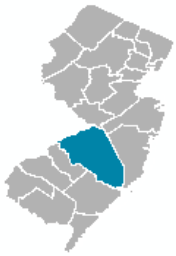
FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 2 OF 6



BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
BASS RIVER, TOWNSHIP OF	340085	MEDFORD, TOWNSHIP OF	340104
BEVERLY, CITY OF	340086	MOORESTOWN, TOWNSHIP OF	340105
BORDENTOWN, CITY OF	340087	MOUNT HOLLY, TOWNSHIP OF	340106
BORDENTOWN, TOWNSHIP OF	340088	MOUNT LAUREL, TOWNSHIP OF	340107
BURLINGTON, CITY OF	345287	NEW HANOVER, TOWNSHIP OF	340108
BURLINGTON, TOWNSHIP OF	340090	NORTH HANOVER, TOWNSHIP OF	340109
CHESTERFIELD, TOWNSHIP OF	340091	PALMYRA, BOROUGH OF	340110
CINNAMINSON, TOWNSHIP OF	340092	PEMBERTON, BOROUGH OF	340111
DELANCO, TOWNSHIP OF	340093	PEMBERTON, TOWNSHIP OF	340112
DELRAN, TOWNSHIP OF	340094	RIVERSIDE, TOWNSHIP OF	340113
EASTAMPTON, TOWNSHIP OF	340095	RIVERTON, BOROUGH OF	340114
EDGEWATER PARK, TOWNSHIP OF	340096	SHAMONG, TOWNSHIP OF	340534
EVESHAM, TOWNSHIP OF	340097	SOUTHAMPTON, TOWNSHIP OF	340115
FIELDSBORO, BOROUGH OF	340543	SPRINGFIELD, TOWNSHIP OF	340116
FLORENCE, TOWNSHIP OF	340098	TABERNACLE, TOWNSHIP OF	340533
HAINESPORT, TOWNSHIP OF	340099	WASHINGTON, TOWNSHIP OF	340117
LUMBERTON, TOWNSHIP OF	340100	WESTAMPTON, TOWNSHIP OF	340118
MANSFIELD, TOWNSHIP OF	340102	WILLINGBORO, TOWNSHIP OF	340119
MAPLE SHADE, TOWNSHIP OF	340101	WOODLAND, TOWNSHIP OF	340551
MEDFORD LAKES, BOROUGH OF	340103	WRIGHTSTOWN, BOROUGH OF	340120

EFFECTIVE:

DECEMBER 21, 2017

FLOOD INSURANCE STUDY NUMBER
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FEMA

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Flood Profiles	Panel
Assiscunk Creek	001-002 P
Assiscunk Creek Tributary	003 P
Baffin Brook	004 P
Ballinger Run	005-006 P
Ballinger Run Tributary	007 P
Barkers Brook	008-013 P
Barkers Brook Unnamed Tributary	014-015 P
Barton Run	016-018 P
Barton Run Tributary 1	019 P
Barton Run Tributary 2	020 P
Barton Run Tributary 3	021-022 P
Beaverdam Creek	023-024 P
Bisphams Mill Creek	025-026 P
Black Run	027-029 P
Black Run Tributary	030-031 P
Blacks Creek	032-033 P
Blue Lake Run	034 P
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Bread and Cheese Run	037-038 P
Budds Run	039 P
Burrs Mill Brook	040-041 P
Bustleton Creek	042 P
Buttonwood Run	043 P
Country Lake Tributary	044 P
Crafts Creek	045 P
Cranberry Branch	046-047 P
Cropwell Branch	048-049 P
Crosswicks Creek	050-062 P
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Friendship Creek	073-077 P
Hartford Road Tributary	078 P
Haynes Creek	079-086 P
Hooten Road Tributary	087 P
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Jacks Run	094 P
Jade Run	095-098 P
Kendles Run	099 P
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Masons Creek	107-110 P
Mill Creek	111-113 P
Mill Creek South Branch	114 P
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West Branch Wading River	202-205 P

Published Separately

Flood Insurance Rate Map (FIRM)

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Masons Creek	Downstream of unnamed tributary in Lumberton Township	3.2	270	*	470	585	940
Masons Creek	Upstream of unnamed tributary in Lumberton Township	2.6	220	*	380	475	770
Masons Creek	At limit of detailed study	2.1	210	*	365	460	750
Mill Creek	At confluence with Rancocas Creek	11.2	1225	*	1,900	2,270	3,315
Mill Creek	Downstream of confluence of Mill Creek South Branch	9.0	1200	*	1,870	2,240	3,280
Mill Creek	Upstream of confluence of Mill Creek South Branch	7.6	1115	*	1,745	2,100	3,095
Mill Creek	Downstream of confluence of Mill Creek Tributary 1	6.6	980	*	1,550	1,870	2,785
Mill Creek	Upstream of confluence of Mill Creek Tributary 1	5.7	830	*	1,330	1,615	2,440
Mill Creek	At corporate limit of Willingboro Township	4.5	560	*	935	1,165	1,860
Mill Creek	At corporate limit of Burlington Township	4.2	527	*	884	1,102	1,764

*Not calculated for this Flood Risk Project

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mill Creek	Upstream of confluence of Mill Creek Tributary	2.8	375	*	640	800	1,290
Mill Creek	At Interstate 295/limit of detailed study	2.2	310	*	530	660	1,070
Mill Creek Tributary	At confluence with Mill Creek	1.1	205	*	355	450	735
Mill Creek Tributary	At limit of detailed study	0.7	200	*	260	280	355
Mill Creek Tributary 1	At confluence with Mill Creek	0.8	330	*	430	465	590
Mill Creek Tributary 1	At limit of detailed study	0.7	300	*	395	425	540
Mill Creek South Branch	At confluence with Mill Creek	1.4	325	*	525	635	940
Mill Creek South Branch	At limit of detailed study	0.7	325	*	425	460	575
Mill Race	From downstream confluence to bypass channel	**	650	*	950	1,100	4,530
Mill Race	From bypass channel to downstream of confluence of Buttonwood Run	**	290	*	550	670	780

*Not calculated for this Flood Risk Project

**Data Not Available

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mill Race	From upstream of confluence of Buttonwood Run to upstream of confluence with Rancocas Creek North Branch	**	190	*	400	470	530
Mimosa Lake Run	At confluence with Haynes Creek	2.1	120	*	210	265	435
Mimosa Lake Run	At limit of detailed study	1.6	110	*	200	250	415
Mirror Lake	At outlet of Mirror Lake	33.8	665	*	1,105	1,345	2,105
Mount Holly Bypass Channel	From confluence with Mill Race to divergence of Rancocas Creek North Branch	**	360	*	400	430	750
Mount Misery Creek	At confluence with Rancocas Creek North Branch	75.1	1,020	*	1,565	1,850	2,640
Mount Misery Creek	At limit of detailed study	74.2	1,010	*	1,550	1,830	2,615
Mullica River	At the Washington State Forest boundary	241.76	2,496	*	4,144	4,992	7,374
Mullica River	At Pleasants Mill Bridge	124.76	1,790	*	2,980	3,585	5,300
Muskingum Brook	Upstream of confluence with Indian Mills Brook	7.8	540	*	915	1,140 / 1,425[1]	1,840

*Not calculated for this Flood Risk Project

**Data not available

[1]1-percent annual chance discharge/New Jersey Flood Hazard Area Design Flood (NJFHADF) discharge; the NJFHADF discharge is equal to the 1-percent annual chance flow plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flow.

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Ong Run	At confluence with Little Pine Lake	1.9	265	*	450	555	880
Ong Run	At limit of detailed study	1.7	225	*	380	475	750
Parkers Creek	At corporate limit of Mount Laurel Township	8.3	710	*	1,030	1,180	1,510
Parkers Creek	Downstream of Marne Highway	7.4	670	*	970	1,120	1,450
Parkers Creek	Downstream of State Route 38	6.7	640	*	940	1,070	1,430
Parkers Creek	Downstream of Union Mill Road	5.0	540	*	780	890	1,210
Pennsauken Creek	Upstream of confluence with Delaware River	35.70	1580	*	2,460	2,930	4,000
Pennsauken Creek North Branch	At confluence with Pennsauken Creek	15.8	980	*	2,050	2,740	5,480
Pennsauken Creek North Branch	At Main Street	13.5	870	*	1,820	2,470	4,810
Pennsauken Creek North Branch	At Lenola Road	12.4	810	*	1,710	2,300	4,550
Pennsauken Creek North Branch	At corporate limit of Mount Laurel Township	7.5	620	*	1,310	1,800	3,450
Pennsauken Creek North Branch	At New Jersey Turnpike	6.1	560	*	1,180	1,630	3,120
Pennsauken Creek North Branch	At confluence of Evesboro Tributary	5.1	490	*	1,020	1,400	2,700

*Not calculated for this Flood Risk Project

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pennsauken Creek North Branch	At Evesboro Road	2.3	360	*	740	990	2,080
Pennsauken Creek South Branch	At confluence with Pennsauken Creek	35.7	2,000	*	3,900	5,100	9,200
Pennsauken Creek South Branch	At State Route 38	12.6	810	*	1,750	2,400	4,850
Pennsauken Creek South Branch	At Kings Highway	8.6	600	*	1,350	1,850	3,750
Pennsauken Creek South Branch	Downstream of New Jersey Turnpike	5.6	425	*	910	1,300	2,820
Pennsauken Creek South Branch	Upstream of New Jersey Turnpike	5.6	425	*	700	886	1,325
Pennsauken Creek South Branch	At corporate limit of Mounty Laurel Township	3.7	425	*	700	860	1,325
Pennsauken Creek South Branch	Upstream of unnamed tributary	2.7	295	*	495	610	960
Pennsauken Creek South Branch	Upstream of Cropwell Brook	0.6	140	*	185	195	255
Pole Bridge Branch	At outlet of Country Lake	22.4	315	*	545	670	1,085
Pole Bridge Branch	Upstream of confluence of Pole Bridge Branch Tributary	15.2	220	*	685	484	795
Pole Bridge Branch	At upstream of limit of detailed study	14.9	210	*	370	460	765

*Not calculated for this Flood Risk Project

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Pole Bridge Branch Tributary	At confluence with Pole Bridge Branch	0.2	65	*	90	95	120
Pole Bridge Branch Tributary	At limit of detailed study	0.1	45	*	55	60	75
Pompeston Creek	At confluence with Delaware River	8.8	1620	*	2,550	2,990	4,240
Pompeston Creek	Downstream of US Route 130	5.8	1120	*	1,780	2,100	3,000
Pompeston Creek	Upstream of Willow Drive	3.3	690	*	1,115	1,320	1,910
Pompeston Creek	Between Parry Road and Riverton Road	2.6	560	*	910	1,085	1,575
Pompeston Creek	Downstream of New Albany Road	1.6	360	*	595	710	1,040
Pompeston Creek	Downstream of Bridge Avenue	0.8	190	*	320	385	575
Ramblewood Tributary	At confluence with Evesboro Tributary	0.3	120	*	250	330	640
Rancocas Creek	At confluence with Delaware River	354.5	3,275	*	5,020	5,925	8,455
Rancocas Creek	Downstream of confluence of Mill Creek	348.4	3,230	*	4,955	5,850	8,350
Rancocas Creek	Upstream of confluence with Mill Creek	337.2	3,150	*	4,830	5,705	8,145

*Not calculated for this Flood Risk Project

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rancocas Creek	At confluence of Rancocas Creek North Branch and Rancocas Creek South Branch	321.3	3,040	*	4,660	5,505	7,855
Rancocas Creek North Branch	At confluence with Rancocas Creek	151.3	1,730	*	2,650	3,130	4,465
Rancocas Creek North Branch	Downstream of confluence of Mill Race Tributary	146.0	1,685	*	2,580	3,045	4,350
Rancocas Creek North Branch	Upstream of confluence of Mill Race Tributary	144.9	1,675	*	2,565	3,030	4,320
Rancocas Creek North Branch	Downstream of confluence of Budds Run	128.3	1,530	*	2,340	2,765	3,945
Rancocas Creek North Branch	Upstream of confluence of Budds Run	122.2	1,475	*	2,260	2,665	3,810
Rancocas Creek North Branch	Downstream of confluence of Mount Misery Creek	114.0	1,400	*	2,415	2,530	3,610
Rancocas Creek North Branch	At Pemberton gage	111.0	1370	*	2,100	2,480	3,540
Rancocas Creek North Branch	Upstream of confluence of Mount Misery Creek	38.9	755	*	1,250	1,520	2,370
Rancocas Creek North Branch	At outlet of Mirror Lake	33.8	665	*	1,105	1,345	2,105
Rancocas Creek South Branch	At outlet	167.07	5,618	*	8,665	10,351 / 12,539[1]	12,539

*Not calculated for this Flood Risk Project

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rancocas Creek South Branch	Downstream of Masons Creek	166.01	5,684	*	8,766	10,476 / 12,690[1]	12,690
Rancocas Creek South Branch	At Marine Highway	155.82	4,967	*	7,709	9,228 / 11,197[1]	11,197
Rancocas Creek South Branch	At State Route 38	155.23	5,021	*	7,795	9,335 / 11,327[1]	11,327
Rancocas Creek South Branch	Downstream of confluence of Unnamed Tributary to Rancocas Creek South Branch	154.31	5,112	*	7,934	9,504 / 11,880[1]	11,531
Rancocas Creek South Branch	Downstream of Bobbys Run	149.48	5,155	*	8,012	9,610 / 11,663[1]	11,663
Rancocas Creek South Branch	Upstream of abandoned railroad	144.99	6,157	*	9,523	11,141 / 13,862[1]	13,862
Rancocas Creek South Branch	Downstream of confluence of Rancocas Creek Southwest Branch	142.97	6,257	*	9,680	11,637 / 14,100[1]	14,100
Rancocas Creek South Branch	Upstream of confluence of Rancocas Creek Southwest Branch	66.17	1,413	*	2,088	2,385 / 2,981[1]	3,112
Rancocas Creek South Branch	At Lumberton-Vincentown Road – USGS Gage No. 01465850	34.39	1,380	*	2,040	2,330 / 2,913[1]	3,040

*Not calculated for this Flood Risk Project

[1]1-percent annual chance discharge/New Jersey Flood Hazard Area Design Flood (NJFHADF) discharge; the NJFHADF discharge is equal to the 1-percent annual chance flow plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flow.

