PLANNING REPORT NO. 44

A COMPREHENSIVE PLAN FOR THE DES PLAINES RIVER WATERSHED

Part Three

Appendices

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Ronald Thomas	Executive Director, Northeastern Illinois Planning Commission

Special acknowledgment is due Mr. O. Fred Nelson, retired General Manager of the Kenosha Water Utility, who served on the Committee during much of the planning process.

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Part Three of Three Parts
Appendices

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Appendix A

DES PLAINES RIVER WATERSHED COMMITTEE

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Appendix B

FINDINGS OF FISH SURVEYS CONDUCTED IN THE DES PLAINES RIVER WATERSHED

INTRODUCTION

This Appendix presents, in summary form, the findings of the fish surveys conducted in the streams and lakes of the Des Plaines River watershed from 1906 through 1994. Retrospective collection data for the Des Plaines River are set forth in Table 24 in Chapter III of this report. Figures B-1 through B-5 display historical collection data for major tributaries. Tables B-1 through B-4, and B-7 present similar data for minor tributaries and lakes respectively. Map 25 in Chapter III shows the location of the 1994 Regional Planning Commission fish survey sampling sites. Table B-5 presents a site-by-site summary of the results of the 1994 fish survey conducted by Regional Planning Commission staff. Comparisons of the findings of the fish surveys conducted from 1906 through 1994 are presented in Table 27 in Chapter III.

This appendix was prepared with the assistance of Mr. Marlin P. Johnson, Associate Professor, University of Wisconsin-Waukesha Center, a consultant to the Regional Planning Commission.

HISTORIC SURVEYS IN STREAMS

The earliest recorded fish collection in the Des Plaines River watershed was June 27, 1906. A single collection by Dr. George Wagner, a professor in the Zoology Department of the University of Wisconsin-Madison, was made on the Salem Branch of Brighton Creek, probably at what is now the STH 50 crossing. A total of 12 species were collected. As to pollution ranking, there were two intolerant, three tolerant, and seven very tolerant species. The year 1906 is the only record of rock bass in the river system, but the species has been reported present in George and Hooker Lakes in 1959 and in Paddock Lake in 1959, 1970, and 1974. Hooker and Paddock Lakes are at the headwaters of the Salem Branch, two miles upstream from the collection site, and may have been the source of the species. Rock bass are intolerant of silt and turbid water, which may account for the current absence of this species in the river system.

The next collection was made August 28, 1928, on the Des Plaines River main stem, also at what is now the STH 50 bridge crossing. Twenty species of fish were collected, including five intolerant, nine tolerant, and six very tolerant species. This collection represents the last record of four intolerant species, weed shiner, creek chubsucker, longear sunfish, and least darter, in the main stem or tributaries, although the least darter was reported in a 1979 Paddock Lake collection. The 1906 and 1928 surveys provide the only available appraisal of the early native fish population in the Des Plaines River watershed. The disappearance of the five intolerant species is indicative of habitat changes brought on by human activity in the watershed.

In the 37 years following 1928, no collections were reported for the Des Plaines River system. In the mid-1960s Mr. Marlin P. Johnson, then a graduate student at the University of Wisconsin-Madison, conducted two surveys three years apart at six stations. Twenty-four species were found in the combined 1965 and 1968 collections. Four intolerant, 10 tolerant, and ten very tolerant species were reported. The 1968 collection of redfin shiner at the STH 50 and CTH MB crossings of the Des Plaines River (river miles 122.3 and 119.3, respectively) [1] represents the latest report of the presence in the watershed of this now State-classified threatened fish species. It was the sixth species to disappear from the faunal list.

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[1] *River miles along the Des Plaines River are measured from the confluence of the Des Plaines River and the Kankakee River in Illinois. Under this system, the Wisconsin-Illinois state line is located at river mile 109.9. For tributaries, the river miles are measured from their confluence with the Des Plaines River.*

Figure B-1

HISTORIC SPATIAL DISTRIBUTION OF FISHES IN BRIGHTON CREEK: 1968, 1976, AND 1979

River Mile Upstream of Confluence with the Des Plaines River	1	2	3	4	5	6	7	8	9	10
Intolerant										
Central Stoneroller	A[a] B(5)									
Largescale Stoneroller	A[a]									
Lake Chubsucker	A(10)									
Spotted Sucker	A(1)									
Tolerant										
Grass Pickerel	A[a]					C(1)				
Northern Pike	A[a]									
Hornyhead Chub	A[a] B(40)									
Common Shiner	A[a] B(99)									
Bigmouth Shiner	B(23)									
Tadpole Madtom	B(2)									
Pirate Perch	A(1)									
Blackstripe Topminnow	A(3)									
Bluegill	B(3)									
Johnny Darter	A(20) B									
Blackside Darter	A(5) B(11)									
Very Tolerant										
Central Mudminnow	A(2) B(3)					C(6)				
Golden Shiner	A(1)					C(4)				
Fathead Minnow	B(4)					C(60)				
Creek Chub	A(1) B(45)									
Bluntnose Minnow	A[a] B(13)									
White Sucker	A(3) B(27)					C(1)				
Black Bullhead	B(2)					C(1)				
Yellow Bullhead	B(1)									
Green Sunfish	A(13) B(17)					C(15)				
Pumpkinseed	B(2)					C(1)				

NOTE: Year of Survey

A - 1968
B - 1976
C – 1979

[a] *Number of fish sampled was not recorded.*

Source: Wisconsin Department of Natural Resources and SEWRPC.

Extensive fish surveys were conducted in the 1970s, beginning in 1974, at 16 sites located along Pleasant Prairie Ditch, Jerome Creek, and one site on the Des Plaines River (river mile 113.6). These collections were made as part of an assessment of conditions in streams draining the Pleasant Prairie plant of the Wisconsin Electric Power Company. No intolerant species, nine tolerant, and nine very tolerant species were found. Three specimens of yellow bass were collected near the confluence of Jerome Creek and the Des Plaines River (river mile 113.5) and at a site 0.4 mile upstream on Jerome Creek. These specimens represent the only individuals of this species ever collected in the watershed. A close relative, the white bass, was reported in Paddock Lake in 1957 and 1959. The

Figure B-2

HISTORIC SPATIAL DISTRIBUTION OF FISHES IN CENTER CREEK: 1965 AND 1979

River Mile Upstream of Confluence with the Des Plaines River	1	2	3	4	5	6	7
Intolerant							
Central Stoneroller		B(1)	B(3)				
Iowa Darter	A(2)						
Tolerant							
Northern Pike			B(3)				
Pirate Perch	A(3)						
Blackstripe Topminnow	A(1)						
Bluegill		B(7)					
Very Tolerant							
Central Mudminnow		B(13)	B(5)				
Carp		B[a]					
Golden Shiner	A(6)		B(1)				
Fathead Minnow	A(6)	B(16)	B(12)			B(19)	
Creek Chub		B(22)	B(11)				
White Sucker							
		B(12)	B(41)				
Black Bullhead		B(5)	B(2)			B(12)	
Yellow Bullhead		B(2)					
Green Sunfish	A(20)	B(33)	B(15)			B(8)	

NOTE: Year of Survey:

A - 1965
B - 1979

[a] *No data is available on the number of fish sampled.*

Source: Wisconsin Department of Natural Resources and SEWRPC.

two species can be easily confused; thus these records may be of the same fish. It is possible that both represent deliberate or accidental introductions and do not indicate viable reproducing populations.

A total of 50 percent of all fish collections made on the Des Plaines River system between 1906 and 1980 were conducted between 1975 and 1979. Nearly all collections were made by Wisconsin Department of Natural Resources personnel as part of a Statewide fish distribution study. These collections represent the most thorough account of fish fauna to date. A total of 38 species were found, six intolerant, 19 tolerant, and 13 very tolerant. The pollution-intolerant minnow known as the large-scale stoneroller made its one and only appearance on the faunal list in 1976, when a single specimen was collected in Brighton Creek. It has not been identified from any other site in the watershed and probably does not represent a viable population. A close relative, the central stoneroller, has been found in six sites in the Des Plaines River system. The year 1976 also marks the last record of the presence of the spotted sucker, an intolerant species, collected near the CTH K crossing (river mile 123.4) of the Des Plaines main stem. Specimens were collected in the River in 1968 and in Paddock and Hooker Lakes in 1970. Siltation is probably the factor most responsible for decimation of this species.

In an extensive fish survey of 27 sites conducted in 1979, Wisconsin Department of Natural Resources personnel found 34 fish species. When ranked on the pollution-tolerance scale, four were intolerant, 17 tolerant, and 13 very tolerant species. Never before had so many tolerant or very tolerant species been collected. With one exception, however, all of these species had been collected previously. The warmouth, a sunfish similar to rock bass, was a new addition to the watershed species list. It had been reported in Paddock Lake as early as 1951 and somewhat

Figure B-3

HISTORICAL SPATIAL DISTRIBUTION OF FISHES IN KILBOURN ROAD DITCH: 1976 AND 1979

River Mile Upstream of Confluence with the Des Plaines River	1	2	3	4	5	6	7	8	9	10	11
Tolerant											
Northern Pike					C(6)		C(2)		B(1)	C(1)	C(6)
Pirate Perch	A(1)				C(1)				B(1)	C(4)	
Brook Stickleback									B(1)		C(2)
Bluegill	A(5)								B(1)	C(4)	
Black Crappie	A(3)				C(1)						
Blackside Darter	A(2)										
Very Tolerant											
Central Mudminnow					C(2)		C(3)		B(3)		C(61)
Carp					C(8)				B(3)	C(1)	
Golden Shiner					C(1)		C(2)		B(6)		
Bluntnose Minnow	A(6)										
Fathead Minnow									B(1)	C(5)	C(5)
Creek Chub	A(1)				C(6)						
White Sucker	A(3)				C(27)						
Black Bullhead	A(19)				C(20)		C(8)		B(1)	C(7)	C(7)
Yellow Bullhead	A(1)										C(7)
Green Sunfish	A(22)				C(17)		C(15)		B(1)	C(19)	C(3)
Pumpkinseed	A(1)										

NOTE: Year of Survey

A - 1976
B - 1978
C - 1979

Source: Wisconsin Department of Natural Resources and SEWRPC.

later in Hooker, George, and Shangrila Lakes. This tolerant species may have expanded its distribution in part because of increased siltation of the streams. The species is commonly associated with muddy or turbid waters and dense growth of aquatic vegetation.

The four intolerant species found in 1979 were the Iowa darter, the lake chubsucker, the central stoneroller, and the blacknose shiner. The presence of the first three species had been previously reported in the river system in the 1960s and 1970s. The blacknose shiner, however, had not been reported since 1928, when a single specimen was collected at what is now the STH 50 crossing of the Des Plaines River (river mile 122.3). The 1979 collection of the blacknose shiner again consisted of a single specimen taken from Unnamed Tributary No. 9 to Brighton Creek, a headwater tributary leading from Vern Wolf Lake. This pollution-intolerant species has not been collected in the watershed since 1979; it may be extirpated from the Des Plaines River and its tributaries. It has been reported present in Paddock Lake in 1974, but not since then. Its decline may also be attributed to siltation and high turbidity.

The final historic fish survey on the river was conducted in late 1979 and throughout 1980 by Environmental Consultants and Planners (EnCAP) of De Kalb, Illinois. Sampling was done at 11 sites on the Des Plaines River main stem downstream of STH 50 and its tributaries from the IH 94 crossing (river mile 116.0) to the Illinois State line (mile 109.9). The 31 species collected included three intolerant, 16 tolerant, and 12 very tolerant species. Two of the intolerant species, Iowa darter and lake chubsucker, were also extant in the 1979 Department of Natural Resources collections; the blackchin shiner was a new addition to the species list. One specimen was

Figure B-4

HISTORIC SPATIAL DISTRIBUTION OF FISHES IN JEROME CREEK: 1974-1980

River Mile Upstream of Confluence with the Des Plaines River	0	1	2	3	4
Tolerant					
Northern Pike	D(2)	C(1)	A(2) C(3)		
Spotfin Shiner	D(3) A(3)				
Pirate Perch	A(1)		A(2)	A(26)	
Blackstripe Topminnow	D(7)	C(1)			
Brook Stickleback				A(1)	
Yellow Bass	A(1)				
Bluegill	D(2) A(1)	A(3)	A(4)		
Largemouth Bass			A(2)		
Black Crappie	D(6) A(11)		A(32)		
White Crappie	A(3)				
Blackside Darter		C(3)			
Very Tolerant					
Central Mudminnow	D(1)	C(4)		A(5)	
Carp		B(3) A(4) C(10)	A(23) C(10)	A(2)	
Golden Shiner	D(16) A(4)	C(4) A(3)	A(11) C(9)	A(10)	
Bluntnose Minnow	D(1)			A(26)	
Fathead Minnow	D(8)	C(3)	C(4)		
White Sucker		C(28)	A(1) C(9)		
Black Bullhead	D(1) A(1)	A(99)	A(99) C(10)	A(11)	
Yellow Bullhead	A(1)		A(1)		
Green Sunfish	D(9) A(6)	C(36) A(3)	A(13) C(4)	A(89)	
Pumpkinseed	A(1)				

NOTE: Year of Survey

A - 1974
B – 1975
C – 1979
D - 1980

Source: Wisconsin Department of Natural Resources and SEWRPC.

collected at each of two sites on the main stem (river miles 110.6 and 112.6) and another in an unnamed ditch near River mile 112.5 on property owned by the Girl Scouts of Kenosha County, Inc., in the Northeast one-quarter of the Northeast one-quarter of U.S Public Land Survey Section 30, Township 1 North, Range 22 East, Village of Pleasant Prairie. Collections of the species were also made in Hooker Lake in 1972, in Paddock Lake in 1974, and in George Lake in 1968. Fish eradication with Rotenone in November 1968 probably eliminated the species from the latter water body.

The data presented indicate that 46 species were found in the Des Plaines River and its tributaries during the 75 years over which records are available, 1906 through 1980. Seven of 12 intolerant species once present in the watershed were not found in the extensive 1979 to 1980 surveys, nor were three tolerant species. All of the very tolerant species previously reported were still present in the 1979 to 1980 collections. The biotic integrity of

Figure B-5

HISTORIC SPATIAL DISTRIBUTION OF FISHES IN DUTCH GAP CANAL: 1979

River Mile Upstream of Confluence with the Des Plaines River	6	7	8	9	10
Tolerant					
Grass Pickerel		X(1)			
Northern Pike		X(2)			
Brook Stickleback		X(2)		X[a]	
Black Crappie					X(1)
Yellow Perch					X(3)
Very Tolerant					
Central Mudminnow		X(31)		X[a]	X(99)
Carp		X(5)			X(15)
Golden Shiner		X(43)		X[a]	X(60)
Fathead Minnow		X(8)			
White Sucker		X(6)			X(6)
Black Bullhead					X(7)
Yellow Bullhead					X(1)
Brown Bullhead					X(3)
Green Sunfish		X(7)			

[a]No data was available on the number of fish sampled.

Source: Wisconsin Department of Natural Resources and SEWRPC.

the stream system of the watershed has clearly changed in the three-quarters of a century over which data are available.

Descriptions of Fish Communities by Stream Reach

Historic fish collection data for the Des Plaines River are set forth in Table 24. Similar data for major tributaries are presented in Figures B-1 through B-5. Historical data for minor tributaries are presented in Tables B-1 through B-4. The results of the 1994 fish survey by Regional Planning Commission staff are set forth in Table B-5.

In the following reach-by-reach descriptions of fish communities, reference is made to ecological, or taxonomic, groupings of fish species found in the Des Plaines River system. Typically, members of each group are of similar size and shape and have similar habitat preferences and feeding habits, but species may differ in their sensitivity to pollution. The groupings are as follows:

1. "Minnows" or forage fish. These terms, as used here, refer to any minnow-sized fish species generally less than four inches long as adults. Usually they are considered forage fish, feeding mostly on small invertebrates such as worms, insects, and small crustaceans. Some may also feed on plant material, especially algae. They, in turn, are important food for larger predatory fish and are vital to a balanced food chain. This group contains species in all three pollution-tolerance categories. Included in the group are typical "bait minnows," shiners, chubs, stonerollers, mudminnows, brook sticklebacks, topminnows, and tadpole madtoms.

2. Darters. Darters are a group of small fish, one to four inches long, in the family Perca. Darters feed on invertebrates found on the stream bottom and are themselves food for larger piscivoreous fish. Most species are sensitive to habitat degradation due to siltation and reduction of instream dissolved oxygen levels. Two of the species currently found in the Des Plaines River system, the johnny darter and the blackside darter, are considered slightly more tolerant of pollutants than other Wisconsin species. Another species, the Iowa darter, is a pollution-

Table B-1

HISTORIC DISTRIBUTION OF FISHES IN MINOR TRIBUTARIES TO THE DES PLAINES RIVER WATERSHED

Species According to Their Relative Tolerance to Pollution	Union Grove Industrial Tributary T2N, R21E NE, Section 6[a]	Pleasant Prairie Tributary T1N, R22E SE, Section 18[a]	Pleasant Prairie Tributary T1N, R22E NW, Section 17[a]	Unnamed Tributary No. 2 T1N, R22E NE, Section 30[a]	Unnamed Tributary No. 5 T1N, R22E SE and SW, Section 20[a]	Unnamed Tributary No. 1 T1N, R22E NE, Section 33[a]
Intolerant						
Central Stoneroller	D(39)	- -	- -	- -	- -	- -
Blackchin Shiner	- -	- -	- -	C(1)	- -	- -
Lake Chubsucker	- -	- -	- -	- -	C(4)	- -
Iowa Darter	- -	C(1)	- -	C(1)	C(22)	- -
Tolerant						
Northern Pike	- -	- -	- -	C(14)	B(2),C(24)	- -
Common Shiner	- -	- -	- -	- -	A[b]	- -
Spotfin Shiner	D(1)	- -	- -	- -	- -	
Sand Shiner	D(33)	- -	- -	- -	- -	
Tadpole Madtom	- -	C(1)	- -	C(1)	B(1),C(11)	- -
Pirate Perch	- -	D[b]	- -	- -	- -	- -
Blackstripe Topminnow	- -	D[b]	- -	- -	- -	- -
Brook Stickleback	D(6)	- -	D[b]	C(1)	C(7)	D(16)
Bluegill	- -	C,D(2)[b]	- -	C(91)	A[b],B(39),C(99)	- -
Largemouth Bass	- -	D[b]	- -	- -	A(2),C(10)	- -
Black Crappie	- -	C	- -	C(99)	B(24),C(20)	- -
White Crappie	- -	C,D(1)[b]	- -	- -	B(1)	- -
Johnny Darter	D(4)	- -	- -	- -	- -	- -
Very Tolerant						
Bowfin	- -	D[b]	- -	C(1)	C(1)	- -
Central Mudminnow	- -	C,D(1)[b]	D[b]	C(20)	C(63)	- -
Carp	- -	C,D(9)[b]	- -	C(5)	A(26),C(4)	- -
Golden Shiner	- -	- -	- -	C(99)	B[b],C(71)	- -
Bluntnose Minnow	D(1)	- -	- -	- -	B[b],C[b]	- -
Fathead Minnow	- -	C(1)	D[b]	C(45)	- -	- -
Creek Chub	D(9)	- -	- -	- -	- -	- -
White Sucker	D(21)	D[b]	- -	- -	- -	- -
Black Bullhead	- -	C,D(12)[b]	- -	C(99)	A(23),B(1),C(33)	- -
Yellow Bullhead	- -	- -	- -	- -	C(1)	- -
Green Sunfish	- -	C,D(3)[b,c]	- -	C(30)	A(4),B(3),C(18)	D(8)
Pumpkinseed	- -	D[b]	- -	C(57)	B(2),C(19)	- -
Number of Species	8	16	3	15	19	2

NOTE: A = 1974
B = 1979
C = 1980
D = 1994

[a] *Sampling location.*

[b] *No data is available on the number of fish sampled.*

[c] *Green sunfish X hybrid sampled by Wisconsin Department of Natural Resources.*

Source: Wisconsin Department of Natural Resources and SEWRPC.

intolerant species currently known from a single site in the river system. Historic records indicate a second intolerant species, the least darter, was formerly present but the 1994 survey, however, failed to find the species.

3. Suckers. These are medium to large, torpedo-shaped fish with a ventral mouth for feeding on the bottom. Most species eat mainly aquatic insects and worms. The common white sucker is an omnivore, feeding on both plants and animals. It is often considered a “rough” fish because it competes with game species and increases turbidity of the water by its thrashing for food in soft mud. Most species of suckers are intolerant of

Table B-2

HISTORIC DISTRIBUTION OF FISHES IN TRIBUTARIES TO BRIGHTON CREEK: 1906 AND 1979

Species According to Their Relative Tolerance to Pollution	Salem Branch (year of survey)	Unnamed Tributary No. 8 (year of survey)	Unnamed Tributary No. 9 (year of survey)
Intolerant			
Central Stoneroller	1979 (6)	- -	- -
Blacknose Shiner	- -	- -	1979 (1)
Creek Chubsucker	1906 (2)	- -	- -
Lake Chubsucker	- -	- -	1979 (2)
Rock Bass	1906 (1)	- -	- -
Iowa Darter	- -	1979 (3)	1979 (99)
Tolerant			
Grass Pickeral	1906 (1)	- -	1979 (1)
Northern Pike	1979 (1)	- -	1979 (5)
Hornyhead Chub	1906 (1)	- -	- -
Common Shiner	1979 (26)	- -	- -
Pirate Perch	1979 (1)	- -	- -
Brook Stickleback	- -	- -	1979 (6)
Bluegill	1979 (1)	- -	- -
Johnny Darter	1906 (2)	- -	- -
	1979 (14)	- -	- -
Blackside Darter	1979 (3)	- -	- -
Yellow Perch	- -	- -	1979 (99)
Very Tolerant			
Central Mudminnow	1979 (50)	1979 (13)	1979 (99)
Golden Shiner	1979 (9)	1979 (17)	1979 (75)
Bluntnose Minnow	1979 (7)	- -	1979 (1)
Fathead Minnow	1979 (8)	1979 (99)	1979 (99)
Creek Chub	1906 (10)	- -	- -
	1979 (30)	- -	1979 (1)
White Sucker	1906 (1)	- -	- -
	1979 (68)	- -	- -
Black Bullhead	1906 (2)	- -	- -
Yellow Bullhead	1906 (2)	- -	- -
Green Sunfish	1906 (6)	1979 (9)	1979 (98)
	1979 (6)	- -	- -
Pumpkinseed	1906 (2)	- -	1979 (6)

Source: Wisconsin Department of Natural Resources and SEWRPC.

pollution, but the white sucker is tolerant. The streams of the Des Plaines River watershed contain lake chubsucker and spotted suckers in addition to white suckers. The lake chubsucker is currently listed as a species of "special concern" by the Wisconsin Department of Natural Resources Bureau of Endangered Resources. Creek chubsuckers, formerly found in the watershed, are believed to be extirpated from the entire State.

4. Bullheads. These familiar medium-sized, whiskered, scaleless fish feed on insects, worms, and snails. The group includes the three game fish, black, yellow, and brown bullheads. All are very tolerant of pollution. The tadpole madtom, a relative of bullheads, seldom attains a length over four inches and is listed under the minnow or forage fish category.

Table B-3

HISTORIC DISTRIBUTION OF FISHES IN TRIBUTARIES TO JEROME CREEK: 1974

Species According to Their Relative Tolerance to Pollution	Unnamed Tributary No. 1	Unnamed Tributary No. 4
Tolerant		
Pirate Perch	X (1)	- -
Bluegill	X (6)	- -
Largemouth Bass	X (2)	- -
Black Crappie	X (10)	- -
Very Tolerant		
Central Mudminnow	X (2)	- -
Carp	X (2)	- -
Golden Shiner	X (3)	- -
Bluntnose Minnow	X (1)	X (1)
White Sucker	X (2)	- -
Black Bullhead	X (99)	- -
Green Sunfish	X (7)	X (1)

Source: Wisconsin Department of Natural Resources and SEWRPC.

5. Sunfish. Sunfish are medium-sized, flat-bodied inhabitants of pools. They typically feed on insects, worms, and small crustaceans. Some, like the warmouth and rock bass, feed on small fish. Young sunfish are important food for large predator fish. Most are tolerant or very tolerant of pollution until the degradation affects their food supply, when they finally succumb. Sunfish species historically reported in the watershed are the green sunfish, bluegill, pumpkinseed, warmouth, rock bass, and longear sunfish. The latter two species are intolerant of pollution and are probably no longer found in the watershed. Green sunfish are the most tolerant of pollution and tend to increase in relative abundance in degraded streams to become a dominant species. All sunfish are considered recreational game fish.

6. Crappies. Crappies are related to sunfish but generally include fish in their diet and are, therefore, higher on the food chain. The two species are white and black crappies. Both are sport fish and somewhat tolerant of pollution.

7. Bass. The largemouth bass is the second-largest predator found in the watershed. It feeds on smaller fish, frogs, and tadpoles. The largemouth is a highly prized sport fish, especially in lakes, where it is often stocked by the Wisconsin Department of Natural Resources. Few adult bass were encountered in collections made in 1994. Large fish are difficult to capture in seines; therefore, the presence of this species in the watershed may be underestimated. It is somewhat tolerant of pollution. A second unrelated bass, the yellow bass, is rare in the watershed. Its presence may be due to deliberate or accidental introductions. It eats fish, is tolerant of pollution, and is considered a game fish.

Table B-4

HISTORIC DISTRIBUTION OF FISHES IN THE MUD LAKE OUTLET TRIBUTARY TO DUTCH GAP CANAL: 1979

Species According to Their Relative Tolerance to Pollution	1979
Tolerant	
Brook Stickleback	X (3)
Very Tolerant	
Central Mudminnow	X (1)
Golden Shiner	X (1)

Source: Wisconsin Department of Natural Resources and SEWRPC.

Table B-5

RESULTS OF THE FISH SURVEY IN THE DES PLAINES RIVER WATERSHED BY STATION: JULY 1994

Species According to Their Relative Tolerance to Organic Pollution	Des Plaines River Stations at and Upstream of STH 50									
	1		2		3		4		5	
	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total
Intolerant										
Central Stoneroller	- -	0.0	27	22.7	- -	0.0	- -	0.0	- -	0.0
Intolerant Subtotal	- -	0.0	27	22.7	- -	0.0	- -	0.0	0	0
Tolerant										
Northern Pike	- -	0.0	- -	0.0	- -	0.0	2	1.4	- -	0.0
Spotfin Shiner	- -	0.0	- -	0.0	2	0.9	11	7.5	- -	0.0
Sand Shiner	20	5.4	- -	0.0	- -	0.0	1	0.0	1	0.7
Blackstripe Topminnow	- -	0.0	- -	0.0	- -	0.0	7	4.8	7	4.7
Brook Stickleback	235	63.5	18	15.1	- -	0.0	- -	0.0	- -	0.0
Bluegill	- -	0.0	- -	0.0	4	1.7	1	0.7	- -	0.0
Black Crappie	- -	0.0	9	7.6	3	1.3	1	0.7	- -	0.0
Blackside Darter	- -	0.0	- -	0.0	- -	0.0	1	0.7	- -	0.0
Tolerant Subtotal	255	68.9	27	22.7	9	3.8	23	15.8	8	5.4
Very Tolerant										
Central Mudminnow	5	1.4	- -	0.0	- -	0.0	- -	0.0	- -	0.0
Carp	- -	0.0	- -	0.0	148	63.2	84	57.5	54	36.4
Golden Shiner	3	0.8	- -	0.0	- -	0.0	- -	0.0	- -	0.0
Bluntnose Minnow	- -	0.0	33	27.7	- -	0.0	1	0.7	- -	0.0
Fathead Minnow	2	0.5	2	1.7	- -	0.0	- -	0.0	- -	0.0
Creek Chub	20	5.4	22	18.5	- -	0.0	- -	0.0	- -	0.0
White Sucker	78	21.1	8	6.7	3	1.3	37	25.3	82	55.4
Black Bullhead	- -	0.0	- -	0.0	73	31.2	- -	0.0	2	1.4
Yellow Bullhead	- -	0.0	- -	0.0	1	0.4	- -	0.0	- -	0.0
Green Sunfish	7	1.9	- -	0.0	- -	0.0	- -	0.0	1	0.7
Pumpkinseed	- -	0.0	- -	0.0	- -	0.0	1	0.7	1	0.7
Very Tolerant Subtotal	115	31.1	65	54.6	225	96.2	123	84.2	140	94.6
Totals	370	100.0	119	100.0	234	100.0	146	100.0	148	100.0

Species According to Their Relative Tolerance to Organic Pollution	Des Plaines River Stations Downstream of STH 50									
	6		7		8		9		10	
	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total
Intolerant										
None	- -	0.0	- -	0.0	- -	0.0	- -	0.0	- -	0.0
Intolerant Subtotal	- -	0.0	- -	0.0	- -	0.0	- -	0.0	- -	0.0
Tolerant										
Spotfin Shiner	3	10.4	- -	0.0	1	1.2	1	0.8	- -	0.0
Sand Shiner	- -	0.0	- -	0.0	2	2.5	- -	0.0	- -	0.0
Tadpole Madtom	- -	0.0	- -	0.0	1	1.2	- -	0.0	3	2.7
Blackstripe Topminnow	1	3.4	10	8.1	21	26.0	14	10.8	1	0.9
Warmouth	- -	0.0	- -	0.0	- -	0.0	1	0.8	- -	0.0
Bluegill	- -	0.0	- -	0.0	- -	0.0	44	33.8	- -	0.0
Largemouth Bass	- -	0.0	- -	0.0	- -	0.0	1	0.8	- -	0.0
Black Crappie	- -	0.0	8	6.5	- -	0.0	2	1.5	5	4.5
Johnny Darter	- -	0.0	1	0.8	1	1.2	1	0.8	- -	0.0
Tolerant Subtotal	4	13.8	19	15.4	26	32.1	64	49.2	9	8.0
Very Tolerant										
Bowfin	- -	0.0	- -	0.0	- -	0.0	- -	0.0	2	1.8
Central Mudminnow	- -	0.0	- -	0.0	1	1.2	2	1.5	- -	0.0
Carp	- -	0.0	8	6.5	3	3.7	44	33.8	43	38.4
Golden Shiner	- -	0.0	46	37.4	9	11.1	4	3.1	2	1.8
Bluntnose Minnow	5	17.2	8	6.5	6	7.4	- -	0.0	- -	0.0
Fathead Minnow	- -	0.0	6	4.9	7	8.7	2	1.5	- -	0.0
White Sucker	5	17.2	16	13.0	1	1.2	- -	0.0	- -	0.0
Black Bullhead	15	51.8	15	12.2	13	16.0	- -	0.0	35	31.3
Yellow Bullhead	- -	0.0	1	0.8	2	2.5	- -	0.0	13	11.6
Green Sunfish	- -	0.0	3	2.5	9	11.1	6	4.6	2	1.8
Pumpkinseed	- -	0.0	1	0.8	4	5.0	8	6.2	6	5.4
Very Tolerant Subtotals	25	86.2	104	84.6	55	67.9	66	50.8	103	92.0
Totals	29	100.0	123	100.0	81	100.0	130	100.0	112	100.0

Table B-5 (continued)

Species According to Their Relative Tolerance to Organic Pollution	Brighton Creek								Salem Branch	
	11		12		13		15		14	
	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total
Intolerant										
Central Stoneroller	- -	0.0	- -	0.0	- -	0.0	2	1.8	- -	0.0
Intolerant Subtotal	- -	0.0	- -	0.0	- -	0.0	2	1.8	- -	0.0
Tolerant										
Northern Pike	- -	0.0	- -	0.0	3	13.6	- -	0.0	- -	0.0
Hornyhead Chub	- -	0.0	- -	0.0	- -	0.0	1	0.9	- -	0.0
Common Shiner	- -	0.0	- -	0.0	- -	0.0	17	15.0	- -	0.0
Sand Shiner	- -	0.0	- -	0.0	- -	0.0	61	54.0	- -	0.0
Tadpole Madtom	- -	0.0	5	5.0	- -	0.0	- -	0.0	- -	0.0
Blackstripe Topminnow	- -	0.0	- -	0.0	- -	0.0	3	2.6	- -	0.0
Brook Stickleback	- -	0.0	- -	0.0	- -	0.0	- -	0.0	15	75.0
Bluegill	- -	0.0	1	1.0	- -	0.0	1	0.9	- -	0.0
Largemouth Bass	- -	0.0	- -	0.0	- -	0.0	- -	0.0	1	5.0
Johnny Darter	- -	0.0	- -	0.0	1	4.5	4	3.5	1	5.0
Blackside Darter	- -	0.0	- -	0.0	- -	0.0	2	1.8	- -	0.0
Pirate Perch	- -	0.0	5	5.0	- -	- -	- -	- -	- -	- -
Tolerant Subtotal	- -	0.0	11	11.0	4	18.2	89	78.7	17	85.0
Very Tolerant										
Central Mudminnow	9	18.0	62	62.0	5	22.7		0.0	2	10.0
Golden Shiner	- -	0.0	3	3.0	1	4.5	- -	0.0	- -	0.0
Bluntnose Minnow	- -	0.0	- -	0.0	- -	0.0	4	3.5	- -	0.0
Fathead Minnow	- -	0.0	8	8.0	- -	0.0	- -	0.0	1	5.0
Creek Chub	27	54.0	- -	0.0	- -	0.0	9	8.0	- -	0.0
White Sucker	8	16.0	1	1.0	3	13.6	9	8.0	- -	0.0
Black Bullhead	- -	0.0	1	1.0	- -	0.0	- -	0.0	- -	0.0
Yellow Bullhead	- -	0.0	7	7.0	- -	0.0	- -	0.0	- -	0.0
Green Sunfish	6	12.0	4	4.0	- -	0.0	- -	0.0	- -	0.0
Pumpkinseed	- -	0.0	3	3.0	9	40.9	- -	0.0	- -	0.0
Very Tolerant Subtotal	50	100.0	89	89.0	18	81.8	22	19.5	3	15.0
Totals	50	100.0	100	100.0	22	100.0	113	100.0	20	100.0

Species According to Their Relative Tolerance to Organic Pollution	Kilbourn Road Ditch					
	17		18		19	
	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total
Intolerant						
None	- -	0 0	- -	0.0	- -	0.0
Intolerant Subtotal	- -	0.0	- -	0.0	- -	0.0
Tolerant						
Common Shiner	- -	0.0	1	2.2	- -	0.0
Pirate Perch	5	29.4	- -	0.0	- -	0.0
Brook Stickleback	2	11.8	- -	0.0	- -	0.0
Bluegill	1	5.9	- -	0.0	- -	0.0
Largemouth Bass	- -	0.0	- -	0.0	1	16.7
Tolerant Subtotal	8	47.1	1	2.2	1	16.7
Very Tolerant						
Central Mudminnow	3	17.6	8	17.4	- -	0.0
Golden Shiner	1	5.9	- -	0.0	- -	0.0
Bluntnose Minnow	- -	0.0	4	8.7	- -	0.0
Fathead Minnow	- -	0.0	30	65.2	- -	0.0
Creek Chub	- -	0.0	3	6.5	1	16.7
Black Bullhead	5	29.4	- -	0.0	- -	0.0
Pumpkinseed	- -	0.0	- -	0.0	4	66.6
Very Tolerant Subtotal	9	52.9	45	97.8	5	83.3
Totals	17	100.0	46	100.0	6	100.0

Table B-5 (continued)

Species According to Their Relative Tolerance to Organic Pollution	Kilbourn Road Ditch					
	20		21		22	
	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total
Intolerant						
None	- -	0 0	- -	0.0	- -	0.0
Intolerant Subtotal	- -	0.0	- -	0.0	- -	0.0
Tolerant						
Spotfin Shiner	- -	0.0	- -	0.0	11	9.8
Tadpole Madtom	- -	0.0	- -	0.0	1	0.9
Pirate Perch	1	0.4	126	87.5	- -	0.0
Blackstrip Topminnow	7	3.0	- -	0.0	29	25.9
Bluegill	- -	0.0	1	0.7	- -	0.0
Largemouth Bass	- -	0.0	- -	0.0	2	1.8
Black Crappie	- -	0.0	- -	0.0	1	0.9
Johnny Darter	1	0.4	2	1.4	2	1.8
Tolerant Subtotal	9	3.8	129	89.6	46	41.1
Very Tolerant						
Central Mudminnow	- -	0.0	4	2.8	- -	0.0
Golden Shiner	3	1.3	2	1.4	9	8.0
Bluntnose Minnow	3	1.3	- -	0.0	3	2.7
Fathead Minnow	6	2.6	2	1.4	37	33.0
Creek Chub	- -	0.0	2	1.4	- -	0.0
White Sucker	3	1.3	4	2.8	6	5.4
Black Bullhead	209	89.3	1	0.7	- -	0.0
Pumpkinseed	1	0.4	- -	0.0	11	9.8
Very Tolerant Subtotal	225	96.2	15	10.4	66	58.9
Totals	234	100.0	144	100.0	112	100.0

Species According to Their Relative Tolerance to Organic Pollution	Center Creek		Jerome Creek		Dutch Gap Canal		Union Grove Industrial Tributary		Unnamed Tributary No. 1 to the Des Plaines River	
	16		23		24		25		26	
	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total	Number	Percent of Station Total
Intolerant										
Central Stoneroller	3	12.0	- -	0.0	- -	0.0	31	29.2	- -	0.0
Iowa Darter	- -	0.0	5	6.9	- -	0.0	- -	0.0	- -	0.0
Intolerant Subtotal	3	12.0	5	6.9	- -	0.0	31	29.2	- -	0.0
Tolerant										
Northern Pike	1	4.0	- -	0.0	- -	0.0	- -	0.0	- -	0.0
Spotfin Shiner	- -	0.0	- -	0.0	- -	0.0	1	0.9	- -	0.0
Sand Shiner	- -	0.0	- -	0.0	- -	0.0	33	31.2	- -	0.0
Brook Stickleback	- -	0.0	6	8.3	1	2.0	6	5.7	16	66.7
Black Crappie	- -	0.0	- -	0.0	1	2.0	- -	0.0	- -	0.0
Johnny Darter	- -	0.0	- -	0.0	- -	0.0	4	3.8	- -	0.0
Tolerant Subtotal	1	4.0	6	8.3	2	4.1	44	41.6	16	66.7
Very Tolerant										
Central Mudminnow	1	4.0	13	18.1	22	44.9	- -	0.0	- -	0.0
Golden Shiner	- -	0.0	- -	0.0	14	28.6	- -	0.0	- -	0.0
Bluntnose Minnow	5	20.0	- -	0.0	- -	0.0	1	0.9	- -	0.0
Fathead Minnow	- -	0.0	43	59.7	- -	0.0	- -	0.0	- -	0.0
Creek Chub	12	48.0	- -	0.0	- -	0.0	9	8.5	- -	0.0
White Sucker	2	8.0	- -	0.0	- -	0.0	21	19.8	- -	0.0
Black Bullhead	- -	0.0	5	7.0	9	18.4	- -	0.0	- -	0.0
Yellow Bullhead	- -	0.0	- -	0.0	1	2.0	- -	0.0	- -	0.0
Green Sunfish	1	4.0	- -	0.0	1	2.0	- -	0.0	8	33.3
Very Tolerant Subtotal	21	84.0	61	84.8	47	95.9	31	29.2	8	33.3
Totals	25	100.0	72	100.0	49	100.0	106	100.0	24	100.0

Source: SEWRPC.

