

APPENDIX 1

REGIONAL BASEMAP INFORMATION

Franklin Township

Area (acres)	15,360
Population, 2005 US Census	3,190

Major Roads

Anderson Road
Asbury- Broadway Road
Bloomsbury Road
Buttermilk Bridge Road
Edison Road
Good Springs Road
Halfway House Road
Main Street
Millbrook Road
Mountain View Road
NJ Route 57
Stewartsville Road

APPENDIX 2

2002 AERIAL PHOTOGRAPH

The red tone of color infrared aerial photographs is almost always associated with live vegetation. Very intense reds indicate vegetation which is growing vigorously and is quite dense. An irrigated alfalfa field would be an example of such vegetation. An evergreen forest, which may be quite densely vegetated, will not appear as a similar bright red because its level of growth activity is less, compared to irrigated alfalfa. Knowledge of the vigor and density of vegetation is important to the interpretation of the red colors on color infrared aerial photography. As the vigor and density of vegetation decreases, the tones may change to light reds and pinks. If plant density becomes low enough the faint reds may be overcome by the tones of the soils on which the plants are growing. The ground areas in this case will appear in shades of white, blue, or green depending on the kind of soil and its moisture content. As plant vigor decreases, the vegetation will show as lighter shades of red and pink, various shades of greens, and possible tans. Dead vegetation, wheat stubble as an example, will often be shades of greens or tans.

Bare soils will appear as shades of white, blue, or green in most agricultural regions. In general, the more moist the soil the darker the shade of that particular soil color. Composition of the soil will affect the color tones shown on the photographs. Dry sand will appear white and, with more moisture, may be very light gray or possibly light tan. Clayey soils will generally be darker in color than sands and tend toward tans and bluegreens. Again, wetter clays will be darker shades of the same tones. Soils high in organic matter, like silts and loams will be even darker in color, and usually in shades of blues and greens.

Man-made features will show in the tones that relate to the materials they are made of. Asphalt roads, for example, will be dark blue or black, gravel or dirt roads will show as lighter colors, depending on the soil materials involved in their composition, and concrete roads will appear light in tone, assuming clean concrete. The buildings and streets of towns can be considered in a similar manner, their color dependent on the material they are made of.

Water will appear as shades of blue, varying from nearly black to very pale blue. Clear, clean water will appear nearly black. As the amount of sediment increases, the color becomes increasingly lighter blue. Very shallow water will often appear as the material present in the bottom of the stream. For example, a very shallow stream with a sandy bottom will appear white due to the high level of reflection of the sand.

Orthophotography has a +/- 4.0 ft. horizontal accuracy at 95% confidence level, National Standard for Spatial Data Accuracy (NSSDA), for a 1.0 foot Ground Resolution Distance (GRD). Horizontal accuracy determined as 1.7308 times the RMSE circular error. This requirement will not be applicable in areas where the ground is obscured on the aerial photography by foliage, prevalent smoke, or dense shadow

APPENDIX 3

ELEVATION RELIEF

Elevation Metrics (feet above mean sea level)

Mean	Minimum	Maximum
531.6	254.4	1169.7

Elevation Range	ACRES	%
254 – 411.7	6543.78	43.40
411.7 – 547.6	3652.77	24.23
547.6 – 701.3	1858.28	12.33
701.3 – 876.5	1782.89	11.83
876.5 – 1169.7	1238.95	8.21
Total	15076.67	100

APPENDIX 4

SLOPE ANALYSIS

Slope Percent Interval	ACRES	%
0-10	8982.6	59.5
10-20	3706.6	24.6
20-25	871.8	5.8
25+	1515.6	10.1
TOTAL	15076.6	100

APPENDIX 5

BEDROCK GEOLOGY

<u>Symbol</u>	<u>Geology</u>	<u>Description</u>	<u>ACRES</u>	<u>%</u>
<u>Sedimentary</u>				
Cl	Leithsville Formation	dolomite, dolomitic sandstone, siltstone, and shale	183.68	1.22%
Obl	Lower Part	dolomite and minor limestone	2111.10	14.01
Obu	Upper Part	dolomite and minor limestone	939.03	6.23
OCa	Allentown Dolomite	dolomite, and less abundant quartzite and shale	4082.47	27.09
Oj	Jacksonburg Limestone	shaly limestone, arenaceous limestone, and dolomite-cobble	360.22	2.39
Omb	Bushkill Member	shale, slate, less abundant siltstone, and minor dolomite lens	814.21	5.40
Ow	Wantage Sequence	limestone, dolomite, conglomerate, siltstone, and shale	178.56	1.18
			Total	8669.27 57.52
<u>Crystalline</u>				
Ch	Hardyston Quartzite	Beds of arkose, conglomerate and sandstone, thoroughly cemented with silica	249.39	1.65
Ya	Amphibolite	amphibolite, fine- to medium-grained	425.30	2.82
Yam	Migmatite	mixed amphibolite and gneiss	512.05	3.40
Yb	Biotite-Quartz-Feldspar Gneiss	gneiss, fine- to coarse-grained	273.54	1.82
Yba	Microperthite Alaskite	granite, medium- to coarse-grained	83.74	0.56
Yh	Hypersthene-Quartz-Oligoclase Gneiss	gneiss, medium-grained	29.89	0.20
Yf	Franklin Marble	gneiss, fine- to medium coarse-grained	31.14	0.21
Yk	Potassic Feldspar Gneiss	gneiss, medium-grained	2356.27	15.64
Yla	Albite-Oligoclase Granite	granite, medium- to coarse-grained	286.88	1.90
Ylo	Quartz-Oligoclase Gneiss	gneiss, medium- to coarse-grained	2058.79	13.67
Yp	Pyroxene Gneiss	gneiss, fine- to medium-grained	92.94	0.61
			Total	6399.93 42.48

APPENDIX 6

NRCS SSURGO SOILS

SSURGO SOILS

<u>SYMBOL</u>	<u>SOIL SERIES</u>	<u>DESCRIPTION</u>	<u>ACRES</u>	<u>%</u>
AnB2	ANNANDALE	Annandale gravelly loam, 3 to 8 percent slopes	515.47	3.42
AnC2	ANNANDALE	Annandale gravelly loam, 8 to 15 percent slopes, eroded	977.23	6.48
AnD2	ANNANDALE	Annandale gravelly loam, 15 to 25 percent slopes, eroded	779.54	5.17
AsC	ANNANDALE	Annandale very stony loam, 8 to 15 percent slopes	11.64	0.08
AsD	ANNANDALE	Annandale very stony loam, 15 to 25 percent slopes	58.38	0.39
			<hr/>	
			Total	2342.26 15.54
BaA	BARTLEY	Bartley loam, 0 to 3 percent slopes	186.74	1.24
BaB	BARTLEY	Bartley loam, 3 to 8 percent slopes	1170.43	7.76
BbC	BARTLEY	Bartley gravelly loam, 8 to 15 percent slopes	172.22	1.14
BdB	BARTLEY	Bartley stony loam, 3 to 8 percent slopes	51.27	0.34
			<hr/>	
			Total	1580.66 10.50
BhnB	BIRDSBORO	Birdsboro silt loam, 2 to 6 percent slopes	0.02	<0.01
CbB	CALIFON	Califon gravelly loam, 3 to 8 percent slopes	361.88	2.40
CbC2	CALIFON	Califon gravelly loam, 8 to 15 percent slopes, eroded	530.29	3.52
CcB	CALIFON	Califon very stony loam, 3 to 8 percent slopes	33.21	0.22
CcC	CALIFON	Califon very stony loam, 8 to 15 percent slopes	50.80	0.34
			<hr/>	
			Total	976.18 6.48
CoA	COKESBURY	Cokesbury loam, 0 to 3 percent slopes	4.56	0.03
CoB	COKESBURY	Cokesbury loam, 3 to 8 percent slopes	27.38	0.18
CsB	COKESBURY	Cokesbury very stony loam, 3 to 8 percent slopes	133.80	0.89
			<hr/>	
			Total	165.74 1.10
EdB	EDNEYVILLE	Edneyville gravelly loam, 3 to 8 percent slopes	489.79	3.25
EdC	EDNEYVILLE	Edneyville gravelly loam, 8 to 15 percent slopes, eroded	185.96	1.23
EeB	EDNEYVILLE	Edneyville extremely stony loam, 3 to 8 percent slopes	43.05	0.29
EeC	EDNEYVILLE	Edneyville extremely stony loam, 8 to 15 percent slopes	319.35	2.12
			<hr/>	
			Total	1038.15 6.89
EPD	EDNEYVILLE-PARKER	Edneyville-Parker outcrop association, steep	657.66	4.36
FNAT	FLUVAQUENTS	Fluvaquents and Udifluvents, 0 to 3 percent slopes, frequently flooded	0.48	<0.01
FrA	FREDON	Fredon loam, 0 to 3 percent slopes	2.04	0.01
HbA	HAZEN	Hazen loam, 0 to 3 percent slopes	192.97	1.28
HbB	HAZEN	Hazen loam, 3 to 8 percent slopes	71.69	0.48
HbC	HAZEN	Hazen loam, 8 to 15 percent slopes	5.58	0.04
HfA	HAZEN	Hazen gravelly loam, 0 to 3 percent slopes	55.88	0.37
HfB	HAZEN	Hazen gravelly loam 3 to 8 percent slopes	39.74	0.26
			<hr/>	
			Total	365.86 2.43