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rancocas Creek South Branch	Downstream of Jade Run	64.36	1,380	*	2,039	2,329 / 2,911[1]	3,039
Rancocas Creek South Branch	Upstream of confluence of Jade Run	51.66	1,143	*	1,690	1,931 / 2,414[1]	2,519
Rancocas Creek South Branch	Downstream of confluence of Beaverdam Creek	50.86	1,128	*	1,668	1,905 / 2,381[1]	2,485
Rancocas Creek South Branch	Upstream of confluence of Beaverdam Creek	47.20	1,058	*	1,565	1,787 / 2,234[1]	2,332
Rancocas Creek South Branch	Downstream of confluence of Friendship Creek	43.78	993	*	1,467	1,676 / 2,095[1]	2,187
Rancocas Creek South Branch	Upstream of confluence of Friendship Creek	10.31	495	*	838	1,036 / 1,283[1]	1,283
Rancocas Creek South Branch Tributary	At confluence with Rancocas Creek South Branch	2.9	290	*	500	620	1,000
Rancocas Creek South Branch Tributary	At limit of detailed study	1.3	210	*	360	455	740
Rancocas Creek Southwest Branch	At mouth of the bridge at Stacy Hanes Road	76.25	3,620	*	9,035	10,465 / 13,083[1]	22,639
Rancocas Creek Southwest Branch	Downstream of confluence of Little Creek	76.12	3,674	*	9,175	10,599 / 13,249[1]	22,950

* Not calculated for this Flood Risk Project

[1]1-percent annual chance discharge/New Jersey Flood Hazard Area Design Flood (NJFHADF) discharge; the NJFHADF discharge is equal to the 1-percent annual chance flow plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flow.

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Rancocas Creek Southwest Branch	Upstream of confluence of Little Creek	54.35	2,474	*	6,174	7,085 / 8,856[1]	15,638
Rancocas Creek Southwest Branch	Downstream of confluence of Tributary 3	52.36	2,480	*	6,201	7,032 / 8,079[1]	15,628
Rancocas Creek Southwest Branch	Downstream of confluence of Haynes Creek	46.39	1,985	*	5,289	5,970 / 7,463[1]	13,598
Rancocas Creek Southwest Branch	Downstream of confluence of Barton Run	19.93	1,435	*	3,741	4,176 / 5,220[1]	9,201
Rancocas Creek Southwest Branch	At headwaters	2.78	526	*	1,055	1,077 / 1,346[1]	2,036
Sharps Run	At confluence with Rancocas Creek Southwest Branch	4.6	400	*	680	845	1,355
Sharps Run	At limit of detailed study	2.7	310	*	530	660	1,065
Sharps Run Tributary 1	Approximately 750 feet upstream of confluence with Sharps Run	0.4	*	*	*	738	1,079
Sharps Run Tributary 2	Approximately 1,410 feet upstream of Oliphant's Mill – Hartford Road	0.2	*	*	*	360	*
Shinns Branch	At confluence with Bisphams Mill Creek	1.73	34	*	67	87	152

*Not calculated for this Flood Risk Project

[1]1-percent annual chance discharge/New Jersey Flood Hazard Area Design Flood (NJFHADF) discharge; the NJFHADF discharge is equal to the 1-percent annual chance flow plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flow.

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Skeet Run	At confluence with Little Creek	2.0	220	*	380	475	775
Skeet Run	Downstream of unnamed tributary	1.9	210	*	365	460	750
Skeet Run	Upstream of unnamed tributary	1.3	170	*	295	375	615
Skeet Run	At limit of detailed study	1.1	140	*	245	310	510
Springer Brook	At downstream limit of detailed study	13.9	760	*	1,280	1,580 / 1,975[1]	2,520
Strawbridge Lake	**	4.17[1]	470[2]	*	990[2]	1,800[2]	2,600[2]
Strawbridge Lake	**	3.60[1]	430[2]	*	910[2]	1,580[2]	2,450[2]
Strawbridge Lake	**	3.18[1]	400[2]	*	850[2]	1,200[2]	2,250[2]
Strawbridge Lake	At corporate limit of Mount Laurel Township	2.6		*	790	1,020	1,990
Strawbridge Lake	Upstream of confluence of Hooten Road Tributary	1.6	280	*	620	810	1,570
Strawbridge Lake	Downstream of Interstate 295	1.4	270	*	600	770	1,490
Swede Run	At confluence with Dredge Harbor	7.02	1,069	*	1,871	2,347	3,496

*Not calculated for this Flood Risk Project

**Data Not Available

[1]1-percent annual chance discharge/New Jersey Flood Hazard Area Design Flood (NJFHADF) discharge; the NJFHADF discharge is equal to the 1-percent annual chance flow plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flow.

[2]Data extracted from Frequency Discharge, Drainage Area Curves found in the FIS for the Township of Moorestown dated January 19, 1996.

Table 10: Summary of Discharges – continued

			Peak Discharge (cfs)				
Flooding Source	Location	Drainage Area (Square Miles)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Swede Run	Approximately 1,300 feet upstream of Lake Lonnie	6.08	1,049	*	1,817	2,249	3,303
Swede Run	Approximately 600 feet downstream of Underwood Court	5.56	998	*	1,732	2,139	3,078
Swede Run	Approximately 1,400 feet downstream of Hunter Drive	4.55	858	*	1,476	1,811	2,610
Swede Run	Upstream of Bridgeboro Road	3.95	791	*	1,372	1,687	2,424
Swede Run	Approximately 400 feet downstream of Garwood Road	3.01	660	*	1,148	1,416	2,044
Swede Run	Upstream of Westfield Road	1.40	418	*	690	841	1,178
Swede Run Tributary	**	0.48[1]	77[1]	*	94[1]	160[1]	165[1]
Wading River West Branch	At Route 532	8.97	120	*	242	308	520
Wading River West Branch	At Lebanon State Forest Boundary	0.71	51	*	98	128	220

*Not calculated for this Flood Risk Project

**Data Not Available

[1] Data extracted from Frequency Discharge, Drainage Area Curves found in the FIS for the Township of Moorestown dated January 19, 1996.

Figure 7: Frequency Discharge-Drainage Area Curves

[Not Applicable to this Flood Risk Project]

Table 11: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Delaware River	At the Philadelphia tide gage	6.4	*	8.0	8.8	10.9
Delaware River	At the mouth of Pennsauken Creek	6.6	*	8.1	8.9	11.1
Delaware River	At the mouth of Pompeston Creek	6.6	*	8.2	9.0	11.3
Delaware River	At downstream corporate limits of Burlington Township	7.2	*	8.9	9.7	12.3
Delaware River	At the “Old” Burlington tide gage	7.3	*	9.0	9.8	12.4
Delaware River	At upstream corporate limits of Burlington Township	7.6	*	9.9	10.9	14.0
Delaware River	At downstream corporate limits of Florence Township	7.6	*	9.9	10.9	14.0
Delaware River	At upstream corporate limits of Florence Township	8.2	*	11.0	11.9	15.4

* Not calculated for this Flood Risk Project

Table 11: Summary of Non-Coastal Stillwater Elevations – continued

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Delaware River	At downstream corporate limits of Bordentown Township	8.7	*	12.2	13.4	17.4
Delaware River	At upstream corporate limits of Bordentown Township	9.0	*	13.9	14.2	18.6
Great Bay	Entire Mullica River shoreline	4.7	*	6.5	7.8	12.8
Jefferson Lake	Between Center Structure and update limit of detailed study	81.9	*	82.1	82.2	82.4
Jefferson Lake	Between Oregon Terrace and Center Structure	81.3	*	81.5	81.7	81.9
Lake Kawasea	Entire Shoreline	71.6	*	71. 7	71.7	71.7
Lake Meeshaway	Entire Shoreline	75.2	*	75.3	75.3	75.3
Lake Mushkodosa	Entire Shoreline	72.0	*	72.1	72.1	72.1
Lake Siguitise	Entire Shoreline	76.4	*	76.5	76.5	76.8
Lake Wagush	Entire Shoreline	71.9	*	72.0	72.1	72.3
Little Pine Lake	Between Bayberry Street and upstream limit of detailed study	69.3	*	69.5	69.6	69.9

*Not calculated for this Flood Risk Project

Table 11: Summary of Non-Coastal Stillwater Elevations – continued

Flooding Source	Location	Elevations (feet NAVD88)				
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Little Pine Lake	Between Hanover Boulevard and Bayberry Street	68.7	*	69.1	69.3	69.6
Little Pine Lake	Between Club House Road and Hanover Boulevard	60.9	*	61.3	61.4	61.6
Mirror Lake	At Outlet	60.2	*	60.7	60.9	61.4
Pau Puck Keewis Lagoon	Entire Shoreline	76.4	*	76.5	76.5	76.8

*Not calculated for this Flood Risk Project

Table 12: Stream Gage Information used to Determine Discharges

[Not Applicable to this Flood Risk Project]

5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. Flood elevations shown on the FIRM are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed on Table 24, “Floodway Data.”

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 13.

