land-Mattapex complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		72.6	0.0%
UvB	Urban land-Neshaminy complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		581.0	0.1%
UvD	Urban land-Neshaminy complex, 8 to 25 percent slopes	Not rated	Urban land (65%)		135.5	0.0%
Uw	Urban land-Othello complex	Not rated	Urban land (65%)		198.3	0.0%
UxB	Urban land-Penn complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,262.4	0.3%

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	**Map unit name**	**Rating**	**Component name (percent)**	**Rating reasons (numeric values)**	**Acres in AOI**	**Percent of AOI**
UxD	Urban land-Penn complex, 8 to 25 percent slopes	Not rated	Urban land (65%)		572.7	0.1%
UyB	Urban land-Reaville complex, 0 to 8 percent slopes	Not rated	Urban land (65%)		1,585.2	0.4%
UzaB	Urban land-Udorthents, gravelly complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		419.3	0.1%
UzbB	Urban land-Udorthents, sandy complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		1,027.1	0.3%
UzcaB	Urban land-Udorthents, schist and gneiss complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		32.0	0.0%
UzcB	Urban land-Udorthents, shale and sandstone complex, 0 to 8 percent slopes	Not rated	Urban land (80%)		963.4	0.2%
UzcD	Urban land-Udorthents, shale and sandstone complex, 8 to 25 percent slopes	Not rated	Urban land (80%)		14.6	0.0%
W	Water	Not rated	Water (99%)		11,334.9	2.8%
WaB	Washington silt loam, 3 to 8 percent slopes	Slightly limited	Washington (90%)	Slope (0.40)	844.1	0.2%
				Potential karst (0.30)		
WaC	Washington silt loam, 8 to 15 percent slopes	Moderately limited	Washington (90%)	Too steep (0.85)	38.4	0.0%
				Potential karst (0.30)		
WeB	Weikert channery silt loam, 0 to 8 percent slopes	Very limited	Weikert (90%)	Bedrock, above 20" (1.00)	25.2	0.0%
				Slope (0.31)		
				Slight voided fragments (0.08)		
WeC	Weikert channery silt loam, 8 to 15 percent slopes	Very limited	Weikert (80%)	Bedrock, above 20" (1.00)	63.7	0.0%
				Too steep (0.85)		
				Slight voided fragments (0.07)		
WeD	Weikert channery silt loam, 15 to 25 percent slopes	Very limited	Weikert (85%)	Bedrock, above 20" (1.00)	13.5	0.0%
				Too steep (1.00)		
				Slight voided fragments (0.09)		

Septic System Sand Mound Bed or Trench (PA)— Summary by Map Unit — Bucks County, Pennsylvania						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
WfD	Weikert-Culleoka complex, 15 to 25 percent slopes	Very limited	Weikert (60%)	Bedrock, above 20" (1.00)	706.3	0.2%
				Too steep (1.00)		
				Slight voided fragments (0.08)		
			Culleoka (30%)	Too steep (1.00)		
Totals for Area of Interest					**397,783.5**	**100.0%**

Septic System Sand Mound Bed or Trench (PA)— Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Very limited	189,789.9	47.7%
Moderately limited	73,513.3	18.5%
Slightly limited	37,925.9	9.5%
Null or Not Rated	96,554.4	24.3%
Totals for Area of Interest	**397,783.5**	**100.0%**

Description

This is a system of pressurized lines that distribute effluent from a septic tank into a mound with sand under aggregate. The mound is placed on top of the mineral soil surface. About 1 to 4 feet of sand could be placed on the mineral soil surface in a sand mound system. Only the part of the soils between depths of 0 and 20 inches is considered when the soils are rated.

The soil properties and site features considered are those that affect absorption of the effluent and construction and maintenance of the system and those that may affect public health. These include depth to a water table, depth to bedrock, content of rock fragments, flooding, slope, and saturated hydraulic conductivity (Ksat). Flooding is a serious problem because it can result in improper treatment of the effluent and contamination of ground water or surface water. If Ksat is too fast or too slow, if the content of rock fragments is too high, or if the water table is too close to the surface, the effluent can contaminate the ground water. If this system is improperly installed on the steeper slopes, the effluent could flow along the surface of the soils. Additional grading may be needed in areas downslope from the system.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Slightly limited" indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. "Moderately limited" indicates that the soil has features that are somewhat favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Higher