SYMBOL SOIL SERIES		DESCRIPTION	ACRES	%
HkA	HERO	Hero loam, 0 to 3 percent slopes	115.96	0.77
HkB	HERO	Hero loam, 3 to 8 percent slopes	82.57	0.55
HrA	HERO	Hero gravelly loam, 0 to 3 percent slopes	18.63	0.12
HrB	HERO	Hero gravelly loam, 3 to 8 percent slopes	10.25	0.07
			<u>Total</u>	<u>227.41</u>
				1.51
LyA	LYONS	Lyons silt loam, 0 to 4 percent slopes	89.15	0.59
LzB	LYONS	Lyons very stony silt loam, 3 to 8 percent slopes	8.63	0.06
			<u>Total</u>	<u>97.78</u>
				0.65
Md	MIDDLEBURY	Middlebury loam	259.95	1.72
NaC	NASSAU	Nassau rocky silt loam, 8 to 15 percent slopes	269.38	1.79
NbB	NASSAU	Nassau shaly silt loam, 3 to 8 percent slopes	432.83	2.87
			<u>Total</u>	<u>702.21</u>
				4.66
NFD	NASSAU-ROCK OUTCROP	Nassau-Rock outcrop complex, 15 to 25 percent slopes	45.84	0.30
NFE	NASSAU-ROCK OUTCROP	Nassau-Rock outcrop complex, 25 to 45 percent slopes	78.35	0.52
			<u>Total</u>	<u>124.19</u>
				0.82
PbD	PARKER	Parker gravelly sandy loam, 15 to 25 percent slopes	149.46	0.99
PbE	PARKER	Parker gravelly sandy loam, 25 to 40 percent slopes	341.09	2.26
			<u>Total</u>	<u>490.55</u>
				3.25
RPF	ROCK OUTCROP	Rock outcrop- Parker-Edneyville association, very steep	1476.13	9.79
RWD	ROCK OUTCROP	Rock outcrop-Wassaic complex, 15 to 25 percent slopes	6.77	0.04
			<u>Total</u>	<u>1482.90</u>
				9.83
WaA	WASHINGTON	Washington loam, 0 to 3 percent slopes	302.99	2.01
WaB	WASHINGTON	Washington loam, 3 to 8 percent slopes	3064.77	20.32
WaC2	WASHINGTON	Washington loam, 8 to 15 percent slopes, eroded	618.18	4.10
WaD2	WASHINGTON	Washington loam, 15 to 25 percent slopes, eroded	99.03	0.66
			<u>Total</u>	<u>4084.97</u>
				27.09
WmB	WASSAIC	Wassaic gravelly loam, 3 to 8 percent slopes	16.28	0.11
WnC	WASSAIC	Wassaic rocky gravelly loam, 8 to 15 percent slopes	20.22	0.13
WnD	WASSAIC	Wassaic rocky gravelly loam, 15 to 25 percent slopes	4.69	0.03
WOB	WASSAIC	Wassaic- Rock outcrop complex, 3 to 8 percent slopes	58.53	0.38
WOC	WASSAIC	Wassaic-Rock outcrop complex, 8 to 15 percent slopes	56.57	0.38
WOD	WASSAIC	Wassaic-Rock outcrop complex, 15 to 25 percent slopes	30.22	0.20
			<u>Total</u>	<u>186.51</u>
				1.23
Wp	WAYLAND	Wayland silt loam	18.38	0.12
DmP	MINE DUMP	Mine Dump	153.35	1.02
Pd	PITS	Pits, sand and gravel	5.90	0.04
QU	QUARRY	Quarry	50.33	0.33
WATER	WATER	Water	63.18	0.42

APPENDIX 6

NRCS SOILS SERIES DESCRIPTIONS

ANNANDALE –Consists of deep, gently sloping to strongly sloping, well-drained, loamy soils that formed in old glacial drift or colluvium of highly weathered granitic gneiss. Angular fragments of gneiss, as much as 2 feet in diameter, make up as much as 25 % of the profile. In the landscape these soils occupy high positions.

BARTLEY- Consists of very deep, moderately well drained soils that formed in glacial drift or colluvium and underlying residuum derived mainly from limestone and granitic gneiss. They occur on broad, nearly level to strongly sloping till plains and in heads of drains, with slopes ranging from 0 to 15 percent. These soils have a fragipan in the lower part of the solum.

BIRDSBORO –Consists of deep, nearly level to strongly sloping, well-drained soils that have a stratified sandy or gravelly substratum. These soils formed in deposits of mostly silt loam alluvium derived from material weathered mainly from shale and sandstone. They are on stream terraces above the flood level of the Raritan River and other smaller streams.

CALIFON – Consists of deep, nearly level to gently sloping, moderately well drained to somewhat poorly drained soils. They have a mottled clayey subsoil that is gravelly in places. These soils formed in gneissic glacial till or colluvium. They are on upland flats and concave slopes in the Highlands.

COKESBURY – Consists of deep, nearly level to gently sloping, poorly drained, loamy soils that formed in material weathered from gneissic rock.

EDNEYVILLE – Consists of deep, gently sloping to steep, well-drained, gravelly soils that formed over granite gneiss bedrock.

FREDON- Consists of very deep, poorly and somewhat poorly drained soils formed in glaciofluvial materials. Fredon soils are on outwash terraces. Saturated hydraulic conductivity is moderately high or high in the solum and high or very high in the substratum. Slope ranges from 0 to 8 percent.

HAZEN- Consists of very deep, well drained soils that formed in stratified gravelly or cobbly glacial deposits. They are shallow and moderately deep to a lithologic discontinuity. They occur on nearly level to steep slopes of kames and terraces. Slope ranges from 0 to 45 percent. Permeability is moderately rapid or moderate in the solum and rapid or very rapid in the substratum.

HERO- Consists of very deep, moderately well drained soils formed in loamy over sandy and gravelly glacial outwash. They are nearly level and gently sloping soils on glaciofluvial landforms, and are typically in slight depressions and broad drainageways.

Slope ranges from 0 to 8 percents. Permeability is moderate or moderately rapid in the surface layer and subsoil and rapid or very rapid in the substratum.

LYONS- Consists of very deep, poorly and very poorly drained soils on upland till plains in depressions and low areas in the landscape. They are occasionally in areas of seeps on gently sloping landscapes. They formed in calcareous till derived from limestone, calcareous shale and sandstone. Slope ranges from 0 to 5 percent.

MIDDLEBURY- Consists of very deep, moderately well drained nearly level soils formed in recent alluvium. These soils are on floodplains. Permeability is moderate in the surface layer, soil and upper part of the substratum, and rapid or moderately rapid in the lower part of the substratum. Slope ranges from 0 to 3 percent.

NASSAU- Consists of shallow, somewhat excessively drained soils formed in till. They are nearly level to very steep soils on bedrock controlled glacially modified landforms. Bedrock is at a depth of 10 to 20 inches. Slope ranges from 0 to 70 percent.

PARKER – Consists of deep, gently sloping to steep, somewhat excessively drained, gravelly or cobbly soils that formed in material weathered from granite gneiss. They occur on uplands and are underlain by gneiss bedrock.

PITS, GRAVEL – Former or current pits used for surface mining of gravel and fine stones.

WASHINGTON – Consists of deep, gently sloping to strongly sloping, well-drained soils. They formed in glacial drift that contained large amounts of limestone and gneiss and chert gravel.

WASSAIC- Consists of moderately deep, well drained soil formed in loamy till. They are on bedrock controlled till plains. Bedrock is at depths of 20 to 40 inches. Permeability is moderate or moderately slow in the subsoil and substratum. Slope ranges from 0 to 50 percent.