Table B-6

DOCUMENTED CHANGES IN FISHES AT THE STH 50 CROSSING OF DES PLAINES RIVER: 1928-1994

Species According to Their Relative Tolerance to Pollution	Numbers Collected		
	August 28, 1928	August 28, 1968	July 28, 1994
Intolerant			
Blacknose Shiner	1	- -	- -
Weed Shiner	14	-	- -
Creek Chubsucker	8	- -	- -
Spotted Sucker	- -	2	- -
Longear Sunfish	1	- -	- -
Least Darter	27	- -	- -
Tolerant		- -	
Grass Pickerel	11	- -	- -
Hornyhead Chub	13	23	- -
Common Shiner	22	- -	- -
Sand Shiner	- -	2	1
Redfin Shiner	1	1	- -
Tadpole Madtom	22	2	- -
Pirate Perch	22	22	- -
Blackstripe Topminnow	8	1	- -
Black Crappie	2	- -	- -
Johnny Largemouth Bass	1	- -	- -
Darter	99	2	- -
Blackside Darter	30	- -	7
Yellow Perch	4		- -
Very Tolerant			
Bowfin	2	- -	- -
Central Mudminnow	8	- -	- -
Carp	- -	1	54
Bluntnose Minnow	14	- -	- -
Fathead Minnow	- -	2	- -
Creek Chub	- -	2	- -
White Sucker	4	- -	82
Black Bullhead	- -	- -	2
Yellow Bullhead	17	- -	- -
Green Sunfish	2	- -	1
Pumpkinseed	- -	- -	1
Total Species	23	12	7
Total Individuals	333	60	208

Source: Wisconsin Department of Natural Resources and SEWRPC.

8. Pikes. The northern pike is the largest predator fish in the watershed. It is primarily a fish-eater, but also may feed on frogs, tadpoles, and even mice. It is an important member of a balanced fish population because it helps to control the populations of forage fish and sunfish. The species is an important member of the sport fishery. Adult northern pike are difficult to capture with seines; therefore, the presence of this species in the watershed may be underestimated. A smaller relative of the northern pike is the grass pickerel, which seldom attains lengths over one foot and is not considered a sport fish. It is a fish-eater. Both species are tolerant of limited water pollution.

Table B-7

HISTORIC DISTRIBUTION OF FISHES IN LAKES IN DES PLAINES RIVER WATERSHED: 1941-1992

Fish Species	Paddock Lake	Hooker Lake	George Lake	Shangrila-Benet Lakes	Vern Wolf Lake	Montgomery Lake	League Lake	Paasch Lake	Mud Lake	Pleasant Lake
Longnose Gar	F	F	- -	I	- -	- -	- -	- -	- -	- -
Bowfin	D, F, J	F	H, Q	E, I	- -	- -	- -	- -	- -	- -
Central Mudminnow	- -	Q	- -	H, I	S, U	- -	- -	- -	- -	R
Grass Pickerel	A, B, F, J, O, Q	F, J	F, H	I	- -	K	- -	- -	Q	- -
Northern Pike	B, E, F, J, M	C, F, J, L, N, Q, T	F, H, J N, Q	I	N, S, U	K, Q	- -	- -	- -	- -
Carp	B, D, E F, J, M, O	C, F, J, L, N, Q, T	F, H, J N, Q	I	- -	- -	- -	N	- -	- -
Golden Shiner	A, E, J, M	J, L, N, Q, T	F, H, J, N, Q	I, P	N, S, U	K, Q	- -	- -	Q	R
Emerald Shiner	J	J	- -	I	- -	- -	- -	- -	- -	- -
Common Shiner	- -	E, N	- -	- -	- -	- -	- -	- -	- -	- -
Blackchin Shiner	M	L	H	- -	- -	- -	- -	- -	- -	- -
Sand Shiner	M	- -	- -	- -	- -	- -	- -	- -	- -	- -
Blacknose Shiner	M	- -	- -	- -	- -	- -	- -	- -	- -	- -
Bluntnose Minnow	E, M, O	E, J	- -	I, P	- -	- -	- -	- -	- -	- -
Fathead Minnow	- -	- -	- -	I	U	- -	- -	- -	Q	- -
Spotted Sucker	J	J	- -	- -	- -	- -	- -	- -	- -	- -
Lake Chubsucker	A, D, E, F, J, M	F, J, N	F, H, J	E, I	- -	K	- -	- -	- -	- -
White Sucker	B, D, E, F, J, M	E, F, J, L, N, T	F	E, I	- -	- -	- -	- -	- -	- -
Black Bullhead	F, J	F, N	F	I	N, P, S, U	- -	- -	N	- -	R
Brown Bullhead	B, F, J	F, N	F, N	I	- -	- -	- -	- -	- -	- -
Yellow Bullhead	E, J, M	J, N, Q	J, N	E, I	- -	K	- -	- -	- -	- -
Tadpole Madtom	- -	- -	H	- -	- -	- -	- -	- -	- -	R
Channel Catfish	- -	J	- -	I	- -	- -	- -	- -	- -	- -
Brook Silverside	E, J, M, O	- -	- -	I	- -	- -	- -	- -	- -	- -
Brook Stickleback	- -	- -	- -	- -	- -	- -	- -	- -	- -	R
White Bass	E, F	- -	- -	- -	- -	- -	- -	- -	- -	- -
Smallmouth Bass	- -	L, T	- -	- -	- -	- -	- -	- -	- -	- -
Largemouth Bass	B, E, F, J, M, O	C, F, J, L, N, Q	F, H, J, N, Q	H, I, P	U	K	- -	- -	- -	- -
Warmouth	B, D, E F, J, M, O	F, J, L, M, Q	F, H	I	- -	K	- -	- -	- -	- -
Green Sunfish	F, J, M O, Q	F, L, N, Q	F, N, Q	I	S	- -	- -	- -	Q	R
Pumpkinseed	B, E, F, J, M, O, Q	C, F, J, N, Q	F, H, J, N, Q	H, I, P	N, S, U	K	Q	- -	Q	R
Bluegill	B, D, E F, M, O	E, F, J, L, N, Q	F, H, J, N	H, I, P	- -	K	Q	- -	- -	R
Rock Bass	F, J, M	F	F	- -	- -	- -	- -	- -	- -	- -
White Crappie	F	F	F	- -	S	- -	- -	- -	- -	- -
Crappie	J, O, M, Q	C	H	- -	- -	- -	- -	- -	- -	- -
Black Crappie	B, E, F	F, J, N, Q	F, J, N, Q	H, I, P	U	- -	- -	- -	- -	R
Walleyed Pike	- -	F, J, L, N, T	- -	- -	U	- -	- -	- -	- -	- -
Yellow Perch	B, E, F, J, M, O. Q	C, F, J, N, Q, T	F, H, J, N, Q	E, I, P, Q	N, P, S, U	K	- -	- -	Q	- -
Johnny Darter	M, O, Q	- -	- -	- -	- -	- -	- -	- -	- -	- -
Iowa Darter	Q	Q	- -	Q	- -	- -	Q	- -	Q	R
Least Darter	Q	- -	- -	- -	- -	- -	- -	- -	- -	- -

NOTE: Years of Collection:

A – 1941
B – 1951
C – 1952
D – 1956
E – 1957
F – 1959
G – 1965
H – 1968
I – 1969
J – 1970
K – 1971
L – 1972
M – 1974
N – 1975
O – 1976
P – 1978
Q – 1979
R – 1980
S – 1983
T – 1991
U – 1992

Source: Wisconsin Department of Natural Resources and SEWRPC.

Des Plaines River Main Stem Upstream of STH 50

This reach includes the Des Plaines River main stem from STH 50 bridge crossing (river mile 122.3) to the River's source in the Town of Yorkville, Racine County, a distance of approximately nine miles.

Collections for this reach date back to August 28, 1928, when the staff of the Zoology Department of the University of Wisconsin-Madison made one collection on the River near what is now the STH 50 crossing. The collection found 23 species present. Subsequently, seven other collections were made as follows: one in 1968, two in 1976, one in 1978, and three in 1979. Together, these surveys reported seven intolerant, 18 tolerant, and 12 very tolerant species totaling of 37 species. This represents 80 percent of all species ever recorded in the entire river system up to 1994. The number and types of species collected in each year are shown in Table 24 in Chapter III of this report.

Historically, the fish community contained 17 minnows, or forage fish: three darters, four sunfishes, three suckers, two pikes, one crappie, two bullheads, one largemouth bass, plus pirate perch, yellow perch, bowfin, and carp. The overall historical diversity represents a good fishery. The list of game fish included longear sunfish, bluegill, pumpkinseed, northern pike, largemouth bass, black crappie, yellow perch, and black and yellow bullheads.

Several species of fish were not collected in this segment of the main stem after the 1928 survey. These included five intolerant species, the blacknose shiner, the weed shiner, the creek chubsucker, the longear sunfish, and the least darter; two tolerant species, the grass pickerel and the redfin shiner; and one very tolerant species, the bowfin. The redfin shiner and the longear sunfish are currently listed as a threatened fish in Wisconsin. The Creek chubsucker has been extirpated from the State.

Five stations in this reach were surveyed in 1994 (Stations 1 through 5 on Map 25 in Chapter III). There was little to no flow at the time of the survey. A site at the CTH KR road crossing (Station 1) was an isolated pool with no water entering or leaving. All stations had silt covered bottoms and very turbid water. Sixty-six percent of the 1,017 individuals collected at the six stations represented nine very tolerant species; 32 percent represented 11 tolerant species; and 2 percent represented one intolerant species. The 1994 fish community consisted of ten minnows, two darters, three sunfishes, one pike, one sucker, one crappie, two bullheads, and carp. Seventy-five large adult carp were captured at the CTH K crossing, Station 4. Seven game species included northern pike, bluegill, green sunfish, pumpkinseed, black crappie, and black and yellow bullhead. Overall fish diversity in the upstream segment of the Des Plaines River dropped from 37 species in the past to 21 species in 1994, from a good to a fair fishery. The losses were two intolerant, eight tolerant, and one very tolerant species.

The degradation of the River over time is indicated by a comparison of the three collections made at the STH 50 crossing (Station 5) in 1928, 1968, and 1994. Such a comparison is provided in Table B-6. The number of intolerant species dropped from five in 1928 to one in 1968 and to zero in 1994; tolerant species changed from 12 in 1928 to seven in 1968, and to two in 1994; and very tolerant species varied from six in 1928 to four in 1968, and to five in 1994. A loss of very tolerant species would not be expected unless conditions were very severely degraded. The overall diversity of fish species at this station changed from 23 species in 1928 to 12 in 1968 to seven in 1994. Seventy percent of the species were lost in the 66 years between the first and last collection, a loss of one species every four years. The data collected over time at the STH 50 crossing indicate a clear trend toward decreasing fish diversity and decreasing overall stream health. Despite the declining trend in the number of species observed, it is unlikely that the very tolerant species like carp, black bullhead, and green sunfish will be eliminated from the stream, except under the most dire circumstances.

Des Plaines River Main Stem Downstream of STH 50

This reach includes the somewhat over 10-mile stretch of the Des Plaines River from the STH 50 crossing (river mile 122.3) to the Wisconsin-Illinois border (river mile 109.9). Fourteen historic collections were made: one in both 1968 and 1974, two in 1976, and five in both 1979 and 1980. A total of 33 species were found. Ranked by pollution-tolerance, there were three intolerant, 18 tolerant, and 12 very tolerant. As an ecological fish community, there were 14 minnows, three darters, four sunfishes, two crappies, two suckers, one pike, two bullheads, two basses, plus yellow perch, bowfin, and carp. Overall, species diversity was good to fair historically. The game fishery included the northern pike, yellow bass, largemouth bass, warmouth, bluegill, green sunfish, pumpkinseed, black and white crappie, yellow perch, and black and yellow bullhead. The number and types of species collected each year are set forth in Table 24 of Chapter III.[2]

The 1994 survey was conducted at five stations on the main stem (Stations 6 through 10). All stations had silty bottoms, very turbid water, and no instream vegetation. Current velocity varied from very slow to none. Collection Station 8 at the CTH C crossing, was on an isolated 1.5-foot-deep pool with no surface water entering or leaving, a situation not unique at certain times of the year. A letter dated July 20, 1988, from a local citizen to the Wisconsin Department of Natural Resources noted there was "no water. . .all silt" in the vicinity of the CTH C crossing. A July 1989 news clipping also noted "no flow" at the CTH C crossing at that time.

A total of 476 fish from 20 species were collected at the five sites. Eleven very tolerant species represented 74 percent of the population, with the remaining 26 percent distributed among nine tolerant species. No intolerant species were found. As a fish community, there were eight minnows, one darter, four sunfishes, one crappie, one sucker, two bullheads, largemouth bass, bowfin, and carp. The greatest diversity of species was found in the isolated pool at the CTH C crossing. Ten of the 15 species were very tolerant of pollution. Sport fish in the lower Des Plaines were identical to those in historical accounts but lacked the top carnivore, northern pike. Total diversity losses between the past and the 1994 surveys was 12 species, all three intolerant, eight tolerant, and one very tolerant species. The loss may be attributed to physical and chemical degradation of water quality. The overall fishery may be ranked as fair on the basis of the 1994 survey.

Brighton Creek and Salem Branch of Brighton Creek

Historically, the 11.4 miles of stream which comprise Brighton Creek and its tributary, the Salem Branch, contained the greatest diversity of fish populations of any tributary to the Des Plaines River. A total of 31 species were reported present in these two streams.

The Brighton Creek main stem was surveyed in 1968, 1976, and 1979. Under these three surveys, a total of 24 species were reported, distributed into four intolerant, 10 tolerant, and 10 very tolerant species. The types of species collected each year are shown in Figure B-1. A balanced fish community was distributed among 12 minnows, two darters, three sunfishes, three suckers, two pikes, two bull-heads, yellow perch, pirate perch, and bowfin. Game fish species were the northern pike, bluegill, green sunfish, pumpkinseed, black and yellow bullhead, and yellow perch. The overall fishery was ranked as good to fair.

Stream conditions at the four stations (11, 12, 13, and 15) sampled in 1994 are summarized in Table 25 in Chapter III. In general, water clarity improved downstream from very turbid to clear. Stations 11 and 12 consisted of isolated, two-foot-deep pools with silty bottoms. Stations 13 and 15 had very slow to moderate current over gravel bottoms. Twelve leopard frogs, unidentified clams, and many crayfish were recorded at Station 15. The fish distribution was 280 individuals in 20 species. Sixty percent were in 10 very tolerant species, 35 percent in nine tolerant species, and 1 percent in one intolerant species. Three previously observed intolerant species, large scale stoneroller, lake chubsucker, and spotted sucker, and five previously observed tolerant species, grass pickerel, northern pike, bigmouth shiner, tadpole madtom, and yellow perch, failed to appear in the 1994 collection. The number of very tolerant species remained the same at 10 species. The pirate perch is currently listed a species of "special concern" by the Wisconsin Department of Natural Resources-Bureau of Endangered Resources. Of the 20 total species in 1994, three were minnows, two darters, three sunfishes, one sucker, two bullheads, northern

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[2] *An adult common egret was seen feeding in the water at CTH 165 crossing (Station 9). the two lower stations (9 and 10) both contained numerous shells of the white heel-splitter clam (*Lasmigona complanata*). No attempt was made to look for live specimens. Mr. Harold A. Mathiak, Research Associate at the University of Wisconsin-Stevens Point Museum of Natural History, in his 1973-1977 survey of Wisconsin Unionid mussels (clams) found three species in the lower Des Plaines River. These were the floater (*Anodonta grandis*), the liliput clam (*Carunculira parva*), and the white heel-splitter. None is an endangered or threatened species in the State.*

pike, and pirate perch. On the basis of overall fish diversity, the stream may be classified as having a good to fair fishery. Sport fish were northern pike, green sunfish, bluegill, pumpkinseed, and black and yellow bullheads. Yellow perch were not found in 1994.

As noted above, the Salem Branch of Brighton Creek was the site of the first recorded survey of fish in the entire Wisconsin portion of the Des Plaines River watershed. On June 27, 1906, Dr. George Wagner, Professor of Zoology at the University of Wisconsin-Madison, made a single collection at what is now the STH 50 crossing of the Salem Branch. He found 11 species. Rock bass and creek chubsucker, the two intolerant species in his collection, are no longer found in the Des Plaines River system. Rock bass were known to exist in Paddock Lake in 1959, 1970, and 1974 surveys. The Lake is in the headwaters of Salem Branch. The creek chubsucker was again found in the watershed in 1928 on the upper main stem of the Des Plaines River but has not been reported anywhere in the State since that time. Wagner also found three tolerant and six very tolerant species. A 1979 Wisconsin Department of Natural Resources collection at the same location reported only one intolerant species, central stoneroller, six tolerant species, and seven very tolerant species, for a total of 14 species. Together, the two surveys indicate a historic fish community of 21 different species. Included were eight minnows, two darters, four sunfishes, two suckers, two pikes, two bullheads, and pirate perch. The overall historical fishery may be classified as fair. The types of species collected each year are set forth in Table B-2.

The 1994 survey, made at the same STH 50 location on the Salem Branch (Station 14), found the site to consist of a single one-foot-deep isolated pool with a silt bottom and the water surface covered with duckweed. The presence and abundance of this species indicates nutrient-rich water, since this floating plant draws all its sustenance from the water, rather than from bottom mud. Adult and recently emerged green frogs were seen in and out of the water.

In 1994, only 19 individuals in five species were found in this isolated pool, 89 percent in three tolerant species and 11 percent in two very tolerant species. Four of the species were forage fish and the fifth was a top predator, a young largemouth bass. The pirate perch, collected in 1979, was not found in the 1994 survey. The total fishery changed from 12 species in 1906 to 14 species in 1979 and to five in 1994. The overall fishery may be ranked as fair on the basis of historical surveys, but the findings of the 1994 survey resulted in the fishery being demoted to poor. The proximity of species-rich lakes in the headwaters of the Salem Branch and its connection to Brighton Creek suggest a greater diversity of fish is possible under adequate flow conditions at other times of the year.

Center Creek

This tributary to the Des Plaines River was surveyed twice before 1994. As shown in Figure B-2, six species of fish were collected from one station in 1965 and nine were collected from three stations in 1979. As regards pollution tolerance, there were two intolerant species, four tolerant species, and nine very tolerant species. As a fish community, there were six minnows, one darter, one sucker, two sunfishes, one pike, two bullheads, pirate perch, and carp. Game species present were northern pike, green sunfish, bluegill, and black and yellow bullheads. The intolerant Iowa darter and tolerant pirate perch and blackstripe topminnow were not found in the 1979 collection. The overall historical fishery may be classified as fair.

During the 1994 survey, only one station was sampled on Center Creek. An attempt was made to resample two historic upstream collection sites the CTH N crossings and K, but both were dry. Station 16, at the STH 50 crossing, was the only accessible site for sampling. At the time of collection, the current was slow and the bottom was silty, with large rocks. Water was clear until the bottom was roiled by the disturbance created by the sampling operation.

Only 25 individuals in seven species were collected at the site. One intolerant species made up 12 percent of the population, one tolerant species represented 4 percent, and five very tolerant species accounted for 84 percent. There were four minnows, one sunfish, one sucker, and one northern pike. Game species were northern pike and green sunfish. There has been a decline of eight species since the previous collections. One intolerant species, Iowa darter; three tolerant species, bluegill, blackstripe topminnow, and pirate perch; and four very tolerant species, golden shiner, black and yellow bullhead, and carp, were absent. The current fishery has only about half of its previous diversity, indicating a deterioration of water quality since the 1979 collection. The overall fishery classification is poor.

Kilbourn Road Ditch

This 12.6-mile-long stream was surveyed in 1976, 1978, and 1979 at a total of four stations. A total of six tolerant and 11 very tolerant species were collected during the three surveys. No intolerant species were found in the historic surveys. The type and locations of species collected each year are set forth in Figure B-3. The fish community consisted of six minnows, one darter, three sunfishes, one crappie, one sucker, and two bullheads, plus northern pike, pirate perch, and carp. These historic records indicate a fair fishery. Game species were northern pike, bluegill, pumpkinseed, green sunfish, black crappie, and black and yellow bullheads.

During the 1994 survey, six stations were sampled (Stations 17 through 22). All stations had silt-covered bottoms and very slow to no current. Filamentous algae grew in abundance at three of the collection sites indicating nutrient-rich water. Station 21 (CTH N) was an isolated, 2.5-foot-deep pool.

Of the 559 fish collected, 65 percent represented nine very tolerant species, while the remaining 35 percent represented 10 tolerant species. No intolerant fish species were found. Comparison with historical records indicates an increase of four tolerant species and a loss of one very tolerant species. The fish community in 1994 consisted of 10 minnows, one darter, one sucker, three sun-fishes, one crappie, one bullhead, one bass, and pirate perch, making a fair overall fishery. Game species were largemouth bass, bluegill, green sunfish, pumpkinseed, black crappie, and black bullhead.

Two nongame fish, tadpole madtom and pirate perch, found in Kilbourn Road Ditch are uncommon in the greater Des Plaines River watershed. At Station 21 (CTH N crossing), 126 individual pirate perch were collected in a single isolated pool. Such abundance is unusual and probably represents a major portion of the breeding population in the stream.

Jerome Creek

The 4.6-mile-long Jerome Creek flows through land occupied by the We Energies Pleasant Prairie power plant. The first documented records of the Jerome Creek fishery came from 12 collections made at seven sites in 1974 by We Energies personnel. Subsequently, the Wisconsin Department of Natural Resources made one collection in 1975 and two in 1979. One collection was made in 1980 as part of the EnCAP study previously mentioned.

As shown in Figure B-4, a total of 21 species were recorded in the four years of collection. They ranked as 11 tolerant and 10 very tolerant, with no intolerant species present. The fish community consisted of seven minnows, one darter, three sunfishes, two crappies, one sucker, two bullheads, northern pike, two basses, pirate perch, and carp, a fair overall fishery. Game species included northern pike, largemouth bass, yellow bass, black and white crappies, bluegill, pumpkinseed, green sunfish, and yellow and black bullheads. Yellow bass were represented by a single specimen collected in 1974, which may not represent a viable part of the stream fishery.

Low water levels hampered the 1994 fish survey. Station 23, located at the STH 31 crossing upstream from the We Energies plant, was the only available site with sufficient water for sampling. The CTH H crossing was dry. At Station 23 there were two feet of turbid, stagnant water over a silty bottom. A large amount of filamentous algae indicated a very nutrient-rich water condition.

Only five species were found at the site. Seventy-two individual fish were collected. Seven percent were in one intolerant species, 8 percent in one tolerant species, and 85 percent in three very tolerant species. The intolerant species, the Iowa darter, had not previously been reported from Jerome Creek. Since five individuals of the species were found, the collection probably represents a viable reproducing population. The fish community included three minnows, one darter, and one bullhead. The only game fish was the black bullhead. On the basis of this single collection site, the overall existing fishery may be classified as poor.

The single accessible collection site in 1994 may not be representative of current conditions. The dry streambed at the CTH H crossing and the lack of easy access to lower reaches of the stream where water and fish may have been present precluded a comprehensive assessment of fish populations as indicators of water quality. It seems unlikely, barring some past catastrophe, that the rich diversity of species (21) found in the 1970s would be so dramatically reduced to the five found in 1994. Furthermore, the presence of a viable population of the intolerant Iowa darter suggests that suitable, relatively unpolluted conditions exist in the headwaters of Jerome Creek.

Dutch Gap Canal

Dutch Gap Canal is a 4.1-mile-long ditch in Wisconsin which continues another eight miles in Illinois as the headwaters of Mill Creek. This stream then flows another 4.5 miles to its confluence with the main stem of the Des Plaines River, near Wadsworth.

Only one historic survey in the Dutch Gap Canal subwatershed is known to exist. Collections were made at three sites in 1979 by the Wisconsin Department of Natural Resources. Two sites were on the main ditch and one on the Mud Lake outlet. Some 10 very tolerant, six tolerant, and no intolerant species were reported. The 16 species made up a fish community composed of four minnows, three sunfishes, one crappie, one sucker, two pikes, three bullheads, yellow perch, and carp. The overall fishery was fair. Sport fish were northern pike, black crappie, bluegill, pumpkinseed, green sunfish, yellow perch, and black, yellow, and brown bullheads. A fair to good sport fishery existed. The 1979 record of the brown bullhead represents the only report of this species in the Des Plaines River system. It has, however, been collected in Shangrila-Benet Lakes in 1969 and repeatedly in Paddock, Hooker, and George Lakes between 1951 and 1979. George Lake is hydraulically connected to Dutch Gap Canal, which may explain the presence of this species in the stream.

Two stations were surveyed for fish in July 1994. The station at the CTH CJ crossing was a shallow, stagnant pool over a silt bottom. The water was covered with a mat of duckweed. The lack of light in the water column made it appear black. Since no fish were found, this station was not shown on Map 25 in Chapter III, nor is it shown on any tables.

At the time of the 1994 collection, Station 24, at the CTH Q crossing, was an isolated, seven-inch-deep pool. The water was nearly covered by a mat of duckweed. The bottom was a deep layer of silt which released gas bubbles when disturbed. Three 10-inch dead, rotting carp were floating near shore. On a return visit in January 1995, rushing floodwaters were flowing through the site.

Despite the degraded summer condition, 49 fish were captured. Ninety-six percent were distributed in five species classed as very tolerant, while four percent were in two species classed as tolerant. Brook stickleback and black crappie, the two tolerant species, were each represented by single individuals. The fish community was composed of three minnows, one crappie, one sunfish, and two bullheads. Game fish species were black crappie, green sunfish, and black and yellow bullheads. The existing fishery may be classified as poor.

The drop in diversity from 16 species in 1979 to seven in 1994 may be attributed to the unfavorable flow conditions in the stream during the 1994 survey. The situation was a dramatic test of the pollution tolerance of these species. Similar conditions in the past have eliminated all but the most tolerant of species.

Minor Tributaries to the Des Plaines River

Tables B-1 through B-4 present historical fish collection data for the minor tributaries of the watershed. Fishery information for these minor tributaries is very limited. Six tributaries were surveyed between 1974 and 1980. Two tributaries were included as part of the 1994 survey (Stations 25 and 26). Table B-1 provides information on the location and date of collections and ranks species according to pollution tolerance.

Union Grove Industrial Tributary

The Union Grove Industrial Tributary is located in the headwater area of the Des Plaines River. No historic fishery information for this stream is available, but the stream was included in the 1994 survey (Station 25). The water was slightly turbid, the flow was moderate, and the bottom contained silt, rubble, and large rocks.

The distribution of the 106 fish sampled showed 29 percent in one intolerant species, 42 percent in four tolerant species, and 29 percent in three very tolerant species. Ecological groupings of the fish community showed six minnows, one darter, and one sucker. No sport fish were found. The capture of 31 individuals of central stoneroller, the sole intolerant species, was the largest of two collections containing the species. The other collection came from Brighton Creek (Station 15). The presence of a viable population of this species indicates relatively good water quality. The stoneroller feeds on algae growing on rocks. Algae need light to grow and cannot tolerate the smothering action of silt deposition. This section of stream had good water clarity and exposed rock and rubble surface on which algae grow. The mixing action provided by the moderate flow of water apparently maintained stable oxygen conditions in the stream even in the low water levels of the summer of 1994.

Pleasant Prairie Tributary

A 1980 collection from the Pleasant Prairie Tributary near its confluence with the Des Plaines River yielded 10 species, one intolerant, four tolerant, and five very tolerant of pollution. There were three minnows, one darter, two sunfishes, two crappies, one bullhead, and carp in the fish community. In 1980, the general fishery was poor to fair. Game species were black and white crappie, bluegills, green sunfish, and black bullhead.

A 1994 collection from the Pleasant Prairie Tributary near its confluence with the Des Plaines River yielded twelve fish species distributed as five tolerant and seven very tolerant of pollution. There were two minnows, three sunfishes, a pirate perch, a fish species of statewide special concern, one crappie, one sucker, and one bullhead, as well as bowfin, carp, and largemouth bass making up the fish community. The general fishery was poor to fair. Game species included largemouth bass, white crappie, bluegill, green sunfish, pumpkinseed, and black bullhead.

A 1994 collection from the Pleasant Prairie Tributary about 0.8 mile upstream of its confluence with the Des Plaines River yielded three fish species distributed as one tolerant and two very tolerant of pollution. The fish community consisted of three minnows. The general fishery was poor.

Unnamed Tributary No. 1 to the Des Plaines River

The Unnamed Tributary No. 1 to the Des Plaines River, located in the extreme southern part of the Village of Pleasant Prairie, was sampled at the CTH ML crossing in 1994 (Station 26). The site consisted of an isolated, two-foot-deep, stagnant pool with a silt and large rock bottom. Water was clear until disturbed. Two species were found, one tolerant and one very tolerant. The latter was green sunfish, the only game fish at the site. The fishery may be classified as very poor.

Unnamed Tributary No. 2 to the Des Plaines River

In 1980, data were collected at a single site in the 0.8-mile-long reach of the Unnamed Tributary No. 2 to the Des Plaines River lying in U.S. Public Land Section 30, Township 1 North, Range 22 East, Village of Pleasant Prairie. That survey found two intolerant, five tolerant, and eight very tolerant species, making a total species count of 15. The fish community contained six minnows, one darter, three sunfishes, one crappie, one bullhead, one pike, bowfin, and carp. The overall fishery was fair. Game fish included northern pike, black crappie, bluegill, green sunfish, pumpkinseed, and black bullhead. Blackchin shiner, one of the intolerant species, has only been collected at two other sites on the Des Plaines River, at River mile no. 110.6 and at River mile no. 112.6 in 1980. This species has also been reported present previously in George (1968), Paddock (1974), and Hooker (1972) Lakes in the watershed. These Wisconsin collections may represent the only existing populations of the species in the entire Des Plaines River watershed. It has not been found in the Illinois portion of the watershed since 1976. Very intensive collecting in Illinois in 1985 and 1986 failed to produce the species.[3]

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[3] *Heidinger, Roy C., "Fishes in the Illinois Portion of the Upper Des Plaines River,"* Transactions of the Illinois State Academy of Science*, (Springfield, Ill.: Illinois State Academy of Science, 1989), Vol. 82, Nos. 1 and 2, 85-96. Mr. Heidinger is affiliated with the Southern Illinois University Cooperative Fisheries Research Laboratory and Department of Zoology.*

Unnamed Tributary No. 5 to the Des Plaines River
The Unnamed Tributary No. 5 to the Des Plaines River enters the Des Plaines River in the Southwest one-quarter of U.S. Public Land Survey Section 20, Township 1 North, Range 22 East, Village of Pleasant Prairie. Its headwaters are in Section 21. Collection records exist for 1974, 1979, and 1980.

As shown in Table B-1, a total of 19 species were found during the three years of collections. Their pollution-tolerance ranking was two intolerant, seven tolerant, and nine very tolerant species. The fish community consisted of five minnows, one darter, three sunfishes, two crappies, one sucker, two bull-heads, largemouth bass, northern pike, bowfin, and carp. Fairly good water quality is indicated by the good species diversity for such a short stream, 2.2 miles, and by the presence of Iowa darter and lake chubsucker, two intolerant species. Good water quality is also reflected in the number of sport fish represented in collections, including the northern pike, largemouth bass, black and white crappies, bluegill, green sunfish, pumpkinseed, and black and yellow bullheads.

HISTORIC FISHERY SURVEYS OF LAKES

With a few exceptions, fisheries of lakes in the Des Plaines River watershed have received limited attention. Most surveys have been conducted by fish managers to assess populations of game fish. Identification of minnow, darter, and bullhead species was not critical to the assessment of the sport fishery of a lake. Consequently, the presence or absence of some nongame fish on the species list may be suspect.

There is an additional problem in that some fish may be “unnatural” inhabitants of a particular lake. Many lakes in the watershed have been officially, or unofficially, stocked with game and nongame species from outside the watershed. Suspect species found in some lakes in the watershed are longnose gar, channel catfish, and white bass. They probably represent one-time introductions, because they have been collected only once or twice in the lakes and are not found elsewhere in the drainage system. They are not considered to represent reproducing populations. Fishermen dumping unused bait, minnows from unknown sources, into a lake is another common practice. Subsequent collection of these species in surveys may not represent viable breeding populations.

From the late 1870s to the late 1930s, the Wisconsin Commissioner of Fisheries and the U.S. Fish Commission directed rescue and transfer programs to salvage Mississippi River fishes trapped in small isolated pools as the annual floodwaters receded to the main channel. Fish of all kinds were transported to lakes and streams throughout the State. Some of these rescued fish may have been stocked in the Des Plaines River watershed lakes by fishery personnel or private groups. Not only were prized species like walleyed and northern pike, and bass transplanted, but also were other fishable species, “catfish,” including bullheads; sunfishes; and crappies. Even carp may have been introduced to some bodies of water. The written records of these early transfers are poor at best. No such records are known to exist for the Des Plaines watershed. When, and what species, if any, were transplanted is not known.

Further complication of any assessment of lake fish communities is brought about by fish eradication projects. Treatment of water with a fish poison (Rotenone) to eliminate “rough” fish like carp and white suckers unfortunately kills all other species. Treated lakes are restocked with “desirable” species. Sometimes the rich-ness of fish species declines as a result of these actions.

The past manipulation of fish communities, coupled with the inaccuracy of identification of non-game species and the incompleteness of survey records, makes it unreasonable to evaluate lake fish populations as indicators of water quality. Table B-7 lists species present and dates of collection. Thirty-nine species have been reported from the lakes between 1941 and 1992.

Paddock Lake
Seven collections were made between 1941 and 1979. As shown in Table B-7, a total of 31 species were found, including “once-only” collections of longnose gar, emerald shiner, blackchin shiner, blacknose shiner, sand shiner, spotted sucker, white crappie, and Iowa and least darter. White bass were found in 1957 and 1959 but not

after that. The paucity of other records for some of these species may be due to the difficulty of identification, to the lack of a need to record nongame species, or to the genuine lack of viable populations in the Lake.

Records show a rich variety of game species for the Lake, including northern pike, largemouth bass, bluegill, green sunfish, pumpkinseed, rock bass, white and black crappies, yellow perch, and three species of bullheads. Wisconsin Department of Natural Resources records indicate the Lake has been intermittently stocked with yellow perch, bluegill, northern pike, largemouth bass, and bullheads between 1937 and 1976. Paddock Lake represents one of the better recreational fisheries in the watershed.

A 1979 collection from the Lake of six individuals of the least darter is the only recent record of the presence of this species in the entire watershed. A 1928 collection at what is now the STH 50 crossing of the Des Plaines River main stem is the only other known record of the presence of this species in the watershed. As already noted, this species is listed as being of “special concern” by the Wisconsin Department of Natural Resources, Bureau of Endangered Resources. Lake chubsucker, another species of “special concern,” was found in the Lake in six surveys between 1941 and 1974. It was not found during a 1979 collection made by the Wisconsin Department of Natural Resources.

Hooker Lake

Seven collections from Hooker Lake documented 31 species, with “once-only” reports of longnose gar, bowfin, mudminnow, emerald shiner, blackchin shiner, spotted sucker, channel catfish, rock bass, white crappie, and Iowa darter. The game species list included northern pike, smallmouth and largemouth bass, bluegill, green sunfish, pumpkinseed, rock bass, white and black crappies, yellow perch, three species of bullhead, plus channel catfish and walleyed pike. The latter species has been stocked periodically since 1959. Some natural reproduction has been reported. White crappie, rock bass, and channel catfish are “once-only” collections, 1959, 1959, and 1970, and may not be reproducing populations. Besides the walleyed pike introductions mentioned, stocking projects since 1939 have included yellow perch, smallmouth and largemouth bass, bluegill, bullheads, and shiner. A turbidity problem in the Lake caused by carp and white sucker precipitated “rough” fish removal operations in 1952, 1957, 1958, and 1968. Carp and white sucker were still present in a 1991 survey of the lake. Except for the turbidity problem, the Lake has a good fishery. The lake chubsucker was reported three times between 1959 and 1975, but was not found in the two most recent collections, in 1979 and 1991.

George Lake

Five surveys conducted between 1959 and 1979 recorded 21 species, with blackchin shiner, white sucker, black bullhead, tadpole madtom, rock bass, and white crappie being found on only one occasion each. Since bullhead and crappie species were not differentiated in several collections, it is probable that black bullhead and white crappie were actually present more frequently than the data indicate. Game species included northern pike, largemouth bass, bluegill, pumpkinseed, green sunfish, rock bass, white and black crappies, yellow perch, and three species of bullheads. Rock bass were recorded only in 1959 and are probably no longer found in the Lake.

The entire fishery was treated with Rotenone in 1968 in an effort to control rough fish. The Lake was restocked with northern pike, largemouth bass, and bluegill. Among the species found dead in the post-treatment survey were warmouth, tadpole madtom, blackchin shiner, and grass pickerel. These species were not found in subsequent surveys in 1970, 1975, and 1979, and have probably been extirpated from the Lake. The Lake is judged to have a good fishery. Lake chubsucker was collected in 1959, 1968, an 1970, but was not found in subsequent surveys in 1974 and 1979.