Table 13: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Adler Run	Approximately 250 feet downstream of Pemberton Road	Approximately 200 feet upstream of Private Drive	FLO-2D	FLO-2D	09/2015	A	
Adler Run Tributaries	Confluence with Adler Run	Various Limits of Study within the Township of Pemberton	FLO-2D	FLO-2D	09/2015	A	
Annaricken Brook	Confluence with Assiscunk Creek	Approximately 650 feet upstream of Juliustown Georgetown Road	FLO-2D	FLO-2D	09/2015	A	
Arnold Branch	Approximately 300 feet upstream of Chips Folly Road	Approximately 0.6 miles upstream of Chatsworth Road	FLO-2D	FLO-2D	09/2015	A	
Assiscunk Branch	Confluence with Assiscunk Creek	Approximately 70 feet downstream of US-206	FLO-2D	FLO-2D	09/2015	A	
Assiscunk Creek	Confluence with Delaware River	Approximately 1.0 miles upstream of U.S. Route 130	Peak discharge-frequency / Peak elevation-frequency	HEC-2	12/1981	AE w/floodway	Tidal influence (Delaware River)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Assiscunk Creek	Approximately 1.0 miles upstream of U.S. Route 130	Approximately 2.0 miles upstream of U.S. Route 130	Gage Analysis	Stillwater Elevations for Delaware River	04/1988	AE	Tidal influence (Delaware River) – Riverine model results were lower than tidal elevations therefore, tidal stillwater elevations were utilized
Assiscunk Creek	Approximately 2.0 miles upstream of U.S. Route 130	Approximately 0.2 mile upstream of Gaunts Bridge Road	FLO-2D	FLO-2D	09/2015	A	
Assiscunk Creek Tributary	Approximately 0.28 miles downstream of Oxmead Road	Approximately 0.22 miles upstream of Oxmead Road	Regression Equations	HEC-2	05/1978	AE w/floodway	
Assiscunk Creek Tributaries	Confluence with Assiscunk Creek, Assiscunk Creek Tributary and Assiscunk Tributary 5	Various Limits of Study within the townships of Florence, Mansfield, Springfield and Westampton	FLO-2D	FLO-2D	09/2015	A	
Bacons Run	Confluence with Blacks Creek	Approximately 1000 feet upstream of Chesterfield Georgetown Road	FLO-2D	FLO-2D	09/2015	A	
Baffin Brook	Confluence with Pole Bridge Branch	At Upton Station Road	Peak discharge-drainage area relationship	HEC-2	07/1978	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Baffin Brook	From Upton Station Whitesbog Road	Approximately 1.3 miles upstream of State Route 70	FLO-2D	FLO-2D	2015	A	
Ballinger Run	Confluence with Haynes Creek	Approximately 0.8 mile upstream of control structure at Private Drive	Discharge-frequency relationship	HEC-2	03/1982	AE w/floodway	
Ballinger Run	Approximately 0.1 mile downstream of Unnamed Road at Papoose Lake	Approximately 1.7 miles upstream of Unnamed Road at Papoose Lake	FLO-2D	FLO-2D	09/2015	A	
Ballinger Run Tributary	Confluence with Ballinger Run	Approximately 90 feet upstream of Birchwood Drive	Discharge-frequency relationship	HEC-2	03/1982	AE w/floodway	
Ballinger Run Tributary	Approximately 90 feet upstream of Birchwood Drive	Approximately 100 feet downstream of Tuckerton Road	FLO-2D	FLO-2D	09/2015	A	
Bard Branch	Confluence with Unnamed Stream 3	Confluence with Bard Branch Tributary 1 and Bard Branch Tributary 2	FLO-2D	FLO-2D	09/2015	A	
Bard Branch Tributaries	Confluence with Bard Branch	Various Limits of Study within the Township of Shamong	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Barkers Brook	Confluence with Assiscunk Creek Tributary	Approximately 1.2 miles upstream of confluence with Barkers Brook Unnamed Tributary	Water-Resources Investigations (WRI) Report 94-4002 procedure – regression analysis – log-Pearson Type III	HEC-RAS	03/2010	AE w/floodway	
Barkers Brook	Approximately 0.8 miles downstream of Jobstown Juliustown Road	Approximately 0.2 miles upstream of Jobstown Juliustown Road	FLO-2D	FLO-2D	09/2015	A	
Barkers Brook Unnamed Tributary	Confluence with Barkers Brook	Approximately 0.1 mile upstream of Saylors Pond Road/County Road 670	Water-Resources Investigations (WRI) Report 94-4002 procedure – regression analysis – log-Pearson Type III	HEC-RAS	03/2010	AE w/floodway	
Barkers Brook Unnamed Tributary	Approximately 0.1 mile upstream of Saylors Pond Road/County Road 670	Approximately 0.9 mile upstream of Juliustown – Georgetown Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Barkers Brook Unnamed Tributary 1	Confluence with Barkers Brook Unnamed Tributary	Approximately 0.3 mile upstream of confluence with Barkers Brook Unnamed Tributary	FLO-2D	FLO-2D	09/2015	A	
Bartletts Branch	Confluence with Cranberry Bog	Approximately 1.7 miles upstream of Cranberry Bog	FLO-2D	FLO-2D	09/2015	A	
Barton Run	Confluence with Rancocas Creek Southwest Branch	Approximately 0.3 mile upstream of Flamingo Drive	Regression Equations	HEC-2	03/1982	AE w/floodway	
Barton Run Tributary 1	Confluence with Barton Run	At New Road	USGS Special Report No. 38 – regression analysis	HEC-2	03/1982	AE w/floodway	
Barton Run Tributary 1	At New Road	Approximately 0.5 mile upstream of South Elmwood Road	FLO-2D	FLO-2D	09/2015	A	
Barton Run Tributary 2	Confluence with Barton Run	At Taunton Lake Road/County Rote 544	Regression Equations	HEC-2	03/1982	AE w/floodway	
Barton Run Tributary 2	At Taunton Lake Road/County Route 544	Approximately 70 feet downstream of Kings Grant Drive	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Barton Run Tributary 2A	Approximately 400 feet upstream of Vernetta Lane	Approximately 1.2 miles upstream of Vernetta Lane	FLO-2D	FLO-2D	09/2015	A	
Barton Run Tributary 3	Confluence with Barton Run	At State Route 73/County Boundary	Special Report No. 38 – Regression Analysis	HEC-RAS, Slope/Area method	04/2005	AE w/floodway	
Barton Run Tributary 3.1	Confluence with Barton Run Tributary 3	Approximately 1.4 miles upstream of confluence with Barton Run Tributary 3	FLO-2D	FLO-2D	09/2015	A	
Barton Run Tributary 3A	Approximately 0.3 mile upstream of Tomlinson Mill Road	Approximately 0.5 mile upstream of Commonwealth Drive	FLO-2D	FLO-2D	09/2015	A	
Barton Run Tributary 4	Approximately 275 feet upstream of Barton Run	Approximately 300 feet upstream of Braddock Mill Road	FLO-2D	FLO-2D	09/2015	A	
Bass River	Confluence with Mullica River	Confluence with East Branch Bass River and West Branch Bass River	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	VE, AE	Coastal influence (Atlantic Ocean)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Batsto River	Confluence with Mullica River	At Batsto Village Road	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE	Coastal influence (Atlantic Ocean)
Batsto River	Approximately 1.0 mile downstream of Hampton Road	Approximately 3.1 miles upstream of State Route 532/Chatsworth Road	FLO-2D	FLO-2D	09/2015	A	
Bear Swamp River	Approximately 0.1 mile upstream of confluence with Little Creek	Approximately 2.1 miles upstream of U.S. Highway 206	FLO-2D	FLO-2D	09/2015	A	
Beaver Branch	Confluence with Beaver Run	Approximately 1,000 feet downstream of Shamong Road	FLO-2D	FLO-2D	09/2015	A	
Beaver Run	At County Road 679	At upstream confluence with Beaver Branch	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Beaverdam Creek	Confluence Rancocas Creek South Branch	At Intersection of U.S. Highway 206 and Ridge Road	Stream Gage Analysis, Gage Transfer Computations, Regression equations	HEC-RAS	11/2006	AE w/floodway	NJFHADF calculated for entire reach. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.
Beaverdam Creek	At Intersection of U.S. Highway 206 and Ridge Road	Approximately 300 feet upstream of Ridge Road	FLO-2D	FLO-2D	09/2015	A	
Biddle Branch	Confluence with Shoal Branch	Approximately 1.3 miles upstream of Barnegat Road	FLO-2D	FLO-2D	09/2015	A	
Bisphams Mill Creek	At State Route 70	At Coopers Road	log-Pearson Type III	HEC-2	09/1978	AE w/floodway	
Bisphams Mill Creek	At approximately 300 feet downstream of Lower Mill Road	At Oregon Trail	FLO-2D	FLO-2D	09/2015	A	
Black Run	At confluence with Barton Run	At Private Drive	Regression Equations	HEC-2	03/1983	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Black Run	At Private Drive	Just downstream of Kettle Run	FLO-2D	FLO-2D	09/2015	A	
Black Run Tributary	Confluence with Black Run	At Braddock Mill Road	Regression Equations	HEC-2	03/1983	AE w/floodway	
Black Run Tributary	At Braddock Mill Road	Approximately 0.4 mile upstream of Braddock Mill Road	FLO-2D	FLO-2D	09/2015	A	
Blacks Creek	Confluence with Crosswicks Creek	Approximately 80 feet upstream of US Highway 206	Regression Equations	HEC-2	0/3/1980	AE w/floodway	
Blacks Creek	Approximately 80 feet upstream of US Highway 206	Approximately 1,400 feet upstream of State Route 667/Wrightstown Sykesville Road	FLO-2D	FLO-2D	09/2015	A	
Blue Lake Run	Confluence with Haynes Creek (Pine Lake)	Approximately 0.5 mile upstream of Hopewell Road	Discharge-frequency relationship	HEC-2	03/1982	AE w/floodway	
Blue Lake Run	Approximately 0.5 mile upstream of Hopewell Road	Approximately 1.0 mile upstream of Mystic Way	FLO-2D	FLO-2D	09/2015	A	
Bobbys Run	Confluence with Rancocas Creek South Branch	At Eayrestown Road	USGS Special Report No. 38/regression analysis	Not Specified	02/1982	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Bobbys Run	At Eayrestown Road	Approximately 1.3 miles upstream of Vincetown Columbus Road	FLO-2D	FLO-2D	09/2015	A	
Boundary Creek	Approximately 360 feet downstream of Creek Road	Approximately 530 feet upstream of Creek Road	FLO-2D	FLO-2D	09/2015	A	
Bread and Cheese Run	Confluence with Friendship Creek	At Carranza Road/County Route 648	Regional regression equations	USGS Step-backwater computer program	01/1989	AE	
Bread and Cheese Run	At Carranza Road/County Route 648	Immediately downstream of U.S. Highway 206	FLO-2D	FLO-2D	09/2015	A	
Breeches Branch	Confluence with Oswego River	Approximately 1.3 miles upstream of Chatsworth Road	FLO-2D	FLO-2D	09/2015	A	
Buck Run	Confluence with Oswego River	Approximately 0.6 mile upstream of Martha Road	FLO-2D	FLO-2D	09/2015	A	
Bucks Cove Run	At Lakehurst Road	At North Whites Bog Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Budds Run	Confluence with Rancocas Creek North Branch	Approximately 0.2 mile upstream of Hanover Street/Fort Dix Road	Peak discharge-drainage area relationship	HEC-2	06/1978	AE w/floodway	
Budds Run	Approximately 0.2 mile upstream of Hanover Street/Fort Dix Road	Approximately 0.6 mile upstream of Catesville Road/Fort Dix Road	FLO-2D	FLO-2D	09/2015	A	
Bull Creek	At County Road 542	Approximately 0.9 miles upstream of Bulltown Maxwell Road	FLO-2D	FLO-2D	09/2015	A	
Bulls Branch	Confluence with Tulpehocken Creek	Confluence with Shane Branch	FLO-2D	FLO-2D	09/2015	A	
Burnt Bridge Spring	Confluence with Batsto River	Approximately 0.2 mile upstream of County Road 532	FLO-2D	FLO-2D	09/2015	A	
Burrs Mill Brook	Approximately 370 feet upstream of confluence of Burrs Mill Brook Tributary 6	Approximately 100 feet downstream of confluence of Gum Spring	Regression Equations	HEC-2	04/1980	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Burrs Mill Brook	Confluence with Friendship Creek	Approximately 370 feet upstream of confluence of Burrs Mill Brook Tributary 6	FLO-2D	FLO-2D	09/2015	A	
Burrs Mill Brook	Approximately 100 feet downstream of confluence of Gum Spring	Confluence with South Branch Burrs Mill Brook and Burrs Mill Brook Tributary 15	FLO-2D	FLO-2D	09/2015	A	
Bustleton Creek	Approximately 0.6 mile downstream of Railroad	Approximately 1.0 mile downstream of Railroad	FLO-2D	FLO-2D	09/2015	A	
Bustleton Creek	Approximately 2,000 feet downstream of John Galt Way	At U.S. Route 130	Regression Equations	HEC-2	06/1980	AE w/floodway	
Bustleton Creek	At U.S. Route 130	Approximately 1.3 miles upstream of U.S. Route 130	FLO-2D	FLO-2D	09/2015	A	
Buttonwood Lake	At Woolman Lake	At Upper Lake	FLO-2D	FLO-2D	09/2015	A	
Buttonwood Run	Confluence with Mill Race	At Branch Street/County Route 537	USGS Special Report No. 38/regression analysis	HEC-2	06/1978	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Cedar Run	Confluence with Rancocas Creek South Branch	Approximately 4.0 miles upstream of Rancocas Creek South Branch	FLO-2D	FLO-2D	09/2015	A	
Coares Run	Confluence with Budds Run	Approximately 0.1 mile upstream of Pointville Road	FLO-2D	FLO-2D	09/2015	A	
Cold Water Run	Confluence with Bear Swamp River	At Hawkin Road	FLO-2D	FLO-2D	09/2015	A	
Colliers Pond	Confluence with Blacks Creek	0.6 mile upstream of confluence with Blacks Creek	FLO-2D	FLO-2D	09/2015	A	
Cooper Branch	Approximately 0.1 mile downstream of Coopers Road	Approximately 0.7 mile upstream of Coopers Road	FLO-2D	FLO-2D	09/2015	A	
Country Lake Tributary	Confluence with Pole Bridge Branch	At Upton Station Road	Peak discharge-drainage area relationship	HEC-2	07/1978	AE w/floodway	
Crafts Creek	Confluence with Delaware River	At US Highway 130	USGS Special Report N0. 38 – Regression Analysis	HEC-2	03/1988	AE w/floodway	
Crafts Creek	At US Highway 130	At Gaunts Bridge Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Crafts Creek Tributary	Approximately 0.2 mile upstream of confluence with Crafts Creek	Approximately 0.4 mile upstream of Potts Mill Road	FLO-2D	FLO-2D	09/2015	A	
Cranberry Branch	Confluence with Pole Bridge Branch / Outlet of Colony Lake	At Lakehurst Road/County Route 530	Peak discharge-drainage area relationship	HEC-2	07/1978	AE w/floodway	
Cranberry Branch, Various Tributaries	At Lake Hurst Road/County Route 530	Approximately 0.4 mile upstream of West Whites Bogs Road	FLO-2D	FLO-2D	09/2015	A	
Cranberry Bog	Approximately 0.4 mile downstream of Chatsworth Road	Approximately 0.5 mile upstream of Chatsworth Road	FLO-2D	FLO-2D	09/2015	A	
Cropwell Brook	Confluence with Pennsauken Creek South Branch	Approximately 1000 feet upstream of North Maple Avenue	Water-Resources Investigations (WRI) Report 94-4002 procedure – regression analysis – log-Pearson Type III	HEC-RAS 4.0.0	03/2010	AE w/floodway	
Crosswicks Creek	Confluence with Delaware River	Approximately 0.4 mile downstream of Groveville Road	Regression Equations	HEC-2	04/1988	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Crosswicks Creek	Approximately 2.0 miles downstream of Groveville Road	Approximately 0.3 mile upstream of Extonville Road	Regression Equations	HEC-2	03/1980	AE w/floodway	
Crosswicks Creek	Approximately 0.3 mile upstream of Extonville Road	County Boundary within the Township of North Hanover	Regression Equations	HEC-2	09/1977	AE w/floodway	
Crystal Lake	At U.S. Highway 130	Approximately 1,775 feet upstream of New Jersey Turnpike	FLO-2D	FLO-2D	09/2015	A	
Crystal Lake Tributary 1.1	Confluence with Crystal Lake	Approximately 0.4 mile upstream of Confluence with Crystal Lake	FLO-2D	FLO-2D	09/2015	A	
Crystal Lake Tributary 2	Confluence with Crystal Lake	Approximately 0.3 miles upstream of confluence with Crystal Lake	FLO-2D	FLO-2D	09/2015	A	
Dans Bridge Branch	Confluence with East Branch Bass River	Approximately 0.5 mile downstream of Oswego Road	FLO-2D	FLO-2D	09/2015	A	
Delaware River	County Boundary with the Borough of Palmyra	County Boundary within the Township of Bordentown	Graphical Interpolation Procedure	HEC-2	04/1988	AE w/floodway	Stillwater elevations used since greater than riverine modeling