APPENDIX 1

System Summary
Alternate Systems*

SYSTEM	SITING CRITERIA	
Peat Based Systems		
Peat Based System Limiting Zone ≥ 20 Inches Option 1	**Depth to Rock**	≥ 20 inches
	Depth to Water Table	≥ 20 inches
	Slope	0 - 12 percent
	Percolation Rates	3 - 180 min/in.
	Other	May reduce size of absorption area by up to 40 percent with perc rate up to 60 min/in.
Peat Based System Limiting Zone < 20 Inches Option 1	**Depth to Rock**	≥ 16 inches
	Depth to Water Table	≥ 10 inches
	Slope	0 - 12 percent
	Percolation Rates	None - Soil morphological testing.
	Other	Need soil scientist to evaluate soils and provide design criteria.
	Disinfection	UV Disinfection Required.
Peat Based System Option 2 (IRSIS)	**Depth to Rock**	≥ 16 inches
	Depth to Water Table	≥ 10 inches
	Slope	0 - 25 percent
	Percolation Rates	None
	Other	Use in place of sand filter in IRSIS.
Peat Based System Limiting Zone ≥ 72 Inches Option 3	**Depth to Rock**	≥ 72 inches
	Depth to Water Table	≥ 72 inches
	Slope	0 - 12 percent
	Percolation Rates	> 90 min/in. @ 12 - 36 inches 3 - 90 min/in. @ 36 - 60 inches
	Other	For use in place of 12 inches of sand in a subsurface sand filter.
Free Access Gravity Sand Filter (with options other than IRSIS)	**Depth to Rock**	≥ 20 inches
	Depth to Water Table	≥ 20 inches
	Slope	0 - 25 percent
	Percolation Rates	3 - 180 min/in.
Free Access Gravity Sand filter (with IRSIS)	**Depth to Rock**	≥ 16 inches
	Depth to Water Table	≥ 10 inches
	Slope	0 - 25 percent
	Percolation Rates	none
CO-OP RFS III Limiting Zone ≥ 20 Inches	**Depth to Rock**	≥ 20 inches
	Depth to Water Table	≥ 20 inches
	Slope	0 - 25 percent
	Percolation Rates	3 - 180 min/in.
	Disinfection	UV Disinfection required.

*Refer to complete listing for specific conditions related to each system.

System Summary
Alternate Systems*

(Continued)

SYSTEM	SITING CRITERIA	
CO-OP RFS III Limiting Zone < 20 Inches	**Depth to Rock**	≥ 16 inches
	Depth to Water Table	≥ 10 inches
	Slope	0 - 12 percent
	Percolation Rates	None - Soil morphological testing.
	Other	Need soil scientist to evaluate soils and provide design criteria.
	Disinfection	UV Disinfection required.
CO-OP RFS III System (with IRSIS)	**Depth to Rock**	≥ 16 inches
	Depth to Water Table	≥ 10 inches
	Slope	0 - 25 percent
	Percolation Rates	none
At-grade Bed System	**Depth to Rock**	≥ 48 inches
	Depth to Water Table	≥ 48 inches
	Slope	0 - 12 percent
	Percolation Rates	3 - 180 min/in.
	Other	Design may be modified based on application (see specific listings).
Modified Subsurface Sand Filter for Fast Percolation Shallow Bedrock Sites with No Water Table Present	**Soil Depth**	≥ 72 inches and additional criteria
	Slope	≤ 8 percent
	Percolation Rates	< 3 min/in. at 12 - 36 inches 3 - 180 min/in. at 36 - 60 inches
Shallow Placement Pressure Dosed Systems	**Depth to Rock**	≥ 58 inches
	Depth to Water Table	≥ 58 inches
	Slope	0 - 25 percent
	Percolation Rates	3 - 180 min/in.
Drip Irrigation System	**Depth to Rock**	≥ 20 inches
	Depth to Water Table	≥ 20 inches
	Slope	0 - 25 percent
	Percolation Rates	None unless soil scientist requests
	Other	Need soil scientist to evaluate soils and provide design criteria.
Steep Slope ESM (Slope 12 - 15%, Perc Rate 3 - 30 min/in.)	**Depth to Rock**	≥ 20 inches
	Depth to Water Table	≥ 20 inches
	Slope	≥ 12 percent and ≤ 15 percent
	Percolation Rates	3 - 30 min/in.
	Other	≤ 600 gpd

*Refer to complete listing for specific conditions related to each system.