Shangrila and Benet Lakes

Shangrila and Benet Lakes have a direct hydraulic connection and, there-fore, can be treated as one body of water even though some historic surveys were conducted in only one lake. As shown in Table B-7, six fish surveys between 1957 and 1979 reported a total of 25 species. Longnose gar, grass pickerel, emerald shiner, fathead minnow, black and brown bullheads, channel catfish, brook silverside, and Iowa darter were reported from one survey only and may not represent reproducing species. Reported game species include northern pike, three species of bullheads, channel catfish, largemouth bass, green sunfish, pumpkin-seed, blue-gill, black crappie, and yellow perch. The presence of the three bullhead species and the channel catfish has not been verified since 1969. Collections from 1957 and 1969 contained the lake chubsucker, but surveys in 1978 and 1979 failed to record the species.

Vern Wolf Lake

Vern Wolf Lake was created in 1969 by damming a headwater tributary of Brighton Creek. Between 1970 and 1991, the following fish species were stocked by the Wisconsin Department of Natural Resources: yellow perch, northern pike, largemouth bass, black crappie, and walleyed pike. Seven other species have also been reported, including three forage fish, black bullhead, white crappie, green sunfish, and pumpkinseed. The Lake has a fair recreational fishery. Records show winterkills occurred in 1970, 1973, 1977, and 1983.

Montgomery Lake

One collection was made in Montgomery Lake in 1971 and one in 1979. Ten species were found, including game species, northern pike, yellow bullhead, largemouth bass, pumpkinseed, bluegill, and yellow perch. The fishery is fair. The lake chubsucker was reported in 1971 but not in 1979; it may be extirpated from the Lake.

Pleasant, Mud, League, and Paasch Lakes

Each of these four lakes was subject to only one historical collection.

Pleasant Lake is the largest and westernmost lake on the property owned by the Girl Scouts of Kenosha County, Inc., in U.S. Public Survey Section 30, Township 1 North, Range 22 East, Village of Pleasant Prairie. It is connected through wetlands to the Des Plaines River. Ten species were found in 1980. Game species were black bullhead, green sunfish, pumpkinseed, bluegill, and black crappie. The fishery may be characterized as poor.

Mud Lake was sampled in 1979 and found to contain seven species. Game species were pumpkinseed, green sunfish, and yellow perch. The fishery may be characterized as poor.

League Lake was surveyed in 1979 and yielded only three species, green sunfish, pumpkinseed, and Iowa darter. The fishery may be characterized as poor.

Paasch Lake was sampled in 1975 and produced only carp and bullheads. The fishery may be characterized as poor.

SOURCES OF HISTORICAL DATA

1906	Dr. George Wagner, Professor, University of Wisconsin at Madison, Zoology Department
1928	Wisconsin Fish Distribution Study under direction of Dr. C. Willard Green, Professor, Zoology Department, University of Wisconsin-Madison, and Dr. Carl Hubbs, Professor, Zoology Department, University of Michigan, 1925-1928. The results of these two collections were published in 1935 by Wisconsin Conservation Commission in The Distribution of Wisconsin Fishes.
1965	Field Zoology Class, University of Wisconsin-Madison, under direction of Mr. Marlin P. Johnson, graduate student.
1968	Mr. Marlin P. Johnson, Instructor, University of Wisconsin-Waukesha Center, and Mr. James Weckmueller, Research Analyst, Wisconsin Department of Natural Resources.
1974	Wisconsin Electric Power Company study prepared by BioTest, Inc., Chicago Published in 1975 as “Environmental Report on Pleasant Prairie Power Plant Unit 1 and 2,” Chapter 2.7, pp. 1-28.
1975-1978	Wisconsin Department of Natural Resources

1979 Wisconsin Department of Natural Resources Fish Distribution Study under direction of Don M. Fago, Senior Fishery Scientist; also EnCAP (see 1980)

1980 Des Plaines River and Adjacent Wetland-1979-80." Project Leader, William E. Southern, De Kalb, Illinois. Submitted to U.S. Environmental Protection Agency December 18, 1980, pp. 69-89.

1994 Southeastern Wisconsin Regional Planning Commission staff, Mr. Marlin P. Johnson, Consultant; Christopher J. Jors, Research Analyst; Craig R. Webster, Research Analyst. Field work done July 26-29, 1994.

NOTE: Printouts of historical records were provided by Don M. Fago, Senior Fishery Scientist, Department of Natural Resources Research Center, Monona, Wisconsin.

Appendix C

OBJECTIVES, PRINCIPLES, AND STANDARDS

Appendix C-1

LAND USE DEVELOPMENT OBJECTIVES, PRINCIPLES, AND STANDARDS FOR THE DES PLAINES RIVER WATERSHED

OBJECTIVE NO. 1

A balanced allocation of space to the various land use categories which meets the social, physical, and economic needs of the regional population.

PRINCIPLE

The planned supply of land set aside for any given use should approximate the known and anticipated demand for that use.

STANDARDS

1. For each additional 100 dwelling units to be accommodated within the watershed at each residential density, the following minimum amounts of residential land should be set aside:

Residential Density Category	Net Area[a] (acres per 100 dwelling units)	Gross Area[b] (acres per 100 dwelling units)
High-Density Urban[c]	8	13
Medium-Density Urban[c]	23	32
Low-Density Urban[c]	83	109
Suburban[d]...	167	204
Rural[d]	500	588

2. For each additional 1,000 persons to be accommodated within the watershed, the following minimum amounts of public park and recreation land should be set aside.

Public Park and Recreation Land Category	Net Area[e] (acres per 1,000 persons)	Gross Area[f] (acres per 1,000 persons)
Major	4	5
Other..	8	9

3. For each additional 100 industrial employees to be accommodated within the watershed, the following minimum amounts of industrial land should be set aside:

Industrial Land Category	Net Area[a] (acres per 100 employees)	Gross Area[g] (acres per 100 employees)
Major and Other	7	9

4. For each additional 100 commercial employees to be accommodated within the watershed, the following minimum amounts of commercial land should be set aside:

Commercial Land Category	Net Area[a] (acres per 100 employees)	Gross Area[g] (acres per 100 employees)
Retail and Service		
Major	1	3
Other..	2	6
Office		
Major and Other..............................	1	2

5. For each additional 1,000 persons to be accommodated within the watershed, the following minimum amounts of governmental and institutional land should be set aside:

Government and Institutional Land Category	Net Area[a] (acres per 1,000 persons)	Gross Area[h] (acres per 1,000 persons)
Major and Other	9	12

OBJECTIVE NO. 2

A spatial distribution of the various land uses which will result in a compatible arrangement of land uses.

PRINCIPLE

The proper allocation of uses to land can avoid or minimize hazards and dangers to health, safety, and welfare and maximize amenity and convenience in terms of accessibility to supporting land uses.

STANDARDS

1. Urban high-, medium-, and low-density residential uses should be located within planning units which are served with centralized public sanitary sewerage and water supply facilities and contain, within a reasonable walking distance, necessary supporting local service uses, such as neighborhood park, local commercial, and elementary school facilities, and should have reasonable access through the appropriate component of the transportation system to employment, commercial, cultural, and governmental centers and secondary school and higher educational facilities.

2. Rural and suburban-density residential uses should have reasonable access through the appropriate component of the transportation system to local service uses; employment, commercial, cultural, and governmental centers; and secondary school and higher educational facilities.

3. Industrial uses should be located to have direct access to arterial street and highway facilities and reasonable access through an appropriate component of the transportation system to residential areas and to railway, seaport, and airport facilities and should not be intermixed with commercial, residential, governmental, recreational, or institutional land uses.

4. Major commercial uses should be located in centers of concentrated activity on only one side of an arterial street and should be afforded direct access[i] to the arterial street system.

5. When it is determined under a second-level stormwater management system plan that certain planned urban land uses require control of the quantity and quality of stormwater runoff, the facilities to provide such control should be centrally located to the maximum extent practicable.

OBJECTIVE NO. 3

A spatial distribution of the various land uses which will result in the protection and wise use of the natural resources of the Region, including its soils, inland lakes and streams, groundwater, wetlands, woodlands, prairies, and wildlife, and the protection of the natural flood water storage areas.

PRINCIPLE

The proper allocation of uses to land can assist in maintaining an ecological balance between the activities of man and the natural environment which supports him.

1. SOILS

PRINCIPLE

The proper relation of urban and rural land use development to soil types and distribution can serve to avoid environmental problems, aid in the establishment of better regional settlement patterns, and promote the wise use of irreplaceable natural resources.

STANDARDS

a. Sewered urban development, particularly for residential use, should not be located in areas covered by soils identified in the regional detailed operational soil survey as having severe limitations for such development.

b. Unsewered suburban residential development should not be located in areas covered by soils identified in the regional detailed operational soil survey as unsuitable for such development.

c. Rural development, including agricultural and rural residential development, should not be located in areas covered by soils identified in the regional detailed operational soil survey as unsuitable for such uses.

2. INLAND LAKES AND STREAMS

PRINCIPLE

Inland lakes and streams contribute to the atmospheric water supply through evaporation; provide a suitable environment for desirable and sometimes unique plant and animal life; provide the population with opportunities for certain scientific, cultural, and educational pursuits; constitute prime recreational areas; provide a desirable aesthetic setting for certain types of land use development; serve to store and convey flood waters; and provide certain water withdrawal requirements.

STANDARDS

a. A minimum of 25 percent of the perimeter or shoreline frontage of lakes with a surface area in excess of 50 acres should be maintained in a natural state.

b. Not more than 50 percent of the length of the shoreline of inland lakes with a surface area in excess of 50 acres should be allocated to urban development, except for park and outdoor recreational uses.

c. A minimum of 10 percent of the shoreline of each inland lake with a surface area in excess of 50 acres should be maintained for public uses, such as a beach area, pleasure craft marina, or park.

d. It is desirable that 25 percent of the shoreline of each inland lake with a surface area less than 50 acres be maintained in either a natural state or some low-intensity public use, such as parkland.

e. A minimum of 25 percent of both banks of all perennial streams should be maintained in a natural state.

f. Not more than 50 percent of the length of perennial streams should be allocated to urban development, except for park and outdoor recreational uses.

g. Floodlands[j] should not be allocated to any urban development[k] which would cause or be subject to flood damage.

h. No unauthorized structure or fill should be allowed to encroach upon and obstruct the flow of water in the perennial stream channels[l] and floodways.[m]

3. WETLANDS

PRINCIPLE

Wetlands[n] support a wide variety of desirable and sometimes unique plant and animal life; assist in the stabilization of lake levels and streamflows; trap and store plant nutrients in runoff, thus reducing the rate of enrichment of surface waters and noxious weed and algae growth; contribute to the atmospheric oxygen supply; contribute to the atmospheric water supply; reduce stormwater runoff by providing area for floodwater impoundment and storage; trap soil particles suspended in runoff and thus reduce stream sedimentation; provide opportunities for certain scientific, educational, and recreational pursuits; and may serve as groundwater recharge and discharge areas.

STANDARD

a. All wetlands adjacent to streams or lakes; all wetlands within areas with special wildlife or other natural values; and all wetlands with an area of five acres or greater should not be allocated to any urban development except limited recreational use and should not be drained or filled.

b. Open lands surrounding particularly important wetlands, including wetlands adjacent to streams or lakes, wetlands with special wildlife or other natural values, and wetlands with an area in excess of 50 acres, should be kept in such open space uses as agriculture or limited recreation.

4. WOODLANDS

PRINCIPLE

Woodlands[o] assist in maintaining unique natural relationships between plants and animals; reduce stormwater runoff; contribute to the atmospheric oxygen supply; contribute to the atmospheric water supply through transpiration; aid in reducing soil erosion and stream sedimentation; provide the resource base for the forest product industries; provide the population with opportunities for certain scientific, educational, and recreational pursuits; and provide a desirable aesthetic setting for certain types of land use development.

STANDARDS

a. A minimum of 10 percent of the land area of the watershed should be devoted to woodlands.

b. For demonstration and educational purposes, the woodland cover within each county should include a minimum of one 40-acre or larger woodlot devoted to each major forest type: dry, mesic, or lowland forest. In addition, the best remaining examples of the native forest vegetation types representative of the presettlement vegetation should be maintained in a natural condition and be made available for research and educational use.

c. A minimum regional aggregate of five acres of woodland per 1,000 population should be maintained for recreational pursuits.

5. PRAIRIES

PRINCIPLE

Prairies,[p] including savannas, assist in maintaining unique natural relationships between plants and animals; reduce stormwater runoff; contribute to the atmospheric oxygen supply; contribute to the atmospheric water supply through transpiration; aid in reducing soil erosion; and provide opportunities for scientific, educational, and recreational pursuits.

STANDARD

a. All remaining native prairies representative of the presettlement vegetation should be maintained in a natural condition.

6. WILDLIFE

PRINCIPLE

Wildlife, when provided with a suitable habitat, will supply the population with opportunities for certain scientific, educational, and recreational pursuits; comprises an integral component of the life systems which are vital to beneficial natural processes, including the control of harmful insects and other noxious pests and the promotion of plant pollination; provides a food source; offers an economic resource for the recreation industries; and serves as an indicator of environmental health.

STANDARD

a. The most suitable habitat for wildlife, the area wherein fish, game and nongame species can best be fed, sheltered, and reproduced, is a natural habitat. Since the natural habitat for wildlife can best be achieved by preserving or maintaining in a wholesome state other resources such as water, wetlands, prairies, and woodlands, the standards for each of these other resources, if met, would ensure the preservation of a suitable wildlife habitat and population.

OBJECTIVE NO. 4

A spatial distribution of the various land uses which is properly related to the supporting transportation, utility, and public facility systems in order to assure the economical provision of transportation, utility, and public facility services.

PRINCIPLE

The transportation and public utility facilities and the land use pattern which these facilities serve and support are mutually interdependent in that the land use pattern determines the demand for, and loadings upon, transportation and utility facilities; and these facilities, in turn, are essential to, and form a basic framework for, land use development.

STANDARDS

1. Urban development should be located and designed so as to maximize the use of existing transportation and utility systems.

2. The transportation system should be located and designed to provide access, not only to all land currently devoted to urban development, but to land proposed to be used for such urban development.

3. All land developed or proposed to be developed for urban medium-, high-, and low-density residential use should be located in areas serviceable by an existing or proposed public sanitary sewerage system and preferably within the gravity-drainage area tributary to such systems.

4. All land developed or proposed to be developed for urban medium-, high-, and low-density residential use should be located in areas serviceable by an existing or proposed public water supply system.

5. All land developed or proposed to be developed for urban medium- and high-density residential use should be located in areas serviceable by existing or proposed public mass transit facilities.

6. The transportation system should be located and designed to minimize the penetration of existing and proposed residential neighborhood units by through traffic.

7. Transportation terminal facilities, such as off-street parking, off-street truck loading, and mass transit loading facilities, should be located in close proximity to the principal land uses to which they are accessory.

8. In the absence of public sanitary sewer service, onsite sewage disposal systems should be utilized only in accordance with the following criteria:

   a. Onsite soil absorption sewage disposal systems should be utilized only in areas covered by soils which are suitable for the system being considered.

b. The use of onsite sewage disposal systems should be limited to the following types of development:

- Rural-density residential development.
- Suburban density residential development, limited, however, to areas already committed to such use.[q]
- Urban land uses which may be required in unsewered areas, such as transportation-related businesses, agriculture-related businesses, communication facilities, utility installations, and park and recreation sites.

c. New development in unsewered areas should be designed to be served by conventional onsite soil-absorption sewage disposal systems.

d. Alternative onsite soil-absorption sewage disposal systems should be utilized only to remedy failing conventional onsite sewage disposal systems or on lots or parcels of record that cannot support conventional systems.

e. Holding tanks should be used only as a last resort as a replacement for failing conventional or alternative onsite sewage disposal systems.

f. New urban development served by onsite sewage disposal systems in areas planned to receive sanitary sewer service should be discouraged. Where such development is permitted, it should be designed so that the public and private costs of conversion to public sanitary sewer service are minimized.

OBJECTIVE NO. 5

The preservation and provision of open space[r] to enhance the total quality of the regional environment, maximize essential natural resource availability, give form and structure to urban development, and facilitate the ultimate attainment of a balanced year-round outdoor recreational program providing a full range of facilities for all age groups.

PRINCIPLE

Open space is the fundamental element required for the preservation, wise use, and development of such natural resources as soil, water, woodlands, wetlands, native vegetation, and wildlife; it provides the opportunity to add to the physical, intellectual, and spiritual growth of the population; it enhances the economic and aesthetic value of certain types of development; and it is essential to outdoor recreational pursuits.

STANDARDS[s]

1. Major park and recreation sites providing opportunities for a variety of resource-oriented outdoor recreational activities should be provided within a 10-mile service radius of every dwelling unit in the Region and should have a minimum gross site area of 250 acres.

2. Other park and recreation sites should be provided within a maximum service radius of one mile of every dwelling unit in an urban area and should have a minimum gross site area of five acres.

3. Areas with unique scientific, cultural, scenic, or educational value should not be allocated to any urban or agricultural land uses; adjacent surrounding areas should be retained in open space use, such as agriculture or limited recreation.

OBJECTIVE NO. 6

The preservation of land areas to provide for agriculture, provide a reserve or holding area for future urban and rural needs, and ensure the preservation of those rural areas which provide wildlife habitat and which are essential to shape and order urban development.

PRINCIPLE

Agricultural areas, in addition to providing food and fiber, can supply significant wildlife habitat; contribute to maintaining an ecological balance between plants and animals; offer locations close to urban centers for the production of certain food commodities which may require nearby population concentrations for an efficient production-distribution relationship; provide opportunities for agricultural and agriculture-related employment, thus supporting an important component of the economic base of the Region; and provide open spaces which give form and structure to urban development.

STANDARDS

1. To the extent possible, all prime[t] agricultural lands should be preserved for agricultural use.

2. All agricultural lands surrounding adjacent high-value scientific, educational, and recreational resources should be preserved.

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[a] *Net land use area is defined as the actual site area devoted to a given use and consists of the ground floor site area occupied by any buildings plus the required yards and open spaces.*

[b] *Gross residential land use area is defined as the net area devoted to this use plus the area devoted to all supporting land uses, including streets, neighborhood parks and playgrounds, elementary schools, and neighborhood institutional and commercial uses, but not including freeways and expressways and other community and areawide uses.*

[c] *Areas which are served, proposed to be served, or required to be served by public sanitary sewerage and water supply facilities and which require neighborhood facilities.*

[d] *Areas which are not served, not proposed to be served, nor required to be served by public sanitary sewerage and water supply facilities and which do not require neighborhood facilities.*

[e] *This category includes areas developed for active recreation use.*

[f] *Gross public park and recreation area is defined as the net area devoted to active or intensive recreation use plus the adjacent lands devoted to such supporting land uses as roads and parking areas. This area does not include surface water, woodlands, wetlands, or other natural resources.*

[g] *Gross commercial and industrial area is defined as the net area devoted to these uses plus the area devoted to such supporting land uses as off-street parking.*

[h] *Gross governmental and institutional area is defined as the net area devoted to governmental and institutional use plus the area devoted to such supporting land uses as off-street parking.*

[i] *Direct access implies adjacency or immediate proximity.*

[j] *Floodlands are herein defined as those lands inundated by a flood having a recurrence interval of 100 years where hydrologic and hydraulic engineering data are available and as those lands inundated by the maximum flood of record where such data are not available.*

[k] *Urban development, as used herein, refers to all land uses except agriculture, water, woodlands, wetlands, open lands, and quarries.*

[l] *A stream channel is herein defined as that area of the floodplain lying either within legally established bulkhead lines or within sharp and pronounced banks marked by an identifiable change in flora and normally occupied by the stream under average annual high-flow conditions.*

[m] *Floodway lands are herein defined as those designated portions of the floodlands that convey the 100-year recurrence interval flood discharge.*

[n] *Wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency, and with a duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.*

[o] *Woodlands are defined as those upland areas with 17 or more deciduous trees per acre each measuring at least four inches in diameter at breast height and with at least a 50 percent canopy cover. In addition, coniferous tree plantations and reforestation projects are defined as woodlands. It is also important to note that all lowland wooded areas, such as tamarack swamps, are defined as wetlands because the water table in such areas is located at, near, or above the land surface and because such areas are generally characterized by hydric soils which support hydrophitic trees and shrubs.*

[p] *Prairies are defined as open, generally treeless areas which are dominated by native grasses. In southeastern Wisconsin, there are three types of prairies corresponding to soil moisture conditions: dry prairies, mesic prairies, and wet prairies. In addition, it is important to note that, for purposes of this report, savannas, which are defined as areas dominated by native grasses but with between one and 17 trees per acre, are classified as prairies. In southeastern Wisconsin, there are two types of savannas, oak openings and cedar glades.*

[q] *Onsite sewage disposal systems should not accommodate new suburban residential development, but should be provided to serve only those lands already committed to such development, namely platted but currently undeveloped lots of record or lots created by certified survey maps.*

[r] *Open space is defined as land or water areas which are generally undeveloped for urban residential, commercial, or industrial uses and are or can be considered relatively permanent in character. It includes areas devoted to park and recreation uses and to large land-consuming institutional uses, as well as areas devoted to agricultural use and to resource conservation, whether publicly or privately owned.*

[s] *It was deemed impractical to establish spatial distribution standards for open space* per se*. Open spaces which are not included in the spatial distribution standards are: forest preserves and arboreta; major river valleys; lakes; zoological and botanical gardens; stadia; woodland, wetland, and wildlife areas; scientific areas; and agricultural lands whose location must be related to, and determined by, the natural resource base.*

[t] *Prime agricultural lands are defined as agricultural lands in farms which meet the following specific criteria regarding farm size and agricultural soil capabilities: 1) the farm unit must be at least 35 acres in area, 2) at least 50 percent of the farm unit must be covered by soils which meet the U. S. Natural Resource Conservation Service standards for national prime farmland or farmland of statewide importance, and 3) the farm units should be located in a block of farmland at least 100 acres in size.*

Source: SEWRPC.

Appendix C-2

WATER QUALITY MANAGEMENT OBJECTIVES, PRINCIPLES, AND STANDARDS FOR THE DES PLAINES RIVER WATERSHED

OBJECTIVE NO. 1

The development of land management and water quality control practices and facilities—inclusive of sanitary sewerage and stormwater management systems—which will effectively serve the existing regional urban development pattern and promote implementation of the regional land use plan, meeting the anticipated need for sanitary and industrial wastewater disposal and the need for stormwater runoff control generated by the existing and proposed land uses.

PRINCIPLE

Sanitary sewerage and stormwater management systems are essential to the development and maintenance of a safe, healthy, and attractive urban environment. The extension of existing sanitary sewerage and stormwater management systems and the creation of new systems can be effectively used to guide and shape urban development both spatially and temporally.

STANDARDS

1. Sanitary sewer service should be provided to all existing areas of medium-[a] or high-density[b] urban development and to all areas proposed for such development in the regional land use plan.

2. Sanitary sewer service should be provided to all existing areas of low-density[c] urban development and to all areas proposed for such development in the regional land use plan where such areas are contiguous to areas of medium- or high-density urban development. Where noncontiguous low-density development already exists, the provision of sanitary sewer service should be contingent upon the inability of the underlying soil resource base to properly support onsite absorption waste disposal systems.

3. Engineered and partially engineered stormwater management facilities[d] should be provided to all existing areas of low-, medium, and high-density urban development and to all areas proposed for such development in the regional land use plan.

4. Where cognizant public health authorities declare that public health hazards exist because of the inability of the soil resource base to properly support onsite soil absorption waste disposal systems, sanitary sewer service should be provided.

5. Lands designated as primary environmental corridors on the regional land use plan, and certain secondary environmental corridors and isolated natural areas containing lands with steep slopes and/or wetlands, should not be served by sanitary sewers except in those cases where it is necessary to serve development incidental to the preservation and protection of the corridors and isolated natural areas, such as parks and related outdoor recreation areas, and existing clusters of urban development in such corridors and isolated natural areas. Engineering analyses relating to the sizing of sanitary sewerage and stormwater management facilities should assume the permanent preservation of all undeveloped primary environmental corridor lands, and certain portions of secondary corridors and isolated natural areas containing lands with steep slopes and wetlands, in natural open space uses.

6. Floodlands[e] should not be served by sanitary sewers except that development incidental to the preservation in open space uses of floodlands, such as parks and related outdoor recreation areas, and existing urban development in floodlands that is not recommended for eventual removal in comprehensive plans. Engineering analyses relating to the sizing of sanitary sewerage or stormwater management facilities should not assume ultimate development of floodlands for urban use.

7. Significant concentrations[f] of lands covered by soils found in the regional soil survey to have very severe limitations for urban development even with the provision of sanitary sewer service should not be provided with such service. Engineering analyses relating to the sizing of sewerage or stormwater management facilities should not assume ultimate urban development of such lands for urban use.

8. The timing of the extension of sanitary sewerage facilities should, insofar as possible, seek to promote urban development in a series of complete neighborhood units, with service being withheld from any new units in a given municipal sewer service area until previously served units are substantially developed and until existing units not now served are provided with service.

9. The sizing of sanitary sewerage and stormwater management facility components should be based upon an assumption that future land use development will occur in general accordance with the adopted regional land use plan.

10. To the extent feasible, industrial wastes except noncontact cooling waters, as well as the sanitary wastes generated at industrial plants, should be discharged to municipal sanitary sewerage systems for ultimate treatment and disposal. The necessity to provide pretreatment for industrial wastes should be determined on an individual case-by-case basis and should consider any regulations relating thereto.

11. Rural land management practices should be given priority in areas which are designated as prime agricultural lands to be preserved in long-term use for the production of food and fiber.

OBJECTIVE NO. 2

The development of land management and water quality control practices and facilities—inclusive of sanitary sewerage and stormwater management systems—so as to meet the recommended water use objectives and supporting water quality standards as set forth on Map 59 and in Tables 96 and 97.

PRINCIPLE

Rural and urban runoff, sewage treatment plant effluent, and industrial wastewater discharges are major contributors of pollutants to the streams and lakes of the watershed; the location, design, construction, operation, and maintenance of stormwater management facilities, sewage treatment plants, and industrial wastewater outfalls, and the quality and quantity of the discharges from such facilities and of untreated runoff has a major effect on stream and lake water and sediment quality and on the ability of streams and lakes to support the established water uses. Urban stormwater runoff degrades surface water and sediment quality through the additions of conventional and potentially toxic pollutants. Urban stormwater runoff degrades surface water and sediment quality through the additions of conventional and potentially toxic pollutants. Urban stormwater runoff can degrade instream habitat quality by increasing channel scour, erosion, and sedimentation through increases in both the peak rate and the total volume of runoff.

STANDARDS

1. The level of treatment to be provided at each sewage treatment plant industrial wastewater outfall should be determined by water quality analyses directly related to the established water use objectives for the receiving surface waterbody. These analyses should demonstrate that the proposed treatment level will aid in achieving the water quality standards supporting each major water use objective as set forth on Map 59 and in Tables 96 and 97.

2. The type and extent of stormwater treatment or associated preventive land management practices to be applied within a hydrologic unit should be determined by water quality analyses directly related to the established water use objectives for the receiving surface waterbody. These analyses should demonstrate that the proposed treatment level or land management practices will aid in achieving the water quality standards supporting each major water use objective as set forth on Map 59 and in Tables 96 and 97.

3. Domestic livestock should be fenced out of all lakes, perennial streams, and wetlands, and direct stormwater runoff from the associated feeding areas to the lakes, perennial streams, and wetlands should be avoided so as to contribute to the achievement of the established water use objectives and standards.

4. The discharge of sewage treatment plant effluent directly to inland lakes should be avoided and sewage treatment plant discharges to streams flowing into inland lakes should be located and treated so as to contribute to the achievement of the established water use objectives and standards for those lakes.

5. Interim sewage treatment plants deemed necessary to be constructed prior to implementation of the long-range plan should provide levels of treatment determined by water quality analyses directly related to the established water use objectives and standards for the receiving surface waterbody.

6. Bypassing of sewage to storm sewer systems, open channel drainage courses, and streams should be avoided.

7. Sewage treatment plants should be designed to perform their intended function and to provide their specified level of treatment under adverse conditions of inflow, should be of modular design with sufficient standby capacity to allow maintenance to be performed without bypassing influent sewage, and should not be designed to bypass any flow delivered by the inflowing sewers, but should incorporate an emergency bypass facility sufficient to protect sewage treatment equipment in cases of unforeseen equipment failure or the unforeseen occurrence of flows in excess of the design hydraulic capacity of the plant.

8. No pollutants should be discharged by sanitary or industrial sewage treatment plants in amounts which would preclude the achievement of the recommended water use objectives or the supporting standards as set forth on Map 59 and in Tables 96 and 97.

9. The orderly transition of lands from open space, agricultural, or other rural uses to urban uses through excavation, landshaping, and construction should be planned, designed, and conducted so as to contribute to the achievement of the established water use objectives and standards.

OBJECTIVE NO. 3

The development of land management and water quality control practices and facilities—inclusive of sanitary sewerage and stormwater management systems—that are properly related to and will enhance the overall quality of the natural and man-made environments.

PRINCIPLE

The improper design, installation, application, or maintenance of land management practices, sanitary sewerage system components, and stormwater management components can adversely affect the natural and man-made environments; therefore, every effort should be made in such actions to properly relate to these environments and minimize any disruption or harm thereto.

STANDARDS

1. New and replacement sewage treatment plants, as well as additions to existing plants, should, wherever possible, be located on sites lying outside of the 100-year recurrence interval floodplain. When it is necessary to use floodplain lands for sewage treatment plants, the facilities should be located outside of the floodway so as to not increase the 100-year recurrence interval flood stage, and should be floodproofed to a flood protection elevation of two feet above the 100-year recurrence interval flood stage so as to assure adequate protection against flood damage and avoid disruption of treatment and consequent bypassing of sewage during flood periods.

2. Existing sewage treatment plants located in the 100-year recurrence interval floodplain should be floodproofed to a flood protection elevation of two feet above the 100-year recurrence interval flood stage so as to assure adequate protection against flood damage and avoid disruption of treatment and consequent bypassing of sewage during flood periods.

3. The location of new and replacement of old sewage treatment plants or stormwater storage and treatment facilities should be properly related to the existing and proposed future urban development pattern as reflected in the regional land use plan and to any community or neighborhood unit development plans prepared pursuant to, and consistent with, the regional land use plan.

4. New and replacement sewage treatment plants, as well as additions to existing plants, should be located on sites large enough to provide for adequate open space between the plant and existing or planned future urban land uses; should provide adequate area for expansion to ultimate capacity as determined in the regional sanitary sewerage system plan; and should be located, oriented, and architecturally designed so as to complement their environs and to present an attractive appearance consistent with their status as public works.

5. The disposal of sludge from sewage treatment plants should be accomplished in the most efficient manner possible, consistent, however, with any adopted rules and regulations pertaining to air quality control and solid waste disposal.

6. Devices used for long-term or short-term storage of pollutants which are collected through treatment of wastewater or through the application of land management practices should, wherever possible, be located on sites lying outside of the 100-year recurrence interval floodplain. When it is necessary to use floodplain lands for such facilities, such devices should be located outside of the floodway so as not to increase the 100-year recurrence interval flood stage, and should be floodproofed to a flood protection elevation of two feet above the 100-year recurrence

interval flood stage so as to assure adequate protection against flood damage and to avoid redispersal of the pollutants into natural waters during flood periods.

7. There should be no wastewater or stormwater discharge of heavy metals, chlorinated hydrocarbons, industrial chemicals, or other substances in quantities known to be bioaccumulative, acutely or chronically toxic or hazardous to fish or other aquatic life, human health, wildlife, and domestic animals.

8. Water quality; sediment quality; and wildlife, fish, and aquatic life habitat should not be degraded beyond existing levels except where compelling economic hardship or social need is demonstrated and there are no technically and environmentally sound alternatives.

OBJECTIVE NO. 4

The development of land management and water quality control practices and facilities—inclusive of sanitary sewerage and stormwater management systems—that are economical and efficient, meeting all other objectives at the lowest possible cost.

PRINCIPLE

The total resources of the watershed are limited and any undue investment in water pollution control systems must occur at the expense of other public and private investment; total pollution abatement costs, therefore, should be minimized while meeting and achieving all water quality standards and objectives.

STANDARDS

1. The sum of sanitary sewerage system operating and capital investment costs should be minimized.

2. The sum of stormwater control facility and related land management practice operating and capital investment costs should be minimized through proper stormwater management planning and design.

3. The total number of sanitary sewerage systems and sewage treatment facilities should be minimized in order to effect economies of scale and concentrate responsibility for water quality management. Where physical consolidation of sanitary sewer systems is uneconomical, administrative and operational consolidation should be considered in order to obtain economy in manpower utilization and to minimize duplication of administrative, laboratory, storage, and other necessary services, facilities, and equipment. The total number of diffuse pollution control facilities should be minimized in order to concentrate the responsibility for water quality management.

4. Maximum feasible use should be made of all existing and committed pollution control facilities, which should be supplemented with additional facilities only as necessary to serve the anticipated wastewater and stormwater management needs generated by substantial implementation of the regional land use plan, while meeting pertinent water quality use objectives and standards.

5. The use of new or improved materials and management practices should be allowed and encouraged if such materials and practices offer economies in materials or construction costs or by their superior performance lead to the achievement of water quality objectives at a lesser cost.

6. Sanitary sewerage systems, sewage treatment plants, and stormwater management facilities should be designed for staged or incremental construction where feasible and economical so as to limit total investment in such facilities and to permit maximum flexibility to accommodate changes in the rate of population growth and the rate of economic activity growth, changes in water use objectives and standards, or changes in the technology for wastewater management.

7. When technically feasible and otherwise acceptable, alignments for new sewer construction should coincide with existing public rights-of-way in order to minimize land acquisition or easement costs and disruption to the natural resource base.

8. Clearwater infiltration and inflows to the sanitary sewerage system should be reduced to the cost-effective level.

9. Sanitary sewerage systems and stormwater management systems should be designed and developed concurrently to effect engineering and construction economies as well as to assure the separate function and integrity of each of the two systems; to immediately achieve the pollution abatement and drainage benefits of the integrated design; and to minimize disruption of the natural resource base and existing urban development.

OBJECTIVE NO. 5

The development of water quality management institutions—inclusive of the governmental units and their responsibilities, authorities, policies, procedures, and resources—and supporting revenue-raising mechanisms which are effective and locally acceptable, and which will provide a sound basis for plan implementation, including the planning, design, construction, operation, maintenance, repair, and replacement of water quality control practices and facilities, inclusive of sanitary sewerage systems, stormwater management systems, and land management practices.

PRINCIPLE

The activities necessary for the achievement of the established water use objectives and supporting standards are expensive; technically, administratively, and legally complex; and important to the economic and social well being of the residents of the Region. Such activities require a continuing, long-term commitment and attention from public and private entities. The conduct of such activities requires that the groups designated as responsible for plan implementation have sufficient financial and technical capabilities, legal authorities, and general public support to accomplish the specific tasks identified.

STANDARDS

1. Each designated management agency should develop and establish a system of user charges and industrial cost recovery to maintain accounts to support the necessary operation, maintenance, and replacement expenditures.

2. Maximum utilization should be made of existing institutional structures in order to minimize the number of agencies designated to implement the recommended water quality control measures, and the creation of new institutions should be recommended only where necessary.

3. To the greatest extent possible, the responsibility for water pollution control and abatement should be assigned to the most immediate local public agency or to the most directly involved private entity.

4. Each designated management group should have legal authority, financial resources, technical capability, and practical autonomy sufficient to assure the timely accomplishment of its responsibilities in the achievement of the recommended water use objectives and supporting standards as set forth on Map 59 and in Tables 96 and 97.

OBJECTIVE NO. 6

The attainment of soil and water conservation and urban stormwater management practices which reduce stormwater runoff, soil erosion, stream and lake sedimentation, nonpoint source pollution, and eutrophication.

PRINCIPLE

Soil erosion and stream sedimentation, resulting from inadequate soil conservation and management practices for rural land and developing urban land, are significant problems within the Des Plaines River watershed. Soil erosion reduces agricultural productivity through the loss of fertile topsoil and it also impairs or destroys aquatic habitat through the excessive deposition of sediment in wetlands and on streambeds.

STANDARDS

1. The soil erosion rate on individual cropland fields should not exceed T-value.[g]

2. Land disturbing activities associated with urban development and redevelopment and utility construction should include provisions to minimize the loss of sediment from the site so as to contribute to the achievement of the surface water use objectives.

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[a] *Medium-density development is defined as that development having an average dwelling unit density of 4.4 dwelling units per net residential acre, and a net lot area per dwelling unit ranging from 6,231 to 18,980 square feet.*

[b] *High-density development is defined as that development having an average dwelling unit density of 12.0 dwelling units per net residential acre, and a net lot area per dwelling unit ranging from 2,430 to 6,230 square feet.*

[c] *Low-density development is defined as that development having an average dwelling unit density of 1.2 dwelling units per net residential acre, and a net lot area per dwelling unit ranging from 18,981 to 62,680 square feet.*

[d] *Engineered stormwater management facilities are defined herein as the systems or subsystems of stormwater catchment, conveyance, storage, and treatment facilities comprised of structural and nonstructural controls including natural and man-made surface drains, subsurface piped drains, or combinations thereof, and of pumping stations, surface or subsurface storage or wet and dry detention basins, infiltration systems, and other appurtenances associated therewith, and sized to accommodate estimated flows or quantities from the tributary drainage area as a result of a specified meteorologic or hydrologic event.*

[e] *Floodlands are defined as those lands, including floodplains, floodways, and channels, subject to inundation by the 100-year recurrence interval flood or where such data are not available, the maximum flood of record.*

[f] *Areas larger than 160 acres in extent.*

[g] *"T-value" is the tolerable soil loss rate—the maximum level of soil erosion that will permit a high level of crop productivity to be sustained economically and indefinitely, as determined by the U.S. Natural Resource Conservation Service. "Excessive" cropland erosion refers to erosion in excess of the tolerable rate, or T-value.*

Source: SEWRPC.

Appendix C-3

OUTDOOR RECREATION AND OPEN SPACE PRESERVATION OBJECTIVES, PRINCIPLES, AND STANDARDS FOR THE DES PLAINES RIVER WATERSHED

OBJECTIVE NO. 1

The provision of an integrated system of public general-use outdoor recreation sites and related open space areas which will allow the resident population of the Region adequate opportunity to participate in a wide range of outdoor recreation activities.