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
East Branch Bass River	Confluence with Bass River	Approximately 390 feet upstream of County Road 654	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE	Coastal influence (Atlantic Ocean)
East Branch Bass River	Approximately 390 feet upstream of County Road 654	Approximately 0.3 mile upstream of Dan Bridge Road	FLO-2D	FLO-2D	09/2015	A	
Evesboro Tributary	Confluence with Pennsauken Creek North Branch	At Union Mill Road	Discharge-frequency relationship	HEC-2	12/1978	AE w/floodway	
Featherbed Branch	Confluence with Shane Branch	Approximately 0.3 mile upstream of Carranza Road	FLO-2D	FLO-2D	09/2015	A	
Friendship Creek	Confluence with Rancocas Creek South Branch	At State Highway 70	Regional Regression Equation	USGS Step-backwater computer program	1992	AE w/floodway	
Fish Creek	Confluence with Mullica River	Approximately 0.5 mile upstream of Mullica River		SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE, VE	Coastal influence (Atlantic Ocean)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Friendship Creek	Confluence with Rancocas Creek South Branch	Approximately 500 feet upstream of State Highway 70	Stream gage analysis, gage transfer computations, and regression equations (USGS Special Report No. 38)	HEC-RAS 3.1.3	11/2006	AE w/floodway	NJFHADF calculated for XSs A through F. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.
Friendship Creek	Approximately 500 feet upstream of State Highway 70	Approximately 1.4 miles upstream of State Highway 70	FLO-2D	FLO-2D	09/2015	A	
Friendship Creek	Approximately 0.4 mile downstream of Powell Place Road	Confluence with Bread and Cheese Run	USGS Special Report No.38 / Regression Analysis	HEC-2	01/1989	AE	
Friendship Creek	Approximately 0.6 mile upstream of Powell Place Road	Approximately 0.6 mile upstream of South Park Road	FLO-2D	FLO-2D	09/2015	A	
Friendship Creek Branch	Confluence with Friendship Creek	At Warwick Way	USGS Special Report No.38 / Regression Analysis	HEC-2	09/1978	AE	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Goldys Run	Confluence with Rancocas Creek North Branch	Approximately 0.2 mile upstream of confluence with Rancocas Creek North Branch	USGS Special Report No.38 / Regression Analysis	HEC-2	07/1978	AE	
Goodwater Run	Approximately 1.3 miles downstream of Baily Road	Approximately 0.5 mile upstream of Chatsworth Barnegat Road	FLO-2D	FLO-2D	09/2015	A	
Grubbs Run	At Rancocas Road	Approximately 0.1 mile upstream of Quail Hollow Road	FLO-2D	FLO-2D	09/2015	A	
Gum Spring	Confluence with Mount Misery Creek	Approximately 0.1 mile upstream of Pitman Road	FLO-2D	FLO-2D	09/2015	A	
Hartford Road Tributary	Confluence with Parkers Creek	Approximately 600 feet upstream of Larchmont Boulevard	Discharge-Drainage Area Relationship	HEC-2	12/1978	AE w/floodway	
Haynes Creek	Confluence with Rancocas Creek Southwest Branch	Approximately 0.2 mile upstream of Hopewell Road	Discharge-frequency relationship	HEC-2	03/1982	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Hockamik Creek and various unnamed tributaries	Confluence with North Run	Approximately 0.2 mile upstream of Buntington Bridge Road	FLO-2D	FLO-2D	09/2015	A	
Hooten Road Tributary	Confluence with Strawbridge Lake	At I-295 (Southbound Lanes)	Discharge-frequency relationship	HEC-2	12/1978	AE w/floodway	
Horse Pond Stream	Confluence with Batsto River	Approximately 0.5 mile upstream of Carranza Drive	FLO-2D	FLO-2D	09/2015	A	
Hospitality Brook	Confluence with Wading River West Branch	Approximately 0.7 mile upstream of Stormy Hill Road	FLO-2D	FLO-2D	09/2015	A	
Indian Mills Brook	Confluence with Muskingum Brook	Approximately 0.6 mile upstream of Bunker Hill Road	USGS Special Report No. 38 / Regression Analysis	HEC-RAS 3. 1.2	04/2005	AE w/floodway	NJFHADF calculated for entire reach. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Indian Run	Confluence with Rancocas Creek North Branch	At Birmingham Road	USGS Special Report No. 38 / Regression Analysis	HEC-2	07/1978	AE	
Indian Run	At Birmingham Road	Approximately 0.2 mile downstream of Juliustown Pemberton Road	FLO-2D	FLO-2D	09/2015	A	
Indian Run Tributary 1	Confluence with Indian Run	Approximately 0.7 mile upstream of North Pemberton Road	FLO-2D	FLO-2D	09/2015	A	
Indian Run Tributary 1.1	Confluence with Indian Run Tributary 1	Approximately 0.6 mile upstream of Indian Run Tributary 1	FLO-2D	FLO-2D	09/2015	A	
Indian Run Tributary 2	Confluence with Indian Run	Approximately 0.8 mile upstream of confluence with Indian Run	FLO-2D	FLO-2D	09/2015	A	
Indian Run Tributary 3	Confluence with Indian Run	Approximately 0.7 mile upstream of Catesville Road/Fort Dix Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Ives Branch	Confluence with Wading River	At County Road 653	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE	Coastal influence (Atlantic Ocean)
Ives Branch	At County Road 653	At downstream limit of Cranberry Bog	FLO-2D	FLO-2D	09/2015	A	
Ives Branch	At upstream limit of Cranberry Bog	Approximately 0.4 mile upstream of Martha Road	FLO-2D	FLO-2D	09/2015	A	
Jacks Run	Confluence with Pompeston Creek	At Highland Avenue	Rational Equation	HEC-2	09/1989	AE	
Jade Run	Confluence with Rancocas Creek South Branch	Approximately 0.3 mile upstream of Ridge Road	Stream gage analysis, gage transfer computations, and regression equations (USGS Special Report No. 38)	HEC-RAS 3.1. 3	11/2006	AE w/floodway	NJFHADF calculated. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.
Jade Run	Approximately 0.3 mile upstream of Ridge Road	At Turkey Buzzard Bridge Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Jefferson Lake	At Oregon Trail	At State Highway 70	USGS Special Report No. 38 / Regression Analysis	HEC-2	07/1978	AE w/floodway	Modeled as larger part of Ballinger Run
Jobs Creek	Confluence with Bass River	At Garden State Parkway	FLO-2D	FLO-2D	09/2015	A	
Kendles Run	Confluence with Rancocas Creek	Approximately 0.7 mile upstream of Creek Road	Rational Method	HEC-2	09/1976	AE w/floodway	Starting WSELs obtained from tidal elevations on Rancocas Creek
Kendles Run	Approximately 0.7 mile upstream of Creek Road	Approximately 1.0 mile upstream of Creek Road	FLO-2D	FLO-2D	09/2015	A	
Lake Absegami	At East Branch Bass River	T Philips Road and Tommy Branch	FLO-2D	FLO-2D	09/2015	A	
Lake Migazee	At Migazee Trail	At Tuckerton Road	FLO-2D	FLO-2D	09/2015	A	
Lake Minonok	At Cheyenne Trail	At Mohawk Trail	FLO-2D	FLO-2D	09/2015	A	
Lake Mishe Mokwa	At Hiawatha Trial	At Mishe Mokwa Trail	FLO-2D	FLO-2D	09/2015	A	
Lake Mishe	At confluence with Ballinger Run	At Hiawatha Trial	Peak discharge-drainage area relationship	HEC-2	06/1978	AE w/floodway	
Lake Mushkodosa	At Mishe Mokwa Trail	At Wagush Trail	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Lake Peshekee	At Mudjekeewis Trail	At Cheyenne Trail	FLO-2D	FLO-2D	09/2015	A	
Lake Sioux	At Tuckerton Road	At Atsion Road	FLO-2D	FLO-2D	09/2015	A	
Lake Siquitise	At Mishe Mokwa Trail	At Askoran Trail	FLO-2D	FLO-2D	09/2015	A	
Lake Wabassi	At Askoran Trail	At Migazee Trial	FLO-2D	FLO-2D	09/2015	A	
Lake Wagush	At Wagush Trail	At Mishe Mokwa Trail	FLO-2D	FLO-2D	09/2015	A	
Lake Wauwauskashe	At Wagush Trail	At Mudjekeewis Trail	FLO-2D	FLO-2D	09/2015	A	
Laurel Run	250 feet downstream of confluence of Laurel Run and Laurel Run Tributary	630 feet downstream of Grande Blvd	FLO-2D	FLO-2D	09/2015	A	
Laurel Run Tributary 1	Confluence with Laurel Run	Approximately 0.1 mile upstream of Bridgeboro Road	FLO-2D	FLO-2D	09/2015	A	
Little Creek	Confluence with Rancocas Creek Southwest Branch	Approximately 0.8 mile upstream of State Highway 70	Discharge-frequency relationship	HEC-2	09/1978	AE w/floodway	
Little Creek	Approximately 0.4 mile downstream of Hawkin Road	Approximately 0.1 mile upstream of Medford Lakes Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Little Creek Tributary 3	Confluence with Little Creek	Approximately 1.4 miles upstream of confluence with Little Creek	FLO-2D	FLO-2D	09/2015	A	
Little Creek Tributary 4	Confluence with Little Creek	Approximately 365 feet upstream of Hawkin Road	FLO-2D	FLO-2D	09/2015	A	
Little Creek Tributary 5	Confluence with Little Creek	Approximately 260 feet upstream of Shawnee Pass	FLO-2D	FLO-2D	09/2015	A	
Little Creek Tributary 5.1	Confluence with Little Creek Tributary 5	Approximately 900 feet upstream of confluence with Little Creek Tributary 5	FLO-2D	FLO-2D	09/2015	A	
Little Creek Tributary 6	Confluence with Little Creek	Approximately 0.4 mile upstream of confluence with Little Creek	FLO-2D	FLO-2D	09/2015	A	
Little Haukin Run	Confluence with West Branch Wading River	Just downstream of Green Bank Chatsworth Road	FLO-2D	FLO-2D	09/2015	A	
Loveland Thorofare	Confluence with Bass River	Confluence with Wading River	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE	Coastal influence (Atlantic Ocean)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Lower Pasture Creek	Confluence with Mullica River	Approximately 0.3 mile upstream of confluence of Mullica River	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE, VE	Coastal influence (Atlantic Ocean)
Masons Creek	Confluence with Rancocas Creek South Branch	At Stacy Haines Road	Discharge-frequency relationship	HEC-2	05/1978, 06/1978, 02/1982	AE w/floodway	Tidal influence (Delaware River)
Masons Creek	At Stacy Haines Road	Approximately 700 feet upstream of Ark Road	FLO-2D	FLO-2D	09/2015	A	
Mathis Thorofare	Confluence with Mullica River	Confluence with Broad Creek	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE, VE	Coastal influence (Atlantic Ocean)
McDonalds Branch	Confluence with Bisphams Mill Creek	Approximately 1.0 miles upstream of confluence of Bisphams Mill Creek	FLO-2D	FLO-2D	09/2015	A	
Merrygold Branch	Confluence with Wading River	Approximately 2.0 miles upstream of confluence with Wading River	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE	Coastal influence (Atlantic Ocean)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mile Run	Confluence with West Branch Wading River	Approximately 0.2 mile upstream of Friendship Speedwell Road	FLO-2D	FLO-2D	09/2015	A	
Mill Creek	Confluence with Rancocas Creek	At Interstate 295	Regression Equations	HEC-2	05/1978	AE w/floodway	Tidal influence (Delaware River)
Mill Creek	At Interstate 295	Approximately 0.2 mile upstream of Mount Holly Road	FLO-2D	FLO-2D	09/2015	A	
Mill Creek South Branch	Confluence with Mill Creek	At John F Kennedy Way	Peak discharge-drainage area relationship	HEC-2	05/1978	AE w/floodway	
Mill Creek South Branch	At John F Kennedy Way	At Garfield Drive	FLO-2D	FLO-2D	09/2015	A	
Mill Creek Tributary	Confluence with Mill Creek	At Woodlane Road/County Route 630	Regression Equations	HEC-2	05/1978	AE w/floodway	
Mill Creek Tributary 1	Confluence with Mill Creek	At Levitt Parkway/County Route 630	Peak discharge-drainage area relationship	HEC-2	05/1978	AE w/floodway	
Mill Creek Tributary 1	At Levitt Parkway	Approximately 0.1 mile upstream of Evergreen Drive	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mill Race	Confluence with Rancocas Creek North Branch	Divergence with Rancocas Creek North Branch	log-Pearson Type III	HEC-2	06/1978	AE w/floodway	The calculated peak discharges of Rancocas Creek North Branch were divided among Rancocas Creek North Branch, Mill Race, and Mount Holly By-pass Channel between the upstream and downstream terminal points of Mill Race.
Mimosa Lake	At Scout Drive	Confluence with Mimosa Lake Tributary 1 and Mimosa Lake Tributary 2	FLO-2D	FLO-2D	09/2015	A	
Mimosa Lake, Various Tributaries	Confluence with Mimosa Lake and Mimosa Lake Tributary 2	Within the Township of Medford	FLO-2D	FLO-2D	09/2015	A	
Mimosa Lake Run	Confluence with Haynes Creek (Tauton Lake)	At Scout Drive	Discharge-frequency relationship	HEC-2	03/1982	AE w/floodway	
Mimosa Lake Run, Various Tributaries	Confluence with Mirror Lake and Approximately 2.3 miles upstream of Lakehurst Road	Within the Township of Pemberton	FLO-2D	FLO-2D	09/2015	A	
Mirror Lake	At Lakehurst Road	Approximately 2.3 miles upstream of Lakehurst Road	Routing Method	HEC-2	07/1978	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mirror Lake, Various Tributaries	Confluence with Mirror Lake and Approximately 2.3 miles upstream of Lakehurst Road	Within the Township of Pemberton	FLO-2D	FLO-2D	09/2015	A	
Mirror Lake Nos. 1, 2, 3	Chippewa Trail	Oak Drive	FLO-2D	FLO-2D	09/2015	A	
Mount Holly By-pass Channel	Confluence with Mill Race	Divergence with Rancocas Creek North Branch	log-Pearson Type III	HEC-2	06/1978	AE w/floodway	The calculated peak discharges of Rancocas Creek North Branch were divided among Rancocas Creek North Branch, Mill Race, and Mount Holly By-pass Channel between the upstream and downstream terminal points of Mill Race.
Mount Misery Brook	Confluence with Gum Creek	Approximately 0.4 mile upstream of Rattler Road	FLO-2D	FLO-2D	09/2015	A	
Mount Misery Brook North Branch	Confluence with Mount Misery Brook	Approximately 0.5 mile upstream of Glassworks Road	FLO-2D	FLO-2D	09/2015	A	
Mount Misery Brook South Branch	Confluence with Mount Misery Brook	Approximately 0.7 mile upstream of Savoy Boulevard	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Mount Misery Creek	Confluence with Rancocas Creek North Branch	Approximately 0.2 mile upstream of Greenwood Bridge Road	log-Pearson Type III	HEC-2	07/1978	AE w/floodway	
Mount Misery Creek	Approximately 0.2 mile upstream of Greenwood Bridge Road	Confluence with Mount Misery Brook and Gum Spring	FLO-2D	FLO-2D	09/2015	A	
Mullica River and various tributaries	Entire Coastline	Entire Coastline	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	VE, AE	Coastal Influence (Atlantic Ocean)
Muskingum Brook	Confluence with Indian Mills Brook	At Tuckerton Road	USGS Special Report No. 38	HEC-RAS 3.1.2	04/2005	AE w/floodway	NJFHADF calculated for entire reach. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.
Muskingum Brook	At Tuckerton Road	Approximately 0.3 mile upstream of Old Indian Mills Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Muskingum Brook, Various Tributaries	Confluence with Muskingum Brook	Within Township of Tabernacle	FLO-2D	FLO-2D	09/2015	A	
North Run	County Boundary	Borough of Wrightstown corporate limit	FLO-2D	FLO-2D	09/2015	A	
Ong Run	Confluence with Mirror Lake	Approximately 0.2 mile upstream of Snow Avenue	Peak discharge-drainage area relationship	HEC-2	07/1978	AE w/floodway	
Ong Run	Approximately 0.2 mile upstream of Orange Avenue	Approximately 200 feet downstream of Gas Road	FLO-2D	FLO-2D	09/2015	A	
Ore Spring	Confluence with Featherbed Branch	Approximately 0.5 mile upstream of confluence with Featherbed Branch	FLO-2D	FLO-2D	09/2015	A	
Oswego River	At Chatsworth Road	Burlington / Ocean county lines	FLO-2D	FLO-2D	09/2015	A	
Papoose Branch	Confluence with Oswego River	Approximately 1.2 miles upstream of Baptist Road	FLO-2D	FLO-2D	09/2015	A	
Parkers Creek	Confluence Rancocas Creek	Approximately 300 feet upstream of Union Mill Road	Discharge-Drainage Area Relationship	HEC-2	12/1978	AE w/floodway	Tidal influence (Delaware River)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Parkers Creek	Approximately 300 feet upstream of Union Mill Road	At Hainesport Mount Laurel Road	FLO-2D	FLO-2D	09/2015	A	
Pau Puk Keewis Lagoon	Lake Siquitise	Approximately 0.2 mile upstream of Lake Siquitise	FLO-2D	FLO-2D	09/2015	A	
Pennsauken Creek	Confluence with Delaware River	Confluence with Pennsauken Creek North Branch and Pennsauken Creek South Branch	USGS Special Report No. 38	Normal Depth Calculations or the One-Year tide, whichever is greater	05/1990	AE w/floodway	Tidal influence (Delaware River)
Pennsauken Creek North Branch	Confluence with Pennsauken Creek and Pennsauken Creek South Branch	At Hainesport Road	Regional Frequency Method	HEC-2	04/1977, 12/1978, 09/1976	AE w/floodway	Tidal influence (Delaware River)
Pennsauken Creek North Branch, Various Tributaries	Confluence with Pennsauken Creek North Branch	Various Limits of Study within the Townships of Evesham, Moorestown and Mount Laurel	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Pennsauken Creek South Branch	Confluence with Pennsauken Creek	Approximately 1.1 miles upstream of State Route 90	USGS Special Report No. 38	Normal Depth Calculations or the One-Year tide, whichever is greater	05/1990	AE w/floodway	
Pennsauken Creek South Branch	Approximately 1.1 miles upstream of State Route 90	Approximately 0.5 mile upstream of South Church Road	Regional parameters developed from statistical analyses	FEMA, 1976	04/1977	AE w/floodway	
Pennsauken Creek South Branch	Approximately 0.7 mile downstream of Centertree Road	Approximately 0.3 mile upstream of Marlton Pike	USGS Special Report No. 38	HEC-2	03/1982	AE w/floodway	
Pennsauken Creek South Branch, Various Tributaries	Confluence with Pennsauken Creek South Branch	Various Limits of Study within the Townships of	FLO-2D	FLO-2D	09/2015	A	
Pheasant Run	Confluence with Pompeston Creek East Branch	Approximately 0.1 mile upstream of Woodhaven Drive	New Jersey Water Resources Circular No. 13	HEC-2	07/1974	AE	
Plains Branch	Confluence with Oswego River	4500 feet downstream of Route 72	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Pole Branch	Approximately 900 feet upstream of Gretna Chatsworth Road	Approximately 1,600 feet downstream of confluence with Pole Branch Tributary	FLO-2D	FLO-2D	09/2015	A	
Pole Bridge Branch	Outlet of Country Lake	At Whitesbogs Road	Peak discharge-drainage area relationship	HEC-2	07/1978	AE w/floodway	
Pole Bridge Branch	Approximately 210 feet downstream of Wissahickon Trail	Confluence with Mount Misery Brook	FLO-2D	FLO-2D	09/2015	A	
Pole Bridge Branch Tributary	Confluence with Pole Bridge Branch	At Lakehurst Road/County Route 530	Peak discharge-drainage area relationship	HEC-2	07/1978	AE w/floodway	
Pole Bridge Branch Tributary	At Lakehurst Road/County Route 530	Approximately 1.7 miles upstream of Lakehurst Road	FLO-2D	FLO-2D	09/2015	A	
Pompeston Creek	Confluence with Delaware River	Approximately 0.9 mile upstream of Broad Street/County Route 543	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE w/floodway	Tidal influence (Delaware River)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Pompeston Creek	Approximately 0.9 mile upstream of Broad Street/County Route 543	Approximately 425 feet upstream of West Maple Avenue	New Jersey Water Resources Circular No. 13	Normal Depth Calculations or the One-Year tide, whichever is greater	09/1989	AE w/floodway	Tidal influence (Delaware River)
Pompeston Creek	Approximately 425 feet upstream of West Maple Avenue	At Dawson Street	FLO-2D	FLO-2D	09/2015	A	
Pompeston Creek East Branch and Southeast Branches	Confluence with Pompeston Creek	Approximately 400 feet upstream of confluence of Pompeston Creek Northeast and Southeast Branch	New Jersey Water Resources Circular No. 13	Normal Depth Calculations or the One-Year tide, whichever is greater	09/1989	AE	Tidal influence (Delaware River)
Pompeston Creek Northeast Branch	Confluence with Pompeston Creek East and Southeast Branch	Approximately 0.5 mile upstream of confluence with Pompeston Creek East and Southeast Branch	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Pompeston Creek Southeast Branch	Confluence with Pompeston Creek East and Southeast Branch	Approximately 0.5 mile upstream of confluence with Pompeston Creek East and Southeast Branch	FLO-2D	FLO-2D	09/2015	A	
Pope Branch	Confluence with Shoal Branch	Approximately 0.6 mile upstream of Lauries Road	FLO-2D	FLO-2D	09/2015	A	
Powell Run	Approximately 700 feet upstream of Rancocas Creek North Branch	Approximately 800 feet upstream of North Pemberton Road	FLO-2D	FLO-2D	09/2015	A	
Powells Run	Confluence with Powell Run	Approximately 1.7 miles upstream of Powell Run	FLO-2D	FLO-2D	09/2015	A	
Ramblewood Tributary	Confluence with Evesboro Tributary	Approximately 0.5 mile upstream of confluence with Evesboro Tributary	Discharge-frequency relationship	HEC-2	12/1978	AE w/floodway	
Rancocas Creek	Confluence with Delaware River	At Bridge Street/County Route 635	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE w/floodway	Tidal influence (Delaware River)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Rancocas Creek	At Bridge Street/County Route 635	Confluence with Rancocas Creek North Branch and Rancocas Creek South Branch	Gage Analysis	HEC-2	05/1978	AE w/floodway	
Rancocas Creek, Various Tributaries	Confluence with Rancocas Creek	Various Limits of Study	FLO-2D	FLO-2D	09/2015	A	
Rancocas Creek North Branch	Confluence with Rancocas Branch	At Lakehurst Road/County Road 530	Drainage area-discharge transfer equation	HEC-2	05/1978	AE w/floodway	Tidal influence (Delaware River)
Rancocas Branch North Branch, Various Tributaries	Confluence with Rancocas Creek North Branch	Various Limits of Study within Townships of Pemberton and Westampton	FLO-2D	FLO-2D	09/2015	A	
Rancocas Creek South Branch	Confluence with Rancocas Creek	Approximately 650 feet upstream of Bed Bug Hill Road	Stream gage analysis, gage transfer computations and regression equations (USGS Special Report No. 38)	HEC-RAS 3.1.3	11/2006	AE w/floodway	NJFHADF calculated for entire reach. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Rancocas Creek South Branch	Approximately 650 feet upstream of Bed Bug Hill Road	Approximately 0.3 mile downstream of Serenity Court	FLO-2D	FLO-2D	09/2015	A	
Rancocas Creek South Branch Tributary	Confluence with Rancocas Creek South Branch	Approximately 0.5 mile upstream of Crispin Road	Gage Analysis, log-Pearson type III	Mean annual tide elevation – graphic comparison of riverine/tidal flows	02/1982	AE w/floodway	
Rancocas Creek South Branch Tributary	Approximately 500 feet downstream of Fostertown Road	Approximately 0.4 mile upstream of Setter Club Road	FLO-2D	FLO-2D	09/2015	A	
Rancocas Creek Southwest Branch	Confluence with Rancocas Creek South Branch	Approximately 0.2 mile upstream of Bon Air Drive	HEC-HMS (HMS = Hydrologic Modeling System)	HEC-RAS 3.1.3	11/2006	AE w/floodway	NJFHADF calculated for entire reach. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Rancocas Creek Southwest Branch	Approximately 0.2 mile upstream of Bon Air Drive	Approximately 0.4 mile upstream of North Maple Avenue	FLO-2D	FLO-2D	09/2015	A	
Rancocas Creek Southwest Branch, Various Tributaries	Confluence with Rancocas Creek Southwest Branch	Various Limits of Study within the Townships of Evesham and Medford	FLO-2D	FLO-2D	09/2015	A	
Risley Branch	Confluence with West Branch Wading River	Approximately 3.1 miles upstream of West Branch Wading River	FLO-2D	FLO-2D	09/2015	A	
Roberts Branch	Confluence with Skits Branch	Approximately 0.1 mile upstream of Tabernacle-Chatsworth Road	FLO-2D	FLO-2D	09/2015	A	
Roberts Branch Tributary 1	Confluence with Roberts Branch	Approximately 0.7 mile upstream of confluence with Roberts Branch	FLO-2D	FLO-2D	09/2015	A	
Shane Branch	Confluence with Tulpehocken Creek	Approximately 0.3 mile upstream of Speedwell Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Sharps Run	Confluence with Rancocas Creek South Branch	At Hartford Road	Discharge-frequency relationship	HEC-2	03/1982	AE w/floodway	
Sharps Run	At Hartford Road	Approximately 2.1 miles upstream of Hartford Road	FLO-2D	FLO-2D	09/2015	A	
Sharps Run Tributary 1	Approximately 750 feet upstream of confluence with Sharps Run	Approximately 2,900 feet upstream of confluence with Sharps Run	HEC-HMS	HEC-RAS	08/2016	AE	
Sharps Run Tributary 2	A point approximately 1,410 feet upstream of Oliphant's Mill - Hartford Road	A point approximately 2,910 feet upstream of Oliphant's Mill - Hartford Road	TR-55	HEC-RAS	06/2015	AE	
Sharps Run, Various Tributaries	Confluence with Sharps Run	Various Limits of Study within the Township of Evesham and Medford	FLO-2D	FLO-2D	09/2015	A	
Shinns Branch	Confluence with Bisphams Mill Creek	Approximately 0.6 mile upstream of confluence with Bisphams Mill Creek	Regression Equations	HEC-2	04/1980	AE w/floodway	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Shoal Branch	Confluence with West Branch Wading River	At State Route 72	FLO-2D	FLO-2D	09/2015	A	
Shreve Branch	Confluence with Shoal Branch	Approximately 1.3 miles upstream of Sooy Road	FLO-2D	FLO-2D	09/2015	A	
Skeet Run	Confluence with Little Creek	At Hawkin Road	Discharge-frequency relationship	HEC-2	03/1982	AE w/floodway	
Skeet Run, Various Tributaries	Confluence with Skeet Run	Various Limits of Study within the Township of Medford	FLO-2D	FLO-2D	09/2015	A	
Skit Branch	Confluence with Batsto River	Approximately 6.0 miles upstream of confluence with Batsto River	FLO-2D	FLO-2D	09/2015	A	
Skit Branch, Various Tributaries	Confluence with Skit Branch	Various Limits of Study within the Township of Tabernacle	FLO-2D	FLO-2D	09/2015	A	
Spring Hill Brook	Confluence with Crystal Lake	Approximately 0.1 mile upstream of confluence with Crystal Lake	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Springer Brook	Approximately 0.6 mile downstream of U.S. Route 206	Confluence with Muskingum Brook	Special Report No. 38	HEC-RAS 3.1.2	04/2005	AE w/floodway	NJFHADF calculated for entire reach. The NJFHADF is equal to the 1-percent annual chance flood plus an additional 25% in flow, and not to exceed the 0.2-percent annual chance flood. NJFHADF boundary is to regulate disturbance to the land and vegetation within the flood hazard area of a water body. This regulation is set forth by the state of New Jersey Flood Hazard Area Control Act Rules N.J.A.C. 7:13, and is administered.
Springer Brook	Approximately 0.6 mile downstream of U.S. Route 206	Approximately 2.1 miles downstream of U.S. Route 206	FLO-2D	FLO-2D	09/2015	A	
Strawbridge Lake	Confluence with Pennsauken Creek North Branch	At New Jersey Route 38	Regionalized parameters, developed from statistical analyses – gage analysis	HEC-2	09/1976	AE w/floodway	
Strawbridge Lake	At New Jersey Route 38	Approximately 900 feet downstream of Hooten Road	FLO-2D	FLO-2D	09/2015	A	
Swede Run	Confluence with Dredge Harbor and at St. Michel Drive	Approximately 0.9 mile upstream of Broad Street	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE	Tidal influence (Delaware River)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Swede Run	Approximately 0.9 mile upstream of Broad Street	At North Stanwick Road	TR-55	HEC-2	10/1993	AE w/floodway	
Swede Run	At North Stanwick Road	Approximately 170 feet upstream of Golf View Road	FLO-2D	FLO-2D	09/2015	A	
Swede Run Tributary	Confluence with Swede Run	Approximately 180 feet upstream of Salem Road	TR-55	HEC-2	10/1993	AE w/floodway	
Sykes Branch	Confluence with Shoal Branch	Approximately 1.3 miles upstream of Sooy Road	FLO-2D	FLO-2D	09/2015	A	
Taunton Lake Tributary	At Centennial Avenue	Approximately 550 feet upstream of Kettle Run Road	FLO-2D	FLO-2D	09/2015	A	
Taunton Lake Tributary 1	Confluence with Taunton Lake Tributary	At Hopewell Road	FLO-2D	FLO-2D	09/2015	A	
Thorton Creek	Approximately 920 feet downstream of Park Street	At Hogbeck Road	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Tommys Branch	Confluence with Lake Absegami	Approximately 0.6 mile upstream of confluence with Lake Absegami	FLO-2D	FLO-2D	09/2015	A	
Sharps Run Tributary 1	Approximately 0.4 miles upstream of confluence with Sharps Run	Approximately 100 feet upstream of Farm Culvert	FLO-2D	FLO-2D	09/2015	AE	
Tributary 1	Approximately 0.2 mile downstream of Phillips Road	Approximately 0.2 mile upstream of Kettlebrook Drive	FLO-2D	FLO-2D	09/2015	A	
Tributary 2	Approximately 0.2 mile downstream of Masonville Fostertown Road	Approximately 0.9 mile upstream of Masonville Fostertown Road	FLO-2D	FLO-2D	09/2015	A	
Tributary 2.1	Confluence with Tributary 2	Approximately 0.1 mile upstream of confluence with Tributary 2	FLO-2D	FLO-2D	09/2015	A	
Tributary B	Confluence with Unnamed Stream above the Delaware River	Approximately 0.2 mile upstream of confluence with Unnamed Stream above the Delaware River	FLO-2D	FLO-2D	09/2015	A	