WAYLAND- Consists of very deep, poorly drained and very poorly drained, nearly level soils formed in recent alluvium. These soils are in low areas or slackwater areas on floodplains. Saturated hydraulic conductivity is moderately high or high in the mineral soil. Slope ranges from 0 to 3 percent.

APPENDIX 7

ERODIBLE SOILS

LABEL	ACRES	%
Highly erodible land	6990.04	46.36%
Potentially highly erodible land	6846.58	45.41
Not highly erodible land	1086.70	7.21%
Erosion potential unknown	153.35	1.02%
TOTAL	15076.67	100%

Highly Erodible Soils

	ACRES	%
AnoC2 Annandale gravelly loam, 8 to 15 percent slopes, eroded	977.23	6.48
AnD2 Annandale gravelly loam, 15 to 25 percent slopes, eroded	779.54	5.17
AsD Annandale very stony loam, 15 to 25 percent slopes	58.38	0.39
BbC Bartley gravelly loam, 8 to 15 percent slopes	172.22	1.14
CbC2 Califon gravelly loam, 8 to 15 percent slopes	530.29	3.52
EdC Edneyville gravelly loam, 8 to 15 percent slopes	185.96	1.23
EPD Edneyville-Parker-Rock outcrop association, steep	657.66	4.36
NaC Nassau rocky silt loam, 8 to 15 percent slopes	269.38	1.79
NbB Nassau shaly silt loam, 3 to 8 percent slopes	432.83	2.87
NFD Nassau-Rock outcrop complex, 15 to 25 percent slopes	45.84	0.30
NFE Nassau-Rock outcrop complex, 25 to 45 percent slopes	78.35	0.52
PbD Parker gravelly sandy loam, 15 to 25 percent slopes	149.46	0.99
PbE Parker gravelly sandy loam, 25 to 40 percent slopes	341.09	2.26
RPF Rock outcrop- Parker-Edneyville association, very steep	1476.13	9.79
RWD Rock outcrop-Wassaic complex, 15 to 25 percent slopes	6.77	0.05
WaC2 Washington loam, 8 to 15 percent slopes, eroded	618.18	4.10
WaD2 Washington loam, 15 to 25 percent slopes, eroded	99.03	0.66
WnC Wassaic rocky gravelly loam, 8 to 15 percent slopes	20.22	0.13
WnD Wassaic rocky gravelly loam, 15 to 25 percent slopes	4.69	0.03
WOC Wassaic-Rock outcrop complex, 8 to 15 percent slopes	56.57	0.38
WOD Wassaic-Rock outcrop complex, 15 to 25 percent slopes	30.22	0.20
Total	6990.04	46.36

Potentially Highly Erodible Soils

	ACRES	%
AnB2 Annandale gravelly loam, 3 to 8 percent slopes, eroded	515.47	3.42
AsC Annandale very stony loam, 8 to 15 percent slopes	11.64	0.08
BaA Bartley loam, 0 to 3 percent slopes	186.74	1.24
BaB Bartley loam, 3 to 8 percent slopes	1170.43	7.76
BdB Bartley stony loam, 3 to 8 percent slopes	51.27	0.34
BhnB Birdsboro silt loam, 2 to 6 percent slopes	0.02	<0.01
CbB Califon gravelly loam, 3 to 8 percent slopes	361.88	2.40
CcB Califon very stony loam, 3 to 8 percent slopes	33.21	0.22
CcC Califon very stony loam, 8 to 15 percent slopes	50.80	0.34
CoA Cokesbury loam, 0 to 3 percent slopes	4.56	0.03
CoB Cokesbury loam, 3 to 8 percent slopes	27.38	0.18
CsB Cokesbury very stony loam, 3 to 8 percent slopes	133.80	0.89

EdB	Edneyville gravelly loam, 3 to 8 percent slopes	489.79	3.25
EeB	Edneyville extremely stony loam, 3 to 8 percent slopes	43.05	0.29
EeC	Edneyville extremely stony loam, 8 to 15 percent slopes	319.35	2.12
HbB	Hazen loam, 3 to 8 percent slopes	71.69	0.48
HbC	Hazen loam, 8 to 15 percent slopes	5.58	0.04
HfB	Hazen gravelly loam, 3 to 8 percent slopes	39.74	0.26
HkB	Hero loam, 3 to 8 percent slopes	82.57	0.55
HrB	Hero gravelly loam, 3 to 8 percent slopes	10.25	0.07
LyA	Lyons silt loam, 0 to 4 percent slopes	89.15	0.59
LzB	Lyons very stony silt loam, 3 to 8 percent slopes	8.63	0.06
WaB	Washington loam, 3 to 8 percent slopes	3064.77	20.33
WmB	Wassaic gravelly loam, 3 to 8 percent slopes	16.28	0.11
WOB	Wassaic-Rock outcrop complex, 3 to 8 percent slopes	58.53	0.39
Total		6846.58	45.41

Not Highly Erodible Soils

		ACRES	%
FNAT	Fluvaquents and Udifluvents, 0 to 3 percent slopes, frequently floods	0.48	<0.01
FrA	Fredon loam, 0 to 3 percent slopes	2.04	0.01
HbA	Hazen loam, 0 to 3 percent slopes	192.97	1.28
HbC	Hazen gravelly loam, 0 to 3 percent slopes	55.88	0.37
HkA	Hero loam, 0 to 3 percent slopes	115.96	0.77
HrA	Hero gravelly loam, 3 to 8 percent slopes	18.63	0.12
Md	Middlebury loam	259.95	1.72
Pd	Pits, sand and gravel	5.90	0.04
QU	Quarry	50.33	0.33
WaA	Washington loam, 0 to 3 percent slopes	302.99	2.86
WATER	Water	63.18	0.42
Wp	Wayland silt loam	18.38	0.12
Total		1086.70	7.21

Erosion potential unknown

		ACRES	%
DmP	Mine Dump	153.35	1.02

APPENDIX 8

IMPORTANT SOILS OF NEW JERSEY

LABEL	ACRES	%
All areas are Prime Farmland	6956.01	46.14
Farmland of Statewide Importance	2540.74	16.85
Unknown	153.35	1.02
Not Prime Farmland	5369.99	35.62
Prime Farmland if Drained	56.57	0.38
TOTAL	15076.66	100.00

All Areas are Prime Farmland		ACRES	%
AnB2	Annandale gravelly loam, 3 to 8 percent slopes	515.47	3.42
BaA	Bartley loam, 0 to 3 percent slopes	186.74	1.24
BaB	Bartley loam, 3 to 8 percent slopes	1170.43	7.76
BhbB	Birdsboro silt loam, 2 to 6 percent slopes	0.02	<0.01
CbB	Califon gravelly loam, 3 to 8 percent slopes	361.88	2.40
EdB	Edneyville gravelly loam, 3 to 8 percent slopes	489.79	3.25
HbA	Hazen loam, 0 to 3 percent slopes	192.97	1.28
HbB	Hazen loam, 3 to 8 percent slopes	71.69	0.48
HfA	Hazen gravelly loam, 0 to 3 percent slopes	55.88	0.37
HfB	Hazen gravelly loam, 3 to 8 percent slopes	39.74	0.26
HkA	Hero loam, 0 to 3 percent slopes	115.96	0.77
HkB	Hero loam, 3 to 8 percent slopes	82.57	0.55
HrA	Hero gravelly loam, 0 to 3 percent slopes	18.63	0.12
HrB	Hero gravelly loam, 3 to 8 percent slopes	10.25	0.07
Md	Middlebury loam	259.95	1.72
WaA	Washington loam, 0 to 3 percent slopes	302.99	2.01
WaB	Washington loam, 3 to 8 percent slopes	3064.77	20.33
WmB	Wassaic gravelly loam, 3 to 8 percent slopes	16.28	0.11
Total		6956.01	46.14

Farmland of Statewide Important Soils		ACRES	%
AnC2	Annandale gravelly loam, 8 to 15 percent slopes, eroded	977.23	6.48
BbC	Bartley gravelly loam, 8 to 15 percent slopes	172.22	1.14
BdB	Bartley stony loam, 3 to 8 percent slopes	51.27	0.34
CbC2	Califon gravelly loam, 8 to 15 percent slopes, eroded	530.29	3.52
EdC	Edneyville gravelly loam, 8 to 15 percent slopes	185.96	1.23
HbC	Hazen loam, 8 to 15 percent slopes	5.58	0.04
WaC2	Washington loam, 8 to 15 percent slopes, eroded	618.18	4.10
Total		2540.73	16.85