PRINCIPLE

Attainment and maintenance of good physical and mental health is an inherent right of all residents of the watershed and the Region. The provision of public general-use outdoor recreation sites and related open space areas contributes to the attainment and maintenance of physical and mental health by providing opportunities to participate in a wide range of both intensive and extensive outdoor recreation activities. Moreover, an integrated park and related open space system properly related to the natural resource base, such as the existing surface water network, can generate the dual benefits of satisfying recreational demands in an appropriate setting while protecting and preserving valuable natural resource amenities. Finally, an integrated system of public general-use outdoor recreation sites and related open space areas can contribute to the orderly growth of the watershed and the Region by lending form and structure to urban development patterns.

A. PUBLIC GENERAL-USE OUTDOOR RECREATION SITES

PRINCIPLE

Public general-use outdoor recreation sites promote the maintenance of proper physical and mental health both by providing opportunities to participate in such athletic recreational activities as baseball, swimming, tennis, and ice-skating—activities that facilitate the maintenance of proper physical health because of the exercise involved—as well as opportunities to participate in such less athletic activities as pleasure walking, picnicking, or just rest and reflection. These activities tend to reduce everyday tensions and anxieties and thereby help maintain proper physical and mental well being. Well designed and properly located public general-use outdoor recreation sites also provide a sense of community, bringing people together for social and cultural as well as recreational activities, and thus contribute to the desirability and stability of residential neighborhoods and therefore the communities in which such facilities are provided.

STANDARDS

1. The public sector should provide general-use outdoor recreation sites sufficient in size and number to meet the recreation demands of the resident population. Such sites should contain the natural resource or man-made amenities appropriate to the recreational activities to be accommodated therein and be spatially distributed in a manner which provides ready access by the resident population. To achieve this standard, the following public general-use outdoor recreation site requirements should be met as indicated below:

Site Type	Size (gross acres)	Publicly Owned General-Use Sites							
		Parks				Schools[a]			
		Minimum Per Capita Public Requirements (acres per 1,000 persons)[d]	Typical Facilities	Maximum Service Radius (miles)[b]		Minimum Per Capita Public Requirements (acres per 1,000 persons)[f]	Typical Facilities	Maximum Service Radius (miles)[c]	
				Urban[e]	Rural			Urban[e]	Rural
I[g] Regional	250 or more	5.3	Camp sites, swimming beach, picnic areas, golf course, ski hill, ski touring trail, boat launch, nature study area, playfield, softball diamond, passive activity area[h]	10.0	10.0	- -	- -	- -	- -
II[i] Multi-Community	100-249	2.6	Camp sites, swimming pool or beach, picnic areas, golf course, ski hill, ski touring trail, boat launch, nature study area, playfield, softball and/or baseball diamond, passive activity area[h]	4.0[j]	10.0[j]	- -	- -	- -	- -
III[k] Community	25-99	2.2	Swimming pool or beach, picnic areas, boat launch, nature study area, softball and/or baseball diamonds, soccer and other playfields, tennis court, passive activity area[h]	2.0[l]	- -	0.9	Soccer and other playfield, baseball diamond, softball diamond, tennis court	0.5-1.0[m]	- -
IV[n]	Less than 25	1.7	Wading pool, picnic areas, softball and/or baseball diamonds, soccer and other playfields, tennis court, playground, basketball goal, ice-skating rink, passive activity area[h]	0.5-1.0[o]	- -	1.6	Soccer and other playfield, play-ground, baseball diamond, softball diamond, tennis court, basketball goal	0.5-1.0[m]	- -

2. Public general-use outdoor recreation sites should, as much as possible, be located within the designated primary environmental corridors of the watershed.

B. RECREATION RELATED OPEN SPACE

PRINCIPLE

Effective satisfaction of recreation demands within the watershed and the Region cannot be accomplished solely by providing public general-use outdoor recreation sites. Certain recreational pursuits such as hiking, biking, pleasure driving, and ski touring are best provided for through a system of recreation corridors located on or adjacent to linear resource-oriented open space lands. A well designed system of recreation corridors offered as an integral part of linear open space land also can serve to physically connect existing and proposed public parks, thus forming a truly integrated park and recreation related open space system. Such open space lands, in addition, satisfy the human need for natural surroundings, serve to protect the natural resource base, and ensure that many scenic areas of natural, cultural, or historic interest assume their proper place as form determinants for both existing and future land use patterns.

STANDARDS

The public sector should provide sufficient open space lands to accommodate a system of resource-oriented recreation corridors to meet the resident demand for extensive trail-oriented activities. To fulfill these requirements the following recreation-related open space standards should be met:

1. A minimum of 0.16 linear mile of recreation related open space consisting of linear recreation corridors[p] should be provided for each 1,000 persons in the watershed.

2. Recreation corridors should have a minimum length of 15 miles and a minimum width of 200 feet.

3. The maximum travel distance to recreation corridors should be five miles in urban areas and 10 miles in rural areas.

4. Resource-oriented recreation corridors should maximize the use of:

    a. Primary environmental corridors as locations for extensive trail-oriented recreation activities.

    b. Outdoor recreation facilities provided at existing public park sites.

    c. Existing recreation trail-type facilities within the watershed.

OBJECTIVE NO. 2

The preservation of sufficient high-quality open-space lands for protection of the underlying and sustaining natural resource base and enhancement of the social and economic well being and environmental quality of the Region.

PRINCIPLE

Ecological balance and natural beauty within the watershed and the Region are primary determinants of the ability to provide a pleasant and habitable environment for all forms of life and to maintain the social and economic well being of the watershed and the Region. Preservation of the most significant aspects of the natural resource base, that is, primary environmental corridors and prime agricultural lands, contributes to the maintenance of ecological balance, natural beauty, and economic well being of the Region.

A. PRIMARY ENVIRONMENTAL CORRIDORS

PRINCIPLE

The primary environmental corridors are a composite of the best individual elements of the natural resource base including surface water, streams, and rivers and their associated floodlands and shorelands; woodlands, wetlands, and wildlife habitat; areas of groundwater discharge and recharge; organic soils, rugged terrain, and high relief topography; and significant geological formations and physiographic features. By protecting these elements of the natural resource base, flood damage can be reduced, soil erosion abated, water supplies protected, air cleansed, wildlife population enhanced, and continued opportunities provided for scientific, educational, and recreational pursuits.

STANDARD

In general, all remaining nonurban lands within the designated primary environmental corridors in the Region should be preserved in their natural state. The following guidelines set forth types of development which may be accommodated within environmental corridors:[q]

Component Natural Resource and Related Features within Environmental Corridors[r]	Permitted Development															
	Transportation and Utility Facilities (see General Development Guidelines below)				Recreational Facilities (see General Development Guidelines below)											Rural Density Single-Family Residential Development (see General Development Guidelines below)
	Streets and Highways	Utility Lines and Related Facilities	Engineered Stormwater Management Facilities	Engineered Flood Control Facilities[s]	Trail[t]	Picnic Area	Family Camping[u]	Swimming Beach	Boat Access	Ski Hill	Golf	Playfield	Hard Surface Courts	Parking	Buildings	
Lakes, Rivers, Streams	- -[v]	- -[w,x]	- -	- -[y]	- -[z]	- -	- -	X	X	- -	- -	- -	- -	- -	- -	- -
Shoreline	X	X	X	X	X	X	- -	X	X	- -	X	- -	- -	X	- -	- -
Floodplain	- -[aa]	X	X	X	X	X	- -	X	X	- -	X	X	- -	X	X	- -
Wetland[ab]	- -[aa]	X	X[ac]	X[ac]	X[ad]	- -	- -	- -	X	- -	- -	- -	- -	- -	- -	- -
Wet Soils	X	X	X	X	X	- -	- -	X	X	- -	X	- -	- -	X	- -	- -
Woodland	X	X	X	- -	X	X	X	- -	X	X	X	X	X	X	X	X
Wildlife Habitat	X	X	X	- -	X	X	X	- -	X	X	X	X	X	X	X	X
Steep Slope	X	X	- -	- -	- -[ae]	- -	- -	- -	- -	X[af]	X	- -	- -	- -	- -	- -
Prairie	- -	- -[x]	- -	- -	- -[ae]	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Park	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	- -
Historic Site	- -	- -[x]	- -	- -	- -[ae]	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Scenic Viewpoint	X	X	- -	- -	X	X	X	- -	X	X	X	- -	- -	X	X	X
Scientific or Natural Area Site	- -	- -[x]	- -	- -	- -[ae]	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

NOTE: An "X" indicates that facility development is permitted within the specified natural resource feature. In those portions of the environmental corridors having more than one of the listed natural resource features, the natural resource feature with the most restrictive development limitation should take precedence.

GENERAL DEVELOPMENT GUIDELINES

- Transportation and Utility Facilities: All transportation and utility facilities proposed to be located within the important natural resources should be evaluated on a case-by-case basis to consider alternative locations for such facilities. If it is determined that such facilities should be located within natural resources, development activities should be sensitive to these resources, and, to the extent possible following construction, such resources should be restored to preconstruction conditions.

  The above table presents development guidelines for major transportation and utility facilities. These guidelines may be extended to other similar facilities not specifically listed in the table.

- Recreational Facilities: In general, no more than 20 percent of the total environmental corridor area should be developed for recreational facilities. Furthermore, no more than 20 percent of the environmental corridor area consisting of upland wildlife habitat and woodlands should be developed for recreational facilities. It is recognized, however, that in certain cases these percentages may be exceeded in efforts to accommodate needed public recreational and game and fish management facilities within appropriate natural settings.

  The above table presents development guidelines for major recreational facilities. These guidelines may be extended to other similar facilities not specifically listed in the table.

- Single-Family Residential Development: Limited single-family residential development within the environmental corridor may occur in various forms ranging from development on large rural estate lots to clustered single-family development. The maximum number of housing units accommodated at a proposed development site within the environmental corridor should be limited to the number determined by dividing the total corridor area within the site less the area covered by surface water and wetlands by five. Individual lots should contain a minimum of approximately one acre of land determined to be developable for each housing unit--with developable lands being defined to include upland wildlife habitat and woodlands, but to exclude areas of steep slope.

  Single-family development on existing lots of record should be permitted as provided for under county or local zoning at the time of adoption of the land use plan.

B. PRIME AGRICULTURAL LANDS

PRINCIPLE

Prime agricultural lands constitute the most productive farm lands in the watershed and, in addition to providing food and fiber, contribute significantly to maintaining the ecological balance between plants and animals; provide locations close to urban centers for the production of certain food commodities which may require nearby population concentrations for an efficient production-distribution relationship; provide open spaces which give form and structure to urban development; and serve to maintain the natural beauty and unique cultural heritage of Southeastern Wisconsin.

STANDARDS

1. All prime agricultural lands should be preserved.

2. All agricultural lands should be preserved that surround adjacent high-value scientific, educational, or recreational sites and are covered by soils rated in the regional detailed operational soil survey as having very slight, slight, or moderate limitations for agricultural use.

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[a] *In urban areas facilities for intensive nonresource-oriented activities are commonly located in Type III or Type IV school outdoor recreation sites. These facilities often provide a substitute for facilities usually located in parks by providing opportunities for participation in intensive nonresource-oriented activities. It is important to note, however, that school outdoor sites do not generally contain natural areas which provide space for passive recreation use.*

[b] *The identification of a maximum service radius for each park type is intended to provide another guideline to assist in the determination of park requirements and to assure that each resident of the Region has ready access to the variety of outdoor recreation facilities commonly located in parks, including space and facilities for both active and passive outdoor recreational use.*

[c] *The identification of a maximum service radius for each school site is intended to assist in the determination of active outdoor recreation facility requirements and to assure that each urban resident has ready access to the types of active intensive nonresource-oriented facilities commonly located in school recreation areas.*

[d] *For Type I and Type II parks, which generally provide facilities for resource-oriented outdoor recreation activities for the total population of the Region, the minimum per capita acreage requirements apply to the total resident population of the Region. For Type III and Type IV sites, which generally provide facilities for intensive nonresource-oriented outdoor recreation activities primarily in urban areas, the minimum per capita acreage requirements apply to the resident population of the Region residing in urban areas.*

[e] *Urban areas are defined as areas containing a closely spaced network of minor streets which include concentrations of residential, commercial, industrial, governmental, or institutional land uses having a minimum total area of 160 acres and a minimum population of 500 persons. Such areas usually are incorporated and are served by sanitary sewerage systems. These areas have been further classified into the following densities: low-density urban areas or areas with 0.70 to 2.29 dwelling units per net residential acre, medium-density urban areas or areas with 2.30 to 6.99 dwelling units per net residential acre, and high-density urban areas or areas with 7.00 to 17.99 dwelling units per net residential acre.*

[f] *For public school sites, which generally provide facilities for intensive nonresource-oriented outdoor recreation activities, the minimum per capita acreage requirements apply to the resident population of the Region residing in urban areas.*

[g] *Type I sites are defined as large outdoor recreation sites having a multi-county service area. Such sites rely heavily for their recreational value and character on natural resource amenities and provide opportunities for participation in a wide variety of resource-oriented outdoor recreation pursuits.*

[h] *A passive activity area is defined as an area within an outdoor recreation site which provides an opportunity for such less athletic recreational pursuits as pleasure walking, rest and relaxation, and informal picnicking. Such areas generally are located in parks or in urban open space sites, and usually consist of a landscaped area with mowed lawn, shade trees, and benches.*

[i] Type II sites are defined as intermediate size sites having a countywide or multi-community service area. Like Type I sites, such sites rely for their recreational value and character on natural resource amenities. Type II parks, however, usually provide a smaller variety of recreation facilities and have smaller areas devoted to any given activity.

[j] In general, each resident of the Region should reside within 10 miles of a Type I or Type II park. It should be noted, however, that within urban areas having a population of 40,000 or greater, each urban resident should reside within four miles of a Type I or Type II park.

[k] Type III sites are defined as intermediate size sites having a multi-neighborhood service area. Such sites rely more on the development characteristics of the area to be served than on natural resource amenities for location.

[l] In urban areas the need for a Type III park is met by the presence of a Type II or Type I park. Thus, within urban areas having a population of 7,500 or greater, each urban resident should be within two miles of a Type III, II, or I park.

[m] The service radius of school outdoor recreation sites, for park and open space planning purposes, is governed primarily by individual outdoor recreation facilities within the school site. For example, school outdoor recreation sites which provide such facilities as playfields, playgrounds, and basketball goals typically have a service radius of one-half mile, which is the maximum service radius assigned to such facilities (see standards presented under Objective No. 2). As another example, school outdoor recreation sites which provide tennis courts and softball diamonds typically have a service radius of one mile, which is the maximum service radius assigned to such facilities (see standards presented under Objective No. 2). It is important to note that areas which offer space for passive recreational use are generally not provided at school outdoor recreation sites, and therefore Type III and Type IV school sites generally do not meet Type III and Type IV park accessibility requirements.

[n] Type IV sites are defined as small sites which have a neighborhood as the service area. Such sites usually provide facilities for intensive nonresource-oriented outdoor recreation activities and are generally provided in urban areas. Recreation lands at the neighborhood level should most desirably be provided through a joint community-school district venture, with the facilities and recreational land area required to be provided on one site available to serve the recreation demands of both the school student and resident neighborhood population. Using the Type IV park standard of 1.7 acres per thousand residents and the school standard of 1.6 acres per thousand residents, a total of 3.3 acres per thousand residents or approximately 21 acres of recreation lands in a typical medium-density neighborhood would be provided. These acreage standards relate to lands required to provide for recreation facilities typically located in a neighborhood and are exclusive of the school building site and associated parking area and any additional natural areas which may be incorporated into the design of the park site such as drainageways and associated stormwater retention basins, areas of poor soils, and floodland areas.

[o] The maximum service radius of Type IV parks is governed primarily by the population densities in the vicinity of the park. In high-density urban areas, each urban resident should reside within 0.5 mile of a Type IV park; in medium-density urban areas, each resident should reside within 0.75 mile of a Type IV park; and in low-density urban areas, each resident should reside within one mile of a Type IV park. It should be noted that the requirement for a Type IV park also is met by a Type I, II, or III park within 0.5-1.0 mile service radius in high-, medium-, and low-density urban areas, respectively. Further, it should be noted that in the application of the service radius criterion for Type IV sites, only multi-use parks five acres or greater in area should be considered as satisfying the maximum service radius requirement. Such park sites generally provide areas which offer space for passive recreational uses, as well as facilities which provide opportunities for active recreational uses.

[p] A recreation corridor is defined as a publicly owned continuous linear expanse of land which is generally located within scenic areas or areas of natural, cultural, or historical interest and which provides opportunities for participation in trail-oriented outdoor recreation activities especially through the provision of trails designated for such activities as biking, hiking, horseback riding, nature study, and ski touring.

[q] Certain transportation and utility facilities may of necessity have to be located in environmental corridors. Also, environmental corridor lands provide highly desirable settings for recreational and rural-density residential development.

[r] The natural resource and related features are defined as follows:

> *<u>Lakes, Rivers, and Streams</u>: Includes all lakes greater than five acres in area and all perennial and intermittent streams as shown on U. S. Geological Survey quadrangle maps.*
> *<u>Shoreline</u>: Includes a band 50 feet in depth along both sides of intermittent streams; a band 75 feet in depth along both sides of perennial streams; a band 75 feet in depth around lakes; and a band 200 feet in depth along the Lake Michigan shoreline.*

Floodplain: Includes areas, excluding stream channels and lakebeds, subject to inundation by the 100-year recurrence interval flood event.
Wetlands: Includes areas one acre or more in size in which the water table is at, near, or above the land surface and which are characterized by both hydric soils and by the growth of sedges, cattails, and other wetland vegetation.
Wet Soils: Includes areas covered by wet, poorly drained, and organic soils.
Woodlands: Includes areas one acre or more in size having 17 or more deciduous trees per acre with at least a 50 percent canopy cover as well as coniferous tree plantations and reforestation projects; excludes lowland woodlands, such as tamarack swamps, which are classified as wetlands.
Wildlife Habitat: Includes areas devoted to natural open uses of a size and with a vegetative cover capable of supporting a balanced diversity of wildlife.
Steep Slope: Includes areas with land slopes of 12 percent or greater.
Prairies: Includes open, generally treeless areas which are dominated by native grasses.
Park: Includes public and nonpublic park and open space sites.
Historic Site: Includes sites listed on the National Register of Historic Places.
Scenic Viewpoint: Includes vantage points from which a diversity of natural features such as surface waters, wetlands, woodlands, and agricultural lands can be observed.
Scientific and Natural Area Sites: Includes tracts of land and water so little modified by man's activity that they contain intact native plant and animal communities believed to be representative of the presettlement landscape.

[s] *Includes such improvements as stream channel modifications and such facilities as dams.*

[t] *Includes trails for such activities as hiking, bicycling, cross-country skiing, nature study, and horseback riding, and excludes all motorized trail activities. It should be recognized that trails for motorized activities such as snowmobiling that are located outside the environmental corridors may of necessity have to cross environmental corridor lands. Proposals for such crossings should be evaluated on a case-by-case basis, and if it is determined that they are necessary, such trail crossings should be designed to ensure minimum disturbance of the natural resources.*

[u] *Includes areas intended to accommodate camping in tents, trailers, or recreational vehicles which remain at the site for short periods of time--typically ranging from an overnight to a two-week stay.*

[v] *It should be recognized that certain transportation facilities such as bridges may be constructed over such resources.*

[w] *It should be recognized that utility facilities such as sanitary sewers may be located in or under such resources.*

[x] *It should be recognized that electric power transmission lines and similar lines may be suspended over such resources.*

[y] *It should be recognized that certain flood control facilities such as dams and channel modifications may need to be provided in such resources to reduce or eliminate flood damage to existing development. These facilities may be allowed where no other alternatives exist.*

[z] *It should be recognized that bridges for trail facilities may be constructed over such resources provided that they do not obstruct flood flows.*

[aa] *It should be recognized that streets and highways may have to traverse such resources under certain site-specific conditions. Where this occurs, there should be no net loss of flood storage capacity or wetlands.*

[ab] *Any development affecting wetlands must adhere to the water quality standards for wetlands established under Chapter NR 103 of the Wisconsin Administrative Code.*

[ac] *Based on the State wet-land water quality standards as set forth in Chapter NR 103 of the Wisconsin Administrative Code, engineered storm-water management and flood control facilities should only be considered for location in wetlands when such facilities present the only viable means of resolving a water quantity or quality problem or where such activities could be used enhance or restore a degraded wetland.*

[ad] *Only an appropriately designed boardwalk/trail should be permitted.*

[ae] *Only appropriately designed and located hiking and cross country ski trails should be permitted.*

[af] *Only an appropriately designed, vegetated, and maintained ski hill should be permitted.*

Source: SEWRPC.

Appendix C-4

WATER CONTROL FACILITY DEVELOPMENT OBJECTIVES, PRINCIPLES, AND STANDARDS FOR THE DES PLAINES RIVER WATERSHED

OBJECTIVE NO. 1

An integrated system of drainage and flood control facilities and floodland management programs which will effectively reduce flood damage under the existing land use pattern of the watershed and promote the implementation of the watershed land use plan meeting the anticipated runoff loadings generated by the existing and proposed land uses.

PRINCIPLE

Reliable local municipal stormwater management facilities cannot be properly planned, designed, or constructed except as integral parts of an areawide system of floodwater conveyance and storage facilities centered on major waterways and designed so that the hydraulic capacity of each waterway opening and channel reach abets the common aim of providing for the storage, as well as the movement, of floodwaters. Not only does the land use pattern of the tributary drainage area affect the required hydraulic capacity of the drainage and flood control facilities, but the effectiveness of the floodwater conveyance and storage facilities affects the uses to which land within the tributary watershed, and particularly within the riverine areas of the watershed, may properly be put.

STANDARDS

1. All new and replacement bridges and culverts over waterways shall be designed so as to accommodate, according to the categories listed below, the designated flood events without overtopping of the related roadway or railway track and resultant disruption of traffic by floodwaters.

    a. Minor and collector streets used or intended to be used primarily for access to abutting properties: a 10-year recurrence interval flood discharge.

    b. Arterial streets and highways, other than freeways and expressways, used or intended to be used primarily to carry heavy volumes of fast, through traffic: a 50-year recurrence interval flood discharge.

    c. Freeways and expressways: a 100-year recurrence interval flood discharge.

    d. Railways: a 100-year recurrence interval flood discharge.

2. All new and replacement bridges and culverts over waterways, including pedestrian and other minor bridges, in addition to meeting the applicable requirements of paragraph number 1 above, shall be designed so as to accommodate the 100-year recurrence interval flood event without raising the peak stage, either upstream or downstream, 0.01 foot or more above the peak stage for the 100-year recurrence interval flood, as established in the adopted comprehensive watershed plan.[a] Larger permissible flood stage increases may be acceptable for reaches having topographic or land use conditions which could accommodate the increased stage without creating additional flood damage potential upstream or downstream of the proposed structure, and if appropriate legal arrangements are made with all affected local units of government and property owners.

3. The waterway opening of all new and replacement bridges shall be designed so as to readily facilitate the passage of ice floes and other floating debris, and thereby avoid blockages often associated with bridge failure and with unpredictable backwater effects and flood damages. In this respect, it should be recognized that clear spans and rectangular openings are more efficient than interrupted spans and curvilinear openings in allowing the passage of ice floes and other floating debris.

4. Certain new or replacement bridges and culverts over waterways, including pedestrian and other minor bridges, so located with respect to the stream system that the accumulation of floating ice or other debris may cause significant backwater effects with attendant danger to life, public health, or safety, or attendant serious damage to homes, industrial and commercial buildings, and important public utilities, shall be designed so as to pass the 100-year recurrence interval flood with at least 2.0 feet of freeboard between the peak stage and the low concrete or steel in the bridge span.

5. Standards 1, 3, and 4 shall also be used as the criteria for assessing the adequacy of the hydraulic capacity and structural safety of existing bridges or culverts over waterways and thereby serve, within the context of the adopted comprehensive watershed plan, as the basis for crossing modification or replacement recommendations designed to alleviate flooding and other problems.

6. All new and replacement bridges and culverts over waterways shall be designed so as not to inhibit fish passage in areas that are supporting, or which are capable of supporting, valuable recreational sport and forage fish species.

7. Channel modifications, dikes, and floodwalls should be restricted to the minimum number and extent necessary for the protection of existing and proposed land use development, consistent with the land use and water quality management elements of the adopted comprehensive plan for the watershed. The upstream and downstream effect of such structural works on flood discharges and stages shall be determined, and any such structural works which may significantly increase upstream or downstream peak flood discharges should be used only in conjunction with complementary facilities for the storage and/or conveyance of the incremental floodwaters through the watershed stream system. Channel modifications, dikes, or floodwalls shall not increase the height of the 100-year recurrence interval flood 0.01 foot or more in any unprotected upstream or downstream stream reaches. Increases in flood stages that are equal to or greater than 0.01 foot resulting from any channel, dike, or floodwall construction shall be contained within the upstream or downstream extent of the channel, dike, or floodwall, except where topographic or land use conditions could accommodate the increased stage without creating additional flood damage potential and where appropriate legal arrangements are made with all affected local units of government and property owners.

8. In cases where a dike or floodwall is intended to protect human life, the minimum dike or floodwall top elevation shall be determined using whichever of the following produces the highest profile.

a. The 100-year recurrence interval flood profile determined under the comprehensive watershed plan plus three feet of freeboard, or

b. The 500-year recurrence interval flood profile.

The height of low dikes or floodwalls that are not intended to protect human life shall be based on the high-water surface profiles for the 100-year recurrence interval flood prepared under the comprehensive watershed plan, and shall be capable of passing the 100-year recurrence interval flood with a freeboard of at least 2.0 feet.

9. The construction of channel modifications, dikes, or floodwalls shall be deemed to change the limits and extent of the associated floodways and floodplains.[b] However, no such change in the extent of the associated floodways and floodplains shall become effective for the purposes of land use regulation until such time as the channel modifications, dikes, or floodwalls are actually constructed and operative. Any development in a former floodway or floodplain located to the landward side of any dike or floodwall shall be provided with adequate drainage so as to avoid ponding and associated damages.

10. Reduced regulatory flood protection elevations and accompanying reduced floodway or floodplain areas resulting from any proposed dams or diversion channels shall not become effective for the purposes of land use regulation until the reservoirs or channels are actually constructed and operative.

11. All water control facilities other than bridges and culverts, such as dams and diversion structures, shall be designed to meet the spillway discharge capacity requirements of Chapter NR 333 of the *Wisconsin Administrative Code*.[c] According to Chapter NR 333, dams whose failure would present a low hazard to downstream human life and property shall have a minimum total spillway capacity to safely pass the 100-year recurrence interval flood; dams whose failure could present a significant hazard to downstream human life and/or property shall have a minimum total spillway capacity to safely pass the 500-year recurrence interval flood; and dams whose failure could present a high hazard to downstream human life and/or property shall have a minimum spillway capacity to safely pass the 1,000-year recurrence interval flood. As applied by the Commission, the definition of hazard to property includes damage to homes, industrial and commercial buildings, and important public utilities and closure of principal transportation routes.

12. All water control facilities should be compatible with existing local stormwater management plans and as flexible as practical to accommodate future local stormwater management planning.

PRINCIPLE

Floodlands that are unoccupied by, and not committed to, urban development should be retained in an essentially natural open space condition supplemented with the development of selected areas for public recreational uses or other open space uses. Maintaining floodlands in open uses will serve to protect downstream riverine communities from the adverse effects of the actions of upstream riverine communities by discouraging floodland development that would significantly aggravate existing flood problems or create new flood problems; will preserve natural floodwater conveyance and storage capacities; will avoid increased peak flood discharges and stages; will contribute to the preservation of wetland, woodland, fish and aquatic life, and wildlife habitat as part of a continuous linear system of open space will protect and enhance water and sediment quality; and will enhance the quality of life for both the urban and rural population by preserving and protecting the recreational, aesthetic, ecological, and cultural values of riverine and floodland areas.

STANDARDS

1. All public land acquisitions, easements, floodland use regulations, and other measures intended to eliminate the need for water control facilities shall, in all areas not already in intensive urban use or committed to such use, encompass at least all of the riverine areas lying within the 100-year recurrence interval flood inundation line under planned land use conditions.

2. Where hydraulic floodways are to be delineated, they shall to the maximum extent feasible accommodate existing and committed floodplain land uses.

3. In the determination of a hydraulic floodway, the hydraulic effect of the potential floodplain encroachment shall be limited so that the peak stage of the 100-year recurrence interval flood is not raised by 0.01 foot or more. Larger stage increases may be acceptable if appropriate legal arrangements are made with all affected local units of government and property owners.

4. To the extent practical, peak rates of flow at the Wisconsin-Illinois State line during the 2- through 100-year recurrence interval floods occurring under planned land use and recommended stormwater and floodland management conditions should not exceed the corresponding peak rates under existing 1990 land use and stormwater and floodland management conditions.

5. The placement of fill within the limits of the 100-year recurrence interval floodplain shall be compensated for through the provision of an equal amount of floodwater storage volume within the floodplain. The compensatory storage volume shall be provided in close proximity to the area filled and the compensatory storage zone shall drain freely to the adjacent stream, enabling the volume to be available during successive floods. Where practical, the compensatory storage volume should be provided such that its elevation-volume relationship approximates the relationship existing for the area to be filled. That will ensure that the placement of fill will not result in increases in peak flood flows for floods which would occur more frequently than a 100-year recurrence interval flood.

6. Floodlands should not be modified through alteration of existing stream channels for the sole purpose of accommodating planned urban land uses.

OBJECTIVE NO. 2

An integrated system of land management and water quality control facilities and point and nonpoint source pollution abatement measures adequate to ensure a quality of surface water necessary to meet the established water use objectives and supporting water quality standards.

PRINCIPLE

Surface water is one of the most valuable resources of southeastern Wisconsin; and, even under the effects of increasing population and economic activity levels, the potential of natural stream waters to serve a reasonable variety of beneficial uses, in addition to the functions of flood-flow conveyance and waste transport and assimilation, should be protected and preserved.

STANDARDS

1. All waters shall meet those water quality standards set forth in Tables 96 and 97 of this report commensurate with the adopted water use objectives.

2. Water quality standards commensurate with the adopted water use objectives are applicable at all times except during periods when streamflows are less than the average minimum seven-day low flow expected to occur on the average of once every 10 years.

3. Stormwater management and flood control facilities should be designed to minimize the negative impacts on fish and other aquatic life and to support the water use objectives and supporting water quality standards set forth on Map 59 and in Tables 96 and 97.

4. Water control facilities should be designed to minimize adverse impacts on wetlands.

5. In streams where bank erosion and bed scour are identified as potential problems under planned land use conditions, the peak rates of flow of flood events having recurrence intervals of two years or less should be maintained at, or below, the corresponding rates under existing 1990 conditions.

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[a] *Regional Planning Commission watershed studies conducted prior to the Kinnickinnic River watershed study used a standard of 0.5 foot. That standard was reduced in the Kinnickinnic River, Pike River, and Oak Creek watershed plans in order to be consistent with revisions to the* Wisconsin Administrative Code*. Chapter NR 116 of the Code was revised by the Wisconsin Department of Natural Resources in July 1977 so as to specify a maximum computed stage increase of only 0.1 foot. The July 1977 edition of Chapter NR 116 was repealed and a new Chapter NR 116 was created effective March 1, 1986. The 1986 version of NR 116 provides that the maximum computed increase in flood stage must be less than 0.01 foot. In effect, the new code permits no increase in flood stage. Deviations from this Department standard may be approved by the Department if appropriate legal arrangements have been made with all property owners affected by the increased flood elevations and if any affected municipality (meets) all legal requirements for amending its water surface profiles, floodplain zoning maps, and zoning ordinances.*

[b] *Chapter NR 116 of the* Wisconsin Administrative Code *sets forth the conditions under which lands protected by dikes or floodwalls may be removed from the floodplain. Those conditions include: 1) the dike or floodwall meets the freeboard requirements given in Standard No. 8; 2) the dike or floodwall meets U.S. Army Corps of Engineers (USCOE) standards for design and construction; 3) interior drainage shall be provided in accordance with USCOE standards (see Standard No. 9); 4) an emergency action plan shall be in effect for the area protected by the dike or floodwall; 5) all persons receiving construction permits in the protected area shall be notified that their property would be located in the 100-year recurrence interval floodplain if the levee or dike were not in place; and 6) the levee or floodwall should be annually inspected by a professional engineer registered in the State of Wisconsin.*

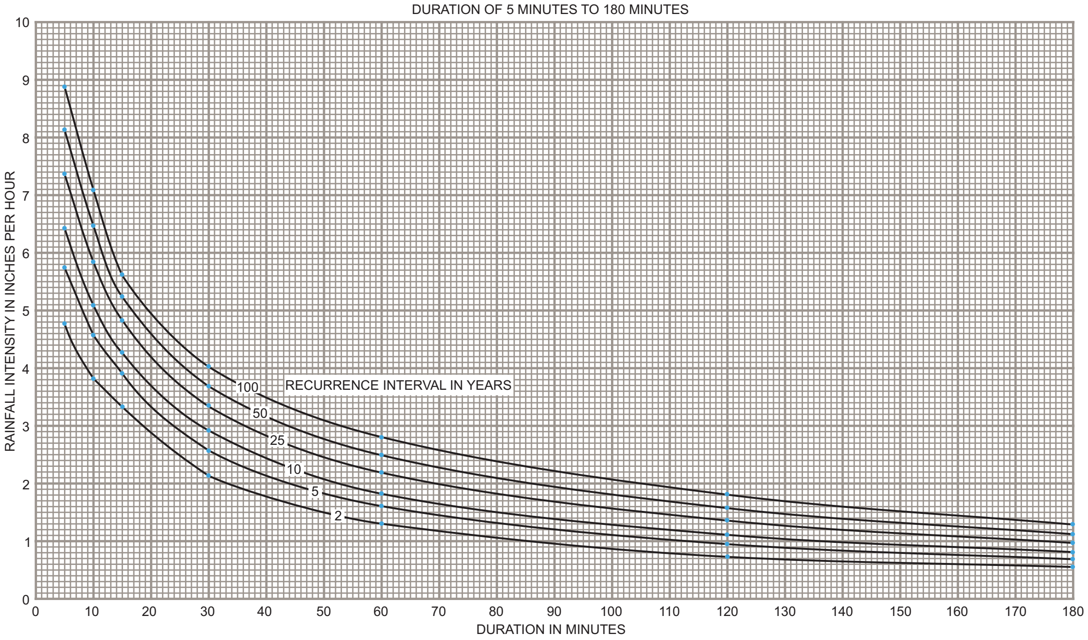
[c] *The current version of Chapter NR 333 of the* Wisconsin Administrative Code *was created effective July 2001. The rules allow for the provision of reduced spillway capacities in cases of submergence of a dam during floods less than the specified total spillway capacity or in cases where it can be documented that the provision of a hydraulic capacity below the specified capacity "will not result in an additional hazard to life, health or property when compared to the capacity specified (under NR 333.07(1) Table I)."*

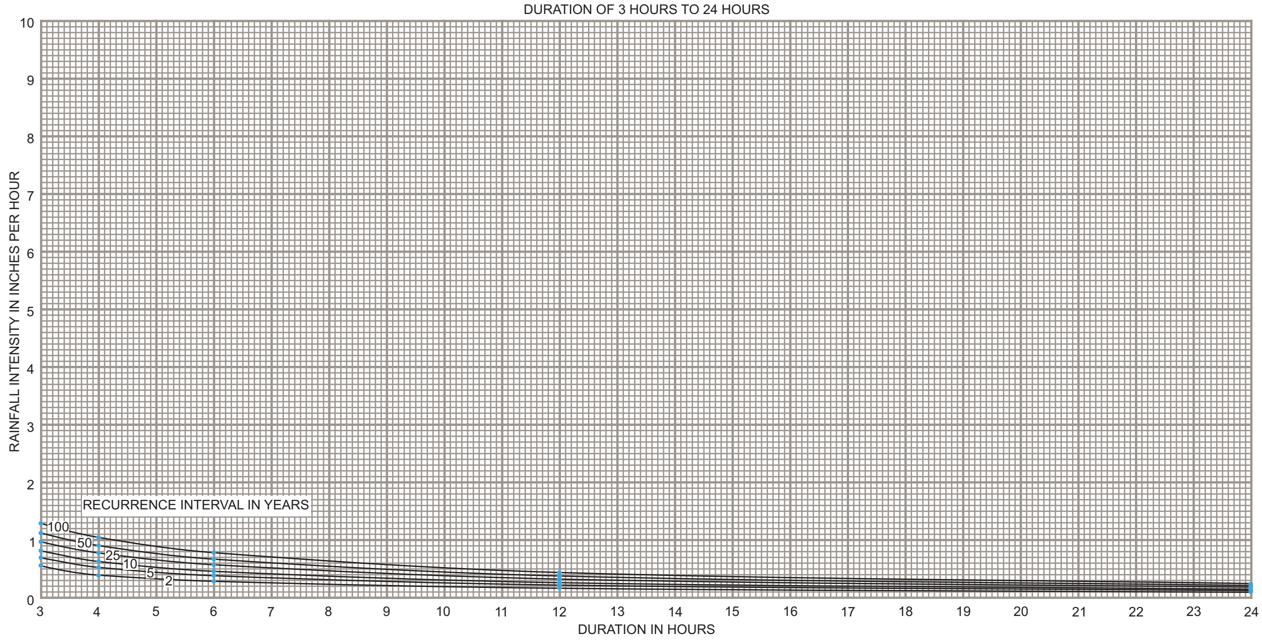
Appendix D

RAINFALL DATA FOR STORMWATER MANAGEMENT FACILITY DESIGN[a]

Figure D-1

POINT RAINFALL INTENSITY-DURATION-FREQUENCY CURVES FOR MILWAUKEE, WISCONSIN AND THE SOUTHEASTERN WISCONSIN REGION


DURATION OF 5 MINUTES TO 180 MINUTES


DURATION OF 3 HOURS TO 24 HOURS

NOTE: The data in this appendix are taken from SEWRPC Technical Report No. 40, *Rainfall Frequency in the Southeastern Wisconsin Region*, April 2000.

[a] *Curves are based on Milwaukee rainfall data for the 108-year period of 1891 to 1998.*

Source: Rodgers and Potter and SEWRPC.