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Tub Mill Branch	Confluence with Wading River	Approximately 0.2 mile upstream of Chatsworth Road	FLO-2D	FLO-2D	09/2015	A	
Tulpehocken Creek	Approximately 550 feet downstream of Bulls Branch	Approximately 500 feet upstream of Shane Branch	FLO-2D	FLO-2D	09/2015	A	
Unnamed Streams	Various Limits of Study as noted on FIRM panels	Various Limits of Study as noted on FIRM panels	FLO-2D	FLO-2D	09/2015	A	
Unnamed Tributaries	Various Limits of Study as noted on FIRM panels	Various Limits of Study as noted on FIRM panels	FLO-2D	FLO-2D	09/2015	A	
Upper Marlton Lake	Confluence with Haynes Creek and Upper Marlton Lake Tributary 1	County Boundary	FLO-2D	FLO-2D	09/2015	A	
Upper Marlton Lake Tributary 1	Confluence with Haynes Creek and Upper Marlton Lake	County Boundary	FLO-2D	FLO-2D	09/2015	A	
Upper Marlton Lake Tributary 1.1	Confluence with Upper Marlton Lake Tributary 1	County Boundary	FLO-2D	FLO-2D	09/2015	A	
Wading River	Confluence with Mullica River	Confluence with Oswego River	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	VE, AE	Coastal influence (Atlantic Ocean)