Unknown		ACRES	%
DmP	Mine Dump	153.35	1.02

Not Prime Farmland		ACRES	%
AnD2	Annandale gravelly loam, 15 to 25 percent slopes, eroded	779.54	5.17
AsC	Annandale very stony loam, 8 to 15 percent slopes	11.64	0.08
AsD	Annandale very stony loam, 15 to 25 percent slopes	58.38	0.39
CcB	Califon very stony loam, 3 to 8 percent slopes	33.21	0.22
CcC	Califon very stony loam, 8 to 15 percent slopes	50.80	0.34
CoA	Cokesbury loam, 0 to 3 percent slopes	4.56	0.03
CoB	Cokesbury loam, 3 to 8 percent slopes	27.38	0.18
CsB	Cokesbury very stony loam, 3 to 8 percent slopes	133.80	0.89
EeB	Edneyville extremely stony loam, 3 to 8 percent slopes	43.05	0.29
EeC	Edneyville extremely stony loam, 8 to 15 percent slopes	319.35	2.12
EPD	Edneyville-Parker Rock outcrop association, steep	657.66	4.36
FNAT	Fluvaquents and Udifluvents, 0 to 3 percent slopes, frequently flooded	0.48	<0.01
FrA	Fredon loam, 0 to 3 percent slopes	2.04	0.01
LyA	Lyons silt loam, 0 to 4 percent slopes	89.15	0.59
LzB	Lyons very stony silt loam, 3 to 8 percent slopes	8.63	0.06
NaC	Nassau rocky silt loam, 8 to 15 percent slopes	269.38	1.79
NbB	Nassau shaly silt loam, 3 to 8 percent slopes	432.83	2.87
NFD	Nassau-Rock outcrop complex, 15 to 25 percent slopes	45.84	0.30
NFE	Nassau-Rock outcrop complex, 25 to 45 percent slopes	78.35	0.52
PbD	Parker gravelly sandy loam, 15 to 25 percent slopes	149.46	0.99
PbE	Parker gravelly sandy loam, 25 to 40 percent slopes	341.09	2.26
Pd	Pits, sand, and gravel	5.90	0.04
QU	Not prime farmland	50.33	0.33
RPF	Rock outcrop Parker-Edneyville association, very steep	1476.13	9.79
RWD	Rock outcrop Wassaic complex, 15 to 25 percent slopes	6.77	0.04
WaD2	Washington loam, 15 to 25 percent slopes, eroded	99.03	0.66
WnC	Wassaic rocky gravelly loam, 8 to 15 percent slopes	20.22	0.13
WnD	Wassaic rocky gravelly loam, 15 to 25 percent slopes	4.69	0.03
WOB	Wassaic- Rock outcrop complex, 3 to 8 percent slopes	58.53	0.39
WOD	Wassaic-Rock outcrop complex, 15 to 25 percent slopes	30.22	0.20
WATER	Water	63.18	0.42
Wp	Wayland silt loam	18.38	0.12
Total		5369.99	35.62

Prime Farmland if Drained		ACRES	%
WOC	Wassaic-Rock outcrop complex, 8 to 15 percent slopes	56.57	0.38

APPENDIX 9

HUC14 WATERSHED INFORMATION

HUC 14 #s	Subwatershed	WMA ID	WMA	Region
02040105140020 02040105140030 02040105140040 02040105140050 02040105140060	Pohatcong Creek	01	Upper Delaware River Watershed	Northwest
02040105160040 02040105160050 02040105160060	Musconetcong River			

MAJOR STREAMS

Halfway House Brook
Mill Brook
Montana Brook
Musconetcong River
Pohatcong Creek

APPENDIX 10

SURFACE WATER QUALITY STANDARDS OF NEW JERSEY/C1 WATERS

Anti-Degradation Classification	Linear Stream Miles
Category One	19.45

Stream/Tributary	Class	Trout	C1	Category
Halfway House Brook	FW2	TP	C1	FW2-TP (C1)
Mill Brook	FW2	TP	C1	FW2-TP (C1)
Montana Brook	FW2	TP	C1	FW2-TP (C1)
Musconetcong River	FW2	TM		FW2-TM
Trib to Musconetcong River	FW2	TP	C1	FW2-TP (C1)
Pohatcong Creek	FW2	TM	C1	FW2-TM (C1)
Trib to Pohatcong Creek	FW2	TP	C1	FW2-TP (C1)

Stream/Tributary	Category	Buffer	
Halfway House Brook	FW2-TP (C1)	300'	Highlands Preservation Area/ C1
Mill Brook	FW2-TP (C1)	300'	Highlands Preservation Area/ C1
Montana Brook	FW2- TP (C1)	300'	Highlands Preservation Area/ C1
Musconetcong River	FW2-TM	300'	Highlands Preservation Area
Trib to Musconetcong River	FW2-TP(C1)	(sections)	C1
Pohatcong Creek	FW2-TM (C1)	300'	Highlands Preservation Area/ C1
Trib to Pohatcong Creek	FW2-TP (C1)	300'	C1

Wild and Scenic Designation

Musconetcong River

APPENDIX 11

FEMA FLOOD HAZARD ZONES

ZONE	LABEL	ACRES	%	
A	Within 100-year flood. No Base Flood Elevations determination	47.49	0.32	
AE	Within 100-year flood. Base Flood Elevations (BFE's) determined	434.62	2.89	
X500	Within 500-year flood.	175.01	1.16	
X	Outside Flood Zone	14405.26	95.64	
		Total	15062.38	100.00

APPENDIX 12

GROUNDWATER RECHARGE

COUNTY RANK ¹	POTENTIAL RECHARGE RATE (IN/YR)	ACRES	%
A	17 to 12 in/yr	278.25	1.85
B	15 to 16 in/yr	5744.25	38.10
C	11 to 13 in/yr	7819.62	51.87
D	1 to 10 in/yr	356.32	2.36
E	0 in/yr	48.96	0.32
L	Hydric Soils- No recharge calculated	70.06	0.46
W	Wetlands/Open Water – No recharge calculated	639.13	4.24
X	No recharge calculated	120.06	0.80
		15076.66	100.00

Associated Soil Types

SERIES	SYMBOL	HYDROLOGIC SOIL	RANGE OF PERMEABILITY (IN/HR)
		GROUP PER USDA WARREN COUNTY SOIL SURVEY ¹	AT DEPTHS OF 24-60 AS PER USDA WARREN COUNTY SOIL SURVEY
ANNANDALE	AnB2	C	0.06-0.6
ANNANDALE	AnC2	C	0.06-0.6
ANNANDALE	AnD2	C	0.06-0.6
ANNANDALE	AsC	C	0.06-0.6
ANNANDALE	AsD	C	0.06-0.6
BARTLEY	BaA	C	0.06-0.6
BARTLEY	BaB	C	0.06-0.6
BARTLEY	BbC	C	0.06-0.6
BARTLEY	BdB	C	0.06-0.6
BIRDSBORO	BhbB	N/A	N/A
CALIFON	CbB	C	0.06-0.2
CALIFON	CbC2	C	0.6-0.2
CALIFON	CcB	C	0.6-0.2
CALIFON	CcC	C	0.6-0.2
COKESBURY	CoA	D	0.6-0.6
COKESBURY	CoB	D	0.6-0.6
COKESBURY	CsB	D	>0.2
EDNEYVILLE	EdB	B	2.0-6.0
EDNEYVILLE	EdC	B	2.0-6.0
EDNEYVILLE	EeB	B	2.0-6.0
EDNEYVILLE	EeC	B	2.0-6.0
EDNEYVILLE-PARKER	EPD	B	6.0-20.0
FLUVAQUENTS	FNAT	N/A	N/A
FREDON	FrA	C	2.0-20.0
HAZEN	HbA	B	6.0-20.0
HAZEN	HbB	B	6.0-20.0
HAZEN	HbC	B	6.0-20.0

HAZEN	HfA	B	6.0-20.0
HAZEN	HfB	B	6.0-20.0
HERO	HkA	B	>6.0
HERO	HkB	B	>6.0
HERO	HrA	B	>6.0
HERO	HrB	B	>6.0
LYONS	LyA	D	0.06-0.2
LYONS	LzB	D	0.06-0.2
MIDDLEBURY	Md	B	0.6-6.0
NASSAU	NaC	C	0.6-2.0
NASSAU	NbB	C	0.6-2.0
NASSAU-ROCK OUTCROP	NFD	C	0.0
NASSAU_ROCK OUTCROP	NFE	C	0.0
PARKER	PbD	B	6.0-20.0
PARKER	PbE	B	6.0-20.0
ROCK OUTCROP	RPF	B	0.0
ROCK OUTCROP	RWD	B	0.0
WASHINGTON	WaA	B	0.6-6.0
WASHINGTON	WaB	B	0.6-6.0
WASHINGTON	WaC2	B	0.6-6.0
WASHINGTON	WaD2	B	0.6-6.0
WASSAIC	WmB	B	0.2-2.0
WASSAIC	WnC	B	0.2-2.0
WASSAIC	WnD	B	0.2-2.0
WASSAIC	WOB	B	0.2-2.0
WASSAIC	WOC	B	0.2-2.0
WASSAIC	WOD	B	0.2-2.0
WAYLAND	Wp	D	0.06-0.2

¹ County Rank designations (A-X) do not equate to USDA Hydrologic Soil Group designations.