Table D-1

RECOMMENDED DESIGN RAINFALL DEPTHS FOR THE SOUTHEASTERN WISCONSIN REGION

	Recurrence Interval and Depths (inches)					
Storm Duration	2 Years[a]	5 Years[a]	10 Years[a]	25 Years	50 Years	100 Years
5 Minutes	0.40	0.48	0.54	0.62	0.68	0.74
10 Minutes	0.64	0.76	0.85	0.98	1.08	1.19
15 Minutes	0.83	0.98	1.07	1.21	1.31	1.41
30 Minutes	1.07	1.29	1.45	1.68	1.85	2.02
60 Minutes	1.31	1.60	1.84	2.20	2.50	2.82
2 Hours	1.54	1.93	2.23	2.73	3.16	3.64
3 Hours	1.68	2.07	2.40	2.93	3.39	3.89
6 Hours	1.95	2.40	2.79	3.44	4.03	4.70
12 Hours	2.24	2.74	3.17	3.89	4.53	5.25
24 Hours	2.57	3.14	3.62	4.41	5.11	5.88
48 Hours	3.04	3.71	4.20	4.94	5.53	6.13
72 Hours	3.29	3.94	4.40	5.09	5.63	6.17
5 Days	3.77	4.42	4.84	5.43	5.86	6.26
10 Days	4.68	5.42	5.89	6.55	7.03	7.46

[a] Factors presented in U.S. Weather Bureau TP-40 were applied to the SEWRPC 2000 annual series depths with recurrence intervals of two, five, and 10 years, converting those depths to the partial duration series amounts set forth in this table. The annual series depths were adjusted as follows:

Two-year: multiplied by 1.136; five-year: multiplied by 1.042; and 10-year multiplied by 1.010.

Source: Rodgers and Potter and SEWRPC.

Table D-2

RELATION BETWEEN AREAL MEAN AND POINT RAINFALL DEPTHS

Storm Period (hours)	Area (square miles)					
	10	25	50	100	200	400
	Ratio of Areal to Point Rainfall for Given Area					
0.5	0.88	0.80	0.74	0.68	0.62	0.56
1.0	0.92	0.87	0.83	0.78	0.74	0.70
2.0	0.95	0.91	0.88	0.84	0.81	0.78
3.0	0.96	0.93	0.90	0.87	0.84	0.81
6.0	0.97	0.94	0.92	0.89	0.87	0.84
12.0	0.98	0.96	0.94	0.92	0.90	0.88
24.0	0.99	0.97	0.95	0.94	0.93	0.91
48.0	0.99	0.98	0.97	0.96	0.95	0.94

Source: Huff and Angel (1992).

Appendix E

AREAS OF SUBWATERSHEDS AND SUBBASINS IN THE DES PLAINES RIVER WATERSHED

Subwatersheds			Subbasins		
Name	Area (square miles)	Total Area Tributary to Subwatershed Discharge Point (square miles)	Identification	Area (square miles)	Total Area Tributary to Subbasin Discharge Point (square miles)
Upper Des Plaines River	20.41	20.41	UDP-1A	0.23	0.23
			UDP-1B	0.15	0.39
			UDP-1C	0.37	0.37
			UDP-1D	0.13	0.89
			UDP-1E	0.27	0.27
			UDP-1F	0.13	0.40
			UDP-2A	0.74	0.74
			UDP-2B	0.38	1.12
			UDP-2C	0.45	0.45
			UDP-2D	0.11	0.11
			UDP-2E	0.30	0.86
			UDP-2F	0.61	2.59
			UDP-3A	0.20	1.48
			UDP-3B	0.89	4.97
			UDP-4A	0.42	0.42
			UDP-4B	0.70	0.70
			UDP-4C	0.61	1.04
			UDP-4D	0.06	0.06
			UDP-4E	0.37	2.18
			UDP-5A	0.74	0.74
			UDP-5B	0.86	0.86
			UDP-5C	0.28	9.03
			UDP-6A	0.45	0.45
			UDP-6B	1.04	1.50
			UDP-7A	0.58	11.10
			UDP-7B	0.04	0.04
			UDP-7C	0.72	0.75
			UDP-8A	0.56	12.42
			UDP-8B	0.78	0.78
			UDP-9A	0.29	13.49
			UDP-9B	1.18	1.18
			UDP-10	1.32	15.99
			UDP-11A	0.55	0.55
			UDP-11B	1.06	1.06
			UDP-12	2.81	20.41
Lower Des Plaines River	33.39	121.37	LDP-1A	0.57	0.57
			LDP-1B	0.43	49.08
			LDP-1C	0.60	49.68
			LDP-2	0.85	50.54
			LDP-3	1.37	1.37
			LDP-4A	0.10	0.10
			LDP-4B	1.20	53.21
			LDP-5A	0.08	0.08
			LDP-5B	2.25	55.55
			LDP-6	1.51	1.51
			LDP-7	1.52	56.12
			LDP-8A	0.23	0.23
			LDP-8B	1.28	60.08
			LDP-9A	0.27	70.67
			LDP-9B	0.12	0.12
			LDP-9C	0.49	94.93
			LDP-10A	0.58	0.58
			LDP-10B	1.07	1.65

Appendix E (continued)

Subwatersheds			Subbasins		
Name	Area (square miles)	Total Area Tributary to Subwatershed Discharge Point (square miles)	Identification	Area (square miles)	Total Area Tributary to Subbasin Discharge Point (square miles)
Lower Des Plaines River (continued)			LDP-11	1.32	103.84
			LDP-12A	0.06	0.06
			LDP-12B	1.01	1.07
			LDP-12C	0.82	1.89
			LDP-12D	0.50	2.39
			LDP-13A	0.06	0.06
			LDP-13B	0.96	1.01
			LDP-13C	0.05	0.05
			LDP-13D	0.37	0.42
			LDP-13E	0.15	1.58
			LDP-13F	0.26	0.26
			LDP-13G	0.14	1.98
			LDP-13H	0.39	2.37
			LDP-14	0.56	0.56
			LDP-15A	0.06	0.06
			LDP-15B	0.30	0.36
			LDP-15C	0.28	0.64
			LDP-15D	0.24	108.85
			LDP-16	0.34	109.76
			LDP-17A	0.04	0.04
			LDP-17B	0.32	0.36
			LDP-17C	0.31	0.67
			LDP-17D	0.78	0.78
			LDP-17E	0.26	1.04
			LDP-17F	0.25	1.96
			LDP-17G	1.02	3.03
			LDP-18	1.38	114.75
			LDP-19A	0.29	0.29
			LDP-19B	0.15	0.15
			LDP-19C	1.49	1.93
			LDP-20A	0.08	0.08
			LDP-20B	0.47	0.47
			LDP-20C	0.47	1.02
			LDP-20D	0.07	2.01
			LDP-20E	0.29	0.29
			LDP-20F	0.24	0.24
			LDP-20G	0.08	0.32
			LDP-20H	0.31	0.63
			LDP-21A	0.24	0.24
			LDP-21B	0.07	0.31
			LDP-21C	0.31	4.25
			LDP-22	1.31	1.31
			LDP-21D	0.75	121.37
Jerome Creek	5.93	5.93	JC-1A	0.23	0.23
			JC-1B	0.59	0.82
			JC-1C	0.25	0.25
			JC-1D	0.27	1.34
			JC-2A	0.93	0.93
			JC-2B	0.24	1.17
			JC-2C	0.17	2.68
			JC-2D	0.02	2.70
			JC-3A	0.65	0.65
			JC-3B	0.30	0.30
			JC-3C	0.70	4.34
			JC-3D	0.24	0.24
			JC-3E	0.50	0.74

Appendix E (continued)

Subwatersheds			Subbasins		
Name	Area (square miles)	Total Area Tributary to Subwatershed Discharge Point (square miles)	Identification	Area (square miles)	Total Area Tributary to Subbasin Discharge Point (square miles)
Jerome Creek (continued)			JC-4A	0.37	5.45
			JC-4B	0.48	5.93
Kilbourn Road Ditch	23.65	23.65	KRD-1A	0.67	0.67
			KRD-1B	0.18	0.84
			KRD-1C	0.98	0.98
			KRD-1D	0.38	2.28
			KRD-1E	0.07	0.07
			KRD-2A	1.92	2.08
			KRD-2B	0.16	0.16
			KRD-3A	0.15	0.15
			KRD-3B	0.68	0.68
			KRD-3C	0.06	0.89
			KRD-3D	0.07	0.96
			KRD-3E	0.35	0.35
			KRD-3F	1.07	5.43
			KRD-3G	0.13	0.13
			KRD-3H	0.36	0.49
			KRD-3I	0.75	1.24
			KRD-4A	0.06	0.06
			KRD-4B	0.32	0.38
			KRD-4C	2.37	10.73
			KRD-5A	0.65	0.65
			KRD-5B	0.34	11.06
			KRD-6	1.13	12.85
			KRD-7A	0.57	0.57
			KRD-7B	0.87	0.87
			KRD-7C	1.09	2.53
			KRD-7D	0.22	2.76
			KRD-8A	0.06	0.06
			KRD-8B	1.39	17.05
			KRD-9	0.47	17.53
			KRD-10A	0.17	0.17
			KRD-10B	0.72	0.89
			KRD-11	1.85	20.27
			KRD-12A	0.31	0.31
			KRD-12B	0.14	0.45
			KRD-12C	1.57	22.28
			KRD-13A	0.16	0.16
			KRD-13B	0.17	0.32
			KRD-13C	0.24	0.24
			KRD-13D	0.81	23.65
Center Creek	10.31	10.31	CC-1A	0.18	0.18
			CC-1B	0.07	0.07
			CC-1C	0.08	0.08
			CC-1D	0.54	0.54
			CC-1E	1.16	2.03
			CC-2A	0.10	0.10
			CC-2B	1.74	3.87
			CC-3	0.72	4.59
			CC-4	0.63	5.22
			CC-5A	0.09	0.09
			CC-5B	1.44	1.52
			CC-6A	0.15	0.15
			CC-6B	0.09	0.24
			CC-6C	0.56	0.56

Appendix E (continued)

Subwatersheds			Subbasins		
Name	Area (square miles)	Total Area Tributary to Subwatershed Discharge Point (square miles)	Identification	Area (square miles)	Total Area Tributary to Subbasin Discharge Point (square miles)
Center Creek (continued)			CC-6D	0.54	8.09
			CC-7A	0.68	8.77
			CC-7B	0.42	0.42
			CC-8A	0.45	0.45
			CC-8B	0.47	0.87
			CC-9	0.20	10.31
Brighton Creek	20.68	27.67	BC-1	2.40	2.40
			BC-2A	0.11	0.11
			BC-2B	1.73	1.83
			BC-3A	0.15	0.15
			BC-3B	1.82	6.20
			BC-4	1.18	7.38
			BC-5A	0.09	0.09
			BC-5B	1.43	1.52
			BC-6	1.31	2.83
			BC-7A	0.15	0.15
			BC-7B	0.17	0.17
			BC-7C	1.00	11.53
			BC-8A	0.23	0.23
			BC-8B	1.11	1.34
			BC-9	0.69	13.56
			BC-10A	0.21	0.21
			BC-10B	0.60	0.81
			BC-11A	0.10	0.10
			BC-11B	0.26	0.26
			BC-11C	0.42	0.79
			BC-11D	0.34	1.12
			BC-11E	1.35	16.85
			BC-12	1.18	18.02
			BC-13	1.40	26.42
			BC-14	1.25	27.67
Salem Branch of Brighton Creek	6.99	6.99	SB-1	0.63	0.63
			SB-2A	0.37	0.37
			SB-2B	0.32	0.70
			SB-2C	1.38	2.08
			SB-3	0.12	2.20
			SB-4	0.20	0.83
			SB-5A	0.50	0.50
			SB-5B	0.19	0.69
			SB-5C	0.81	4.52
			SB-6	0.61	0.61
			SB-7A	0.12	0.12
			SB-7B	0.97	1.09
			SB-7C	0.19	0.80
			SB-7D	0.47	2.37
			SB-8	0.10	6.99
Dutch Gap Canal	17.98	17.98	DGC-1A	0.40	0.40
			DGC-1B	0.05	0.05
			DGC-1C	0.45	0.90
			DGC-1D	0.40	0.40
			DGC-2	1.61	1.61
			DGC-3A	0.14	0.14
			DGC-3B	0.46	3.51
			DGC-3C	2.44	5.95

Appendix E (continued)

Subwatersheds			Subbasins		
Name	Area (square miles)	Total Area Tributary to Subwatershed Discharge Point (square miles)	Identification	Area (square miles)	Total Area Tributary to Subbasin Discharge Point (square miles)
Dutch Gap Canal (continued)			DGC-3D	0.21	0.21
			DGC-3E	1.26	7.42
			DGC-3F	0.16	0.16
			DGC-3G	0.23	7.81
			DGC-4	0.93	0.93
			DGC-5A	2.34	3.26
			DGC-5B	0.45	3.71
			DGC-6	2.47	2.47
			DGC-7	1.24	1.24
			DGC-8A	0.12	0.12
			DGC-8B	0.81	0.81
			DGC-8C	1.82	17.98

Source: SEWRPC.

Appendix F

HYDROLOGIC-HYDRAULIC SUMMARY FOR STRUCTURES ON DES PLAINES RIVER AND SELECTED TRIBUTARIES: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Table F-1

HYDROLOGIC-HYDRAULIC SUMMARY—DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
100	122nd Street/ CTH ML	0.69	1S	50	No	1,540	672.9	672.9	0.0	- -	- -	2,270	675.0	675.0	0.0	1.6	- -	2,580	675.9	675.8	0.1	2.5	- -
102	STH 165	2.92	1S	50	Yes	1,630	673.7	673.7	0.0	- -	- -	2,430	675.3	675.3	0.0	- -	- -	2,770	676.1	676.1	0.0	- -	- -
105	Wilmot Road/CTH C	5.64	1S	50	Yes	1,510	676.3	676.3	0.0	- -	- -	2,370	677.6	677.5	0.1	- -	- -	2,750	678.1	678.1	0.0	- -	- -
110	120th Avenue/ East Frontage Road	6.34	1S	10	Yes	1,110	677.3	677.2	0.1	- -	- -	1,640	678.7	678.6	0.1	- -	- -	1,870	679.2	679.2	0.0	- -	- -
115	IH 94/USH 41	6.36	1S	100	No[f]	1,110	677.3	677.3	0.0	- -[f]	- -	1,640	678.7	678.7	0.0	2.0[f]	- -	1,870	679.3	679.2	0.1	2.7[f]	- -
120	120th Avenue/ West Frontage Road	6.39	1S	10	No[f]	1,110	677.3	677.3	0.0	- -[f]	- -	1,640	678.7	678.7	0.0	3.0±[f]	- -	1,870	679.3	679.3	0.0	3.7±[f]	- -
125	160th Avenue/ CTH MB	9.82	1S	50	Yes	1,040	681.6	681.5	0.1	- -	- -	1,590	682.4	682.3	0.1	- -	- -	1,840	682.7	682.7	0.0	- -	- -
130	Private drive	11.79	1I	- -	- -	1,030	- -	- -	- -	- -	- -	1,600	- -	- -	- -	- -	- -	1,860	- -	- -	- -	- -	- -
140	75th Street/ STH 50	13.04	1S	50	Yes	1,010	689.5	689.4	0.1	- -	- -	1,590	690.5	690.4	0.1	- -	- -	1,850	690.9	690.7	0.2	- -	- -
142	Private drive	13.63	1I	- -	- -	1,020	- -	- -	- -	- -	- -	1,610	- -	- -	- -	- -	- -	1,880	- -	- -	- -	- -	- -
145	60th Street/CTH K	14.13	1S	50	Yes	1,020	692.3	692.2	0.1	- -	- -	1,610	693.0	692.9	0.1	- -	- -	1,880	693.3	693.2	0.1	- -	- -
150	Private drive	15.73	1S	- -	- -	415	694.1	694.1	0.0	- -	- -	690	694.9	694.9	0.0	0.5	- -	820	695.3	695.2	0.1	0.9	- -
155	38th Street/CTH N	16.08	1S	50	Yes	415	694.3	694.3	0.0	- -	- -	690	695.2	695.2	0.0	- -	- -	820	695.5	695.5	0.0	- -	- -
157	Private drive	16.41	1I	- -	- -	365	- -	- -	- -	- -	- -	650	- -	- -	- -	- -	- -	790	- -	- -	- -	- -	- -
160	Private drive	17.21	1I	- -	- -	365	- -	- -	- -	- -	- -	650	- -	- -	- -	- -	- -	790	- -	- -	- -	- -	- -
165	Private drive	17.83	1S	- -	- -	580	697.6	697.6	0.0	3.6	3.6	1,130	698.6	698.6	0.0	4.6	4.6	1,450	699.0	699.0	0.0	5.0	5.0
170	Private drive	18.22	1I	- -	- -	550	- -	- -	- -	- -	- -	1,090	- -	- -	- -	- -	- -	1,400	- -	- -	- -	- -	- -
175	Burlington Road/ STH 142	18.29	1S	50	Yes	550	698.1	698.0	0.1	- -	- -	1,090	699.2	699.1	0.1	- -	- -	1,400	699.6	699.5	0.1	- -	- -
177	Private drive	18.56	1I	- -	- -	550	- -	- -	- -	- -	- -	1,090	- -	- -	- -	- -	- -	1,400	- -	- -	- -	- -	- -
180	Private drive	19.23	1I	- -	- -	540	- -	- -	- -	- -	- -	1,080	- -	- -	- -	- -	- -	1,390	- -	- -	- -	- -	- -
182	Private drive	19.69	1I	- -	- -	510	- -	- -	- -	- -	- -	1,010	- -	- -	- -	- -	- -	1,300	- -	- -	- -	- -	- -
183	Private drive	20.17	1S	- -	- -	400[g]	703.6	701.1	2.5	N/A	0.1	770[h]	704.2	702.0	2.2	N/A	0.7	980[i]	704.3	702.4	1.9	N/A	0.8
185	County Line Road/ CTH KR	21.20	1S	50	Yes	100	705.4	705.4	0.0	- -	- -	220	706.3	706.2	0.1	- -	- -	290	706.7	706.5	0.2	- -	- -
190	Private drive	21.35	1S	- -	- -	100	705.9	705.6	0.3	0.5	0.0	220	706.7	706.7	0.0	1.3	0.2	290	707.2	707.1	0.1	1.7	0.6

NOTE: N/A indicates not applicable.

[a] *Measured in miles above the Wisconsin-Illinois state line.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Assuming a level water surface elevation extending from the Des Plaines River to the south, during the 50- and 100-year floods, the southbound lanes of IH 94/USH 41 and both lanes of 120th Avenue/West Frontage Road would be flooded at low points that are about 1.2 miles south of the IH 94/USH 41 bridge over the Des Plaines River. There could also be flooding of CTH C near the IH 94/USH 41 overpass, which is about 0.8 mile south of the IH 94/USH 41 bridge over the Des Plaines River. (Because there is a ridge on the right (south) bank upstream of 120th Avenue/West Frontage Road, the overtopping depths are based on the computed water surface elevations at River Mile 6.493.) CTH C is at an elevation above the 10-year flood stage. Thus, during a 10-year event, it would block overflow to the south and 120th Avenue/West Frontage Road and IH 94/USH 41 would not be overtopped. However, during the 50- and 100-year floods, CTH C would not block overflow to the south and 120th Avenue and IH 94 could be flooded. There is very little backwater through the IH 94/USH 41 bridge and the upstream and downstream 120th Avenue/West Frontage Road bridges. Thus, increasing the hydraulic capacities of those structures would have little impact on flood stages and such increases would not be effective for avoiding road overtopping. Raising the road grades of CTH C, 120th Avenue/West Frontage Road, and IH 94/USH 41, along with possible culvert capacity increases under the Frontage Roads and IH 94/USH 41, could be considered to allow those roads to meet their applicable overtopping standards when road reconstruction is accomplished in the future. Any culvert capacity increases should be accomplished in such a manner that the existing floodwater storage capacity in the floodplain is maintained.*

[g] *Total 10-year flow at River Mile 20.17 is 400 cfs. Of that total, 100 cfs would bypass structure 183.*

[h] *Total 50-year flow at River Mile 20.17 is 770 cfs. Of that total, 425 cfs would bypass structure 183.*

[i] *Total 100-year flow at River Mile 20.17 is 980 cfs. Of that total, 630 cfs would bypass structure 183.*

Source: SEWRPC.

Table F-2

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1210	Private drive	0.23	1S	- -	- -	145	675.7	672.8	2.9	0.4	- -	265	676.0	674.8[f]	1.2	1.0	0.5	330	676.1	675.7[f]	0.4	1.2	0.7
1215	Private drive	0.30	1S	- -	- -	145[g]	676.5	675.9	0.6	- -	- -	265[h]	676.7	676.2	0.5	0.2	- -	330[i]	676.8	676.4	0.4	0.2	- -
1220	Union Pacific Railroad	0.69	1S	100	Yes	215[j]	677.9	677.2	0.7	- -	- -	430[k]	679.0	677.6	1.4	- -	- -	530[l]	680.1	677.8	2.3	- -	- -
1223	Private drive	1.03	1S	- -	- -	60	686.3	684.2	2.1	- -	- -	110	687.5	684.4	3.1	N/A	0.4	135	687.7	684.4	3.3	N/A	0.6
1225	Springbrook Road/ CTH ML	1.06	1S	50	No	60	691.2	686.8	4.4	- -	- -	110	693.2	687.7	5.5	0.2	0.2	135	693.2	687.8	5.4	0.3	0.3

NOTE: N/A indicates not applicable.

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of the Des Plaines River at the confluence with Unnamed Tributary No. 1 to the Des Plaines River.*

[g] *Total 10-year flow at River Mile 0.30 is 145 cfs. Of that total, about 75 cfs would bypass structure 1215.*

[h] *Total 50-year flow at River Mile 0.30 is 265 cfs. Of that total, about 205 cfs would bypass structure 1215.*

[i] *Total 100-year flow at River Mile 0.30 is 330 cfs. Of that total, about 275 cfs would bypass structure 1215.*

[j] *Total 10-year flow at River Mile 0.69 is 215 cfs. Of that total, about 5 cfs would be due to overflow from Unnamed Tributary No. 1A to the Des Plaines River.*

[k] *Total 50-year flow at River Mile 0.69 is 430 cfs. Of that total, about 30 cfs would be due to overflow from Unnamed Tributary No. 1A to the Des Plaines River.*

[l] *Total 100-year flow at River Mile 0.69 is 530 cfs. Of that total, about 35 cfs would be due to overflow from Unnamed Tributary No. 1A to the Des Plaines River.*

Source: SEWRPC.

Table F-3

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1A TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1240	Union Pacific Railroad	0.06	1S	100	Yes	45[f]	677.9[g]	677.0[h]	0.9	- -	- -	85[i]	679.0[g]	677.4[h]	1.6	- -	- -	100[j]	680.1	677.6[h]	2.5	- -	- -
1245	Green Bay Road/ STH 31	0.69	1S	50	No	45	693.4[k]	687.8	5.6	- -	- -	85	695.9[k]	688.0	7.9	0.2	- -	100	696.0[k]	688.1	7.9	0.2	- -
1250	Channel enclosure outlet	0.70	2S	- -	- -	10	- -	693.6[l]	- -	- -	- -	18[m]	- -	695.9[l]	- -	- -	- -	21[n]	- -	696.0[l]	- -	- -	- -
1250	Channel enclosure inlet/dam	0.81	2S	- -	- -	10	695.9[o]	- -	2.3	- -	- -	18[m]	697.7[o]	- -	1.8	- -	- -	21[n]	697.8[o]	- -	1.8	- -	- -
1255	Dam	0.98	2S	- -	- -	30[p]	711.3[q]	701.8	9.5	- -	- -	40[r]	711.4[q]	701.8	9.6	- -	- -	45[s]	711.4[q]	701.8	9.6	- -	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 1 to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 10-year flow at River Mile 0.06 is 45 cfs. Of that total, about 3 cfs would bypass structure 1240.*

[g] *The flood stage indicated represents the water surface elevation of Unnamed Tributary No. 1 to the Des Plaines River.*

[h] *The flood stage indicated represents the water surface elevation approximately 25 feet downstream from structure 1240.*

[i] *Total 50-year flow at River Mile 0.06 is 85 cfs. Of that total, about 30 cfs would bypass structure 1240.*

[j] *Total 100-year flow at River Mile 0.06 is 100 cfs. Of that total, about 32 cfs would bypass structure 1240.*

[k] *The flood stage indicated represents the water surface elevation immediately upstream from structure 1245.*

[l] *The flood stage indicated represents the water surface elevation immediately downstream from the channel enclosure outlet.*

[m] *Total 50-year flow is 18 cfs between River Mile 0.70 and River Mile 0.97. Of that total, about 4 cfs would flow into Timber Ridge Drive, bypassing structure 1250.*

[n] *Total 100-year flow is 21 cfs between River Mile 0.70 and River Mile 0.97. Of that total, about 7 cfs would flow into Timber Ridge Drive, bypassing structure 1250.*

[o] *The flood stage indicated represents the water surface elevation of the northern pond in Timber Ridge Subdivision.*

[p] *Total 10-year flow at River Mile 0.98 is 30 cfs. Of that total, about 15 cfs would bypass structure 1255.*

[q] *The flood stage indicated represents the water surface elevation of the southern pond in Timber Ridge Subdivision.*

[r] *Total 50-year flow at River Mile 0.98 is 40 cfs. Of that total, about 20 cfs would bypass structure 1255.*

[s] *Total 100-year flow at River Mile 0.98 is 45 cfs. Of that total, about 25 cfs would bypass structure 1255.*

Source: SEWRPC.

Table F-4

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1B TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1282	Private drive	0.22	1I	- -	- -	160	- -	- -	- -	- -	- -	305	- -	- -	- -	- -	- -	380	- -	- -	- -	- -	- -
1285	Green Bay Road/STH 31	0.63	1S	50	Yes	165	691.0	690.6	0.4	- -	- -	320	692.0	691.4	0.6	- -	- -	395	692.4	691.7	0.7	- -	- -
1286	Private drive	0.86	1I	- -	- -	165	- -	- -	- -	- -	- -	320	- -	- -	- -	- -	- -	395	- -	- -	- -	- -	- -
1287	Private drive	0.91	1I	- -	- -	165	- -	- -	- -	- -	- -	320	- -	- -	- -	- -	- -	395	- -	- -	- -	- -	- -
1288	Private drive	1.05	1I	- -	- -	165	- -	- -	- -	- -	- -	320	- -	- -	- -	- -	- -	395	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 1 to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-5

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1C TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1289A	Private drive	0.23	1I	- -	- -	90	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	250	- -	- -	- -	- -	- -
1289B	Private drive	0.28	1I	- -	- -	90	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	250	- -	- -	- -	- -	- -
1289C	Private drive	0.34	1I	- -	- -	90	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	250	- -	- -	- -	- -	- -
1290	116th Street/Tobin Road	1.09	1S	50	No	40	721.6	719.0	2.6	0.2	0.2	75	721.8	719.4	2.4	0.3	0.3	90	721.8	719.6	2.2	0.3	0.3
1295	Springbrook Road/ CTH ML	1.18	1S	50	No	40	726.0	723.3	2.7	- -	- -	75	726.6	723.7	2.9	0.1	- -	90	726.7	723.9	2.8	0.1	- -

[a] Measured in miles above confluence with Unnamed Tributary No. 1B to the Des Plaines River.

[b] Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.

[c] A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.

[d] The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.

[e] Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.

Source: SEWRPC.

Table F-6

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1E TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1310	Private drive	1.29	1I	- -	- -	140	- -	- -	- -	- -	- -	250	- -	- -	- -	- -	- -	300	- -	- -	- -	- -	- -
1315	Private drive	1.54	1I	- -	- -	140	- -	- -	- -	- -	- -	250	- -	- -	- -	- -	- -	300	- -	- -	- -	- -	- -
1316	Dam	1.78	2S	- -	- -	140	698.3	692.7	5.6	- -	- -	250	698.5	693.0	5.5	- -	- -	300	698.6	693.2	5.4	- -	- -
1317	Private drive	1.95	1S	- -	- -	55	700.3	698.9	1.4	- -	- -	100	701.0	699.4	1.6	- -	- -	120	701.4	699.6	1.8	- -	- -
1320	120th Avenue/East Frontage Road	1.97	1S	10	Yes	55	- -	700.4	- -	- -	- -	100	- -	701.2	- -	- -	- -	120	- -	701.5	- -	- -	- -
1320	IH 94/USH 41	2.00	1S	100	Yes	55	704.4	700.4	4.0	- -	- -	100	705.6	701.2	4.4	- -	- -	120	706.6	701.5	5.1	- -	- -
1320	120th Avenue/West Frontage Road	2.03	1S	10	Yes	55	704.4	- -	4.0	- -	- -	100	705.6	- -	4.4	- -	- -	120	706.6	- -	5.1	- -	- -
1323	Private drive	2.09	1S	- -	- -	55	707.2	705.3	1.9	0.2	0.2	100	707.4	706.1	1.3	0.3	0.3	120	707.4	707.0	0.4	0.4	0.4
1325	Unnamed pond outlet	2.58	2S	- -	- -	15	732.5[f]	725.4	7.1	- -	- -	25	733.6[f]	725.7	7.9	- -	- -	30	733.7[f]	725.9	7.8	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of unnamed pond located in the southwest one-quarter of U.S. Public Land Survey Section 25, Township 1 North, Range 21 East, Town of Bristol.*

Source: SEWRPC.

Table F-7

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1F TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1330	120th Avenue/ East Frontage Road	0.30	1S	10	Yes	65	- -	706.4	- -	- -	- -	110	- -	706.7	- -	- -	- -	135	- -	706.8	- -	- -	- -
1330	IH 94/USH 41	0.34	1S	100	Yes	65	709.0	706.4	2.6	- -	- -	110	709.7	706.7	3.0	- -	- -	135	710.1	706.8	3.3	- -	- -
1330	120th Avenue/ West Frontage Road	0.38	1S	10	Yes	65	709.0	- -	2.6	- -	- -	110	709.7	- -	3.0	- -	- -	135	710.1	- -	3.3	- -	- -
1335	116th Street	0.46	1S	10	Yes	65	717.7	713.0	4.7	- -	- -	110	718.5	713.5	5.0	0.1	0.1	135	718.6	713.6	5.0	0.1	0.1

[a] *Measured in miles above confluence with Unnamed Tributary No. 1E to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-8

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 2 TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1345	Private drive	0.42	1I	- -	- -	45	- -	- -	- -	- -	- -	90	- -	- -	- -	- -	- -	115	- -	- -	- -	- -	- -
1350	114th Avenue	1.20	1S	10	Yes	45	682.3	680.2	2.1	- -	- -	90	683.0	680.6	2.4	- -	- -	115	683.3	680.7	2.6	- -	- -
1352	120th Avenue	1.34	1S	10	Yes	45	689.7	687.6	2.1	- -	- -	90	690.3	688.1	2.2	- -	- -	115	690.6	688.3	2.3	- -	- -
1355	Dam	1.54	2S	- -	- -	45	704.0	700.8	3.2	- -	- -	90	704.3	701.1	3.2	- -	- -	115	704.5	701.2	3.3	- -	- -
1360	IH 94 off ramp	1.60	1S	100	Yes	15	- -	704.5	- -	- -	- -	25	- -	704.8	- -	- -	- -	35	- -	704.9	- -	- -	- -
1360	IH 94/USH 41	1.63	1S	100	Yes	15	708.8	704.5	4.3	- -	- -	25	709.3	704.8	4.5	- -	- -	35	709.5	704.9	4.6	- -	- -
1360	120th Avenue/ West Frontage Road	1.68	1S	10	Yes	15	708.8	- -	4.3	- -	- -	25	709.3	- -	4.5	- -	- -	35	709.5	- -	4.6	- -	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 1E to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-9

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 5 TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Nmber	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1380	STH 165	0.89	1S	50	Yes	90	673.7[f]	673.7[f]	0.0	- -	- -	145	675.3[f]	675.3[f]	0.0	- -	- -	170	676.1[f]	676.1[f]	0.0	- -	- -
1385	Canadian Pacific Railway	1.31	1S	100	Yes	90	675.0	673.7[f]	1.4	- -	- -	145	675.9	675.3[f]	0.6	- -	- -	170	676.4	676.1[f]	0.3	- -	- -
1390	88th Avenue/CTH H	1.41	1S	50	Yes	85	675.7	675.4	0.3	- -	- -	140	676.8	676.1	0.7	- -	- -	170	677.6	676.5	1.1	- -	- -
1395	Private crossing	1.76	1I	- -	- -	85	- -	- -	- -	- -	- -	140	- -	- -	- -	- -	- -	170	- -	- -	- -	- -	- -
1400	80th Avenue	1.91	1S	10	Yes	115	675.9	675.8	0.1	- -	- -	220	677.2	677.1	0.1	- -	- -	270	678.1	677.8	0.3	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of the Des Plaines River at the confluence with Unnamed Tributary No. 5 to the Des Plaines River.*

Source: SEWRPC.

Table F-10

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 5B TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1415	Private crossing	0.01	1I	- -	- -	120	- -	- -	- -	- -	- -	210	- -	- -	- -	- -	- -	265	- -	- -	- -	- -	- -
1420	100th Street	0.19	1S	10	Yes	120	677.6	675.8	1.8	- -	- -	210	679.0	677.1[f]	1.9	- -	- -	265	679.8	677.8[f]	2.0	- -	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 5 to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of Unnamed Tributary No. 5 to the Des Plaines River at the confluence with Unnamed Tributary No. 5B to the Des Plaines River.*

Source: SEWRPC.

Table F-11

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 7 TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1440	120th Avenue/ East Frontage Road	0.83	1S	10	Yes	175	- -	678.7	- -	- -	- -	295	- -	679.2	- -	- -	- -	350	- -	679.4	- -	- -	- -
1440	IH 94/USH 41	0.86	1S	100	Yes	175	679.6	678.7	0.9	- -	- -	295	680.6	679.2	1.2	- -	- -	350	681.0	679.4	1.6	- -	- -
1440	120th Avenue/ West Frontage Road	0.90	1S	10	Yes	175	679.6	- -	0.9	- -	- -	295	680.6	- -	1.2	- -	- -	350	681.0	- -	1.6	- -	- -
1445	Private drive	1.44	1I	- -	- -	175	- -	- -	- -	- -	- -	295	- -	- -	- -	- -	- -	350	- -	- -	- -	- -	- -
1450	Private drive	1.70	1I	- -	- -	175	- -	- -	- -	- -	- -	295	- -	- -	- -	- -	- -	350	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-12

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 38 TO DES PLAINES RIVER: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1620	STH 11	0.68	1S	50	No	35	723.8	719.5	4.3	0.1	0.1	75	724.0	720.2	3.8	0.4	0.4	100	724.1	720.5	3.6	0.5	0.5

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-13

HYDROLOGIC-HYDRAULIC SUMMARY—PLEASANT PRAIRIE TRIBUTARY: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
200	Private drive	0.07	1I	- -	- -	195	- -	- -	- -	- -	- -	345	- -	- -	- -	- -	- -	415	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-14

HYDROLOGIC-HYDRAULIC SUMMARY—UNION GROVE INDUSTRIAL TRIBUTARY: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1500	Private drive	0.40	1I	- -	- -	255	- -	- -	- -	- -	- -	520	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -
1505	Private drive	0.93	1I	- -	--	255	- -	- -	- -	- -	- -	520	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -
1510	USH 45	1.09	1S	50	Yes	255	730.4	729.0	1.4	- -	- -	520	732.6	730.5	2.1	- -	- -	670	732.9	731.1	1.8	- -	- -
1515	Private drive	1.10	1I	- -	- -	255	- -	- -	- -	- -	- -	520	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -
1520	Schroeder Road/ CTH KR	1.25	1S	50	No	255	738.2	737.1	1.1	- -	- -	520	742.4	738.3	4.1	0.4	0.2	670	742.9	738.8	4.1	0.9	0.7
1525	Private drive	1.61	1I	- -	- -	170	- -	- -	- -	- -	- -	335	- -	- -	- -	- -	- -	430	- -	- -	- -	- -	- -
1530	County fairgrounds entrance road	1.81	1S	10	No	170	762.1	760.6	1.5	1.8	1.6	335	762.6	761.2	1.4	2.3	2.1	430	762.8	761.4	1.4	2.5	2.3
1535/ 1545	STH 11/storm sewer outfall	2.18	1S	- -	- -	170	- -	769.8[f]	- -	- -	- -	335	- -	770.5[f]	- -	- -	- -	430	- -	770.7[f]	- -	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately downstream from structure 1535.*

Source: SEWRPC.

Table F-15

HYDROLOGIC-HYDRAULIC SUMMARY—BRIGHTON CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
500	Private drive	0.36	1S	- -	- -	660	698.2	696.7	1.5	0.6	- -	1,040	698.4	696.9	1.5	0.8	- -	1,220	698.5	697.1	1.4	0.8	- -
503	Private drive	0.94	1S	- -	- -	660	704.9	704.5	0.4	- -	- -	1,040[f]	705.8	705.4	0.4	- -	- -	1,220[g]	705.9	705.5	0.4	- -	- -
505	60th Street/CTH K	1.14	1S	50	No	660	706.3	706.2	0.1	- -	- -	1,040	707.6	707.1	0.5	0.6	- -	1,220	707.8	707.4	0.4	0.8	- -
507	Private drive	1.38	1I	- -	- -	720	- -	- -	- -	- -	- -	1,150	- -	- -	- -	- -	- -	1,340	- -	- -	- -	- -	- -
510	Bristol Road/USH 45	1.86	1S	50	Yes	720	709.3	708.9	0.4	- -	- -	1,150	709.7	709.0	0.7	- -	- -	1,340	710.1	709.0	1.1	- -	- -
512	Private drive	1.92	1I	- -	- -	720	- -	- -	- -	- -	- -	1,150	- -	- -	- -	- -	- -	1,340	- -	- -	- -	- -	- -
515	Private drive	2.94	1S	- -	- -	720	720.0	719.9	0.1	2.0	- -	1,150	720.5	720.4	0.1	2.5	- -	1,340	720.7	720.6	0.1	2.7	- -
520	60th Street/CTH K	4.65	1S	50	Yes	425	739.4	739.0	0.4	- -	- -	720	740.6	739.8	0.8	- -	- -	870	741.1	740.1	1.0	- -	- -
525	45th Street/CTH NN	6.21	1S	50	No	435	747.7	747.2	0.5	- -	- -	840	749.6	748.2	1.4	0.1	- -	1,050	750.0	748.5	1.5	0.4	- -
527	Private drive	6.90	1I	- -	- -	435	- -	- -	- -	- -	- -	840	- -	- -	- -	- -	- -	1,050	- -	- -	- -	- -	- -
530	31st Street/CTH JB	7.85	1S	50	Yes	380	768.5	767.9	0.6	- -	- -	730	770.4	769.0	1.4	- -	- -	910	771.7	769.3	2.4	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 50-year flow at River Mile 0.94 is 1,040 cfs. Of that total, 165 cfs would bypass structure 503.*

[g] *Total 100-year flow at River Mile 0.94 is 1,220 cfs. Of that total, 285 cfs would bypass structure 503.*

Source: SEWRPC.