System Summary
Alternate Systems*

(Continued)

SYSTEM	SITING CRITERIA	
A/B Soil System Limiting Zone ≥ 20 Inches	**Depth to Rock**	≥ 20 inches
	Depth to Water Table	≥ 20 inches
	Slope	≤ 12 percent
	Percolation Rates	3 - 180 min/in.
	Other	Conditions dependent on final treatment option chosen.
A/B Soil System Limiting Zone < 20 Inches	**Depth to Rock**	≥ 16 inches
	Depth to Water Table	≥ 10 inches
	Slope	0 - 12 percent
	Percolation Rates	None - Soil morphological testing.
	Other	Need soil scientist to evaluate soils and provide design criteria.
	Disinfection	UV Disinfection required.
Non-Infiltration, Evapotranspiration Bed Contained Within a Greenhouse	**Depth to Rock**	Any - Non-soil-based System
	Depth to Water Table	Any - Non-soil-based System
	Slope	Any - Non-soil-based System
	Percolation Rate	Any - Non-soil-based System

*Refer to complete listing for specific conditions related to each system.

NO. 2008 – 09

A RESOLUTION to amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* by permanently designating the Lower Delaware River as Special Protection Waters with the classification Significant Resource Waters.

WHEREAS, by Resolution No. 70-3, codified in the Commission's *Water Quality Regulations* at Section 3.10.3 A., the Commission established an antidegradation policy for interstate waters within its jurisdiction, and by Resolutions No. 92-21 and 94-2, it instituted a set of regulations known as the "Special Protection Waters" program to implement this policy in certain portions of the Basin. The program is intended to maintain or improve the quality of interstate waters where existing water quality is better than the established stream quality objectives; and

WHEREAS. in accordance with Section 3.10.3 A.2 of the Commission's *Administrative Manual–Part III, Water Quality Regulations* ("Regulations"). the Delaware Riverkeeper Network submitted to the Commission in April 2001 a nomination petition requesting that the Commission classify the Lower Delaware River – the reach of the main stem Delaware River extending from River Mile 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) to River Mile 133.4 (the Head of Tide) – as Special Protection Waters; and

WHEREAS, to be protected as Special Protection Waters, waters must be classified as either "Outstanding Basin Waters" or "Significant Resource Waters," as defined in Section 3.10.3 A.2.a. of the Regulations; and

WHEREAS, "Outstanding Basin Waters" are defined as interstate and contiguous intrastate waters that are contained within the established boundaries of national parks; national wild, scenic and recreational rivers systems; and/or national wildlife refuges that the Commission has classified under Section 3.10.3 A.2.g.1 of the Regulations as having exceptionally high scenic, recreational and ecological values that require special protection; and

WHEREAS, "Significant Resource Waters" are defined as interstate waters that the Commission has classified under Section 3.10.3 A.2.g.2 of the Regulations as having exceptionally high scenic, recreational, ecological, and/or water supply uses that require special protection; and

WHEREAS, as set forth more fully in Resolution No. 2005-2, data and findings documenting the high quality of scenic, recreational, ecological and water supply attributes of the Lower Delaware River are contained in two studies (DRBC, 2004 and National Park Service, 1999, respectively), a management plan for the Lower Delaware that received a formal expression of Commission support in Resolution No. 98-2 (1997) (this plan was recently re-affirmed in the *Lower Delaware River Management Committee Action Plan 2007-2011*); a federal designation of the Lower Delaware as part of the national Wild & Scenic Rivers System (P.L. 106-418, 106th Congress), and the *Water Resources Plan for the Delaware River Basin* (DRBC, 2004); and

WHEREAS, after a duly noticed public comment period and a public hearing on the matter, by Resolution No. 2005-2 on January 19, 2005 the Commission found on the basis of the foregoing studies, findings, plans, and federal designation that "the section of the Delaware River from River Mile 133.4 to River Mile 209.5, known as the "Lower Delaware River", is characterized by exceptionally high scenic, recreational, ecological and/or water supply values/uses within the meaning of Section 3.10.3 A. of the *Water Quality Regulations* and requires special protection in accordance with that section" (Res. No. 2005-2, par. 1); and

WHEREAS, by Resolution No. 2005-2 the Commission temporarily classified the Lower Delaware River (also "Lower Delaware") as Significant Resource Waters, pending the determination of numeric values for existing water quality for this section of the river and a thorough evaluation of these data to determine whether or not to classify certain sections of the Lower Delaware as Outstanding Basin Waters and whether to make the temporary Special Protection Waters designation permanent for some or all of the Lower Delaware; and

WHEREAS, in the course of designating the Lower Delaware as Special Protection Waters the Commission determined that it would clarify certain provisions of the SPW rule to ensure the rule's uniform application in all parts of the basin in which the rule is applied; and