APPENDIX 13:

BEDROCK AQUIFERS

NAME	ACRES	%
JACKSONBURG LIMESTONE, KITTATINNY SUPERGROUP AND HARDYSTON QUARTZITE AQUIFER	8101.0	53.7
IGNEOUS AND METAMORPHIC AQUIFER	6162.1	40.9
MARTINSBURG FORMATION AND JUTLAND SEQUENCE AQUIFER	813.5	5.4
TOTAL	15076.6	100.0

APPENDIX 14

LAND USE / LAND COVER

<u>TYPE02</u>	<u>ACRES</u>	<u>%</u>
AGRICULTURE	7134.57	47.32
BARREN LAND	150.48	1.00
FOREST	5242.23	34.77
URBAN	1693.35	11.23
WATER	129.05	0.86
WETLANDS	726.98	4.82
TOTAL	15076.66	100

<u>LU02</u>	<u>TYPE02</u>	<u>LABEL02</u>	<u>ACRES</u>	<u>%</u>
1110	URBAN	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	6.72	0.04
1120	URBAN	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	41.94	0.28
1130	URBAN	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	177.45	1.18
1140	URBAN	RESIDENTIAL, RURAL, SINGLE UNIT	1089.61	7.23
1200	URBAN	COMMERCIAL/SERVICES	98.29	0.65
1300	URBAN	INDUSTRIAL	45.42	0.30
1400	URBAN	TRANSPORTATION/COMMUNICATIONS/UTILITIES	16.37	0.11
1410	URBAN	MAJOR ROADWAY	1.57	0.01
1419	WATER	BRIDGE OVER WATER	0.66	0.01
1461	WETLANDS	WETLAND RIGHTS-OF-WAY (MODIFIED)	3.79	0.03
1463	URBAN	UPLAND RIGHTS-OF-WAY UNDEVELOPED	42.33	0.28
1499	URBAN	STORMWATER BASIN	21.20	0.14
1600	URBAN	MIXED URBAN OR BUILT-UP LAND	2.48	0.02
1700	URBAN	OTHER URBAN OR BUILT-UP LAND	103.27	0.68
1710	URBAN	CEMETARY	6.36	0.04
1750	WETLANDS	MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	8.47	0.06
1800	URBAN	RECREATIONAL LAND	16.82	0.11
1804	URBAN	ATHLETIC FIELDS (SCHOOLS)	23.52	0.16
1850	WETLANDS	MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	0.82	0.01
2100	AGRICULTURE	CROPLAND AND PASTURELAND	6823.77	45.26
2140	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	276.25	1.83
2150	WETLANDS	FORMER AGRICULTURAL WETLAND-BECOMING SHRUBBY, NOT BUILT-UP)	4.27	0.03
2200	AGRICULTURE	ORCHARDS/VINEYARDS/NURSNRIES/HORTICULTURAL AREAS	50.93	0.34
2300	AGRICULTURE	CONFINED FEEDING OPERATIONS	39.43	0.26
2400	AGRICULTURE	OTHER AGRICULTURE	220.45	1.46
4110	FOREST	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	762.54	5.06
4120	FOREST	DECIDUOUS FOREST (>50% CROWN CLOSURE)	3808.52	25.26
4210	FOREST	CONIFEROUS FOREST (10-50% CROWN CLOSURE)	8.23	0.05
4220	FOREST	CONIFEROUS FOREST (>50% CROWN CLOSURE)	27.92	0.19
4230	FOREST	PLANTATION	23.73	0.16
4311	FOREST	MIXED FOREST (>50% CONIFEROUS WITH 10-50% CROWN CLOSURE)	24.83	0.16
4312	FOREST	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)	57.04	0.38
4321	FOREST	MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)	36.28	0.24
4322	FOREST	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)	26.54	0.18
4410	FOREST	OLD FIELD (< 25% BRUSH COVERED)	72.05	0.48

LU02	TYPE02	LABEL02	ACRES	%
4420	FOREST	DECIDUOUS BRUSH/SHRUBLAND	60.68	0.40
4430	FOREST	CONIFEROUS BRUSH/SHRUBLAND	40.10	0.27
4440	FOREST	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	293.76	1.95
5100	WATER	STREAMS AND CANALS	84.80	0.56
5200	WATER	NATURAL LAKES	0.68	.01
5300	WATER	ARTIFICIAL LAKES	42.90	0.28
6210	WETLANDS	DECIDUOUS WOODED WETLANDS	365.11	2.42
6231	WETLANDS	DECIDUOUS SCRUB/SHRUB WETLANDS	28.79	0.19
6232	WETLANDS	CONIFEROUS SCRUB/SHRUB WETLANDS	2.86	0.02
6233	WETLANDS	MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	10.25	0.07
6234	WETLANDS	MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	11.47	0.08
6240	WETLANDS	HERBACEOUS WETLANDS	13.20	0.09
6251	WETLANDS	MIXED WOODED WETLANDS (DECIDUOUS DOM.)	1.13	0.01
7300	BARREN LAND	EXTRACTIVE MINING	4.54	0.03
7400	BARREN LAND	ALTERED LANDS	84.75	0.56
7430	WETLANDS	DISTURBED WETLANDS (MODIFIED)	0.57	0.01
7500	BARREN LAND	TRANSITIONAL AREAS	61.19	0.41
TOTAL			15076.66	100

APPENDIX 15

HIGHLANDS AREAS

HIGHLANDS AREA	ACRES	%
Highlands Preservation Area	3785.95	25.11
Highlands Planning Area	11290.71	74.89
Total	15076.66	100.00

APPENDIX 16

STATE PLAN POLICY

PLANNING AREA	CODE	ACRES	%
Rural	PA4	76.45	0.51
Rural Environmentally Sensitive	PA4B	10424.94	69.15
Environmentally Sensitive	PA5	4418.69	29.31
Parks and Natural Areas	Parks	156.57	1.03
	Total	15076.65	100.00

APPENDIX 17

OPEN SPACE AND PRESERVED LANDS

OPEN SPACE TYPE	ACRES
County Property / Easement	185.21
Municipal Property	17.09
Non-Profit Property	47.01
Preserved Farmland	1791.32
Semi Public Property	113.75
State Property	273.12
TOTAL	2427.49

Warren County Owned Open Space

BLOCK	LOT	OWNER	Type	ACRES
39	1	Warren County	County Property / Easement	74.17
39	1.01	Warren County	County Property / Easement	9.76
39	2.01	Warren County	County Property / Easement	1.47
39	5.01	Warren County	County Property / Easement	0.47
39	3.01	Warren County	County Property / Easement	4.41
39	3.05	Warren County	County Property / Easement	4.37
39	3.03	Warren County	County Property / Easement	1.35
19	2	Warren County	County Property / Easement	5.15
18	27	Warren County	County Property / Easement	29.82
11	1	Warren County	County Property / Easement	51.92
8	42	Warren County	County Property / Easement	2.30
Total				185.21

Municipal Owned Open Space

BLOCK	LOT	OWNER	Type	Acres
56	21	Franklin Twp	Municipal Property	6.18
45	15	Franklin Twp	Municipal Property	0.35
17	36	Franklin Twp	Municipal Property	5.66
16	1201	Franklin Twp	Municipal Property	3.35
16	11	Franklin Twp	Municipal Property	1.56
Total				17.09

Non-Profit Owned Open Space

BLOCK	LOT	OWNER	Type	Acres
47	6	Musconetcong Watershed Association	Non-Profit Property	47.01
Total				47.01