Table F-16

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 6 TO BRIGHTON CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
558	Private drive	0.60	1I	- -	- -	100	- -	- -	- -	- -	- -	165[f]	- -	- -	- -	- -	- -	195[g]	- -	- -	- -	- -	- -
560	60th Street/CTH K	0.84	1S	50	No	100	747.2	744.1	3.1	- -	- -	165[f]	751.8	744.8	7.0	0.1	- -	195[g]	751.9	744.9	7.0	0.2	- -
562	Private drive	1.08	1I	- -	- -	100	- -	- -	- -	- -	- -	165	- -	- -	- -	- -	- -	195	- -	- -	- -	- -	- -
564	Private drive	1.43	1S	- -	- -	100	762.1	761.4	0.7	- -	- -	165	762.9	761.6	1.3	0.7	- -	195	763.5	761.8	1.7	1.3	- -
566B	Channel enclosure outlet	1.68	1S	- -	- -	80[h]	- -	763.1	- -	- -	- -	150[i]	- -	763.5	- -	- -	- -	185[j]	- -	763.8	- -	- -	- -
566A	Channel enclosure inlet	1.89	1S	- -	- -	80[h]	772.0	- -	8.9	- -	- -	150[i]	772.2	- -	8.7	- -	- -	185[j]	772.5	- -	8.7	- -	- -
568	61st Street	1.95	1S	10	No	40	772.0	772.0	0.0	0.8	0.7	70	772.3	772.3	0.0	1.1	1.0	90	772.6	772.5	0.1	1.4	1.3
570	237th Avenue	2.02	1S	10	Yes	40	773.3	772.0	1.3	- -	- -	70	774.1	772.3	1.8	0.7	0.4	90	774.3	772.6	1.7	0.8	0.6
572	60th Street/CTH K	2.16	1S	50	Yes	35	779.3	777.4	1.9	- -	- -	65	780.3	777.9	2.4	- -	- -	80	780.7	778.1	2.6	- -	- -
574	Francis Lake outlet	2.45	2S	- -	- -	5	788.9[k]	787.6	1.3	- -	- -	8	789.1[k]	787.6	1.5	- -	- -	10	789.3[k]	787.6	1.7	- -	- -

[a] *Measured in miles above confluence with Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 50-year flow between River Mile 0.60 and River Mile 1.65 is 165 cfs. Of that total, about 10 cfs would overflow to Brighton Creek and bypass structure 558 and structure 560.*

[g] *Total 100-year flow between River Mile 0.60 and River Mile 1.58 is 195 cfs. Of that total, about 20 cfs would overflow to Brighton Creek and bypass structure 558 and structure 560.*

[h] *Total 10-year flow between River Mile 1.58 and River Mile 2.15 is 80 cfs. Of that total, about 40 cfs would bypass structure 566A/566B.*

[i] *Total 50-year flow between River Mile 1.58 and River Mile 2.15 is 150 cfs. Of that total, about 80 cfs would bypass structure 566A/566B.*

[j] *Total 100-year flow between River Mile 1.58 and River Mile 2.15 is 185 cfs. Of that total, about 110 cfs would bypass structure 566A/566B.*

[k] *The flood stage indicated represents the water surface elevation on Francis Lake.*

Source: SEWRPC.

Table F-17

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 9 TO BRIGHTON CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
590	240th Avenue/ CTH X	0.49	1S	50	Yes	125	782.2	781.1	1.1	- -	- -	230	783.6	782.7	0.9	- -	- -	283	785.4	783.4	2.0	- -	- -
592	Private drive	0.68	1S	- -	- -	125	784.5	784.2	0.3	- -	- -	230	786.5	785.7	0.8	- -	- -	283	787.9	786.7	1.2	- -	- -
594	Private drive	0.82	1S	- -	- -	125	785.6	785.3	0.3	- -	- -	230	787.5	787.3	0.2	1.2	0.7	283	788.6	788.6	0.0	2.3	1.8
596	Private drive	1.30	1I	- -	- -	125	- -	- -	- -	- -	- -	230	- -	- -	- -	- -	- -	283	- -	- -	- -	- -	- -
597	248th Avenue/ STH 75	1.32	1S	50	Yes	12	786.7[f]	786.6	0.1	- -	- -	16	787.9[f]	787.8	0.1	- -	- -	18	788.8[f]	788.7	0.1	- -	- -
598	Vern Wolf Lake Dam	1.35	2S	- -	- -	12	792.3[g]	786.7	5.6	- -	- -	16	792.6[g]	787.9	4.7	- -	- -	18	792.7[g]	788.8	3.9	- -	- -

[a] *Measured in miles above confluence with Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation approximately seven feet upstream from structure 597.*

[g] *The flood stage indicated represents the water surface elevation on Vern Wolf Lake.*

Source: SEWRPC.

Table F-18

HYDROLOGIC-HYDRAULIC SUMMARY—SALEM BRANCH OF BRIGHTON CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
805	75th Street/STH 50	0.51	1S	50	Yes	275	727.1	726.5	0.6	- -	- -	455	728.0	727.1	0.9	- -	- -	540	728.5	727.3	1.2	- -	- -
810	216th Avenue	0.63	1S	10	Yes	125	729.8	728.2	1.6	- -	- -	190	731.2	729.2	2.0	- -	- -	220	731.9	729.6	2.3	- -	- -
815	Private drive	0.97	1I	- -	- -	125	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	220	- -	- -	- -	- -	- -
820	Private drive	1.40	1I	- -	- -	125	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	220	- -	- -	- -	- -	- -
1000	Private drive	2.17	1S	- -	- -	60	753.3	750.9	2.4	- -	- -	95	754.2	751.4	2.8	- -	- -	110	754.7	751.6	3.1	- -	- -
1000A	Weir	2.18	2S	- -	- -	60	755.6	752.9	2.7	- -	- -	95	756.0	753.8	2.2	- -	- -	110	756.2	754.2	2.0	- -	- -
L-7	Hooker Lake spillway	2.37	2S	- -	- -	30	755.7[f]	755.7	0.0	- -	- -	45	756.1[f]	756.1	0.0	- -	- -	50	756.2[f]	756.2	0.0	- -	- -

[a] *Measured in miles above confluence with Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Hooker Lake.*

Source: SEWRPC.

Table F-19

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO SALEM BRANCH OF BRIGHTON CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneou s Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstrea m Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerlin e of Bridge (feet)
840	Private drive	0.42	1I	- -	- -	150	- -	- -	- -	- -	- -	270	- -	- -	- -	- -	- -	330	- -	- -	- -	- -	- -
845	81st Street	0.87	1S	10	No	150	752.3	751.6	0.7	0.1	- -	270	753.1	752.0	1.1	0.6	- -	330	753.2	752.3	0.9	0.9	- -
850	82nd Street	0.99	1S	10	Yes	150	753.2	752.6	0.6	- -	- -	270	754.5	753.2	1.3	- -	- -	330	755.2	753.4	1.8	- -	- -
855	- -[f]	1.08	- -	- -	- -	150	759.2	755.3	3.9	- -	- -	270	760.6	756.8	3.8	- -	- -	330	761.2	757.5	3.7	- -	- -
860	Private drive	1.20	1I	- -	- -	45	- -	- -	- -	- -	- -	75	- -	- -	- -	- -	- -	95	- -	- -	- -	- -	- -
865	85th Street/ TH AH	1.29	1S	50	No	45	759.5[g]	759.2	0.3	0.3	0.1	75	760.6[g]	760.6	0.0	1.4	1.2	95	761.2[g]	761.2	0.0	2.0	1.8

[a] *Measured in miles above confluence with Salem Branch of Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Instream structure was removed, but embankment remains.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 865.*

Source: SEWRPC.

Table F-20

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 2 TO SALEM BRANCH OF BRIGHTON CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
825	Private drive	0.26	1S	- -	- -	55	768.4	766.4	2.0	0.7	0.3	85	768.6	766.6	2.0	0.8	0.4	100	768.6	766.8	1.8	0.9	0.5
830	75th Street/ STH 50 culvert outlet	0.58	1S	50	No	55	- -	784.3	- -	- -	- -	85	- -	785.0	- -	0.2	- -	100	- -	785.2	- -	0.3	- -
830	75th Street/ STH 50 culvert inlet	0.61	1S	50	No	55	787.6	- -	3.3	- -	- -	85	789.4	- -	4.4	0.2	- -	100	789.4	- -	4.2	0.3	- -
835	Private drive	0.72	1S	- -	- -	55	791.3	789.3	2.0	0.5	0.2	85	791.4	789.8	1.6	0.7	0.4	100	791.5	790.0	1.5	0.8	0.5
L-10	Paddock Lake outlet	0.78	- -	- -	- -	15	794.6[f]	792.5	2.1	- -	- -	25	794.7[f]	792.6	2.1	- -	- -	25	794.7[f]	792.6	2.1	- -	- -

[a] *Measured in miles above confluence with Salem Branch of Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Paddock Lake.*

Source: SEWRPC.

Table F-21

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 3 TO SALEM BRANCH OF BRIGHTON CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
870	80th Place	0.18	1S	10	No	30	770.9	768.1	2.8	0.3	0.1	45	771.0	768.2	2.8	0.4	0.2	55	771.1	768.3	2.8	0.4	0.2
875	Private drive	0.30	1I	- -	- -	30	- -	- -	- -	- -	- -	45	- -	- -	- -	- -	- -	55	- -	- -	- -	- -	- -
880	83rd Street	0.55	1S	10	No	30	796.0	793.2	2.8	0.2	- -	45	796.1	793.4	2.7	0.3	- -	55	796.2	793.5	2.7	0.4	- -

[a] *Measured in miles above confluence with Salem Branch of Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-22

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO HOOKER LAKE: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
885	83rd Street culvert outlet	0.00	1S	10	No	100	- -	755.7[f]	- -	- -	- -	190	- -	756.1[f]	- -	- -	- -	240	- -	756.2[f]	- -	- -	- -
885	83rd Street culvert inlet	0.09	1S	10	No	100	765.6	- -	9.9	0.5	0.5	190	766.1	- -	10.0	1.0	1.0	240	766.2	- -	10.0	1.1	1.1
887	Private drive	0.26	1I	- -	- -	100	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -
888	Private drive	0.40	1I	- -	- -	100	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -
890	Private drive	0.64	1I	- -	- -	100	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -
892	89th Street/CTH AH	0.84	1S	50	No	45	794.4	791.2	3.2	0.3	- -	85	794.6	791.9	2.7	0.5	- -	110	794.7	792.3	2.4	0.6	- -
894	Private drive	1.04	1I	- -	- -	45	- -	- -	- -	- -	- -	85	- -	- -	- -	- -	- -	110	- -	- -	- -	- -	- -
896	Private drive	1.14	1I	- -	- -	45	- -	- -	- -	- -	- -	85	- -	- -	- -	- -	- -	110	- -	- -	- -	- -	- -
898	Private drive	1.50	1I	- -	- -	45	- -	- -	- -	- -	- -	85	- -	- -	- -	- -	- -	110	- -	- -	- -	- -	- -

[a] *Measured in miles above mouth at Hooker Lake.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Hooker Lake.*

Source: SEWRPC.

Table F-23

HYDROLOGIC-HYDRAULIC SUMMARY—CENTER CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
600	Private drive	0.40	1S	- -	- -	420	679.2	679.0	0.2	1.0	- -	720	679.7	679.4	0.3	1.4	- -	870	679.8	679.7[f]	0.1	1.6	0.1
602	Private drive	0.62	1I	- -	- -	420	- -	- -	- -	- -	- -	720	- -	- -	- -	- -	- -	870	- -	- -	- -	- -	- -
610	144th Avenue	1.60	1S	10	No	335	692.2	691.6	0.6	0.9	- -	630	692.6	692.2	0.4	1.4	- -	790	692.8	692.4	0.4	1.6	- -
612	Dam	1.90	2S	- -	- -	335	697.1	696.8	0.3	- -	- -	630	697.9	697.6	0.3	- -	- -	790	698.2	697.9	0.3	- -	- -
615	75th Street/STH 50	2.31	1S	50	Yes	335	703.8	703.4	0.4	- -	- -	630	705.5	704.6	0.9	- -	- -	790	706.4	705.1	1.3	- -	- -
620	Private drive	2.36	1S	- -	- -	325	704.1	703.9	0.2	1.1	- -	650	705.8	705.7	0.1	2.9	0.7	840	706.8	706.7	0.1	3.9	1.7
625	Private drive	2.83	1S	- -	- -	325	711.9	711.4	0.5	- -	- -	650	713.1	712.3	0.8	0.8	- -	840	713.6	712.7	0.9	1.4	- -
630	Private drive	3.30	1S	- -	- -	325	721.6	720.6	1.0	- -	- -	650	722.7	720.9	1.8	1.1	- -	840	722.8	721.3	1.5	1.2	- -
635	60th Street/CTH K	3.72	1S	50	Yes	260	- -	726.1	- -	- -	- -	570	- -	727.1	- -	- -	- -	760	- -	727.5	- -	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on the Des Plaines River.*

Source: SEWRPC.

Table F-24

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO CENTER CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
680	75th Street/STH 50	1.04	1S	50	Yes	80	709.9	707.2	2.7	- -	- -	165	711.4	708.0	3.4	- -	- -	210	712.3	708.3	4.0	- -	- -
682	Private drive	1.82	1I	- -	- -	10	- -	- -	- -	- -	- -	15	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -
684	Private drive	1.90	1I	- -	- -	10	- -	- -	- -	- -	- -	15	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -
686	Private drive	2.03	1I	- -	- -	10	- -	- -	- -	- -	- -	15	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Center Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-25

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 4 TO CENTER CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
688	Private drive	0.00	1I	- -	- -	60	- -	- -	- -	- -	- -	115	- -	- -	- -	- -	- -	145	- -	- -	- -	- -	- -
690	Private drive	0.12	1S	- -	- -	60	709.0	705.5[f]	3.5	2.3	- -	115	709.3	705.9[f]	3.4	2.6	- -	145	709.5	706.8[f]	2.7	2.7	- -
692	Private drive	0.24	1S	- -	- -	60	718.1	714.1	4.0	0.2	0.2	115	718.3	714.3	4.0	0.3	0.3	145	718.3	714.5	3.8	0.4	0.4
694	Private drive	0.40	1I	- -	- -	60	- -	- -	- -	- -	- -	115	- -	- -	- -	- -	- -	145	- -	- -	- -	- -	- -
696	Private drive	0.79	1I	- -	- -	40	- -	- -	- -	- -	- -	80	- -	- -	- -	- -	- -	100	- -	- -	- -	- -	- -
697	Private drive	0.93	1I	- -	- -	10	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -	30	- -	- -	- -	- -	- -
698	Pond outlet	0.96	1I	- -	- -	10	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -	30	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Center Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Center Creek at the confluence with Unnamed Tributary No. 4 to Center Creek.*

Source: SEWRPC.

Table F-26

HYDROLOGIC-HYDRAULIC SUMMARY—DUTCH GAP CANAL: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1100	128th Street/ CTH WG	0.00	1S	50	Yes	420	755.8	755.7[f]	0.1	- -	- -	660	756.6	756.5[f]	0.1	- -	- -	780	756.9	756.8[f]	0.1	- -	- -
1102	Private drive	0.16	1I	- -	- -	420	- -	- -	- -	- -	- -	660	- -	- -	- -	- -	- -	780	- -	- -	- -	- -	- -
1105	121st Street/ CTH CJ	1.07	1S	50	Yes	160	757.8	757.7	0.1	- -	- -	240	758.3	758.3	0.0	- -	- -	275	758.6	758.6	0.0	- -	- -
1110	Private drive	1.51	1I	- -	- -	160	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -	275	- -	- -	- -	- -	- -
1115	110th Street/CTH V	2.14	1S	50	Yes	90	758.1	758.1	0.0	- -	- -	140	758.6	758.6	0.0	- -	- -	160	758.8	758.8	0.0	- -	- -
1117	Private drive	2.25	1I	- -	- -	90	- -	- -	- -	- -	- -	140	- -	- -	- -	- -	- -	160	- -	- -	- -	- -	- -
1120	Private drive	3.04	1I	- -	- -	90	- -	- -	- -	- -	- -	140	- -	- -	- -	- -	- -	160	- -	- -	- -	- -	- -
1125	Private drive	3.84	1I	- -	- -	40	- -	- -	- -	- -	- -	55	- -	- -	- -	- -	- -	65	- -	- -	- -	- -	- -
1127	93rd Street/CTH C	4.07	1S	50	Yes	40	758.8[g]	758.4	0.4	- -	- -	55	759.8[g]	759.0	0.8	- -	- -	65	760.3[g]	759.3	1.0	- -	- -

[a] *Measured in miles above Wisconsin-Illinois state line.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately downstream from structure 1100.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 1127.*

Source: SEWRPC.

Table F-27

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 3 TO DUTCH GAP CANAL: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1129	Private drive	0.12	1S	- -	- -	60	758.5[f]	758.5[f]	0.0	- -	- -	105	758.8[f]	758.8[f]	0.0	- -	- -	130	759.0[f]	759.0[f]	0.0	0.1	- -
1130	George Lake outlet	0.19	2S	- -	- -	60	763.0[g]	760.6	2.4	- -	- -	105	763.4[g]	761.2	2.2	- -	- -	130	763.6[g]	761.4	2.2	- -	- -
1132	Bristol Road	0.75	1S	50	Yes	30	763.3	763.1	0.2	- -	- -	50	763.8	763.6	0.2	- -	- -	60	764.1	763.7	0.4	- -	- -
1134	200th Avenue/ USH 45	0.81	1S	50	Yes	30	763.8	763.6	0.2	- -	- -	50	764.7	764.2	0.5	- -	- -	60	765.0	764.6	0.4	- -	- -
1136	Dam	1.04	2S	- -	- -	30	766.6	764.2	2.4	- -	- -	50	766.8	764.9	1.9	- -	- -	60	766.9	765.3	1.6	- -	- -
1138	Private drive	1.17	1S	- -	- -	30	768.8	766.8	2.0	- -	- -	50	769.8	767.0	2.8	- -	- -	60	770.1	767.2	2.9	0.1	- -
1140	Private drive	1.20	1S	- -	- -	30	770.3	768.9	1.4	- -	- -	50	771.0	769.9	1.1	- -	- -	60	771.6	770.2	1.4	- -	- -
1142	Private drive	1.34	1I	- -	- -	30	- -	- -	- -	- -	- -	50	- -	- -	- -	- -	- -	60	- -	- -	- -	- -	- -
1144	Dam	1.40	2S	- -	- -	30	785.1	779.5	5.6	- -	- -	50	785.3	780.0	5.3	- -	- -	60	785.4	780.2	5.2	- -	- -

[a] *Measured in miles above confluence with Dutch Gap Canal.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Dutch Gap Canal at the confluence with Unnamed Tributary No. 3 to Dutch Gap Canal.*

[g] *The flood stage indicated represents the water surface elevation of George Lake.*

Source: SEWRPC.

Table F-28

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 4 TO DUTCH GAP CANAL: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1150	200th Avenue/ USH 45	0.19	1S	50	Yes	35	767.4	766.7	0.7	- -	- -	60	768.0	767.2	0.8	- -	- -	75	768.2	767.4	0.8	- -	- -
1152	107th Street/ CTH JS	0.28	1S	50	Yes	35	769.0	768.4	0.6	- -	- -	60	769.6	768.9	0.7	- -	- -	75	769.9	769.1	0.8	- -	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 3 to Dutch Gap Canal.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-29

HYDROLOGIC-HYDRAULIC SUMMARY—MUD LAKE OUTLET: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1155	Private drive	0.16	1S	- -	- -	90	758.0[f]	758.0[f]	0.0	1.3	1.3	115	758.4[f]	758.4[f]	0.0	1.7	1.7	130	758.6[f]	758.6[f]	0.0	1.9	1.9
1160	200th Avenue/ USH 45	0.70	1S	50	Yes	90	761.6	761.2	0.4	- -	- -	115	762.1	761.6	0.5	- -	- -	130	762.3	761.7	0.6	- -	- -
1165	187th Avenue	1.05	1S	10	Yes	75	763.4	761.7	1.7	- -	- -	90	764.8	762.2	2.6	- -	- -	100	765.0	762.5	2.5	0.3	0.3

[a] *Measured in miles above confluence with Dutch Gap Canal.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Dutch Gap Canal at the confluence with Mud Lake outlet.*

Source: SEWRPC.

Table F-30

HYDROLOGIC-HYDRAULIC SUMMARY—JEROME CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
900	Private drive	0.84	1S	- -	- -	110	676.0	675.2	0.8	- -	- -	130	677.5	676.3	1.2	- -	- -	140	678.2	676.8	1.4	- -	- -
905	88th Avenue/CTH H	1.12	1S	50	Yes	110	676.5	676.5	0.0	- -	- -	130	677.8	677.8	0.0	- -	- -	140	678.5	678.5	0.0	- -	- -
910	Canadian Pacific Railway	1.43	1S	100	Yes	110	676.7	676.7	0.0	- -	- -	130	678.0	677.9	0.1	- -	- -	140	678.7	678.6	0.1	- -	- -
917	Canadian Pacific Railway culvert outlet	2.02	1S	100	Yes	55	- -	679.1	- -	- -	- -	65	- -	679.5	- -	- -	- -	70	- -	679.8	- -	- -	- -
917	Canadian Pacific Railway culvert inlet	2.04	1S	100	Yes	55	679.4	- -	0.3	- -	- -	65	680.4	- -	0.9	- -	- -	70	680.8	- -	1.0	- -	- -
920/ 920A	Union Pacific Railroad culvert outlet	2.35	1S	100	Yes	60	- -	679.6	- -	- -	- -	70	- -	680.5	- -	- -	- -	75	- -	680.8	- -	- -	- -
920/ 920A	Union Pacific Railroad culvert inlet	2.40	1S	100	Yes	60	680.0	- -	0.4	- -	- -	70	681.0	- -	0.5	- -	- -	75	681.4	- -	0.6	- -	- -
925	Green Bay Road/ STH 31	2.68	1S	50	Yes	110	680.2	680.2	0.0	- -	- -	140	681.2	681.1	0.1	- -	- -	160	681.6	681.5	0.1	- -	- -
930	Private drive	3.22	1S	- -	- -	110	680.4	680.3	0.1	N/A	0.8	140	681.2	681.2	0.0	N/A	1.6	160	681.7	681.6	0.1	N/A	2.0
935	Private drive	3.27	1S	- -	- -	110	680.6	680.4	0.2	N/A	0.5	140	681.3	681.3	0.0	N/A	1.3	160	681.7	681.7	0.0	N/A	1.7
940	Private drive	3.36	1S	- -	- -	110	680.8	680.8	0.0	N/A	1.7	140	681.4	681.4	0.0	N/A	2.3	160	681.8	681.7	0.1	N/A	2.7
942	Private drive	3.62	1S	- -	- -	110	681.9	681.6	0.3	N/A	0.4	140	682.2	682.2	0.0	N/A	0.7	160	682.4	682.4	0.0	N/A	0.9
942A	Private drive	3.87	1S	- -	- -	15	682.4	682.2	0.2	N/A	0.2	30	682.6	682.5	0.1	N/A	0.4	40	682.7	682.6	0.1	N/A	0.5
943	Private drive	3.99	1I	- -	- -	15	- -	- -	- -	- -	- -	30	- -	- -	- -	- -	- -	40	- -	- -	- -	- -	- -
944	Private drive	4.08	1I	- -	- -	10	- -	- -	- -	- -	- -	20	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -
945	Private drive	4.13	1I	- -	- -	10	- -	- -	- -	- -	- -	20	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -
947	93rd Street	4.45	1S	50	Yes	5	704.5	702.7	1.8	- -	- -	10	705.6	703.0	2.6	- -	- -	12	706.4	703.1	3.6	- -	- -

NOTE: N/A indicates not applicable.

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-31

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 2 TO JEROME CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
950	Bain Station Road	0.32	1S	50	Yes	15	679.1[f]	679.1[f]	0.0	- -	- -	20	679.5[f]	679.5[f]	0.0	- -	- -	25	679.8[f]	679.8[f]	0.0	- -	- -
955	Private drive	0.34	1S	- -	- -	15	679.1[f]	679.1[f]	0.0	- -	- -	20	679.5[f]	679.5[f]	0.0	- -	- -	25	679.8[f]	679.8[f]	0.0	- -	- -
957	WEPCo landfill road (private drive)	0.35	1S	- -	- -	15	679.1[f]	679.1[f]	0.0	- -	- -	20	679.5[f]	679.5[f]	0.0	- -	- -	25	679.8[f]	679.8[f]	0.0	- -	- -

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of Jerome Creek at the confluence with Unnamed Tributary No. 2 to Jerome Creek.*

Source: SEWRPC.

Table F-32

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 3 TO JEROME CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
962	Union Pacific Railroad	0.36	1S	100	Yes	25	680.0	679.6[f]	0.4	- -	- -	33	680.5[f]	680.5[f]	0.0	- -	- -	35	680.8[f]	680.8[f]	0.0	- -	- -
965	Private drive	0.45	1S	- -	- -	25	680.3	680.2	0.1	- -	- -	33	680.8	680.6	0.2	- -	- -	35	680.8	680.8[f]	0.0	- -	- -
966	Bain Station Road	0.48	1S	50	Yes	25	680.6	680.5	0.1	- -	- -	33	681.2	680.8	0.4	- -	- -	35	681.4	680.9	0.5	- -	- -
967	Union Pacific Railroad	0.85	1S	100	Yes	25	681.8	681.5	0.3	- -	- -	33	682.4	681.9	0.5	- -	- -	35	682.6	682.0	0.6	- -	- -
969	70th Avenue	1.47	1S	10	Yes	25	687.6[g]	687.2	0.4	- -	- -	33	687.8[g]	687.4	0.4	- -	- -	35	687.9[g]	687.4	0.5	- -	- -

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Jerome Creek at the confluence with Unnamed Tributary No. 3 to Jerome Creek.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 969.*

Source: SEWRPC.

Table F-33

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 4 TO JEROME CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
980	Private drive	0.02	1S	- -	- -	125	680.1[f]	680.1[f]	0.0	N/A	0.7	235	681.0[f]	681.0[f]	0.0	N/A	1.6	290	681.4[f]	681.4[f]	0.0	N/A	2.0
985	Private drive	0.07	1S	- -	- -	125	680.1[f]	680.1[f]	0.0	1.0	0.6	235	681.0[f]	681.0[f]	0.0	1.9	1.5	290	681.4[f]	681.4[f]	0.0	2.3	1.9
996	Green Bay Road/ STH 31 culvert outlet	0.21	1S	50	Yes	125	- -	680.4	- -	- -	- -	235	- -	681.0[f]	- -	- -	- -	290	- -	681.4[f]	- -	- -	- -
996	Green Bay Road/ STH 31 culvert inlet	0.24	1S	50	Yes	125	680.8	- -	0.4	- -	- -	235	681.6	- -	0.6	- -	- -	290	682.4	- -	1.1	- -	- -
997	Private drive	0.29	1S	- -	- -	125	683.6	681.2	2.4	0.7	0.5	235	683.9	682.1	1.8	1.0	0.8	290	684.0	682.5	1.5	1.2	1.0
998	Private drive	0.78	1S	- -	- -	125	690.8	689.6	1.2	0.6	0.6	235	691.1	690.4	0.7	0.9	0.9	290	691.3	690.7	0.6	1.0	1.0
999	93rd Street	1.04	1S	50	No	150	699.9	696.8	3.1	- -	- -	280	701.2	697.4	3.8	0.6	0.6	340	701.3	697.5	3.8	0.7	0.7

NOTE: N/A indicates not applicable.

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Jerome Creek at the confluence with Unnamed Tributary No. 4 to Jerome Creek.*

Source: SEWRPC.

Table F-34

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 5 TO JEROME CREEK: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
970A	Private drive	0.05	1I	- -	- -	25	- -	- -	- -	- -	- -	55	- -	- -	- -	- -	- -	65	- -	- -	- -	- -	- -
970	Private drive	0.14	1I	- -	- -	25	- -	- -	- -	- -	- -	55	- -	- -	- -	- -	- -	65	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-35

HYDROLOGIC-HYDRAULIC SUMMARY—KILBOURN ROAD DITCH: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
305	75th Street/STH 50	1.33	1S	50	Yes	690	681.4	681.3	0.1	- -	- -	1,160	682.5	682.1	0.4	- -	- -	1,400	683.0	682.4	0.6	- -	- -
315	60th Street/CTH K	2.81	1S	50	Yes	650	692.3	692.1	0.2	- -	- -	1,110	694.2	693.6	0.6	- -	- -	1,340	695.1	694.1	1.0	- -	- -
320	Private drive	3.19	1S	- -	- -	650	694.8	694.5	0.3	1.2	- -	1,110	695.9	695.8	0.1	2.4	- -	1,340	696.5	696.4	0.1	3.0	0.2
325	52nd Street/ STH 158	3.46	1S	50	Yes	650	697.4	697.2	0.2	- -	- -	1,110	699.0	698.4	0.6	- -	- -	1,340	699.8	698.9	0.9	- -	- -
340	Private drive	4.58	1I	- -	- -	550	- -	- -	- -	- -	- -	1,000	- -	- -	- -	- -	- -	1,250	- -	- -	- -	- -	- -
345	38th Street/CTH N	4.92	1S	50	No	590	702.1	702.0	0.1	- -	- -	1,100	703.6	702.9	0.7	0.7	0.4	1,370	703.9	703.3	0.6	1.0	0.7
350	Burlington Road/ CTH S	5.47	1S	50	Yes	590	704.4	704.3	0.1	- -	- -	1,100	705.8	705.4	0.4	- -	- -	1,370	706.4	705.8	0.6	- -	- -
360	Private drive	7.20	1I	- -	- -	430	- -	- -	- -	- -	- -	780	- -	- -	- -	- -	- -	960	- -	- -	- -	- -	- -
365	12th Street/CTH E	8.01	1S	50	Yes	345	717.0	716.8	0.2	- -	- -	620	718.6	718.1	0.5	- -	- -	770	719.1	718.6	0.5	0.2	0.1
370	Private drive	8.28	1I	- -	- -	345	- -	- -	- -	- -	- -	620	- -	- -	- -	- -	- -	770	- -	- -	- -	- -	- -
372	Farm bridge	8.79	1I	- -	- -	345	- -	- -	- -	- -	- -	620	- -	- -	- -	- -	- -	770	- -	- -	- -	- -	- -
375	Farm bridge	8.90	1I	- -	- -	345	- -	- -	- -	- -	- -	620	- -	- -	- -	- -	- -	770	- -	- -	- -	- -	- -
380	7th Street/CTH A	9.24	1S	50	Yes	345	719.2	719.0	0.2	- -	- -	620	720.6	720.2	0.4	- -	- -	770	721.9	720.3	1.6	0.2	- -
385	Private drive	9.57	1S	- -	- -	345	720.9	720.1	0.8	- -	- -	620	722.4	721.7	0.7	2.0	1.6	770	722.7	722.4	0.3	2.3	1.8
395	Private drive	10.22	1S	- -	- -	190	723.1	722.5	0.6	0.8	0.6	340	723.4	723.2	0.2	1.0	0.8	420	723.6	723.5	0.1	1.3	1.1
400	Private drive	10.64	1S	- -	- -	190	724.2	724.1	0.1	1.1	1.1	340	725.0	724.9	0.1	1.9	1.9	420	725.4	725.3	0.1	2.2	2.2
405	County Line Road/ CTH KR	10.81	1S	50	Yes	190	724.6	724.6	0.0	- -	- -	340	725.6	725.5	0.1	- -	- -	420	726.0	725.8	0.2	- -	- -
420	Private drive	11.29	1S	- -	- -	190	726.3	725.0	1.3	- -	- -	340	727.5	726.3	1.2	2.1	- -	420	727.7	726.7	1.0	2.3	- -
425	Farm bridge	11.80	1I	- -	- -	120	- -	- -	- -	- -	- -	210	- -	- -	- -	- -	- -	260	- -	- -	- -	- -	- -
430	Braun Road	11.93	1S	10	Yes	120	729.9	729.7	0.2	- -	- -	210	730.6	730.4	0.2	- -	- -	260	731.0	730.6	0.4	- -	- -
440	Private drive	12.36	1S	- -	- -	110	734.6	732.5	2.1	- -	- -	190[f]	735.8	732.9	2.9	- -	- -	235[g]	735.9	733.0	2.9	- -	- -
445	Private drive	12.63	1S	- -	- -	110	735.2	735.0	0.2	2.0	1.7	190[f]	736.2	736.1	0.1	2.9	2.6	235[g]	736.3	736.3	0.0	3.1	2.8

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 50-year flow at River Mile 12.36 is 190 cfs. Of that total, about 60 cfs would bypass structures 440 and 445.*

[g] *Total 100-year flow at River Mile 12.36 is 235 cfs. Of that total, about 100 cfs would bypass structures 440 and 445.*

Source: SEWRPC.

Table F-36

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO KILBOURN ROAD DITCH: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
450	115th Avenue	0.17	1S	10	Yes	25	680.5	680.1	0.4	- -	- -	45	681.0	680.5	0.5	- -	- -	55	681.3	680.6	0.7	- -	- -
452	Channel enclosure outlet	0.21	1S	- -	- -	25	- -	681.4	- -	- -	- -	45	- -	682.1	- -	- -	- -	55	- -	682.3	- -	- -	- -
452	Channel enclosure inlet	0.29	1S	- -	- -	25	682.8	- -	1.4	- -	- -	45	684.0	- -	1.9	- -	- -	55	685.1	- -	2.8	- -	- -
454	112th Avenue	0.33	1S	10	Yes	25	684.1	683.4	0.7	- -	- -	45	684.8	684.3	0.5	- -	- -	55	685.8	685.2	0.6	- -	- -
456	79th Street	0.40	1S	10	Yes	25	684.8	684.6	0.2	- -	- -	45	685.6	685.2	0.4	- -	- -	55	686.5	685.9	0.6	- -	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table F-37

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 5 TO KILBOURN ROAD DITCH: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
460	120th Avenue/ East Frontage Road	0.25	1S	10	Yes	65	- -	706.3	- -	- -	- -	130	- -	707.1	- -	- -	- -	160	- -	707.3	- -	- -	- -
460	IH 94/USH 41	0.28	1S	100	Yes	65	709.4	706.3	3.1	- -	- -	130	711.0	707.1	3.9	- -	- -	160	711.6	707.3	4.3	- -	- -
460	120th Avenue/ West Frontage Road	0.31	1S	10	Yes	65	709.4	- -	3.1	- -	- -	130	711.0	- -	3.9	- -	- -	160	711.6	- -	4.3	- -	- -
466	Private drive	0.80	1I	- -	- -	65	- -	- -	- -	- -	- -	130	- -	- -	- -	- -	- -	160	- -	- -	- -	- -	- -
467	Private drive	0.84	1S	- -	- -	25	735.1	733.2	1.9	0.2	0.2	60	735.4	733.6	1.8	0.4	0.4	80	735.5	733.8	1.7	0.6	0.6
468	128th Avenue	0.88	1S	10	Yes	25	735.8[f]	735.2	0.6	- -	- -	60	738.3[f]	735.5	2.8	0.6	0.3	80	738.4[f]	735.6	2.8	0.7	0.4

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately upstream of structure 468.*

Source: SEWRPC.

Table F-38

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 8 TO KILBOURN ROAD DITCH: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
494	120th Avenue/ East Frontage Road	0.75	1S	10	Yes	310	- -	717.9	- -	- -	- -	740	- -	718.9	- -	- -	- -	1,020	- -	719.2	- -	- -	- -
494	IH 94/USH 41	0.78	1S	100	Yes	310	719.0[f]	717.9	1.1	- -	- -	740	721.9[f]	718.9	3.0	- -	- -	1,020	724.1[f]	719.2	4.9	- -	- -
494	120th Avenue/ West Frontage Road	0.82	1S	10	Yes	310	719.0[f]	- -	1.1	- -	- -	740	721.9[f]	- -	3.0	- -	- -	1,020	724.1[f]	- -	4.9	0.1	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows –1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation approximately 10 feet upstream from structure 494.*

Source: SEWRPC.

Table F-39

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 13 TO KILBOURN ROAD DITCH: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
469	Private drive	0.05	1I	- -	- -	70	- -	- -	- -	- -	- -	165	- -	- -	- -	- -	- -	220	- -	- -	- -	- -	- -
470	120th Avenue/East Frontage Road	0.46	1S	10	Yes	70	- -	732.7	- -	- -	- -	165	- -	733.5	- -	- -	- -	220	- -	733.8	- -	- -	- -
470	IH 94/USH 41	0.51	1S	100	Yes	70	734.2[f]	732.7	1.5	- -	- -	165	735.7[f]	733.5	2.2	- -	- -	220	736.4[f]	733.8	2.6	- -	- -
470	120th Avenue/West Frontage Road	0.54	1S	10	Yes	70	734.2[f]	- -	1.5	- -	- -	165	735.7[f]	- -	2.2	- -	- -	220	736.4[f]	- -	2.6	- -	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately upstream from structure 470.*

Source: SEWRPC.