Table 13: Summary of Hydrologic and Hydraulic Analyses – continued

Flooding Source	Study Limits Downstream Limit	Study Limits Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Wesickaman Creek	At Three Bridge Road	At Locust Road	FLO-2D	FLO-2D	09/2015	A	
West Branch Bass River	Confluence with Bass River and East Branch Bass River	At Cranberry Bog downstream limit	--	SWAN + ADCIRC / CHAMP - WHAFIS	04/2014	AE	Coastal influence (Atlantic Ocean)
West Branch Wading River	At Tabernacle Chatsworth Road /County Route 532	At Cedar Road	Regression Equations	HEC-2	04/1980	AE w/floodway	
West Branch Wading River	Approximately 0.6 mile downstream of County Route 563	At Tabernacle Chatsworth Road /County Route 532	FLO-2D	FLO-2D	09/2015	A	
Woolman Lake	At Branch Street	At Buttonwood Lake	FLO-2D	FLO-2D	09/2015	A	

Roughness coefficients are provided in Table 14**.** Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Table 14: Roughness Coefficients

Flooding Source	Channel “n”	Overbank “n”
Assiscunk Creek	0.028	0.055-0.090
Assiscunk Creek Tributary	0.035	0.060-0.080
Ballinger Run	0.035-0.040	0.060-0.080
Ballinger Run Tributary	0.035	0.060
Barkers Brook	0.045	0.035-0.100
Barkers Brook Unnamed Tributary	0.045	0.035-0.100
Barton Run	0.024-0.045	0.050-0.150
Barton Run Tributary 1	0.015-0.035	0.080
Barton Run Tributary 2	0.020-0.035	0.060
Barton Run Tributary 3	0.020-0.035	0.070-0.100
Beaverdam Creek	0.036-0.055	0.036-0.115
Bisphams Mill Creek	0.017-0.055	0.050-0.075
Black Run	0.020-0.035	0.050-0.080
Black Run Tributary	0.020-0.040	0.080
Blue Lake Run	0.040	0.080
Bobbys Run	0.021-0.040	0.060-0.090
Bread and Cheese Run	0.045	0.055-0.120
Budds Run	0.035	0.070-0.090
Burrs Mill Brook	0.055-0.065	0.050-0.075
Bustleton Creek	0.050-0.070	0.080
Buttonwood Run	0.040-0.050	0.055-0.075
Crafts Creek	0.035	0.050
Cranberry Branch	0.040	0.060-0.070
Cropwell Brook	0.040	0.030-0.100
Delaware River	0.016-0.030	0.050-0.070
Evesboro Tributary	0.025-0.075	0.025-0.140
Friendship Creek	0.038-0.056	0.043-0.100
Hartford Road Tributary	0.025-0.075	0.025-0.140
Haynes Creek	0.015-0.040	0.070-0.080
Hooten Road Tributary	0.025-0.075	0.025-0.140
Indian Mills Brook	0.035-0.045	0.035-0.120
Jacks Run	0.025-0.080	0.040-0.090

Table 14: Roughness Coefficients – continued

Flooding Source	Channel "n"	Overbank "n"
Jade Run	0.028-0.062	0.030-0.106
Kettle Run	0.015-0.040	0.050-0.080
Lake Mishe Mokwa Run	0.035	0.080
Little Creek	0.022-0.040	0.060-0.080
Masons Creek	0.020-0.075	0.025-0.140
Mill Creek	0.029-0.045	0.060-0.090
Mill Creek Tributary	0.040	0.060-0.080
Mill Creek South Branch	0.040	0.070
Mill Race	0.035-0.050	0.050-0.070
Mimosa Lake Run	0.040	0.070
Mount Holly Bypass Channel	0.020	0.015-0.080
Mount Misery Creek	0.035	0.050-0.080
Mullica River	0.039-0.051	0.049-0.064
Miskingum Brook	0.035-0.045	0.035-0.120
Ong Run	0.035	0.065-0.085
Parkers Creek	0.025-0.075	0.025-0.140
Pennsauken Creek	0.040	0.070
Pennsauken Creek North Branch	0.025-0.075	0.025-0.140
Pennsauken Creek South Branch	0.020-0.075	0.025-0.140
Pole Bridge Branch	0.040	0.060-0.070
Pole Bridge Branch Tributary	0.040	0.070
Pompeston Creek	0.025-0.080	0.040-0.090
Ramblewood Tributary	0.025-0.075	0.025-0.140
Rancocas Creek	0.016-0.030	0.034-0.070
Rancocas Creek North Branch	0.030-0.035	0.050-0.090
Rancocas Creek South Branch	0.025-0.051	0.025-0.198
Rancocas Creek South Branch Tributary	0.022-0.040	0.040-0.100
Rancocas Creek Southwest Branch	0.035-0.055	0.060-0.130
Sharps Run	0.035-0.040	0.060-0.080
Shinns Branch	0.040-0.045	0.080
Skeet Run	0.035-0.040	0.080
Springer Brook	0.035-0.045	0.035-0.120

Table 14: Roughness Coefficients – continued

Flooding Source	Channel "n"	Overbank "n"
Strawbridge Lake	0.025-0.075	0.025-0.140
Swede Run	0.012-0.035	0.030-0.060
West Branch Wading River	0.050-0.060	0.050-0.090

5.3 Coastal Analyses

For the areas of Burlington County that are impacted by coastal flooding processes, coastal flood hazard analyses were performed to provide coastal BFEs. Coastal BFEs reflect the increase in water levels during a flood event due to extreme tides and storm surge as well as overland wave effects.

The following subsections provide summaries of how each coastal process was considered for this FIS Report. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation. Table 15 summarizes the methods and/or models used for the coastal analyses. Refer to Section 2.5.1 for descriptions of the terms used in this section.

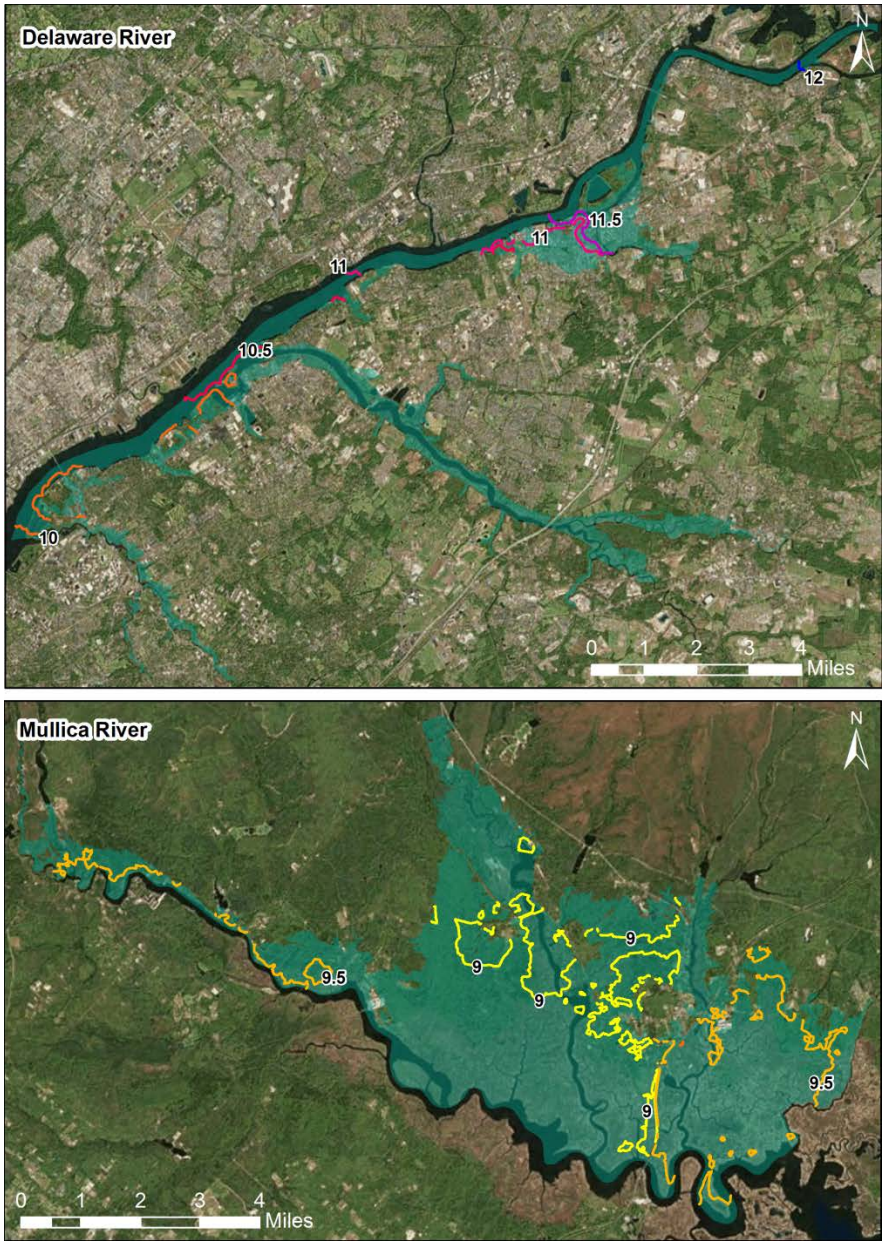
Table 15: Summary of Coastal Analyses

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Used	Date Analysis was Completed
Delaware River	Entire Coastline of Burlington County	Entire Coastline of Burlington County	Storm Surge	ADCIRC	9/29/2014
Mullica River	Entire Coastline of Burlington County	Entire Coastline of Burlington County	Storm Surge	ADCIRC	9/29/2014
Mullica River	Entire Coastline of Burlington County	Entire Coastline of Burlington County	Wave setup	ADCIRC+ SWAN	9/29/2014
Mullica River	Entire Coastline of Burlington County	Entire Coastline of Burlington County	Statistical Analyses	JPM	9/29/2014
Mullica River	Entire Coastline of Burlington County	Entire Coastline of Burlington County	Wave Generation	SWAN	9/29/2014
Mullica River	Entire Coastline of Burlington County	Entire Coastline of Burlington County	Overland Wave Propagation	WHAFIS	1/23/2014

5.3.1 Total Stillwater Elevations

The total stillwater elevations (stillwater including storm surge plus wave setup) for the 1% annual chance flood were determined for areas subject to coastal flooding. The models and methods that were used to determine storm surge and wave setup are listed in Table 15. The stillwater elevation that was used for each transect in coastal analyses is shown in Table 17, "Coastal Transect Parameters." Figure 8 shows the total stillwater elevations for the 1% annual chance flood that was determined for this coastal analysis.

Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas



Astronomical Tide
Astronomical tides were simulated as part of the storm surge model. The model was forced with tidal constituents and validated to local tide data.

Storm Surge Statistics
Storm surge was modeled based on characteristics of actual storms responsible for significant coastal flooding. The characteristics of tropical cyclones (such as hurricanes) were determined by statistical study of the regional historical record of storms. Characteristics such as the strength, size, track, etc., of storms were used in the Joint Probability Method (JPM) to define tropical cyclones. Storm data was used in conjunction with numerical hydrodynamic models to determine the corresponding storm surge levels. For extra-tropical storms, major historical storms were simulated directly since unlike tropical cyclones, their meteorology cannot be characterized statistically. An extreme value analysis was performed on the storm surge modeling results to determine a stillwater elevation for the 1% annual chance event.