Farmland Preservation

BLOCK	LOT	OWNER	Type	Acres
61	4	John Schuster	Preserved Farmland	96.20
61	3	John Schuster	Preserved Farmland	72.24
59	9	Warren Rod and Gun Club	Preserved Farmland	37.58
59	8	Warren Rod and Gun Club	Preserved Farmland	3.65
59	7	Warren Rod and Gun Club	Preserved Farmland	14.54
58	27	Warren Rod and Gun Club	Preserved Farmland	20.76
58	7	Trout, Henry	Preserved Farmland	50.27
58	5	Warren Rod and Gun Club	Preserved Farmland	19.44
58	4	Trout, Henry	Preserved Farmland	75.85

58	3	Trout, Henry	Preserved Farmland	37.48	
58	2	Norman Falk	Preserved Farmland	49.85	
57	27.02	Oostdyk, John	Preserved Farmland	4.93	
57	27	Sigler, Ronald	Preserved Farmland	53.56	
57	25	Oostdyk, John	Preserved Farmland	7.29	
56	39	Steinhardt, Lincoln	Preserved Farmland	78.24	
56	38	Steinhardt, Lincoln	Preserved Farmland	119.47	
57	29	Arvystas, Michael	Preserved Farmland	48.41	
57	26	Oostdyk, John	Preserved Farmland	68.84	
57	24	Oostdyk, John	Preserved Farmland	15.38	
57	23	Oostdyk, John	Preserved Farmland	45.15	
57	22	Sigler, Ronald	Preserved Farmland	104.37	
57	20	Sigler, Ronald	Preserved Farmland	82.39	
57	19	Sigler, Ronald	Preserved Farmland	90.22	
57	10	Peter Joseph	Preserved Farmland	87.32	
53	4	Leyburn, Robert	Preserved Farmland	5.70	
53	3	Fox, Elliot & Engborg	Preserved Farmland	19.61	
51	3	Leyburn, Robert	Preserved Farmland	53.07	
51	2	Fox, Elliot & Engborg	Preserved Farmland	82.38	
49	2	Schnetzler Farms	Preserved Farmland	2.72	
48	13	Schnetzler Farms	Preserved Farmland	46.65	
48	10	Schnetzler, M	Preserved Farmland	17.24	
48	5	Schnetzler, M	Preserved Farmland	124.57	
45	14	Augusta, Joseph & Mary	Preserved Farmland	28.01	
45	12	Dischler, Jill & Robert	Preserved Farmland	27.91	
45	11	Augusta, Joseph & Mary	Preserved Farmland	83.96	
9	12	Barbara Fisher Bigelow	Preserved Farmland	16.08	
				Total	1791.32

Semi Public Property Open Space

BLOCK	LOT	OWNER	Type	Acres	
1	24		Semi Public Property	18.27	
1	21		Semi Public Property	6.52	
1	20		Semi Public Property	88.96	
				Total	95.48

State Owned Open Space

BLOCK	LOT	OWNER	Type	Acres	
59	3	Fish, Game & Wildlife (FGW)	State Property	19.78	
56	33	FGW	State Property	59.08	
53	5.01	FGW	State Property	5.23	
53	2.03	FGW	State Property	38.51	
52	1.02	Parks and Forestry (PF)	State Property	33.94	
52	1.01	PF	State Property	0.58	
48	32		State Property	54.10	
12	11	NJ DEP	State Property	4.64	
12	7.01	PF	State Property	12.19	
8	41	NJ DEP	State Property	0.48	
8	39	NJ DEP	State Property	19.02	
8	20	NJ DEP	State Property	25.57	
				Total	273.12

APPENDIX 18

DOCUMENTED HISTORIC SITES

	Site Name	Block	Lot
State and National Register	John Richey House (NR#02000216)	48	13
	Asbury Historic District, c. 1776 (#93000132)		
	Morris Canal (#74002228)		
Eligible for National Register as per NJ State Historic Preservation Officer	Scotts Mountain District		
Eligible for State and National Register as per Warren County Cultural Resources Survey	Stone residence located Mountain View Road, c. 1770	47	902
	Residence located at Mountain View Road, c. 1780	46	25
	Elisha Thatcher House, c. 1817	27	5
	George Richey Farm, Bloomsbury Road, c. late 18 th , early 19 th Cent.	N/A	N/A
	Richey-Dunham House, Cemetary Road, c. 1810	N/A	N/A
	Vliet Limekiln, Limekiln Road, Asbury, mid & late 19 th Cent.	N/A	N/A

Identified Historic Structures as per Warren County Cultural Resources Survey

Location	Block	Lot	Location	Block	Lot
Residence, Rt 57, New Village, c. 1890	1	1.01	Residence, Rt 57, New Village, c. 1900	1	3
Residence, Rt 57, New Village, c. 1900	1	5	Residence, R.57, New Village, c. 1920	39	3
Residence, Montana Road, c. 1900	3	1.02	Residence, Montana Road, c. 1900	3	1.01
Residence, Halfway House Road, c. 1930	15	14	Residence, Halfway House Road, c. 1930	18	35
Residence, Halfway House Road, c. 1900	11	50	Farm, Halfway House Road, c. 1800	11	50
Mill/ Converted to Residence, Halfway House Road, c. 1800	11	49	Farm, Halfway House Road, c. 1880	13&14	45&20
Residence, Bickel Road, c. 1900	11	42.01	Residence, Rt 57, New Village, c. 1880	2	3
Residence, Rt 57, New Village, c. 1880	2	4	Residence, Rt 57, New Village, c. 1880	39	10
Residence, Rt 57, New Village, c. 1920	2	6	Possible Mill/ Converted to Residence, Rt 57, New Village, c. 1820	2	8
Bridge, Rt 57, New Village, c. 1922	2	9	Residence, Rt 57, New Village	2	10
Commercial/Store, Rt 57, New Village, c. 1870	2	11&12	Commercial/Store, Rt 57, New Village, c. 1920	34	21
Residence, Stewartsville Road, New Village, c. 1880	34	24	Residence, Stewartsville Road, New Village, c. 1880	39	12
Residence, Stewartsville Road, c. 1900	34	25	Residence, Stewartsville Road, c. 1900	34	23
Residence, Stewartsville Road, c. 1870	34	24.01	Residence, Stewartsville Road, c. 1900	34	25.02
Residence, Stewartsville Road, c. 1890	39	9	Residence, Rt 57, New Village, c. 1890	3	2,3
Residence, Rt 57, New Village, c. 1890	34	15,16,17	Church, New Village Union Chapel, c. 1920	3	5
Residence, Rt 57, New Village, c. 1800	34	13.01	Residence, Rt 57, New Village, c. 1900	34	
Residence, Rt 57, New Village, c. 1920	3	8	Residence, Rt 57, New Village, c. 1880	3	9
Residence, Rt 57, New Village, c. 1880	34	13	Residence, Rt 57, New Village, c. 1920	3	27
Residence, Rt 57, New Village, c. 1920	3	29	Commercial, Rt 57, New Village, c.1920	37	6-11
Residence, Thatcher Ave, New Village, c. 1920	38	1,2	Residence, Thatcher Ave, New Village, c. 1880	36	25
Residence, Thatcher Ave, New Village, c. 1920	35	2	Residence, Thatcher Ave, New Village, c. 1920	34	4
Residence, Rt, 57, New Village, c. 1920	6	1	Residence, Thatcher Ave, New Village, c. 1920	7	9
Residence, Thatcher Ave, New Village, c. 1940	3	44	Residence, Thatcher Ave, New Village, c. 1850	5	5
Residence, Thatcher Ave, New Village, c. 1900	5	6	Residence, Thatcher Ave, New Village, c. 1930	8	3
Residence, Rt 57, New Village, c. 1875	6	24	Residence, Rt 57, New Village, c. 1920	31	1
Residence, Edison Ave, New Village, c. 1925	31	23	Residence, Edison Ave, New Village, c. 1900	36	21
Residence, Rt 57, New Village, c. 1920	7	11	Farm & Vet Office, Rt 57, New Village, c. 1820	7	14