WHEREAS, to allow the Commissioners and staff time to evaluate implementation options and develop language to clarify aspects of the rule, the Commission extended temporary designation of the Lower Delaware by resolutions No. 2005-15 (extension through September 30, 2006), No. 2006-22 (extension through September 30, 2007) and No. 2007-13 (extension through May 15, 2008), before they caused to be published in October of 2007 in the *Federal Register* and in the Delaware, New Jersey, New York and Pennsylvania registers a new Notice of Proposed Rulemaking to Amend the *Water Quality Regulations, Water Code* and *Comprehensive Plan* to classify the Lower Delaware River as Special Protection Waters; and

WHEREAS, the Commission has determined values for existing water quality for the Lower Delaware, enabling the Commission for the first time to require applicants for new wastewater treatment facilities or for substantial alterations or additions to existing facilities to demonstrate that their new or increased discharges will cause no measurable change to existing water quality except toward natural conditions at a set of established water quality control points; and

WHEREAS, the Commission established a public comment period on the proposed amendments to run through December 6, 2007; it held informational meetings in Stockton, New Jersey on October 25, 2007 and in Easton, Pennsylvania on November 1, 2007; it made presentations on the proposed rule at a series of professional conferences as well as at meetings hosted by citizens' groups and elected officials within the affected regions; and it held a public hearing on the proposal on December 4, 2007; and;

WHEREAS, between September of 2004, when the Commission issued its first public notice of proposed rulemaking to classify the Lower Delaware River as Special Protection Waters, and December 6, 2007, when the comment period closed on the amendments noticed formally in October of 2007, the Commission received thousands of comments from residents, elected officials, treatment plant operators, and administrative agencies, of which the majority constituted petitions and letters in support of the action, and of which approximately three dozen expressed objections to it; and

WHEREAS, during the months of February through July of 2008 Commissioners and Commission staff participated in additional meetings and conference calls at the request of interested parties in order to listen first-hand to the concerns that some constituents raised in written comments submitted during the comment period; and

WHEREAS, the Commissioners and staff have painstakingly sorted, categorized reviewed and prepared written responses to these comments, and in a number of instances have revised the proposed amendments to address concerns raised by commenters and to improve the rule's clarity, especially as applied to existing facilities; and

WHEREAS, extending the full Special Protection Waters program to the Lower Delaware River on a permanent basis will afford these interstate waters the same uniform high standard of protection that has preserved water quality in the Upper and Middle Delaware for approximately 15 years – a standard of protection that could not be achieved by the Commission's member states acting independently of one another; and

WHEREAS, the Commission will reevaluate the Best Demonstrable Technology (BDT) requirements of the rule in light of wastewater technologies developed since the BDT requirements were initially promulgated in 1992, and will consider among other things the effects of employing wastewater technologies on other media, greenhouse gas emissions and energy demands; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission:

1. The section of the non-tidal Delaware River known as the "Lower Delaware" between River Miles 209.5 (the downstream boundary of the Delaware Water Gap National Recreation Area) and 134.4 (the Calhoun Street Bridge near the Head of Tide at Trenton, New Jersey), is hereby classified as Significant Resource Waters.

2. The Commission's *Water Quality Regulations* and *Water Code* are amended as set forth in the attached, effective upon filing with each of the signatory parties in accordance with Section 14.2 of the *Delaware River Basin Compact.*

3. As of their effective date, these amendments are hereby incorporated in the Commission's *Comprehensive Plan.* All aspects of the rule shall be in effect for classified reaches, including the Lower Delaware, in accordance with the amended provisions and including without limitation those requirements that depend for implementation upon the determination of numeric values for existing water quality.

4. Temporary classification of the Lower Delaware River as Significant Resource Waters in accordance with Resolution No. 2005-2 and as extended by resolutions No. 2005-15, No. 2006-22, No. 2007-13, and No. 2008-3 is hereby continued and shall remain in effect until these amendments to the Water Quality Regulations and Water Code are filed in accordance with Section 14.2 of the *Compact* and a notice of final rulemaking has appeared in the *Federal Register.*

5. The Commission's Comment and Response Document, containing detailed responses to written and oral comments submitted on the proposed amendments, shall be finalized and made a part of the official rulemaking record for this action and shall be available for public inspection not later than upon the filing of these amendments with each of the signatory parties in accordance with Section 14.2 of the *Compact.*

/s/ Michele Putnam
Michele Putnam, Chairwoman *pro tem*

/s/ Pamela M. Bush
Pamela M. Bush, Esquire, Commission Secretary

ADOPTED: July 16, 2008