Table F-40

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 15 TO KILBOURN ROAD DITCH: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
476	Private drive	0.26	1S	- -	- -	80	722.9	722.6[f]	0.3	0.4	0.4	165	723.4	723.2	0.2	1.0	1.0	220	723.8	723.5	0.3	1.4	1.4
478	Private drive	0.44	1S	- -	- -	80	724.5[g]	724.0	0.5	0.8	0.7	170	724.9[g]	724.8	0.1	1.2	1.1	225	725.3[g]	725.1	0.2	1.6	1.4

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Kilbourn Road Ditch at the confluence with Unnamed Tributary No. 15 to Kilbourn Road Ditch.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 478.*

Source: SEWRPC.

Table F-41

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 18 TO KILBOURN ROAD DITCH: EXISTING LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
480	Private drive	0.01	1I	- -	- -	145	- -	- -	- -	- -	- -	325	- -	- -	- -	- -	- -	435	- -	- -	- -	- -	- -
482	East Frontage Road	0.60	1S	10	Yes	145	- -	735.4	- -	- -	- -	325	- -	736.2	- -	- -	- -	435	- -	736.5	- -	- -	- -
482	IH 94/USH 41	0.64	1S	100	Yes	145	737.2[f]	735.4	1.8	- -	- -	325	739.3[f]	736.2	3.1	- -	- -	435	740.8[f]	736.5	4.3	- -	- -
482	West Frontage Road	0.68	1S	10	Yes	145	737.2[f]	- -	1.8	- -	- -	325	739.3[f]	- -	3.1	- -	- -	435	740.8[f]	- -	4.3	- -	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation approximately 10 feet upstream from structure 482.*

Source: SEWRPC.

Appendix G

HYDROLOGIC-HYDRAULIC SUMMARY FOR STRUCTURES ON DES PLAINES RIVER AND SELECTED TRIBUTARIES: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Table G-1

HYDROLOGIC-HYDRAULIC SUMMARY—DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
100	122nd Street/ CTH ML	0.69	1S	50	No	1,600	672.9	672.9	0.0	- -	- -	2,310	675.0	675.0	0.0	1.6	- -	2,600	675.9	675.8	0.1	2.5	- -
102	STH 165	2.92	1S	50	Yes	1,690	673.8	673.8	0.0	- -	- -	2,490	675.4	675.4	0.0	- -	- -	2,820	676.1	676.1	0.0	- -	- -
105	Wilmot Road/ CTH C	5.64	1S	50	Yes	1,600	676.4	676.4	0.0	- -	- -	2,460	677.7	677.6	0.1	- -	- -	2,840	678.2	678.2	0.0	- -	- -
110	120th Avenue/East Frontage Road	6.34	1S	10	Yes	1,120	677.4	677.4	0.0	- -	- -	1,650	678.8	678.7	0.1	- -	- -	1,880	679.3	679.3	0.0	- -	- -
115	IH 94/USH 41	6.36	1S	100	No[f]	1,120	677.4	677.4	0.0	- -[f]	- -	1,650	678.8	678.8	0.1	2.0[f]	- -	1,880	679.4	679.3	0.1	2.6[f]	- -
120	120th Avenue/West Frontage Road	6.39	1S	10	No[f]	1,120	677.5	677.4	0.1	- -[f]	- -	1,650	678.8	678.8	0.0	3.0±[f]	- -	1,880	679.4	679.4	0.1	3.6±[f]	- -
125	160th Avenue/ CTH MB	9.82	1S	50	Yes	1,050	681.6	681.6	0.0	- -	- -	1,610	682.5	682.4	0.1	- -	- -	1,870	682.8	682.7	0.1	- -	- -
130	Private drive	11.79	1I	- -	- -	1,040	- -	- -	- -	- -	- -	1,630	- -	- -	- -	- -	- -	1,900	- -	- -	- -	- -	- -
140	75th Street/STH 50	13.04	1S	50	Yes	1,020	689.5	689.4	0.1	- -	- -	1,610	690.6	690.4	0.2	- -	- -	1,890	691.0	690.8	0.2	- -	- -
142	Private drive	13.63	1I	- -	- -	1,030	- -	- -	- -	- -	- -	1,640	- -	- -	- -	- -	- -	1,930	- -	- -	- -	- -	- -
145	60th Street/CTH K	14.13	1S	50	Yes	1,030	692.3	692.2	0.1	- -	- -	1,640	693.1	693.0	0.1	- -	- -	1,930	693.4	693.3	0.1	- -	- -
150	Private drive	15.73	1S	- -	- -	420	694.1	694.1	0.0	- -	- -	700	695.0	695.0	0.0	0.6	- -	850	695.3	695.3	0.0	0.9	- -
155	38th Street/CTH N	16.08	1S	50	Yes	420	694.3	694.3	0.0	- -	- -	700	695.2	695.2	0.0	- -	- -	850	695.6	695.6	0.0	- -	- -
157	Private drive	16.41	1I	- -	- -	375	- -	- -	- -	- -	- -	660	- -	- -	- -	- -	- -	820	- -	- -	- -	- -	- -
160	Private drive	17.21	1I	- -	- -	375	- -	- -	- -	- -	- -	660	- -	- -	- -	- -	- -	820	- -	- -	- -	- -	- -
165	Private drive	17.83	1S	- -	- -	610	697.7	697.7	0.0	3.7	3.7	1,150	698.7	698.6	0.1	4.6	4.6	1,460	699.0	699.0	0.0	5.0	5.0
170	Private drive	18.22	1I	- -	- -	590	- -	- -	- -	- -	- -	1,100	- -	- -	- -	- -	- -	1,400	- -	- -	- -	- -	- -
175	Burlington Road/ STH 142	18.29	1S	50	Yes	590	698.2	698.1	0.1	- -	- -	1,100	699.2	699.1	0.1	- -	- -	1,400	699.6	699.6	0.0	- -	- -
177	Private drive	18.56	1I	- -	- -	590	- -	- -	- -	- -	- -	1,100	- -	- -	- -	- -	- -	1,400	- -	- -	- -	- -	- -
180	Private drive	19.23	1I	- -	- -	590	- -	- -	- -	- -	- -	1,080	- -	- -	- -	- -	- -	1,390	- -	- -	- -	- -	- -
182	Private drive	19.69	1I	- -	- -	550	- -	- -	- -	- -	- -	1,010	- -	- -	- -	- -	- -	1,300	- -	- -	- -	- -	- -
183	Private drive	20.17	1S	- -	- -	470[g]	703.8	701.1	2.7	N/A	0.3	770[h]	704.2	702.0	2.2	N/A	0.7	980[i]	704.3	702.4	1.9	N/A	0.8
185	County Line Road/ CTH KR	21.20	1S	50	Yes	110	705.6	705.6	0.0	- -	- -	220	706.3	706.2	0.1	- -	- -	290	706.7	706.5	0.2	- -	- -
190	Private drive	21.35	1S	- -	- -	110	705.9	705.8	0.1	0.5	0.0	220	706.7	706.7	0.0	1.3	0.2	290	707.2	707.1	0.1	1.8	0.6

NOTE: N/A indicates not applicable.

[a] *Measured in miles above the Wisconsin-Illinois state line.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Assuming a level water surface elevation extending from the Des Plaines River to the south, during the 50- and 100-year floods, the southbound lanes of IH 94/USH 41 and both lanes of 120th Avenue/West Frontage Road would be flooded at low points that are about 1.2 miles south of the IH 94/USH 41 bridge over the Des Plaines River. There could also be flooding of CTH C near the IH 94/USH 41 overpass, which is about 0.8 mile south of the IH 94/USH 41 bridge over the Des Plaines River. (Because there is a ridge on the right (south) bank upstream of 120th Avenue/West Frontage Road, the overtopping depths are based on the computed water surface elevations at River Mile 6.493.) CTH C is at an elevation above the 10-year flood stage. Thus, during a 10-year event, it would block overflow to the south and 120th Avenue/West Frontage Road and IH 94/USH 41 would not be overtopped. However, during the 50- and 100-year floods, CTH C would not block overflow to the south and 120th Avenue and IH 94 could be flooded. There is very little backwater through the IH 94/USH 41 bridge and the upstream and downstream 120th Avenue/West Frontage Road bridges. Thus, increasing the hydraulic capacities of those structures would have little impact on flood stages and such increases would not be effective for avoiding road overtopping. Raising the road grades of CTH C, 120th Avenue/West Frontage Road, and IH 94/USH 41, along with possible culvert capacity increases under the Frontage Roads and IH 94/USH 41, could be considered to allow those roads to meet their applicable overtopping standards when road reconstruction is accomplished in the future. Any culvert capacity increases should be accomplished in such a manner that the existing floodwater storage capacity in the floodplain is maintained.*

[g] *Total 10-year flow at River Mile 20.17 is 470 cfs. Of that total, 150 cfs would bypass structure 183.*

[h] *Total 50-year flow at River Mile 20.17 is 770 cfs. Of that total, 425 cfs would bypass structure 183.*

[i] *Total 100-year flow at River Mile 20.17 is 980 cfs. Of that total, 630 cfs would bypass structure 183.*

Source: SEWRPC.

Table G-2

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1210	Private drive	0.23	1S	- -	- -	270	676.0	673.2	2.8	1.0	0.5	500	676.3	674.8[f]	1.5	1.3	0.8	630	676.4	675.7[f]	0.7	1.4	0.9
1215	Private drive	0.30	1S	- -	- -	270[g]	676.7	676.3	0.4	- -	- -	500[h]	677.0	676.7	0.3	0.6	0.4	630[i]	677.0	676.9	0.1	0.8	0.6
1220	Union Pacific Railroad	0.69	1S	100	Yes	360[j]	679.1	677.5	1.6	- -	- -	580[k]	681.8	677.9	3.9	- -	- -	690[l]	683.5	678.1	5.4	- -	- -
1223	Private drive	1.03	1S	- -	- -	110	687.6	684.4	3.2	1.7	0.5	160	687.8	684.6	3.2	N/A	0.7	180	687.9	684.8	3.1	N/A	0.8
1225	Springbrook Road/ CTH ML	1.06	1S	50	No	110	693.2	687.7	5.5	0.2	0.2	160	693.3	688.0	5.3	0.4	0.4	180	693.4	688.1	5.3	0.4	0.4

NOTE: N/A indicates not applicable.

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of the Des Plaines River at the confluence with Unnamed Tributary No. 1 to the Des Plaines River.*

[g] *Total 10-year flow at River Mile 0.30 is 270 cfs. Of that total, about 210 cfs would bypass structure 1215.*

[h] *Total 50-year flow at River Mile 0.30 is 500 cfs. Of that total, about 450 cfs would bypass structure 1215.*

[i] *Total 100-year flow at River Mile 0.30 is 630 cfs. Of that total, about 580 cfs would bypass structure 1215.*

[j] *Total 10-year flow at River Mile 0.69 is 360 cfs. Of that total, about 8 cfs would be due to overflow from Unnamed Tributary No. 1A to the Des Plaines River.*

[k] *Total 50-year flow at River Mile 0.69 is 580 cfs. Of that total, about 15 cfs would be due to overflow from Unnamed Tributary No. 1A to the Des Plaines River.*

[l] *Total 100-year flow at River Mile 0.69 is 690 cfs. Of that total, about 20 cfs would be due to overflow from Unnamed Tributary No. 1A to the Des Plaines River.*

Source: SEWRPC.

Table G-3

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1A TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1240	Union Pacific Railroad	0.06	1S	100	Yes	65[f]	679.1[g]	677.3[h]	1.8	- -	- -	100[i]	681.5[g]	677.7[h]	4.1	- -	- -	120[j]	683.5	677.9[h]	5.6	- -	- -
1245	Green Bay Road/ STH 31	0.69	1S	50	No	65	695.8[k]	687.8	8.0	0.1	- -	100	696.0[k]	688.0	8.0	0.3	- -	120	696.0[k]	688.2	7.8	0.3	- -
1250	Channel enclosure outlet	0.70	2S	- -	- -	13	- -	695.8[l]	- -	- -	- -	19[m]	- -	696.0[l]	- -	- -	- -	23[n]	- -	696.0[l]	- -	- -	- -
1250	Channel enclosure inlet/dam	0.81	2S	- -	- -	13	696.2[o]	- -	0.4	- -	- -	19[m]	697.7[o]	- -	1.7	- -	- -	23[n]	697.8[o]	- -	1.8	- -	- -
1255	Dam	0.98	2S	- -	- -	30[p]	711.4[q]	701.8	9.6	0.5	0.5	45[r]	711.4[q]	701.8	9.6	0.6	0.6	50[s]	711.5[q]	701.8	9.7	0.7	0.7

[a] *Measured in miles above confluence with Unnamed Tributary No. 1 to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 10-year flow at River Mile 0.06 is 65 cfs. Of that total, about 8 cfs would bypass structure 1240.*

[g] *The flood stage indicated represents the water surface elevation of Unnamed Tributary No. 1 to the Des Plaines River.*

[h] *The flood stage indicated represents the water surface elevation approximately 25 feet downstream from structure 1240.*

[i] *Total 50-year flow at River Mile 0.06 is 100 cfs. Of that total, about 15 cfs would bypass structure 1240.*

[j] *Total 100-year flow at River Mile 0.06 is 120 cfs. Of that total, about 20 cfs would bypass structure 1240.*

[k] *The flood stage indicated represents the water surface elevation immediately upstream from structure 1245.*

[l] *The flood stage indicated represents the water surface elevation immediately downstream from the channel enclosure outlet.*

[m] *Total 50-year flow is 19 cfs between River Mile 0.70 and River Mile 0.97. Of that total, about 5 cfs would flow into Timber Ridge Drive, bypassing structure 1250.*

[n] *Total 100-year flow is 23 cfs between River Mile 0.70 and River Mile 0.97. Of that total, about 9 cfs would flow into Timber Ridge Drive, bypassing structure 1250.*

[o] *The flood stage indicated represents the water surface elevation of the northern pond in Timber Ridge Subdivision.*

[p] *Total 10-year flow at River Mile 0.98 is 30 cfs. Of that total, about 15 cfs would bypass structure 1255.*

[q] *The flood stage indicated represents the water surface elevation of the southern pond in Timber Ridge Subdivision.*

[r] *Total 50-year flow at River Mile 0.98 is 45 cfs. Of that total, about 25 cfs would bypass structure 1255.*

[s] *Total 100-year flow at River Mile 0.98 is 50 cfs. Of that total, about 30 cfs would bypass structure 1255.*

Source: SEWRPC.

Table G-4

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1B TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1282	Private drive	0.22	1I	- -	- -	250	- -	- -	- -	- -	- -	425	- -	- -	- -	- -	- -	510	- -	- -	- -	- -	- -
1285	Green Bay Road/ STH 31	0.63	1S	50	Yes	255	691.6	691.1	0.5	- -	- -	435	692.9	691.9	1.0	- -	- -	530	693.7	692.1	1.6	- -	- -
1286	Private drive	0.86	1I	- -	- -	255	- -	- -	- -	- -	- -	435	- -	- -	- -	- -	- -	530	- -	- -	- -	- -	- -
1287	Private drive	0.91	1I	- -	- -	255	- -	- -	- -	- -	- -	435	- -	- -	- -	- -	- -	530	- -	- -	- -	- -	- -
1288	Private drive	1.05	1I	- -	- -	255	- -	- -	- -	- -	- -	435	- -	- -	- -	- -	- -	530	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 1 to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-5

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1C TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1289A	Private drive	0.23	1I	- -	- -	200	- -	- -	- -	- -	- -	350	- -	- -	- -	- -	- -	425	- -	- -	- -	- -	- -
1289B	Private drive	0.28	1I	- -	- -	200	- -	- -	- -	- -	- -	350	- -	- -	- -	- -	- -	425	- -	- -	- -	- -	- -
1289C	Private drive	0.34	1I	- -	- -	200	- -	- -	- -	- -	- -	350	- -	- -	- -	- -	- -	425	- -	- -	- -	- -	- -
1290	116th Street/Tobin Road	1.09	1S	50	No	55[f]	721.7	719.2	2.5	4.5	0.2	90[g]	721.9	719.6	2.3	4.6	0.3	110[h]	721.9	719.6	2.1	4.7	0.4
1295	Springbrook Road/ CTH ML	1.18	1S	50	No	55	726.6	724.4	2.2	0.2	- -	90	726.8	724.5	2.3	0.3	- -	110	726.8	724.5	2.3	0.3	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 1B to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 10-year flow at River Mile 1.09 is 55 cfs. Of that total, about 4 cfs would bypass structure 1290.*

[g] *Total 50-year flow at River Mile 1.09 is 90 cfs. Of that total, about 5 cfs would bypass structure 1290.*

[h] *Total 100-year flow at River Mile 1.09 is 110 cfs. Of that total, about 7 cfs would bypass structure 1290.*

Source: SEWRPC.

Table G-6

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1E TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1310	Private drive	1.29	1I	- -	- -	220	- -	- -	- -	- -	- -	320	- -	- -	- -	- -	- -	365	- -	- -	- -	- -	- -
1315	Private drive	1.54	1I	- -	- -	220	- -	- -	- -	- -	- -	320	- -	- -	- -	- -	- -	365	- -	- -	- -	- -	- -
1316	Dam	1.78	2S	- -	- -	220	698.3	692.7	5.6	- -	- -	320	698.5	693.0	5.5	- -	- -	365	698.5	693.3	5.2	- -	- -
1317	Private drive	1.95	1S	- -	- -	95	700.9	698.7	2.2	- -	- -	130	701.6	699.0	2.6	- -	- -	145	701.7	699.2	2.5	- -	- -
1320	120th Avenue/East Frontage Road	1.97	1S	10	Yes	95	- -	701.0	- -	- -	- -	130	- -	701.6	- -	- -	- -	145	- -	701.8	- -	- -	- -
1320	IH 94/USH 41	2.00	1S	100	Yes	95	705.4	701.0	4.4	- -	- -	130	707.0	701.6	5.4	- -	- -	145	707.9	701.8	6.1	- -	- -
1320	120th Avenue/West Frontage Road	2.03	1S	10	Yes	95	705.4	- -	- -	- -	- -	130	707.0	- -	- -	- -	- -	145	707.9	- -	- -	- -	- -
1323	Private drive	2.09	1S	- -	- -	95	707.4	706.2	1.2	0.3	0.3	130	707.5	707.4	0.1	0.4	0.4	145	708.2	708.2	0.0	1.1	1.1
1325	Unnamed pond outlet	2.58	2S	- -	- -	20	732.5[f]	725.2	7.3	- -	- -	20	733.6[f]	726.6	7.0	0.2	- -	20	733.7[f]	726.6	7.1	0.3	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of unnamed pond located in the southwest one-quarter of U.S. Public Land Survey Section 25, Township 1 North, Range 21 East, Town of Bristol.*

Source: SEWRPC.

Table G-7

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1F TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1330	120th Avenue/ East Frontage Road	0.30	1S	10	Yes	65	- -	706.4	- -	- -	- -	110	- -	706.7	- -	- -	- -	135	- -	706.8	- -	- -	- -
1330	IH 94/USH 41	0.34	1S	100	Yes	65	709.0	706.4	2.6	- -	- -	110	709.7	706.7	3.0	- -	- -	135	710.1	706.8	3.3	- -	- -
1330	120th Avenue/ West Frontage Road	0.38	1S	10	Yes	65	709.0	- -	2.6	- -	- -	110	709.7	- -	3.0	- -	- -	135	710.1	- -	3.3	- -	- -
1335	116th Street	0.46	1S	10	Yes	65	717.8	713.0	4.8	- -	- -	110	718.5	713.5	5.0	0.1	0.1	135	718.6	713.6	5.0	0.1	0.1

[a] *Measured in miles above confluence with Unnamed Tributary No. 1E to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-8

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 2 TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1345	Private drive	0.42	1I	- -	- -	150	- -	- -	- -	- -	- -	230	- -	- -	- -	- -	- -	270	- -	- -	- -	- -	- -
1350	114th Avenue	1.20	1S	10	Yes	150	683.9	680.8	3.1	- -	- -	230	684.8	681.4	2.4	- -	- -	270	685.2	681.6	3.6	- -	- -
1352	120th Avenue	1.34	1S	10	Yes	150	690.7	689.2	1.5	- -	- -	230	691.5	689.5	2.0	- -	- -	270	691.9	689.6	2.3	- -	- -
1355	Dam	1.54	2S	- -	- -	150	703.9	701.3	2.6	1.8	- -	230	704.1	701.6	2.5	2.0	- -	270	704.2	701.7	2.5	2.1	- -
1360	IH 94 off ramp	1.60	1S	100	Yes	40	- -	704.7	- -	- -	- -	80	- -	705.2	- -	- -	- -	100	- -	705.4	- -	- -	- -
1360	IH 94/USH 41	1.63	1S	100	Yes	40	709.8	704.7	5.1	- -	- -	80	711.8	705.2	6.6	- -	- -	100	714.9	705.4	9.5	- -	- -
1360	120th Avenue/ West Frontage Road	1.68	1S	10	- -	40	709.8	- -	- -	- -	- -	80	711.8	- -	- -	- -	- -	100	714.9	- -	- -	0.5	0.5

[a] *Measured in miles above confluence with Unnamed Tributary No. 1E to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-9

HYDROLOGIC-HYDRAULIC SUMMARY–UNNAMED TRIBUTARY NO. 5 TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1380	STH 165	0.89	1S	50	Yes	200	673.7[f]	673.7[f]	0.0	- -	- -	225	675.3[f]	675.3[f]	0.0	- -	- -	235	676.1[f]	676.1[f]	0.0	- -	- -
1385	Canadian Pacific Railway	1.31	1S	100	Yes	200	676.7	674.7[f]	2.0	- -	- -	225	677.1	675.3[f]	1.8	- -	- -	235	677.3	676.1[f]	1.2	- -	- -
1390	88th Avenue/CTH H	1.41	1S	50	Yes	200	678.3	676.8	1.5	- -	- -	230	677.2	676.1	2.0	- -	- -	240	679.6	677.4	2.2	- -	- -
1395	Private crossing	1.76	1I	- -	- -	200	- -	- -	- -	- -	- -	230	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -
1400	80th Avenue	1.91	1S	10	Yes	285	678.9	678.6	0.3	- -	- -	380	679.5	677.1	0.6	- -	- -	425	680.6	679.8	0.8	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of the Des Plaines River at the confluence with Unnamed Tributary No. 5 to the Des Plaines River.*

Source: SEWRPC.

Table G-10

HYDROLOGIC-HYDRAULIC SUMMARY–UNNAMED TRIBUTARY NO. 5B TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1415	Private crossing	0.01	1I	- -	- -	315	- -	- -	- -	- -	- -	420	- -	- -	- -	- -	- -	465	- -	- -	- -	- -	- -
1420	100th Street	0.19	1S	10	Yes	315	680.8	678.6[f]	2.2	- -	- -	420	684.0	679.5[f]	4.5	- -	- -	465	685.5	679.9[f]	5.6	0.1	0.1

[a] *Measured in miles above confluence with Unnamed Tributary No. 5 to the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of Unnamed Tributary No. 5 to the Des Plaines River at the confluence with Unnamed Tributary No. 5B to the Des Plaines River.*

Source: SEWRPC.

Table G-11

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 7 TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1440	120th Avenue/ East Frontage Road	0.83	1S	10	Yes	275	- -	679.0	- -	- -	- -	385	- -	679.4	- -	- -	- -	435	- -	679.6	- -	- -	- -
1440	IH 94/USH 41	0.86	1S	100	Yes	275	680.4	679.0	1.4	- -	- -	385	681.2	679.4	1.8	- -	- -	435	681.6	679.6	2.0	- -	- -
1440	120th Avenue/ West Frontage Road	0.90	1S	10	Yes	275	680.4	- -	- -	- -	- -	385	681.2	- -	- -	- -	- -	435	681.6	- -	- -	- -	- -
1445	Private drive	1.44	1I	- -	- -	275	- -	- -	- -	- -	- -	385	- -	- -	- -	- -	- -	435	- -	- -	- -	- -	- -
1450	Private drive	1.70	1I	- -	- -	275	- -	- -	- -	- -	- -	385	- -	- -	- -	- -	- -	435	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-12

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 38 TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1620	STH 11	0.68	1S	50	No	70	724.0	719.9	4.1	0.3	0.3	115	724.2	720.4	3.6	0.5	0.5	140	724.3	720.7	3.6	0.6	0.6

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-13

HYDROLOGIC-HYDRAULIC SUMMARY—PLEASANT PRAIRIE TRIBUTARY: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
200	Private drive	0.07	1I	- -	- -	385	- -	- -	- -	- -	- -	510	- -	- -	- -	- -	- -	560	- -	- -	- -	- -	- -

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[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-14

HYDROLOGIC-HYDRAULIC SUMMARY—UNION GROVE INDUSTRIAL TRIBUTARY: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1500	Private drive	0.40	1I	- -	- -	340	- -	- -	- -	- -	- -	560	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -
1505	Private drive	0.93	1I	- -	--	340	- -	- -	- -	- -	- -	560	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -
1510	USH 45	1.09	1S	50	Yes	340	731.3	729.6	1.7	- -	- -	560	733.1	730.7	2.4	- -	- -	670	732.9	731.1	1.8	- -	- -
1515	Private drive	1.10	1I	- -	- -	340	- -	- -	- -	- -	- -	560	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -
1520	Schroeder Road/ CTH KR	1.25	1S	50	No	430	741.1	738.0	3.1	- -	- -	710	743.0	738.6	4.4	1.0	0.8	860	743.4	739.1	4.3	1.3	1.1
1525	Private drive	1.61	1I	- -	- -	360	- -	- -	- -	- -	- -	560	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -
1530	County fairgrounds entrance road	1.81	1S	- -	- -	360	762.6	761.3	1.3	2.3	2.1	560	763.0	761.7	1.3	2.7	2.5	670	763.2	761.9	1.3	2.8	2.6
1535/ 1545	STH 11/storm sewer outfall	2.18	1S	- -	- -	360	- -	770.8[f]	- -	- -	- -	560	- -	771.4[f]	- -	- -	- -	670	- -	771.5[f]	- -	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately downstream from structure 1535.*

Source: SEWRPC.

Table G-15

HYDROLOGIC-HYDRAULIC SUMMARY—BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
500	Private drive	0.36	1S	- -	- -	680	698.2	696.7	1.5	0.6	- -	1,070	698.4	697.0	1.4	0.8	- -	1,250	698.5	697.2	1.3	0.8	- -
503	Private drive	0.94	1S	- -	- -	680	704.9	704.6	0.3	- -	- -	1,070[f]	705.8	705.4	0.4	- -	- -	1,250[g]	706.0	705.6	0.4	- -	- -
505	60th Street/CTH K	1.14	1S	50	No	680	706.4	706.2	0.2	- -	- -	1,070	707.6	707.2	0.4	0.7	- -	1,250	707.8	707.4	0.4	0.9	- -
507	Private drive	1.38	1I	- -	- -	740	- -	- -	- -	- -	- -	1,170	- -	- -	- -	- -	- -	1,370	- -	- -	- -	- -	- -
510	Bristol Road/USH 45	1.86	1S	50	Yes	740	709.3	708.9	0.4	- -	- -	1,170	709.7	709.0	0.7	- -	- -	1,370	710.1	709.0	1.1	- -	- -
512	Private drive	1.92	1I	- -	- -	740	- -	- -	- -	- -	- -	1,170	- -	- -	- -	- -	- -	1,370	- -	- -	- -	- -	- -
515	Private drive	2.94	1S	- -	- -	740	720.0	719.9	0.1	2.0	- -	1,170	720.5	720.4	0.1	2.5	- -	1,370	720.7	720.6	0.1	2.7	- -
520	60th Street/CTH K	4.65	1S	50	Yes	430	739.5	739.1	0.4	- -	- -	740	740.6	739.9	0.7	- -	- -	880	741.2	740.2	1.0	- -	- -
525	45th Street/CTH NN	6.21	1S	50	No	440	747.7	747.2	0.5	- -	- -	850	749.6	748.2	1.4	0.1	- -	1,060	750.0	748.5	1.5	0.4	- -
527	Private drive	6.90	1I	- -	- -	440	- -	- -	- -	- -	- -	850	- -	- -	- -	- -	- -	1,060	- -	- -	- -	- -	- -
530	31st Street/CTH JB	7.85	1S	50	Yes	385	768.5	768.0	0.5	- -	- -	740	770.5	769.0	1.5	- -	- -	930	771.8	769.3	2.5	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 50-year flow at River Mile 0.94 is 1,070 cfs. Of that total, 190 cfs would bypass structure 503.*

[g] *Total 100-year flow at River Mile 0.94 is 1,250 cfs. Of that total, 310 cfs would bypass structure 503.*

Source: SEWRPC.

Table G-16

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 6 TO BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
558	Private drive	0.60	1I	- -	- -	100	- -	- -	- -	- -	- -	165[f]	- -	- -	- -	- -	- -	195[g]	- -	- -	- -	- -	- -
560	60th Street/CTH K	0.84	1S	50	No	100	747.2	744.1	3.1	- -	- -	165[f]	751.8	744.8	7.0	0.1	- -	195[g]	751.9	744.9	7.0	0.2	- -
562	Private drive	1.08	1I	- -	- -	100	- -	- -	- -	- -	- -	165	- -	- -	- -	- -	- -	195	- -	- -	- -	- -	- -
564	Private drive	1.43	1S	- -	- -	100	762.1	761.4	0.7	- -	- -	165	762.9	761.6	1.3	0.7	- -	195	763.5	761.8	1.7	1.3	- -
566B	Channel enclosure outlet	1.68	1S	- -	- -	90[h]	- -	763.1	- -	- -	- -	155[i]	- -	763.6	- -	- -	- -	190[j]	- -	763.8	- -	- -	- -
566A	Channel enclosure inlet	1.89	1S	- -	- -	90[h]	772.0	- -	8.9	- -	- -	155[i]	772.3	- -	8.7	- -	- -	190[j]	772.7	- -	8.9	- -	- -
568	61st Street	1.95	1S	10	No	50	772.1	772.1	0.0	0.9	0.8	80	772.4	772.4	0.0	1.2	1.1	95	772.7	772.7	0.0	1.5	1.4
570	237th Avenue	2.02	1S	10	Yes	50	773.6	772.1	1.5	- -	- -	80	774.4	772.4	2.0	1.0	0.7	95	774.5	772.8	1.7	1.1	0.8
572	60th Street/CTH K	2.16	1S	50	Yes	40	779.6	777.5	2.1	- -	- -	65	780.3	777.9	2.4	- -	- -	80	780.7	778.1	2.6	- -	- -
574	Francis Lake outlet	2.45	2S	- -	- -	5	788.9[k]	787.6	1.3	- -	- -	8	789.1[k]	787.6	1.5	- -	- -	10	789.3[k]	787.6	1.7	- -	- -

[a] *Measured in miles above confluence with Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 50-year flow between River Mile 0.60 and River Mile 1.58 is 165 cfs. Of that total, about 10 cfs would overflow to Brighton Creek and bypass structure 558 and structure 560.*

[g] *Total 100-year flow between River Mile 0.60 and River Mile 1.58 is 195 cfs. Of that total, about 20 cfs would overflow to Brighton Creek and bypass structure 558 and structure 560.*

[h] *Total 10-year flow between River Mile 1.58 and River Mile 1.92 is 90 cfs. Of that total, about 40 cfs would bypass structure 566A/566B.*

[i] *Total 50-year flow between River Mile 1.58 and River Mile 1.92 is 155 cfs. Of that total, about 85 cfs would bypass structure 566A/566B.*

[j] *Total 100-year flow between River Mile 1.58 and River Mile 1.92 is 190 cfs. Of that total, about 110 cfs would bypass structure 566A/566B.*

[k] *The flood stage indicated represents the water surface elevation on Francis Lake.*

Source: SEWRPC.

Table G-17

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 9 TO BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
590	240th Avenue/ CTH X	0.49	1S	50	Yes	130	782.2	781.1	1.1	- -	- -	235	783.7	782.8	0.9	- -	- -	285	785.5	783.4	2.1	- -	- -
592	Private drive	0.68	1S	- -	- -	130	784.5	784.2	0.3	- -	- -	235	786.6	785.7	0.9	- -	- -	285	788.0	786.8	1.2	- -	- -
594	Private drive	0.82	1S	- -	- -	130	785.6	785.4	0.2	- -	- -	235	787.5	787.4	0.1	1.2	0.7	285	788.7	788.6	0.1	2.4	1.9
596	Private drive	1.30	1I	- -	- -	130	- -	- -	- -	- -	- -	235	- -	- -	- -	- -	- -	285	- -	- -	- -	- -	- -
597	248th Avenue/ STH 75	1.32	1S	50	Yes	12	786.7[f]	786.6	0.1	- -	- -	16	787.9[f]	787.8	0.1	- -	- -	18	788.8[f]	788.8	0.0	- -	- -
598	Vern Wolf Lake dam	1.35	2S	- -	- -	12	792.3[g]	786.7	5.6	- -	- -	16	792.6[g]	787.9	4.7	- -	- -	18	792.7[g]	788.8	3.9	- -	- -

[a] *Measured in miles above confluence with Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation approximately seven feet upstream from structure 597.*

[g] *The flood stage indicated represents the water surface elevation on Vern Wolf Lake.*

Source: SEWRPC.

Table G-18

HYDROLOGIC-HYDRAULIC SUMMARY—SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
805	75th Street/STH 50	0.51	1S	50	Yes	290	727.2	726.6	0.6	- -	- -	455	728.0	727.1	0.9	- -	- -	540	728.5	727.3	1.2	- -	- -
810	216th Avenue	0.63	1S	10	Yes	130	729.9	728.2	1.7	- -	- -	190	731.2	729.2	2.2	- -	- -	220	731.9	729.4	2.5	- -	- -
815	Private drive	0.97	1I	- -	- -	130	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	220	- -	- -	- -	- -	- -
820	Private drive	1.40	1I	- -	- -	130	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	220	- -	- -	- -	- -	- -
1000	Private drive	2.17	1S	- -	- -	65	753.5	751.0	2.5	- -	- -	95	754.3	751.4	2.9	- -	- -	115	754.8	751.6	3.2	- -	- -
1000A	Weir	2.18	2S	- -	- -	65	755.7	753.1	2.6	- -	- -	95	756.1	753.9	2.2	- -	- -	115	756.2	754.3	1.9	- -	- -
L-7	Hooker Lake spillway	2.37	2S	- -	- -	30	755.8[f]	755.8	0.0	- -	- -	45	756.1[f]	756.1	0.0	- -	- -	55	756.2[f]	756.2	0.0	- -	- -

[a] *Measured in miles above confluence with Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Hooker Lake.*

Source: SEWRPC.

Table G-19

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
840	Private drive	0.42	1I	- -	- -	155	- -	- -	- -	- -	- -	270	- -	- -	- -	- -	- -	330	- -	- -	- -	- -	- -
845	81st Street	0.87	1S	10	No	155	752.4	751.6	0.8	0.1	- -	270	753.1	752.0	1.1	0.6	- -	330	753.2	752.3	0.9	0.9	- -
850	82nd Street	0.99	1S	10	Yes	155	753.2	752.6	0.6	- -	- -	270	754.5	753.2	1.3	- -	- -	330	755.2	753.4	1.8	- -	- -
855	- -[f]	1.08	- -	- -	- -	155	759.3	755.4	3.9	- -	- -	270	760.6	756.8	3.8	- -	- -	330	761.2	757.5	3.7	- -	- -
860	Private drive	1.20	1I	- -	- -	45	- -	- -	- -	- -	- -	75	- -	- -	- -	- -	- -	95	- -	- -	- -	- -	- -
865	85th Street/CTH AH	1.29	1S	50	No	45	759.6[g]	759.3	0.3	0.4	0.2	75	760.6[g]	760.6	0.0	1.4	1.2	95	761.2[g]	761.2	0.0	2.0	1.8

[a] *Measured in miles above confluence with Salem Branch of Brighton Creek.*

[b] *Structure codes are as follows: 1—bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Instream structure was removed, but embankment remains.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 865.*

Source: SEWRPC.

Table G-20

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 2 TO SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
825	Private drive	0.26	1S	- -	- -	70	768.5	766.5	2.0	0.7	0.3	95	768.6	766.7	1.9	0.9	0.5	110	768.6	766.8	1.8	0.9	0.5
830	75th Street/STH 50 culvert outlet	0.58	1S	50	No	70	- -	784.9	- -	- -	- -	95	- -	785.1	- -	0.2	- -	110	- -	785.3	- -	0.3	- -
830	75th Street/STH 50 culvert inlet	0.61	1S	50	No	70	789.0	- -	4.1	- -	- -	95	789.4	- -	4.3	0.2	- -	110	789.4	- -	4.1	0.3	- -
835	Private drive	0.72	1S	- -	- -	70	791.3	789.9	1.4	0.6	0.3	95	791.4	790.0	1.4	0.8	0.5	110	791.5	790.1	1.4	0.8	0.5
L-10	Paddock Lake outlet	0.78	- -	- -	- -	20	794.6[f]	792.7	1.9	- -	- -	25	794.7[f]	792.8	1.9	- -	- -	25	794.7[f]	792.9	1.8	- -	- -

[a] Measured in miles above confluence with Salem Branch of Brighton Creek.

[b] Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.

[c] A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.

[d] The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.

[e] Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.

[f] The flood stage indicated represents the water surface elevation on Paddock Lake.

Source: SEWRPC.

Table G-21

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 3 TO SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
870	80th Place	0.18	1S	10	No	35	771.0	768.1	2.8	0.3	0.1	50	771.0	768.2	2.9	0.4	0.2	55	771.1	768.3	2.8	0.4	0.2
875	Private drive	0.30	1I	- -	- -	35	- -	- -	- -	- -	- -	50	- -	- -	- -	- -	- -	55	- -	- -	- -	- -	- -
880	83rd Street	0.55	1S	10	No	35	796.1	793.4	2.7	0.2	- -	50	796.2	793.5	2.7	0.3	- -	55	796.2	793.5	2.7	0.4	- -

[a] *Measured in miles above confluence with Salem Branch of Brighton Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-22

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO HOOKER LAKE: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
885	83rd Street culvert outlet	0.00	1S	10	No	105	- -	755.8[f]	- -	- -	- -	190	- -	756.1[f]	- -	- -	- -	240	- -	756.2[f]	- -	- -	- -
885	83rd Street culvert inlet	0.09	1S	10	No	105	765.7	- -	9.9	0.6	0.6	190	766.1	- -	10.0	1.0	1.0	240	766.2	- -	10.0	1.1	1.1
887	Private drive	0.26	1I	- -	- -	105	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -
888	Private drive	0.40	1I	- -	- -	105	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -
890	Private drive	0.64	1I	- -	- -	105	- -	- -	- -	- -	- -	190	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -
892	89th Street/CTH AH	0.84	1S	50	No	45	794.4	791.2	3.2	0.3	- -	90	794.7	792.0	2.7	0.5	- -	110	794.7	792.3	2.4	0.6	- -
894	Private drive	1.04	1I	- -	- -	45	- -	- -	- -	- -	- -	90	- -	- -	- -	- -	- -	110	- -	- -	- -	- -	- -
896	Private drive	1.14	1I	- -	- -	45	- -	- -	- -	- -	- -	90	- -	- -	- -	- -	- -	110	- -	- -	- -	- -	- -
898	Private drive	1.50	1I	- -	- -	45	- -	- -	- -	- -	- -	90	- -	- -	- -	- -	- -	110	- -	- -	- -	- -	- -

[a] *Measured in miles above mouth at Hooker Lake.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Hooker Lake.*

Source: SEWRPC.