Residence, Rt 57, New Village, c. 1890	30	13	Residence, Rt 57, New Village, c. 1880	7	5.01
Farm, Edison Rd, c. 1820	34	7.03	Residence, Edison Road, c. 1920	34	7.01
Industrial, Edison Road, c. 1940	27&41	11.01, 12.01	Residence, Edison Road, c. 1850	45	2
Residence, Good Springs Road, c. 1880	45	2.01	Residence, Good Springs Road, c. 1890	44	1
Residence, Franklin Road, c. 1890	43	5.01	Residence, Willow Grove Road, c. 1880	58	31.01
Residence, Willow Grove Road, c. 1830	41	7	Residence, Willow Grove Road, c. 1890	41	8
Residence, Willow Grove Road, c. 1870	41	9.04	Residence, Willow Grove Road, c. 1870	42	5
Residence, Willow Grove Road, c. 1870	41	4	Residence, Willow Grove Road, c. 1910	41	21
Farm, Herleman Road, c. 1880	42	10	Farm, Rt 57, c. 1880	9	23
Farm, Rt 57, Broadway, c. 1800	9	23.01	Residence, Millbrook Road, Broadway, c. 1930	24	5
Residence, Rt 57, Broadway, c. 1800	24	3	Residence, Rt 57, Broadway, c. 1900	25	5
Residence, Rt 57, Broadway, c. 1900	25	4	Residence, Rt 57, Broadway, c. 1890	25	3
Cemetary, Rt 57, Broadway, c. unknown	25	1	Commercial, Rt 57, Broadway, c. 1930	18	24
Residence, Rt 57, Broadway, c. 1910	18	23	Residence, Rt 57, Broadway, c. 1920	18	22
Residence, Rt 57, Broadway, c. 1900	18	21	Residence, Rt 57, Broadway, c. 1900	18	20
Residence, Rt 57, Broadway, c. 1900	18	19	Residence, Rt 57, Broadway, c. 1900	18	18
Residence, Rt 57, Broadway, c. 1880	18	17	School, Rt 57, Broadway, c. 1920	18	14
Residence, Rt. 57, Broadway, c. 1930	18	10	Residence, Rt 57, Broadway, c. 1820	15	13
Residence, Halfway House Road, c.1880	16	19	Bridge, Rt 57, c. 1922	18	1
Abandoned Residence, Rt 57, Broadway, c. 1870	17	1	Residence, Rt 57, Broadway, c. 1915	17	3
Residence, Rt 57, Broadway, c. 1880	17	4	Residence, Rt 57, Broadway, c. 1930	17	8
Residence, Rt 57, Broadway, c. 1860	17	14	Residence, Rt 57, Broadway, c. 1880	17	14.01
Residence, Rt 57, Broadway, c. 1910	17	16	Residence, Rt 57, Broadway, c. 1780	17	17
Residence, Rt 57, Broadway, c. 1930	17	20	Residence, Rt 57, Broadway, c. 1930	17	21
Residence, Rt 57, Broadway, c. 1870	17	22	Residence, Rt 57, Broadway, c. 1890	26	23
Residence, Rt 57, Broadway, c. 1890	26	26,27,28	Church, Broadway Methodist Church, c. 1940	26	26
Residence, Rt 57, Broadway, c. 1930	26	29	Residence, Rt 57, Broadway, c. 1890	26	30
Residence, Asbury Road, c. 1930	26	4	Residence, Millbrook Road, Broadway, c. 1935	17	32
Residence, Millbrook Road, c. 1900	17	34-38	Residence, Millbrook Road, Broadway, c. 1820	26	7-8
Residence, Millbrook Road, c. 1880	26	9	Residence, Millbrook Road, c. 1930	26	10
Residence, Buttermilk Bridge Road, c. 1920	46	37	Residence, Buttermilk Bridge Road, c. 1920	47	5
Residence, Mountain View Road, c. 1860	68	37.01	Residence, Mountain View Road, c. 1800	46	25
Former School Converted to Residence, Mountain View Road, c. 1852	46	25	Farm, Mountain View Road, c. 1870	57	22
Residence, Mountain View Road, c. 1880	57	24	Residence, Mountain View Road, c. 1880	57	28
Residence, Franklin Road, c. 1870	58	17	Residence, Bloomsbury Road, c. 1930	59	6
Residence, Bloomsbury Road, c. 1930	58	6	Farm, Bloomsbury Road, c. 1880	58	4
Spring Run Farm/J. Apgar House (Residence), Bloomsbury Road, c. 1800	61	7.01	Farm, Bloomsbury Road, c. 1900	61	5
Farm, Bryan Road, Broadway, c. 1890	16	21.02- .03	Residence, Millbrook Road, Broadway, c. 1880	46	1
Residence, Millbrook Road, c. 1930	46	8	Farm, Millbrook Road, c. 1890	27	6
Grange, Millbrook Road, Broadway, c. 1930	46	9	Farm, Elisha Thatcher Home, c. 1817	27	5
Farm, Good Springs Road, c. 1900	27	4.02	Farm, Millbrook Road, c. 1890	46	16
Residence, c. 1940	46	16.01	Residence, Millbrook Road, c. 1880	46	18
Residence, Millbrook Road, c. 1935	46	19	Farm, Millbrook Road, c. 1870	48	1
Residence, Millbrook Road, c. 1880	57	13,14	Farm, Bloomsbury Road, c. 1860	48	19
Residence, Maple Ave, c. 1820	51	3	Farm, Maple Ave, c. 1870	52	1

Residence, Shirts Road, c. 1870	52	2.01	Farm, Bloomsbury Road, c. 1980	57	31.02
Farm, Bloomsbury Road, c. 1900	57	34.02	Residence, Bloomsbury Road, c. 1920	56	35
Residence, Bloomsbury Road, c. 1900	56	32	Residence, Bloomsbury Road, Asbury, c. 1900	56	31
Residence, Bloomsbury Road, Asbury, c. 1880	56	30	Residence, Bloomsbury Road, Asbury, c. 1870	56	29
Farm, Bloomsbury Road, Asbury, c. 1880	57	1	Residence, Millbrook Road, c. 1860	48	20
Farm, Millbrook Road, c. 1900	48	20	Farm, Millbrook Road, c. 1880	48	30
Residence, Millbrook Road, c. 1880	48	21	Residence, Millbrook Road, c. 1870	48	22
Residence, Millbrook Road, c. 1880	48	23	Residence, Millbrook Road, c. 1900	48	24
Farm, Millbrook Road, c. 1880	57	8.02	Residence, Millbrook Road, c. 1870	48	26
Residence, Millbrook Road, c. 1880	57	6	Residence, Millbrook Road, c. 1880	57	5
Residence, Main Street, c. 1880	57	4	Residence, Main Street, c. 1870	57	3
Residence, Main Street, c. 1880	57	2	Residence, Main Street, c. 1890	57	1
Commercial, Asbury-Anderson Road, c. 1910	48	27	Residence, Asbury-Anderson Road, c. 1930	50	5
Residence, Main Street, Asbury, c. 1890	50	1	Residence, Kitchen Street, Asbury, c. 1840	50	7
Residence, Kitchen Street, Asbury, c. 1890	50	9	Industrial/Mill, Main Street, Asbury, c. 1844 Daniel Runkle House, Residence, Main Street, Asbury, c. 1840	N/A	N/A
Residence, Main Street, Asbury, c. 1823	54	26	Residence, Main Street, Asbury, c. 1890 American House/Residence, Main Street, Asbury, c. 1810	54	25
Residence, Main Street, Asbury, c. 1870	54	24	Residence, Main Street, Asbury, c. 1890 American House/Residence, Main Street, Asbury, c. 1810	54	23
Residence, Main Street, Asbury, c. 1890	54	22	Residence, Main Street, Asbury, c. 1880 Churuch/ Asbury Methodist Episcopal Church, c. 1914	54	20
Residence, Main Street, Asbury, c. 1870 Warne-Castner House/Residence, Main Street, Asbury, c. 1800	54	19	Residence, Main Street, Asbury, c. 1880	54	18
Residence, Main Street, Asbury, c. 1920	54	14	Residence, Main Street, Asbury, c. 1880	54	12
Residence, Main Street, Asbury, c. 1890	54	11	Residence, Maple Ave, Asbury, c.1890	54	10
Residence, Maple Ave, Asbury, c. 1900	54	9	Residence, Maple Ave, Asbury, c.1880	54	8
Residence, Maple Ave, Asbury, c. 1850	54	6	Residence, Maple Ave, Asbury, c. 1870	54	5
Residence, Maple Ave, Asbury, c. 1850	54	4	Residence, Maple Ave, Asbury, c. 1850	54	3
Residence, Maple Ave, Asbury, c. 1870	54	2	Residence, Maple Ave, Asbury, c. 1870 Col. William McCullough Home/Residence, Main Street, Asbury, c. 1800	54	1
Industrial/Mill, Main Street, Asbury, c. 1780	55	1	Residence, Main Street, Asbury, c. 1870 Daniel Cole House/Residence, School Street, Asbury, c. 1840	55	3
Residence, Main Street, Asbury, c. 1860	55	4,5	Residence, Main Street, Asbury, c. 1870 Daniel Cole House/Residence, School Street, Asbury, c. 1840	55	6
Residence, Main Street, Asbury, c. 1870	55	7	Residence, Main Street, Asbury, c. 1870 Daniel Cole House/Residence, School Street, Asbury, c. 1840	55	9
Residence, School Street, Asbury, c. 1880	55	8	Church/ Asbury Presbyterian Church, c. 1868	55	11
Residence, School Street, Asbury, c. 1870	55	12	Residence, School Street, Asbury, c. 1840	55	19
Cemetery/Asbury Presbyterian Cemetery, 1790-1880	56	1,2	Residence, School Street, Asbury, c. 1870	56	3
Residence, School Street, Asbury, c. 1920	56	4	Residence, School Street, Asbury, 1790-1880	56	5
Residence, School Street, Asbury, c. 1860 School/Converted Residence, School Street, Asbury, c. 1919	56	7	Residence, School Street, Asbury, c. 1870	56	8
Residence, Main Street, Asbury, c. 1840	56	9	Residence, Main Street, Asbury, c. 1870	56	11
Residence, Main Street, Asbury, c. 1880	56	14	Residence, Main Street, Asbury, c. 1910	56	
Residence, Main Street, Asbury, 1880-1920	56	16	Residence, Main Street, Asbury, c. 1850	56	15
Residence, Main Street, Asbury, c. 1870	56	18	Commerical, Main Street, Asbury, c. 1890	56	17
Residence, Main Street, Asbury, c. 1920	56	20	Residence, Main Street, Asbury, c. 1850	56	19
Residence, Main Street, Asbury, c. 1920	56	24	Residence, Main Street, Asbury, c. 1830	56	22
Richey-Dunham House/Residence, c. 1810	N/A	N/A	Residence, Main Street, Asbury, c. 1870	56	28
Asbury Graphite Mill/Industrial, 1880-1920	N/A	N/A	Vliet Limekiln/Industrial, Asbury, 1790-1880	N/A	N/A
McKinley Burying Ground/Cemetery, Broadway	N/A	N/A	Farm, 1790-1880	N/A	N/A