Table 16: Tide Gage Analysis Specifics

[Not Applicable to this Flood Risk Project]

Wave Setup Analysis
Wave setup was computed during the storm surge modeling through the methods and models listed in Table 15 and included in the frequency analysis for the determination of the total stillwater elevations.

5.3.2 Waves

The SWAN coastal wave model (http://swanmodel.sourceforge.net/) was used to calculate the nearshore wave fields required for the addition of wave setup effects. The SWAN model is tightly coupled to the ADCIRC hydrodynamic model so that forces are passed between models as they run. This results in the wave setup from breaking waves being part of the computed water elevations.

5.3.3 Coastal Erosion

This section is not applicable to this Flood Risk Project.

5.3.4 Wave Hazard Analyses

Overland wave hazards were evaluated to determine the combined effects of ground elevation, vegetation, and physical features on overland wave propagation. These analyses were performed at representative transects along all shorelines for which waves were expected to be present during the floods of the selected recurrence intervals. The results of these analyses were used to determine elevations for the 1% annual chance flood.

Transect locations were chosen with consideration given to the physical land characteristics as well as development type and density so that they would closely represent conditions in their locality. Additional consideration was given to changes in the total stillwater elevation. Transects shown in Figure 9, “Transect Location Map,” are also depicted on the FIRM. Table 17 provides the location, stillwater elevations, and starting wave conditions for each published transect evaluated for overland wave hazards. In this table, “starting” indicates the parameter value at the beginning of the transect.

Wave Height Analysis

Wave height analyses were performed to determine wave heights and corresponding wave crest elevations for the areas inundated by coastal flooding and subject to overland wave propagation hazards. Refer to Figure 6 for a schematic of a coastal transect evaluated for overland wave propagation hazards.

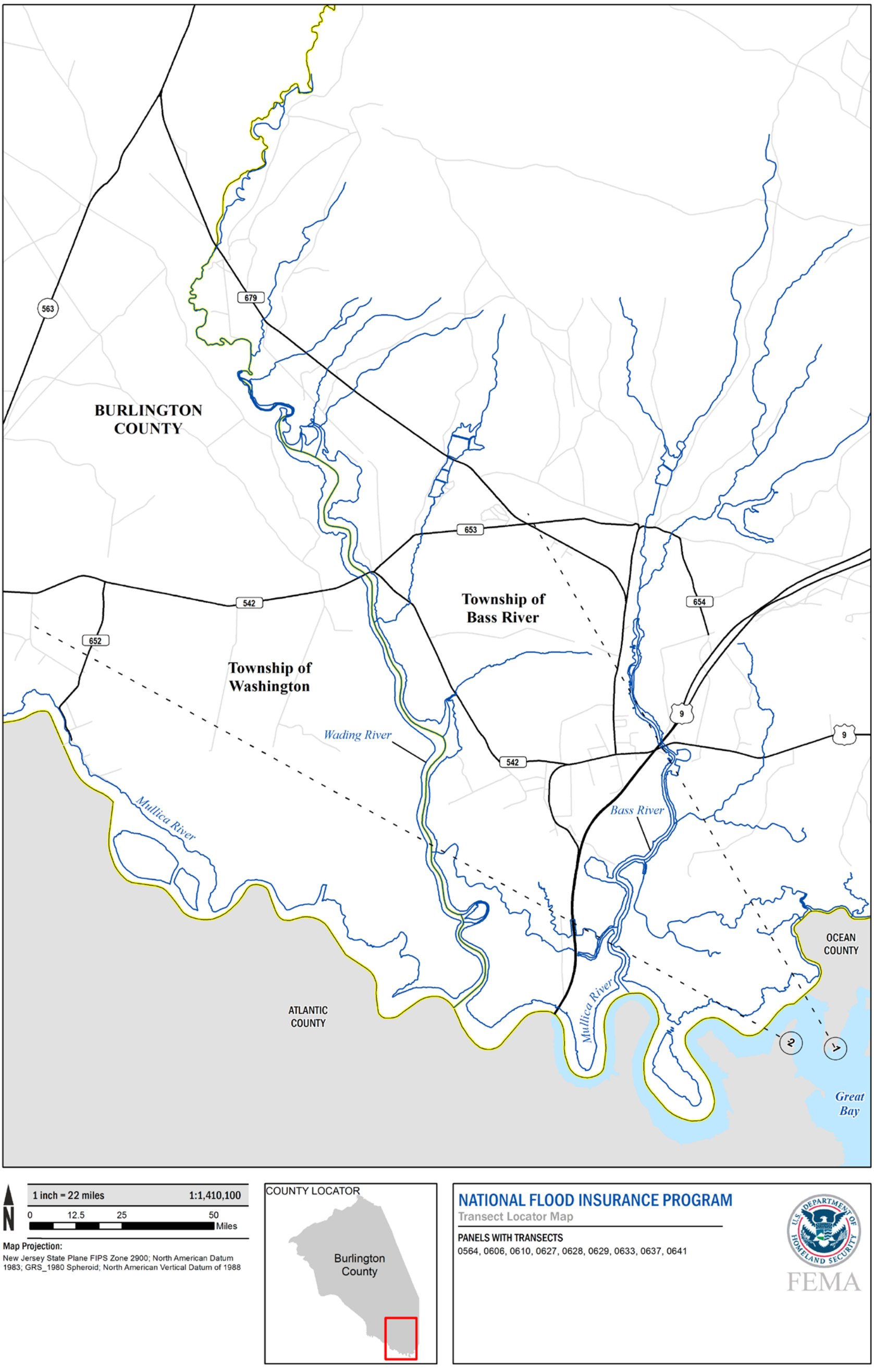
Wave heights and wave crest elevations were modeled using the methods and models listed in Table 15, “Summary of Coastal Analyses”.

Table 17: Coastal Transect Parameters

Flood Source	Coastal Transect	Starting Wave Conditions for the 1% Annual Chance		Starting Stillwater Elevations (ft NAVD88) Range of Stillwater Elevations (ft NAVD88)				
		Significant Wave Height H_s (ft)	Peak Wave Period T_p (sec)	10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Mullica River	1	3.41	3.64	6.3 5.5-6.3	* *	8.5 7.5-8.7	9.4 8.8-9.9	11.6 11.3-12.9
Mullica River	2	3.13	3.52	6.3 5.7-6.3	* *	8.6 7.9-8.9	9.5 8.9-9.9	11.6 11.2-12.9

*Not calculated for this Flood Risk Project

Figure 9: Transect Location Map



5.4 Alluvial Fan Analyses

This section is not applicable to this Flood Risk Project.

Table 18: Summary of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

Table 19: Results of Alluvial Fan Analyses

[Not Applicable to this Flood Risk Project]

SECTION 6.0 – MAPPING METHODS

6.1 Vertical and Horizontal Control

All FIS Reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum used for newly created or revised FIS Reports and FIRMs was the National Geodetic Vertical Datum of 1929 (NGVD29). With the completion of the North American Vertical Datum of 1988 (NAVD88), many FIS Reports and FIRMs are now prepared using NAVD88 as the referenced vertical datum.

Flood elevations shown in this FIS Report and on the FIRMs are referenced to NAVD88. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between NGVD29 and NAVD88 or other datum conversion, visit the National Geodetic Survey website at www.ngs.noaa.gov, or contact the National Geodetic Survey (NGS) at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

Temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the archived project documentation associated with the FIS Report and the FIRMs for this community. Interested individuals may contact FEMA to access these data.

To obtain current elevation, description, and/or location information for benchmarks in the area, please contact information services Branch of the NGS at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

The datum conversion locations and values that were calculated for Burlington County are provided in Table 20.

Table 20: Countywide Vertical Datum Conversion

Quadrangle Name	Quadrangle Corner	Latitude	Longitude	Conversion from NGVD29 to NAVD88 (feet)
New Gretna	NE	39.625	-74.500	-1.257
Oswego Lake	NE	39.750	-74.500	-1.253
Green Bank	NE	39.625	-74.625	-1.237
Jenkins	NE	39.750	-74.625	-1.247
Chatsworth	NE	39.875	-74.625	-1.247
Browns Mills	NE	40.000	-74.625	-1.217
Egg Harbor City	NE	39.625	-74.750	-1.207
Atsion	NE	39.750	-74.750	-1.230
Indian Mills	NE	39.875	-74.750	-1.214
Pemberton	NE	40.000	-74.750	-1.188
Columbus	NE	40.125	-74.750	-1.115
Hammonton	NE	39.750	-74.875	-1.191
Medford Lakes	NE	39.875	-74.875	-1.171
Mount Holly	NE	40.000	-74.875	-1.122
Bristol	NE	40.125	-74.875	-1.053
Williamstown	NE	39.750	-75.000	-1.175
Clementon	NE	39.875	-75.000	-1.142
Moorestown	NE	40.000	-75.000	-1.138
Beverly	NE	40.125	-75.000	-1.004
Camden	NE	40.000	-75.125	-1.070
Average Conversion from NGVD29 to NAVD88 = -1.174 feet				

Table 21: Stream Based Vertical Datum Conversion

[Not Applicable to this Flood Risk Project]

6.2 Base Map

The FIRMs and FIS Report for this project have been produced in a digital format. The flood hazard information was converted to a Geographic Information System (GIS) format that meets FEMA's FIRM database specifications and geographic information standards. This information is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community. The FIRM Database includes most of the tabular information contained in the FIS Report in such a way that the data can be associated with pertinent spatial features. For example, the information contained in the Floodway Data table and Flood Profiles can be linked to the cross sections that are shown on the FIRMs. Additional information about the FIRM Database and its contents can be found in FEMA's *Guidelines and Standards for Flood Risk Analysis and Mapping*, www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping.

Base map information shown on the FIRM was derived from the sources described in Table 22.

Table 22: Base Map Sources

Data Type	Data Provider	Data Date	Data Scale	Data Description
Digital Orthophoto	NJ Office of Information Technology	2013	1 foot (ground sample distance) GSD	Color orthoimagery was provided for the entire county
Political boundaries	NJ Office of Information Technology	2013	1:2,400	Municipal and county boundaries
Transportation Features	US Census Bureau	2013	Various sources	Burlington County TIGER/Line Roads

6.3 Floodplain and Floodway Delineation

The FIRM shows tints, screens, and symbols to indicate floodplains and floodways as well as the locations of selected cross sections used in the hydraulic analyses and floodway computations.

For riverine flooding sources, the mapped floodplain boundaries shown on the FIRM have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 23. For each coastal flooding source studied as part of this FIS Report, the mapped floodplain boundaries on the FIRM have been delineated using the flood and wave elevations determined at each transect; between transects, boundaries were delineated using land use and land cover data, the topographic elevation data described in Table 23, and knowledge of coastal flood processes. In ponding areas, flood elevations were determined at each junction of the model; between junctions, boundaries were interpolated using the topographic elevation data described in Table 23.

In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

The floodway widths presented in this FIS Report and on the FIRM were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. Table 2 indicates the flooding sources for which floodways have been determined. The results of the floodway computations for those flooding sources have been tabulated for selected cross sections and are shown in Table 24, “Floodway Data.”

Certain flooding sources may have been studied that do not have published BFEs on the FIRMs, or for which there is a need to report the 1% annual chance flood elevations at selected cross sections because a published Flood Profile does not exist in this FIS Report. These streams may have also been studied using methods to determine non-encroachment zones rather than

floodways. For these flooding sources, the 1% annual chance floodplain boundaries have been delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using the topographic elevation data described in Table 23. All topographic data used for modeling or mapping has been converted as necessary to NAVD88. The 1% annual chance elevations for selected cross sections along these flooding sources, along with their non-encroachment widths, if calculated, are shown in Table 25, "Flood Hazard and Non-Encroachment Data for Selected Streams."

Table 23: Summary of Topographic Elevation Data used in Mapping

Community	Flooding Source	Source for Topographic Elevation Data			
		Description	Scale	Contour Interval	Citation
Burlington County (All Jurisdictions)	All areas located within Burlington County	LiDAR	1:4,800	2 ft	FEMA 2015

BFEs shown at cross sections on the FIRM represent the 1% annual chance water surface elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations.

Table 24: Floodway Data

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	260	156	1,086	3.8	*	0.3[2]	0.3[2]	0.0
B	920	183	982	4.2	*	1.2[2]	1.2[2]	0.0
C	1,485	98	767	5.4	*	1.7[2]	1.9[2]	0.2
D	2,010	162	1,000	4.2	*	2.4[2]	2.6[2]	0.2
E	2,880	130	1,012	4.1	*	3.4[2]	3.5[2]	0.1
F	3,330	230	1,509	2.8	*	3.8[2]	4.0[2]	0.2
G	6,100	287	1,575	2.6	*	4.5[2]	4.6[2]	0.1
H	6,990	178	1,169	3.6	*	4.8[2]	5.0[2]	0.2
I	8,845	428	2,186	1.9	*	5.5[2]	5.7[2]	0.2

[1] Feet above confluence with Delaware River

[2] Elevation computed without consideration of backwater effects from Delaware River

[*] Controlled by tidal flooding from Delaware River, see Flood Insurance Rate Map

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	-943	460	1,220	0.7	40.7	40.7	40.9	0.2
B	-107	308	1,109	0.8	40.8	40.8	41.0	0.2
C	205	231	620	1.4	41.4	41.4	41.5	0.1
D	1,245	231	869	1.0	41.7	41.7	41.8	0.1

[1] Feet above centerline of Oxmead Road/County Route 639

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: ASSISCUNK CREEK TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	290	100	486	0.2	76.8	75.9[2]	75.9[2]	0.0
B	755	110	156	0.6	76.8	76.0[2]	76.0[2]	0.0
C	1,700	70	36	2.5	79.7	79.7	79.7	0.0
D	2,815	175	139	0.7	84.7	84.7	84.9	0.2
E	4,470	90	85	1.1	87.5	87.5	87.6	0.1
F	5,860	186	137	0.7	89.9	89.9	90.0	0.1

[1] Feet above confluence with Pole Bridge Branch

[2] Elevation computed without consideration of backwater effects from Pole Bridge Branch