APPENDIX 19

SEPTIC RESTRICTIONS

SEPTIC RESTRICTIONS	ACRES	%
Severe Restrictions	6331.68	42
Moderate Restrictions	6206.98	41
Not Designated Under NJAC 7:9A	2538	17
Total	15076.66	100

Limiting Zone Designation

Soil Series	Sc	Sr	Hr	Hc	Wr	Wp
ANNANDALE			III			
BARTLEY			III			II
BIRDSBORO	II				I, II	
CALIFON			III			
COKESBURY			III			III
EDNEYVILLE	I, II					
FREDON					III	
HAZEN	I, II					
HERO	II				II	
LYONS	II	II			II, III	
MIDDLEBURY					III	
NASSAU	II	III				
PARKER	II					
WASHINGTON	I, II					
WASSAIC	II	III				
WAYLAND		III			II, III	

KEY:

Symbol	Severity
I	Low Restrictions
II	Moderate Restrictions
III	Severe Restrictions

KEY:	Symbol	Type of Limiting Zone	Depth (ft)	Class
			>5	I
	Sc	Fractured Rock or excessively coarse substrata	0-5	IISc
			>9	I
			4-9	IISr
	Sr	Massive Rock of hydraulically restrictive substratum	0-4	IIISr
			>9	I
			4-9	IIHr
	Hr	Hydraulically Restrictive horizon, permeable substratum	0-4	IIIHr
			>5	I
	Hc	Excessively Coarse horizon	0-5	IIIHc
			>5	I
			2-5	IIWr
	Wr	Zone of saturation, regional	0-2	IIIWp
			>5	I
			2-5	IIWp
	Wp	Zone of saturation, perched	0-2	IIIWp

APPENDIX 20

NJDEP WETLANDS

<u>LU02</u>	<u>TYPE02</u>	<u>LABEL02</u>	<u>ACRES</u>	<u>%</u>
1461	WETLANDS	WETLAND RIGHTS-OF-WAY (MODIFIED)	3.79	0.52
1750	WETLANDS	MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	8.47	1.17
1850	WETLANDS	MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	0.82	0.11
2140	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	276.25	38.00
2150	WETLANDS	FORMER AGRICULTURAL WETLAND-BECOMING SHRUBBY, NOT BUILT-UP)	4.27	0.59
6210	WETLANDS	DECIDUOUS WOODED WETLANDS	365.11	50.22
6231	WETLANDS	DECIDUOUS SCRUB/SHRUB WETLANDS	28.79	3.96
6232	WETLANDS	CONIFEROUS SCRUB/SHRUB WETLANDS	2.86	0.39
6233	WETLANDS	MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	10.25	1.41
6234	WETLANDS	MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	11.47	1.58
6240	WETLANDS	HERBACEOUS WETLANDS	13.20	1.82
6251	WETLANDS	MIXED WOODED WETLANDS (DECIDUOUS DOM.)	1.13	0.16
7430	WETLANDS	DISTURBED WETLANDS (MODIFIED)	0.57	0.08
			<hr/>	
TOTAL			726.98	100

APPENDIX 21

UPLAND FORESTS

<u>LU02</u>	<u>LABEL02</u>	<u>ACRES</u>	<u>%</u>
4110	DECIDUOUS FORES (10-50% CROWN CLOSURE)	762.54	14.57
4120	DECIDUOUS FOREST (>50% CROWN CLOSURE)	3808.52	72.77
4220	CONIFEROUS FOREST (>50% CROWN CLOSURE)	27.92	0.53
4230	PLANTATION	23.73	0.45
4311	MIXED FOREST (>50% CONIFEROUS WITH 10-50% CROWN CLOSURE)	24.83	0.47
4312	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)	57.04	1.09
4321	MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)	36.28	0.69
4322	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)	26.54	0.51
4410	OLD FIELD (< 25% BRUSH COVERED)	72.05	1.38
4420	DECIDUOUS BRUSH/SHRUBLAND	60.68	1.16
4430	CONIFEROUS BRUSH/SHRUBLAND	40.10	0.77
4440	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	293.76	5.61
	TOTAL	5233.99	100

APPENDIX 22

LANDSCAPE HABITAT AND NATURAL HERITAGE DATA

Landscape Project

Forest	ACRES
Rank 2: Priority Concern	1644.62
Rank 3: State Threatened species observed in area	1596.86
Rank 5: Federally listed species observed in area	2065.83
Total	5307.31

Forested Wetland	ACRES
Rank 3: State Threatened species observed in area	1829.78

Emergent Wetland	ACRES
Rank 1: Suitable Habitat	359.04
Rank 5: Federally listed species observed in area	0.02
Total	359.06

Grassland	ACRES
Rank 1: Suitable Habitat	451.94
Rank 2: Priority Concern	1903.78
Rank 3: State Threatened species observed in area	1338.98
Rank 4: State Endangered species observed in area	3697.13
Rank 5: Federally listed species observed in area	38.10
Total	7429.93

Listed Species Habitat	ACRES
Wood Turtle (State Threatened)	1829.78
Bald Eagle (State Threatened & Endangered)	207.69
Total	2037.47

Natural Heritage Database

Natural Heritage Grid	Cells in Township
Location Precisely Known	1
Location Precisely Not Known	2

Natural Heritage Priority Sites	ACRES
Buttermilk Bridge (within Franklin Twp)	172.77

APPENDIX 23

VERNAL POOL LOCATIONS

<u>ID</u>	<u>X (UTM)</u>	<u>Y (UTM)</u>	<u>Vernal Pool?</u>	<u>Certified¹</u>
283rvh	494862	4508213	Yes	0
285rvh	494739	4503153	Yes	0
286rvh	498147	4506921	No	0
287rvh	499426	4508138	Yes	0
12473rvh	497603	4509351	Yes	0
1248rvh	492845	4505771	Not Surveyed	0
1249rvh	493115	4506023	Not Surveyed	0
1250rvh	491948	4507347	Not Surveyed	0
12540rvh	497635	4509338	Yes	0
1257rvh	497605	4509304	Yes	0
1258rvh	497706	4509404	Yes	0
1259rvh	497999	4509588	Yes	0
1261rvh	498528	4509867	Yes	0
1263rvh	498775	4507300	No	0
1264rvh	498222	4506832	No	0
1265rvh	497236	4506432	No	0
1266rvh	495936	4506528	Not Surveyed	0
2526rvh	499074	4508562	Yes	0
2527rvh	499808	4508373	Yes	0
2528rvh	492971	4508828	Not Surveyed	0
2529rvh	492774	4508888	Not Surveyed	0

¹ Certified 1-Yes, 0- Not Certified