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BAFFIN BROOK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,728	340	1,891	0.3	45.6	45.6	45.6	0.0
B	4,615	310	130	4.9	45.6	45.6	45.6	0.0
C	7,540	100	397	1.0	48.4	48.4	48.4	0.0
D	7,810	110	232	1.7	48.4	48.4	48.5	0.1
E	8,060	108	235	1.7	48.9	48.9	49.0	0.1
F	8,405	23	67	6.0	49.0	49.0	49.2	0.2
G	8,740	100	334	1.2	50.0	50.0	50.2	0.2
H	9,050	200	564	0.7	50.1	50.1	50.3	0.2
I	9,685	20	89	4.6	50.1	50.1	50.3	0.2
J	10,220	150	299	1.4	51.0	51.0	51.1	0.1
K	13,215	260	113	3.6	61.3	61.3	61.3	0.0
L	15,820	300	823	0.4	65.5	65.5	65.5	0.0
M	16,695	170	716	0.4	70.2	70.2	70.2	0.0
N	18,500	218	774	0.4	73.0	73.0	73.0	0.0

[1] Feet above confluence with Haynes Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BALLINGER RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	300	100	485	0.5	47.9	47.9	47.9	0.0
B	930	100	396	0.6	51.0	51.0	51.0	0.0

[1] Feet above confluence with Ballinger Run

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BALLINGER RUN TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	368	408	984	1.3	30.4	30.4	30.6	0.2
B	1,380	143	446	2.8	31.2	31.2	31.4	0.2
C	2,966	265	858	1.4	33.7	33.7	33.8	0.1
D	3,862	216	909	1.4	34.4	34.4	34.6	0.2
E	6,026	277	1,091	1.1	35.4	35.4	35.5	0.1
F	7,061	242	932	1.3	35.8	35.8	36.0	0.2
G	7,249	120	486	2.5	36.1	36.1	36.3	0.2
H	8,026	499	1,901	0.7	36.6	36.6	36.8	0.2
I	8,499	371	1,164	1.1	36.9	36.9	37.1	0.2
J	9,749	1,050	1,492	0.8	37.3	37.3	37.4	0.1
K	10,211	880	1,477	0.8	37.5	37.5	37.6	0.1
L	11,931	297	554	2.2	38.8	38.8	38.9	0.1
M	13,103	294	661	1.3	40.3	40.3	40.5	0.2
N	13,286	96	364	2.3	40.5	40.5	40.7	0.2
O	13,837	255	704	1.2	40.7	40.7	40.9	0.2
P	15,017	1,106	1,282	0.8	41.0	41.0	41.2	0.2
Q	15,848	772	1,131	1.2	41.3	41.3	41.4	0.1
R	16,030	288	558	2.3	41.5	41.5	41.7	0.2
S	16,836	199	519	2.5	42.6	42.6	42.7	0.1
T	17,586	238	526	2.5	43.5	43.5	43.7	0.2
U	18,576	280	699	1.9	44.7	44.7	44.9	0.2
V	19,531	307	853	1.8	45.4	45.4	45.6	0.2
W	19,770	173	557	2.7	46.6	46.6	46.8	0.2
X	20,436	828	1,547	1.0	47.0	47.0	47.2	0.2
Y	22,926	743	603	1.9	49.3	49.3	49.4	0.1
Z	24,313	318	615	1.9	51.3	51.3	51.5	0.2

[1] Feet above confluence with Assiscunk Creek Tributary

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BARKERS BROOK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
AA	25,772	341	613	1.9	52.9	52.9	53.1	0.2
AB	26,661	89	284	4.1	54.1	54.1	54.3	0.2
AC	26,853	179	684	1.7	56.6	56.6	56.6	0.0
AD	27,910	332	832	1.4	57.0	57.0	57.2	0.2
AE	29,703	122	301	2.0	58.1	58.1	58.3	0.2
AF	31,173	331	628	1.0	61.4	61.4	61.6	0.2
AG	32,756	309	527	1.1	63.4	63.4	63.6	0.2
AH	33,065	203	329	1.8	64.2	64.2	64.4	0.2
AI	34,618	139	471	1.3	68.2	68.2	68.4	0.2

[1] Feet above confluence with Assiscunk Creek Tributary

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BARKERS BROOK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	503	213	320	2.2	58.0	58.0	58.2	0.2
B	2,160	198	454	1.6	60.0	60.0	60.2	0.2
C	4,053	353	623	1.1	64.1	64.1	64.3	0.2
D	5,170	109	224	3.2	66.2	66.2	66.4	0.2
E	5,382	303	1,087	0.7	68.8	68.8	69.0	0.2
F	6,665	114	352	1.3	69.2	69.2	69.4	0.2
G	6,844	26	143	3.2	70.7	70.7	70.7	0.0
H	7,280	96	259	1.8	71.0	71.0	71.2	0.2

[1] Feet above confluence with Barkers Brook

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BARKERS BROOK UNNAMED TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	350	170	695	1.4	38.0	38.0	38.0	0.0
B	2,750	230	1,139	0.9	39.3	39.3	39.3	0.0
C	4,435	150	555	1.8	40.2	40.2	40.3	0.1
D	5,830	133	633	1.5	41.7	41.7	41.9	0.2
E	6,860	274	1,276	0.8	42.4	42.4	42.6	0.2
F	8,000	130	704	1.4	42.9	42.9	43.1	0.2
G	8,380	53	209	4.6	43.1	43.1	43.3	0.2
H	10,750	120	676	1.4	44.0	44.0	44.2	0.2
I	12,200	112	820	1.2	44.3	44.3	44.5	0.2
J	17,570	180	533	1.8	49.1	49.1	49.3	0.2
K	18,895	130	400	2.3	51.5	51.5	51.6	0.1
L	20,175	190	773	1.2	52.2	52.2	52.3	0.1
M	21,250	90	249	3.8	52.4	52.4	52.6	0.2
N	22,960	260	868	1.1	56.1	56.1	56.1	0.0
O	24,910	225	820	1.0	61.3	61.3	61.3	0.0
P	26,230	200	324	1.2	61.8	61.8	61.9	0.1
Q	27,175	130	310	1.3	62.9	62.9	63.0	0.1
R	28,510	42	110	3.6	65.6	65.6	65.7	0.1
S	29,365	140	289	1.4	67.0	67.0	67.2	0.2
T	30,255	110	230	1.7	68.3	68.3	68.5	0.2
U	32,905	110	233	1.7	76.2	76.2	76.3	0.1
V	36,240	240	863	0.4	89.8	89.8	90.0	0.2

[1] Feet above confluence with Rancocas Creek Southwest Branch

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BARTON RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	710	64	131	2.1	40.9	38.5[2]	38.5[2]	0.0
B	1,460	51	116	2.4	40.9	39.3[2]	39.5[2]	0.2
C	2,590	76	168	1.7	40.9	40.2[2]	40.4[2]	0.2
D	2,950	61	167	1.7	40.9	40.8[2]	40.9[2]	0.1
E	3,820	59	141	2.0	41.5	41.5	41.6	0.1
F	4,630	59	46	6.1	43.7	43.7	43.7	0.0
G	5,100	65	208	1.3	45.1	45.1	45.1	0.0
H	5,775	60	68	4.1	45.5	45.5	45.6	0.1

[1] Feet above confluence with Barton Run

[2] Elevation computed without consideration of backwater effects from Barton Run

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BARTON RUN TRIBUTARY 1

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	1,710	19	55	1.1	45.8	45.8	45.9	0.1
B	2,450	18	22	2.8	46.5	46.5	46.6	0.1
C	3,300	15	27	2.3	48.4	48.4	48.4	0.0

[1] Feet above confluence with Barton Run

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BARTON RUN TRIBUTARY 2

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	85	187	558	1.5	61.9	60.1[2]	60.1[2]	0.0
B	640	111	265	3.2	62.1	62.1	62.2	0.1
C	1,100	52	151	5.6	64.1	64.1	64.3	0.2
D	1,550	93	336	2.5	66.5	66.5	66.7	0.2
E	2,050	89	449	1.9	67.2	67.2	67.5	0.3
F	2,750	106	387	2.2	68.5	68.5	68.8	0.3
G	3,660	94	366	2.3	71.2	71.2	71.5	0.3
H	4,225	79	282	3.0	72.3	72.3	72.5	0.2
I	4,900	82	240	3.5	74.2	74.2	74.4	0.2
J	5,255	76	267	3.2	75.9	75.9	76.0	0.1
K	5,870	105	432	1.9	77.7	77.7	77.9	0.2
L	6,330	57	163	5.2	78.8	78.8	79.0	0.2
M	6,730	115	168	5.0	82.1	82.1	82.1	0.0

[1] Feet above confluence with Barton Run
[2] Elevation computed without consideration of backwater effects from Barton Run

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BARTON RUN TRIBUTARY 3

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	2,843	154	519	1.5	27.5	27.5	27.6	0.1
B	3,979	201	567	1.4	28.7	28.7	28.8	0.1
C	5,387	31	190	4.2	30.3	30.3	30.5	0.2
D	5,417	46	240	3.3	32.9	32.9	33.1	0.2
E	8,112	177	319	2.3	33.9	33.9	34.0	0.1
F	8,163	244	600	1.2	34.7	34.7	34.9	0.2

[1] Feet above confluence with Rancocas Creek South Branch

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BEAVERDAM CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	0	32	215	1.8	87.1	87.1	87.3	0.2
B	500	875	5,607	0.1	87.2	87.2	87.4	0.2
C	640	45	59	6.5	89.8	89.8	89.8	0.0
D	860	910	7,828	0.1	90.7	90.7	90.7	0.0
E	2,740	1240	7,908	0.1	90.7	90.7	90.7	0.0
F	3,945	850	4,979	0.1	90.7	90.7	90.7	0.0
G	5,015	369	242	0.7	90.7	90.7	90.7	0.0

[1] Feet above centerline of State Route 70

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BISPHAMS MILL CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	665	90	137	1.8	48.6	47.0[2]	47.0[2]	0.0
B	2,120	90	137	1.8	50.1	50.1	50.2	0.1
C	2,870	52	187	1.3	50.5	50.5	50.6	0.1
D	3,205	33	42	6.0	51.4	51.4	51.4	0.0
E	4,210	72	218	1.1	53.2	53.2	53.4	0.2
F	5,590	18	19	5.9	55.2	55.2	55.2	0.0
G	6,525	29	44	2.5	60.1	60.1	60.3	0.2
H	7,535	41	69	1.6	61.7	61.7	61.9	0.2
I	8,740	59	35	3.2	65.6	65.6	65.6	0.0
J	9,670	89	78	1.4	70.5	70.5	70.7	0.2
K	10,765	64	44	2.5	74.0	74.0	74.0	0.0
L	11,530	70	80	1.4	75.4	75.4	75.5	0.1

[1] Feet above confluence with Barton Run

[2] Elevation computed without consideration of backwater effects from Barton Run

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BLACK RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	555	59	97	1.6	54.7	54.7	54.7	0.0
B	1,710	61	144	1.1	55.4	55.4	55.5	0.1
C	2,000	22	99	1.6	58.3	58.3	58.3	0.0
D	3,310	21	38	4.2	59.0	59.0	59.1	0.1
E	4,450	114	131	1.2	64.0	64.0	64.2	0.2
F	5,610	93	82	1.9	68.5	68.5	68.7	0.2
G	6,690	97	178	0.9	70.6	70.6	70.8	0.2

[1] Feet above confluence with Black Run

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BLACK RUN TRIBUTARY

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY[2]	WITH FLOODWAY[2]	INCREASE
A	915	224	979	2.5	13.8	4.2	4.4	0.2
B	2,600	166	723	3.3	13.8	4.8	5.0	0.2
C	2,977	59	523	4.5	13.8	5.0	5.2	0.2
D	3,260	114	590	4.0	13.8	5.5	5.6	0.1
E	3,725	88	536	4.4	13.8	5.8	6.0	0.2
F	5,965	185	526	4.3	13.8	8.0	8.2	0.2
G	6,240	49	261	8.6	13.8	8.3	8.4	0.1
H	6,410	79	397	5.7	13.8	9.5	9.5	0.0
I	6,945	205	1,261	1.8	13.8	10.6	10.7	0.1
J	7,450	182	1,027	2.2	13.8	10.6	10.7	0.1
K	9,130	72	399	5.4	13.8	11.1	11.3	0.2
L	9,700	75	383	5.6	13.8	11.8	12.0	0.2
M	10,665	134	749	2.9	13.8	13.6	13.7	0.1

[1] Feet above confluence with Crosswicks Creek

[2] Elevation computed without consideration of backwater effects from Delaware River

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BLACKS CREEK

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	580	18	45	4.2	46.4	46.4	46.4	0.0
B	900	21	46	4.1	47.7	47.7	47.7	0.0
C	1,230	16	29	6.6	48.3	48.3	48.3	0.0
D	3,370	90	92	2.1	54.4	54.4	54.4	0.0

[1] Feet above confluence with Haynes Creek

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BLUE LAKE RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	300	69	330	3.0	12.3	7.3[2]	7.4[2]	0.1
B	1,595	121	242	4.1	12.3	9.7[2]	9.9[2]	0.2
C	2,725	91	333	3.0	13.1	13.1	13.2	0.1
D	3,750	100	338	3.0	14.9	14.9	15.1	0.2
E	5,060	142	412	2.4	17.4	17.4	17.5	0.1
F	6,350	205	450	2.2	19.8	19.8	20.0	0.2
G	7,880	154	604	1.7	21.9	21.9	22.1	0.2

[1] Feet above confluence with Rancocas Creek South Branch

[2] Elevation computed without consideration of backwater effects from Rancocas Creek South Branch

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BOBBYS RUN

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/ SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	505	*	*	*	65.8	*	*	*
B	2,530	*	*	*	68.9	*	*	*
C	3,275	*	*	*	71.7	*	*	*
D	4,950	*	*	*	72.7	*	*	*
E	7,040	*	*	*	74.9	*	*	*
F	8,450	*	*	*	78.7	*	*	*
G	9,050	*	*	*	82.1	*	*	*
H	9,670	*	*	*	85.8	*	*	*

[1] Feet above confluence with Friendship Creek

* Not calculated for this Flood Risk Project

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

BURLINGTON COUNTY, NEW JERSEY

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: BREAD AND CHEESE RUN