Table G-23

HYDROLOGIC-HYDRAULIC SUMMARY—CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
600	Private drive	0.40	1S	- -	- -	480	679.3	679.2	0.1	1.1	- -	780	679.7	679.6	0.1	1.5	- -	930	679.8	679.7[f]	0.1	1.6	0.1
602	Private drive	0.62	1I	- -	- -	480	- -	- -	- -	- -	- -	780	- -	- -	- -	- -	- -	930	- -	- -	- -	- -	- -
610	144th Avenue	1.60	1S	10	No	340	692.2	691.7	0.5	0.9	- -	640	692.6	692.2	0.4	1.4	- -	810	692.8	692.5	0.3	1.7	- -
612	Dam	1.90	2S	- -	- -	340	697.1	696.8	0.3	- -	- -	640	697.9	697.6	0.3	- -	- -	810	698.2	697.9	0.3	- -	- -
615	75th Street/STH 50	2.31	1S	50	Yes	340	703.8	703.4	0.4	- -	- -	640	705.6	704.6	1.0	- -	- -	810	706.5	705.1	1.4	- -	- -
620	Private drive	2.36	1S	- -	- -	330	704.1	704.0	0.1	1.2	- -	670	705.9	705.8	0.1	3.1	0.8	860	706.9	706.8	0.1	4.1	1.8
625	Private drive	2.83	1S	- -	- -	330	711.9	711.4	0.5	- -	- -	670	713.1	712.4	0.7	1.2	- -	860	713.6	712.7	0.9	1.7	- -
630	Private drive	3.30	1S	- -	- -	330	721.7	720.6	1.1	- -	- -	670	722.7	720.9	1.8	1.1	- -	860	722.8	721.3	1.5	1.3	- -
635	60th Street/CTH K	3.72	1S	50	Yes	265	- -	726.1	- -	- -	- -	590	- -	727.1	- -	- -	- -	770	- -	727.5	- -	- -	- -

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on the Des Plaines River.*

Source: SEWRPC.

Table G-24

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
680	75th Street/STH 50	1.04	1S	50	Yes	140	710.0	707.6	2.4	- -	- -	240	713.1	708.2	4.9	- -	- -	290	714.7	708.4	6.3	0.2	- -
682	Private drive	1.82	1I	- -	- -	25	- -	- -	- -	- -	- -	35	- -	- -	- -	- -	- -	45	- -	- -	- -	- -	- -
684	Private drive	1.90	1I	- -	- -	25	- -	- -	- -	- -	- -	35	- -	- -	- -	- -	- -	45	- -	- -	- -	- -	- -
686	Private drive	2.03	1I	- -	- -	25	- -	- -	- -	- -	- -	35	- -	- -	- -	- -	- -	45	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Center Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Table G-25

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 4 TO CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
688	Private drive	0.00	1I	- -	- -	90	- -	- -	- -	- -	- -	140	- -	- -	- -	- -	- -	170	- -	- -	- -	- -	- -
690	Private drive	0.12	1S	- -	- -	90	709.6	705.5[f]	4.1	2.9	- -	140	710.3	705.9[f]	4.4	3.6	- -	170	709.5	706.9[f]	2.7	2.7	- -
692	Private drive	0.24	1S	- -	- -	90	718.2	714.5	3.7	0.3	0.3	140	718.3	714.7	3.6	0.3	0.3	170	718.4	714.8	3.6	0.5	0.5
694	Private drive	0.40	1I	- -	- -	90	- -	- -	- -	- -	- -	140	- -	- -	- -	- -	- -	170	- -	- -	- -	- -	- -
696	Private drive	0.79	1I	- -	- -	65	- -	- -	- -	- -	- -	105	- -	- -	- -	- -	- -	125	- -	- -	- -	- -	- -
697	Private drive	0.93	1I	- -	- -	10	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -	30	- -	- -	- -	- -	- -
698	Pond outlet	0.96	1I	- -	- -	10	- -	- -	- -	- -	- -	25	- -	- -	- -	- -	- -	30	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Center Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Center Creek at the confluence with Unnamed Tributary No. 4 to Center Creek.*

Source: SEWRPC.

Table G-26

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 5 TO CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
700	Private drive	0.02	1S	- -	- -	70	703.9[f]	703.9[f]	0.0	0.3	0.2	120	705.7[f]	705.6[f]	0.1	2.1	2.0	140	706.7[f]	706.6[f]	0.1	3.1	3.0
705	Private drive	0.20	1S	- -	- -	70	708.5	707.0	1.5	0.5	- -	120	708.8	707.3	1.5	0.8	- -	140	708.9	707.5	1.4	0.9	- -
710	156th Avenue/ CTH MB	0.69	1S	10	Yes	30	730.8	728.8	2.0	- -	- -	50	732.2	729.0	3.2	0.1	- -	60	732.3	729.0	3.3	0.2	- -

[a] *Measured in miles above confluence with Center Creek.*

[b] *Structure codes are as follows: 1bridge or culvert; 2dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Center Creek at this location.*

Source: SEWRPC.

Table G-27

HYDROLOGIC-HYDRAULIC SUMMARY—DUTCH GAP CANAL: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1100	128th Street/ CTH WG	0.00	1S	50	Yes	430	755.9	755.8[f]	0.1	- -	- -	670	756.6	756.5[f]	0.1	- -	- -	790	756.9	756.8[f]	0.1	- -	- -
1102	Private drive	0.16	1I	- -	- -	430	- -	- -	- -	- -	- -	670	- -	- -	- -	- -	- -	790	- -	- -	- -	- -	- -
1105	121st Street/ CTH CJ	1.07	1S	50	Yes	160	757.8	757.8	0.0	- -	- -	240	758.3	758.3	0.0	- -	- -	275	758.6	758.6	0.0	- -	- -
1110	Private drive	1.51	1I	- -	- -	160	- -	- -	- -	- -	- -	240	- -	- -	- -	- -	- -	275	- -	- -	- -	- -	- -
1115	110th Street/CTH V	2.14	1S	50	Yes	90	758.2	758.2	0.0	- -	- -	140	758.6	758.6	0.0	- -	- -	160	758.8	758.8	0.0	- -	- -
1117	Private drive	2.25	1I	- -	- -	90	- -	- -	- -	- -	- -	140	- -	- -	- -	- -	- -	160	- -	- -	- -	- -	- -
1120	Private drive	3.04	1I	- -	- -	90	- -	- -	- -	- -	- -	140	- -	- -	- -	- -	- -	160	- -	- -	- -	- -	- -
1125	Private drive	3.84	1I	- -	- -	40	- -	- -	- -	- -	- -	55	- -	- -	- -	- -	- -	65	- -	- -	- -	- -	- -
1127	93rd Street/CTH C	4.07	1S	50	Yes	40	758.9[g]	758.5	0.4	- -	- -	55	759.8[g]	759.0	0.8	- -	- -	65	760.3[g]	759.3	1.0	- -	- -

[a] *Measured in miles above Wisconsin-Illinois state line.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately downstream from structure 1100.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 1127.*

Source: SEWRPC.

Table G-28

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 3 TO DUTCH GAP CANAL: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1129	Private drive	0.12	1S	- -	- -	65	758.4[f]	758.4[f]	0.0	- -	- -	105	758.8[f]	758.8[f]	0.0	- -	- -	130	759.1[f]	759.1[f]	0.0	0.1	- -
1130	George Lake outlet	0.19	2S	- -	- -	65	763.0[g]	760.6	2.4	- -	- -	105	763.4[g]	761.2	2.2	- -	- -	130	763.6[g]	761.4	2.2	- -	- -
1132	Bristol Road	0.75	1S	50	Yes	30	763.3	763.1	0.2	- -	- -	50	763.8	763.6	0.2	- -	- -	60	764.1	763.7	0.4	- -	- -
1134	200th Avenue/ USH 45	0.81	1S	50	Yes	30	763.9	763.6	0.3	- -	- -	50	764.7	764.3	0.4	- -	- -	60	765.0	764.6	0.4	- -	- -
1136	Dam	1.04	2S	- -	- -	30	766.6	764.3	2.3	- -	- -	50	766.9	765.0	1.9	- -	- -	60	766.9	765.3	1.6	- -	- -
1138	Private drive	1.17	1S	- -	- -	30	768.8	766.8	2.0	- -	- -	50	769.8	767.1	2.7	- -	- -	60	770.1	767.2	2.9	0.1	- -
1140	Private drive	1.20	1S	- -	- -	30	770.3	768.9	1.4	- -	- -	50	771.1	769.9	1.2	- -	- -	60	771.6	770.2	1.4	- -	- -
1142	Private drive	1.34	1I	- -	- -	30	- -	- -	- -	- -	- -	50	- -	- -	- -	- -	- -	60	- -	- -	- -	- -	- -
1144	Dam	1.40	2S	- -	- -	30	785.1	779.5	5.6	- -	- -	50	785.3	780.0	5.3	- -	- -	60	785.4	780.2	5.2	- -	- -

[a] *Measured in miles above confluence with Dutch Gap Canal.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Dutch Gap Canal at the confluence with Unnamed Tributary No. 3 to Dutch Gap Canal.*

[g] *The flood stage indicated represents the water surface elevation of George Lake.*

Source: SEWRPC.

Table G-29

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 4 TO DUTCH GAP CANAL: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1150	200th Avenue/ USH 45	0.19	1S	50	Yes	35	767.4	766.7	0.7	- -	- -	60	768.0	767.2	0.8	- -	- -	75	768.2	767.4	0.8	- -	- -
1152	107th Street/ CTH JS	0.28	1S	50	Yes	35	769.0	768.4	0.6	- -	- -	60	769.6	768.9	0.7	- -	- -	75	769.9	769.1	0.8	- -	- -

[a] *Measured in miles above confluence with Unnamed Tributary No. 3 to Dutch Gap Canal.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-30

HYDROLOGIC-HYDRAULIC SUMMARY—MUD LAKE OUTLET: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
1155	Private drive	0.16	1S	- -	- -	90	758.0[f]	758.0[f]	0.0	1.3	1.3	115	758.5[f]	758.5[f]	0.0	1.8	1.8	130	758.7[f]	758.7[f]	0.0	2.0	2.0
1160	200th Avenue/ USH 45	0.70	1S	50	Yes	90	761.6	761.2	0.4	- -	- -	115	762.1	761.6	0.5	- -	- -	130	762.3	761.7	0.6	- -	- -
1165	187th Avenue	1.05	1S	10	Yes	75	763.5	761.7	1.8	- -	- -	90	764.8	762.2	2.6	- -	- -	100	765.0	762.5	2.5	0.3	0.3

[a] *Measured in miles above confluence with Dutch Gap Canal.*

[b] *Structure codes are as follows: 1bridge or culvert; 2dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Dutch Gap Canal at the confluence with Mud Lake outlet.*

Source: SEWRPC.

Table G-31

HYDROLOGIC-HYDRAULIC SUMMARY—JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
900	Private drive	0.84	1S	- -	- -	110	676.3	675.4	0.9	- -	- -	130	677.5	676.3	1.2	- -	- -	140	678.3	676.8	1.4	- -	- -
905	88th Avenue/CTH H	1.12	1S	50	Yes	110	676.5	676.7	0.0	- -	- -	130	677.9	677.8	0.0	- -	- -	140	678.5	678.5	0.0	- -	- -
910	Canadian Pacific Railway	1.43	1S	100	Yes	110	676.9	676.8	0.1	- -	- -	130	678.0	677.9	0.1	- -	- -	140	678.7	678.6	0.1	- -	- -
917	Canadian Pacific Railway culvert outlet	2.02	1S	100	Yes	60	- -	679.2	- -	- -	- -	65	- -	679.5	- -	- -	- -	70	- -	679.8	- -	- -	- -
917	Canadian Pacific Railway culvert inlet	2.04	1S	100	Yes	60	679.5	- -	0.3	- -	- -	65	680.4	- -	0.9	- -	- -	70	680.8	- -	1.0	- -	- -
920/ 920A	Union Pacific Railroad culvert outlet	2.35	1S	100	Yes	65	- -	679.8	- -	- -	- -	70	- -	680.5	- -	- -	- -	75	- -	680.9	- -	- -	- -
920/ 920A	Union Pacific Railroad culvert inlet	2.40	1S	100	Yes	65	680.1	- -	0.4	- -	- -	70	681.0	- -	0.5	- -	- -	75	681.4	- -	0.5	- -	- -
925	Green Bay Road/ STH 31	2.68	1S	50	Yes	150	680.5	680.4	0.1	- -	- -	200	681.4	681.1	0.3	- -	- -	225	681.8	681.5	0.3	- -	- -
930	Private drive	3.22	1S	- -	- -	150	680.7	680.6	0.1	N/A	1.1	200	681.5	681.4	0.1	N/A	1.9	225	681.9	681.9	0.0	N/A	2.3
935	Private drive	3.27	1S	- -	- -	150	680.8	680.7	0.1	N/A	0.8	200	681.5	681.5	0.0	N/A	1.5	225	681.9	681.9	0.1	N/A	1.9
940	Private drive	3.36	1S	- -	- -	150	681.1	681.1	0.0	N/A	2.0	200	681.7	681.6	0.1	N/A	2.6	225	682.0	682.0	0.0	N/A	2.9
942	Private drive	3.62	1S	- -	- -	150	682.2	682.1	0.1	N/A	0.7	200	682.6	682.5	0.1	N/A	1.1	225	682.8	682.7	0.1	N/A	1.2
942A	Private drive	3.87	1S	- -	- -	25	682.6	682.5	0.1	N/A	0.4	50	682.8	682.8	0.0	N/A	0.6	60	683.0	683.0	0.0	N/A	0.8
943	Private drive	3.99	1I	- -	- -	25	- -	- -	- -	- -	- -	50	- -	- -	- -	- -	- -	60	- -	- -	- -	- -	- -
944	Private drive	4.08	1I	- -	- -	15	- -	- -	- -	- -	- -	30	- -	- -	- -	- -	- -	35	- -	- -	- -	- -	- -
945	Private drive	4.13	1I	- -	- -	15	- -	- -	- -	- -	- -	30	- -	- -	- -	- -	- -	35	- -	- -	- -	- -	- -
947	93rd Street	4.45	1S	50	No	8	705.0	702.9	2.1	- -	- -	15	706.9	703.2	3.7	0.1	0.1	20	707.0	703.3	3.7	0.2	0.2

NOTE: N/A indicates not applicable.

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-32

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 2 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
950	Bain Station Road	0.32	1S	50	Yes	20	679.2[f]	679.2[f]	0.0	- -	- -	25	679.5[f]	679.5[f]	0.0	- -	- -	27	679.8[f]	679.8[f]	0.0	- -	- -
955	Private drive	0.34	1S	- -	- -	20	679.2[f]	679.2[f]	0.0	- -	- -	25	679.5[f]	679.5[f]	0.0	- -	- -	27	679.8[f]	679.8[f]	0.0	- -	- -
957	WEPCo landfill road (private drive)	0.35	1S	- -	- -	20	679.2[f]	679.2[f]	0.0	- -	- -	25	679.8	679.5[f]	0.3	- -	- -	27	679.9	679.8[f]	0.1	- -	- -

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation of Jerome Creek at the confluence with Unnamed Tributary No. 2 to Jerome Creek.*

Source: SEWRPC.

Table G-33

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 3 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
962	Union Pacific Railroad	0.36	1S	100	Yes	35	680.9	679.8[f]	1.1	- -	- -	39	681.1	680.5[f]	0.6	- -	- -	41	681.2	680.8[f]	0.4	- -	- -
965	Private drive	0.45	1S	- -	- -	35	681.3	681.0	0.3	0.7	- -	39	681.6	681.2	0.4	0.9	- -	41	681.7	681.3	0.4	1.0	- -
966	Bain Station Road	0.48	1S	50	No	35	681.7	681.4	0.3	0.1	- -	39	681.9	681.6	0.3	0.3	- -	41	682.0	681.8	0.2	0.4	0.1
967	Union Pacific Railroad	0.85	1S	100	Yes	35	682.7	682.1	0.6	- -	- -	39	683.0	682.2	0.8	- -	- -	41	683.2	682.3	0.9	- -	- -
969	70th Avenue	1.47	1S	10	Yes	35	687.8[g]	687.4	0.4	- -	- -	39	688.0[g]	687.5	0.5	- -	- -	41	688.0[g]	687.6	0.4	- -	- -

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Jerome Creek at the confluence with Unnamed Tributary No. 3 to Jerome Creek.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 969.*

Source: SEWRPC.

Table G-34

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 4 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
980	Private drive	0.02	1S	- -	- -	220[f]	680.3[g]	680.3[g]	0.0	N/A	0.9	340[h]	681.1[g]	681.1[g]	0.0	N/A	1.7	400[i]	681.5[g]	681.5[g]	0.0	N/A	2.1
985	Private drive	0.07	1S	- -	- -	220[f]	680.3[g]	680.3[g]	0.0	1.2	0.8	340[h]	681.1[g]	681.1[g]	0.0	2.0	1.6	400[i]	681.5[g]	681.5[g]	0.0	2.4	2.0
996	Green Bay Road/ STH 31 culvert outlet	0.21	1S	50	Yes	220[f]	- -	680.7	- -	- -	- -	340[h]	- -	681.1[g]	- -	- -	- -	400[i]	- -	681.5[g]	- -	- -	- -
996	Green Bay Road/ STH 31 culvert inlet	0.24	1S	50	Yes	220[f]	681.2	- -	0.5	- -	- -	340[h]	681.3	- -	0.2	- -	- -	400[i]	681.5[g]	- -	0.0	- -	- -
997	Private drive	0.29	1S	- -	- -	220[f]	683.7	681.6	2.1	0.9	0.7	340[h]	683.8	681.7	2.1	1.0	0.8	400[i]	683.8	681.8	2.0	1.0	0.8
998	Private drive	0.78	1S	- -	- -	220	691.1	690.0	1.1	1.0	1.0	340	691.4	690.5	0.9	1.3	1.3	400	691.6	690.7	0.9	1.5	1.5
999	93rd Street	1.04	1S	50	No	255	700.7	696.9	3.8	0.4	0.3	405	701.1	697.4	3.7	0.8	0.7	475	701.2	697.6	3.6	0.9	0.8

NOTE: N/A indicates not applicable.

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 10-year flow between River Mile 0.02 and River Mile 0.77 is 220 cfs. Of that total, about 45 cfs would overflow to Jerome Creek and bypass structures 980, 985, 996, and 997.*

[g] *The flood stage indicated represents the water surface elevation on Jerome Creek at the confluence with Unnamed Tributary No. 4 to Jerome Creek.*

[h] *Total 50-year flow between River Mile 0.02 and River Mile 0.77 is 340 cfs. Of that total, about 150 cfs would overflow to Jerome Creek and bypass structures 980, 985, 996, and 997.*

[i] *Total 100-year flow between River Mile 0.02 and River Mile 0.77 is 400 cfs. Of that total, about 200 cfs would overflow to Jerome Creek and bypass structures 980, 985, 996, and 997.*

Source: SEWRPC.

Table G-35

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 5 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
970A	Private drive	0.05	1I	- -	- -	50	- -	- -	- -	- -	- -	85	- -	- -	- -	- -	- -	100	- -	- -	- -	- -	- -
970	Private drive	0.14	1I	- -	- -	50	- -	- -	- -	- -	- -	85	- -	- -	- -	- -	- -	100	- -	- -	- -	- -	- -

[a] *Measured in miles above confluence with Jerome Creek.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-36

HYDROLOGIC-HYDRAULIC SUMMARY—KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
305	75th Street/STH 50	1.33	1S	50	Yes	885	682.0	681.7	0.3	- -	- -	1,340	683.0	682.4	0.6	- -	- -	1,550	683.4	682.6	0.4	- -	- -
315	60th Street/CTH K	2.81	1S	50	Yes	740	692.9	692.8	0.1	- -	- -	1,170	694.3	694.0	0.3	- -	- -	1,380	694.9	694.4	0.5	- -	- -
320	Private drive	3.19	1S	- -	- -	740	694.8	694.6	0.2	1.3	- -	1,170	695.7	695.6	0.1	2.2	- -	1,380	696.2	696.1	0.1	2.7	- -
325	52nd Street/ STH 158	3.47	1S	50	Yes	740	697.6	697.5	0.1	- -	- -	1,170	699.2	698.5	0.7	- -	- -	1,380	699.9	698.9	1.0	- -	- -
340	Private drive	4.58	1I	- -	- -	625	- -	- -	- -	- -	- -	1,030	- -	- -	- -	- -	- -	1,250	- -	- -	- -	- -	- -
345	38th Street/CTH N	4.92	1S	50	No	655	702.3	702.2	0.1	- -	- -	1,110	703.6	702.9	0.7	0.7	0.4	1,370	703.9	703.3	0.6	1.0	0.7
350	Burlington Road/ CTH S	5.47	1S	50	Yes	655	704.8	704.5	0.3	- -	- -	1,110	705.9	705.5	0.4	- -	- -	1,370	706.3	705.9	0.4	- -	- -
360	Private drive	7.20	1I	- -	- -	470	- -	- -	- -	- -	- -	780	- -	- -	- -	- -	- -	965	- -	- -	- -	- -	- -
365	12th Street/CTH E	8.01	1S	50	Yes	405	717.3	717.1	0.2	- -	- -	635	718.6	718.1	0.5	- -	- -	770	719.1	718.7	0.4	0.2	0.1
370	Private drive	8.28	1I	- -	- -	405	- -	- -	- -	- -	- -	635	- -	- -	- -	- -	- -	770	- -	- -	- -	- -	- -
372	Farm bridge	8.79	1I	- -	- -	405	- -	- -	- -	- -	- -	635	- -	- -	- -	- -	- -	770	- -	- -	- -	- -	- -
375	Farm bridge	8.90	1I	- -	- -	405	- -	- -	- -	- -	- -	635	- -	- -	- -	- -	- -	770	- -	- -	- -	- -	- -
380	7th Street/CTH A	9.24	1S	50	Yes	405	719.6	719.3	0.3	- -	- -	635	720.6	720.2	0.4	- -	- -	770	721.9	720.3	1.6	0.2	- -
385	Private drive	9.57	1S	- -	- -	405	722.4	720.3	2.1	2.1	1.6	635	722.7	721.8	0.9	2.3	1.8	770	722.9	722.4	0.5	2.4	1.9
395	Private drive	10.22	1S	- -	- -	310	723.2	722.9	0.3	0.9	0.7	465	723.6	723.4	0.2	1.1	0.9	540	723.8	723.7	0.1	1.5	1.3
400	Private drive	10.64	1S	- -	- -	310	724.9	724.8	0.1	1.9	1.9	465	725.5	725.4	0.1	2.4	2.4	540	725.8	725.7	0.1	2.7	2.7
405	County Line Road/ CTH KR	10.81	1S	50	Yes	310	725.4	725.4	0.0	- -	- -	465	726.2	726.0	0.2	- -	- -	540	726.4	726.2	0.2	- -	- -
420	Private drive	11.29	1S	- -	- -	310	727.4	726.2	1.2	2.0	- -	465	727.7	727.0	0.7	2.4	- -	540	727.9	727.2	0.7	2.5	- -
425	Farm bridge	11.80	1I	- -	- -	345	- -	- -	- -	- -	- -	540	- -	- -	- -	- -	- -	640	- -	- -	- -	- -	- -
430	Braun Road	11.93	1S	10	Yes	345	731.2	730.8	0.5	- -	- -	540	732.0	731.3	0.7	- -	- -	640	733.1	731.6	1.5	0.2	- -
440	Private drive	12.36	1S	- -	- -	290[f]	736.1	733.3	2.8	- -	- -	430[g]	736.4	733.9	2.5	- -	- -	495[h]	736.5	734.1	2.4	- -	- -
445	Private drive	12.63	1S	- -	- -	290[f]	736.5	736.4	0.1	3.2	2.9	430[g]	736.7	736.7	0.0	3.5	3.2	495[h]	736.8	736.8	0.0	3.6	3.3

[a] *Measured in miles above confluence with the Des Plaines River.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *Total 10-year flow at River Mile 12.36 is 290 cfs. Of that total, about 155 cfs would bypass structures 440 and 445.*

[g] *Total 50-year flow at River Mile 12.36 is 430 cfs. Of that total, about 305 cfs would bypass structures 440 and 445.*

[h] *Total 100-year flow at River Mile 12.36 is 495 cfs. Of that total, about 365 cfs would bypass structures 440 and 445.*

Source: SEWRPC.

Table G-37

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 1 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
450	115th Avenue	0.17	1S	10	Yes	30	680.7	679.7	1.0	- -	- -	45	681.0	680.0	1.0	- -	- -	55	681.3	680.1	1.2	- -	- -
452	Channel enclosure outlet	0.21	1S	- -	- -	30	- -	681.2	- -	- -	- -	45	- -	681.7	- -	- -	- -	55	- -	681.9	- -	- -	- -
452	Channel enclosure inlet	0.29	1S	- -	- -	30	683.1	- -	1.9	- -	- -	45	683.9	- -	2.2	- -	- -	55	685.1	- -	3.2	- -	- -
454	112th Avenue	0.33	1S	10	Yes	30	684.2	683.5	0.7	- -	- -	45	684.8	684.2	0.6	- -	- -	55	685.8	685.2	0.6	- -	- -
456	79th Street	0.40	1S	10	Yes	30	685.0	684.7	0.3	- -	- -	45	685.6	685.1	0.5	- -	- -	55	686.5	685.9	0.6	- -	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

Source: SEWRPC.

Table G-38

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 5 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
460	120th Avenue/ East Frontage Road	0.25	1S	10	Yes	75	- -	706.4	- -	- -	- -	130	- -	707.1	- -	- -	- -	160	- -	707.3	- -	- -	- -
460	IH 94/USH 41	0.28	1S	100	Yes	75	709.6	706.4	3.2	- -	- -	130	711.0	707.1	3.9	- -	- -	160	711.7	707.3	4.4	- -	- -
460	120th Avenue/ West Frontage Road	0.31	1S	10	Yes	75	709.6	- -	3.2	- -	- -	130	711.0	- -	3.9	- -	- -	160	711.7	- -	4.4	- -	- -
466	Private drive	0.80	1I	- -	- -	75	- -	- -	- -	- -	- -	130	- -	- -	- -	- -	- -	160	- -	- -	- -	- -	- -
467	Private drive	0.84	1S	- -	- -	25	735.1	733.2	1.9	0.2	0.2	60	735.4	733.6	1.8	0.4	0.4	80	735.5	733.8	1.7	0.6	0.6
468	128th Avenue	0.88	1S	10	Yes	25	735.7[f]	735.2	0.5	- -	- -	60	738.3[f]	735.5	2.8	0.6	0.3	80	738.4[f]	735.6	2.8	0.7	0.4

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately upstream of structure 468.*

Source: SEWRPC.

Table G-39

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 8 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
494	120th Avenue/ East Frontage Road	0.75	1S	10	Yes	315	- -	717.9	- -	- -	- -	750	- -	718.9	- -	- -	- -	1,030	- -	719.2	- -	- -	- -
494	IH 94/USH 41	0.78	1S	100	Yes	315	719.1[f]	717.9	1.2	- -	- -	750	722.0[f]	718.9	3.1	- -	- -	1,030	724.2[f]	719.2	5.0	- -	- -
494	120th Avenue/West Frontage Road	0.82	1S	10	Yes	315	719.1[f]	- -	1.2	- -	- -	750	722.0[f]	- -	3.1	- -	- -	1,030	724.2[f]	- -	5.0	0.2	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation approximately 10 feet upstream from structure 494.*

Source: SEWRPC.

Table G-40

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 13 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
469	Private drive	0.05	1I	- -	- -	75	- -	- -	- -	- -	- -	165	- -	- -	- -	- -	- -	220	- -	- -	- -	- -	- -
470	120th Avenue/East Frontage Road	0.46	1S	10	Yes	75	- -	732.7	- -	- -	- -	165	- -	733.5	- -	- -	- -	220	- -	733.8	- -	- -	- -
470	IH 94/USH 41	0.51	1S	100	Yes	75	734.3[f]	732.7	1.6	- -	- -	165	735.7[f]	733.5	2.2	- -	- -	220	736.4[f]	733.8	2.6	- -	- -
470	120th Avenue/West Frontage Road	0.54	1S	10	Yes	75	734.3[f]	- -	1.6	- -	- -	165	735.7[f]	- -	2.2	- -	- -	220	736.4[f]	- -	2.6	- -	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation immediately upstream from structure 470.*

Source: SEWRPC.

Table G-41

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 15 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
476	Private drive	0.26	1S	- -	- -	80	722.9	722.8[f]	0.1	0.5	0.5	165	723.4	723.3[f]	0.1	1.0	1.0	220	723.8	723.5	0.3	1.4	1.4
478	Private drive	0.44	1S	- -	- -	80	724.5[g]	724.0	0.5	0.8	0.7	170	724.9[g]	724.8	0.1	1.2	1.1	225	725.3[g]	725.1	0.2	1.6	1.4

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation on Kilbourn Road Ditch at the confluence with Unnamed Tributary No. 15 to Kilbourn Road Ditch.*

[g] *The flood stage indicated represents the water surface elevation immediately upstream from structure 478.*

Source: SEWRPC.

Table G-42

HYDROLOGIC-HYDRAULIC SUMMARY—UNNAMED TRIBUTARY NO. 18 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

Structure Identification and Selected Characteristics						10-Year Recurrence Interval Flood						50-Year Recurrence Interval Flood						100-Year Recurrence Interval Flood					
Number	Name	River Mile[a]	Structure Type and Hydraulic Significance[b]	Recommended Design Frequency (years)	Adequate Hydraulic Capacity[c]	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)	Instantaneous Peak Discharge (cfs)	Upstream Stage[d] (feet above NGVD)	Downstream Stage[d] (feet above NGVD)	Backwater[e] (feet)	Depth at Low Point in Bridge Approach Road (feet)	Depth on Road at Centerline of Bridge (feet)
480	Private drive	0.01	1I	- -	- -	240	- -	- -	- -	- -	- -	420	- -	- -	- -	- -	- -	520	- -	- -	- -	- -	- -
482	East Frontage Road	0.60	1S	10	Yes	240	- -	735.9	- -	- -	- -	420	- -	736.5	- -	- -	- -	520	- -	736.7	- -	- -	- -
482	IH 94/USH 41	0.64	1S	100	Yes	240	737.7[f]	735.9	1.8	- -	- -	420	739.6[f]	736.5	3.1	- -	- -	520	741.1[f]	736.7	4.4	- -	- -
482	Sylvania Avenue	0.68	1S	10	Yes	240	737.7[f]	- -	1.8	- -	- -	420	739.6[f]	- -	3.1	- -	- -	520	741.1[f]	- -	4.4	1.3	- -

[a] *Measured in miles above confluence with Kilbourn Road Ditch.*

[b] *Structure codes are as follows: 1–bridge or culvert; 2–dam, sill, or weir. Hydraulically significant structures are denoted by a S; hydraulically insignificant structures are denoted by an I.*

[c] *A bridge has an adequate hydraulic capacity if the bridge deck and the approach roadway will not be overtopped during a flood having a recurrence interval equal to or less than the recommended design frequency. A bridge is hydraulically inadequate if the approach roadway or bridge is overtopped by a flood having a recurrence interval equal to or less than the recommended design frequency.*

[d] *The flood stage indicated represents the water surface elevation approximately 50 feet from the hydraulic structure.*

[e] *Backwater is defined as the change in stage from the upstream side of the hydraulic structure to the downstream side.*

[f] *The flood stage indicated represents the water surface elevation approximately 10 feet upstream from structure 482.*

Source: SEWRPC.

SUPPLEMENT TO DES PLAINES RIVER WATERSHED STUDY APPENDIX G
FLOOD FLOWS FOR STREAMS HAVING NO HYDRAULIC STRUCTURES

UNNAMED TRIBUTARY NO. 2A TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

River Mile[a]	Instantaneous Peak Discharge (cubic feet per second)		
	10-Year Recurrence Interval Flood	50-Year Recurrence Interval Flood	100-Year Recurrence Interval Flood
0.00 through 0.32	20	35	42

[a] *Measured in miles above confluence with Unnamed Tributary No. 2 to the Des Plaines River.*

Source: SEWRPC.

UNNAMED TRIBUTARY NO. 37 TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

River Mile[a]	Instantaneous Peak Discharge (cubic feet per second)		
	10-Year Recurrence Interval Flood	50-Year Recurrence Interval Flood	100-Year Recurrence Interval Flood
0.00 through 0.72	95	155	190

[a] *Measured in miles above confluence with the Des Plaines River.*

Source: SEWRPC.

UNNAMED TRIBUTARY NO. 39 TO DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

River Mile[a]	Instantaneous Peak Discharge (cubic feet per second)		
	10-Year Recurrence Interval Flood	50-Year Recurrence Interval Flood	100-Year Recurrence Interval Flood
0.00 through 0.70	60	155	215

[a] *Measured in miles above confluence with the Des Plaines River.*

Source: SEWRPC.

FONK'S TRIBUTARY: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

River Mile[a]	Instantaneous Peak Discharge (cubic feet per second)		
	10-Year Recurrence Interval Flood	50-Year Recurrence Interval Flood	100-Year Recurrence Interval Flood
0.00 through 0.66	115	255	345

[a] *Measured in miles above confluence with the Des Plaines River.*

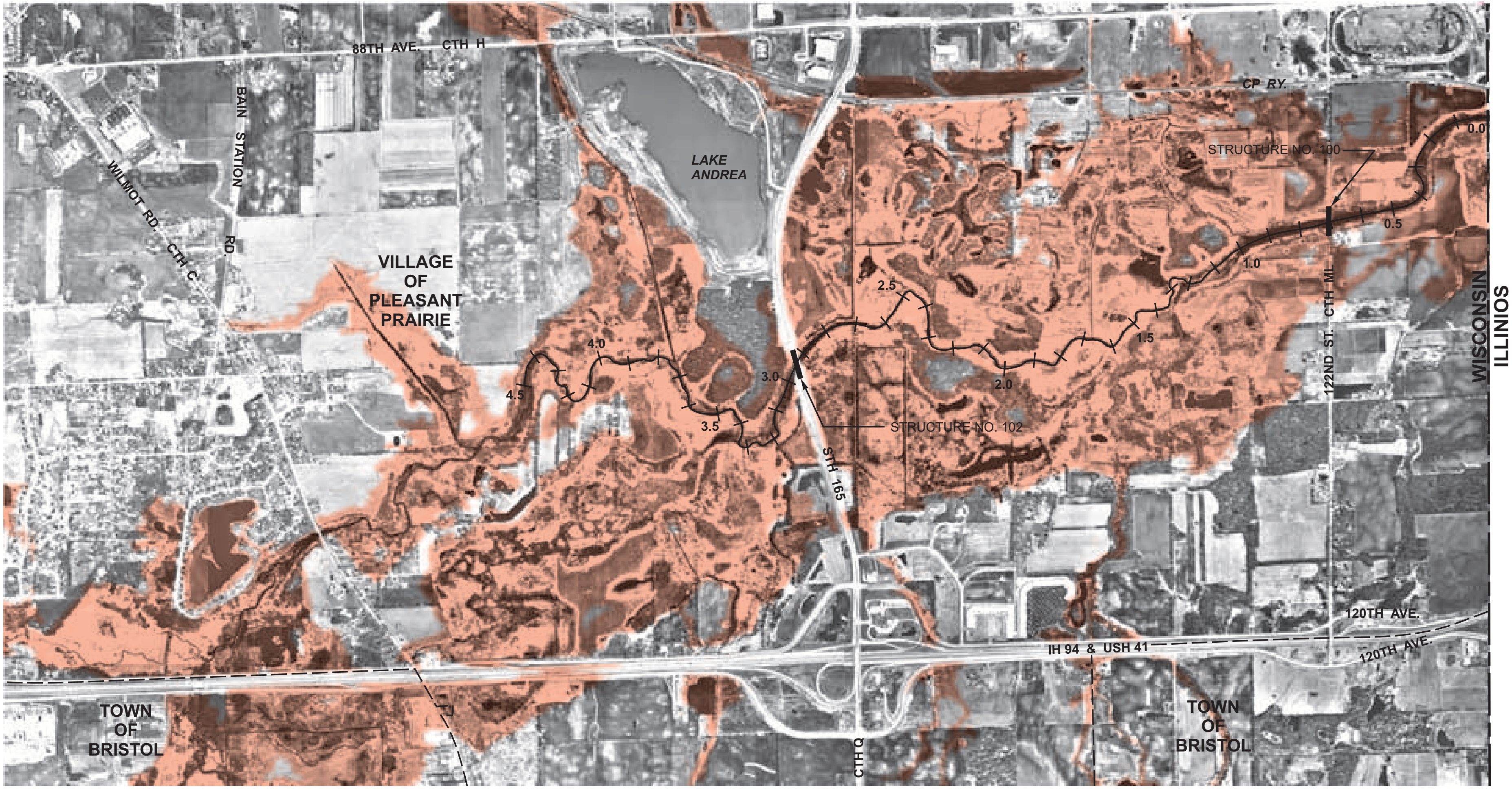
Source: SEWRPC.

Appendix H

FLOOD STAGE AND STREAMBED PROFILES AND AERIAL PHOTOGRAPHS SHOWING AREAS SUBJECT TO FLOODING

Map H-1A

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
(RIVER MILE 0.00 TO 4.50)



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

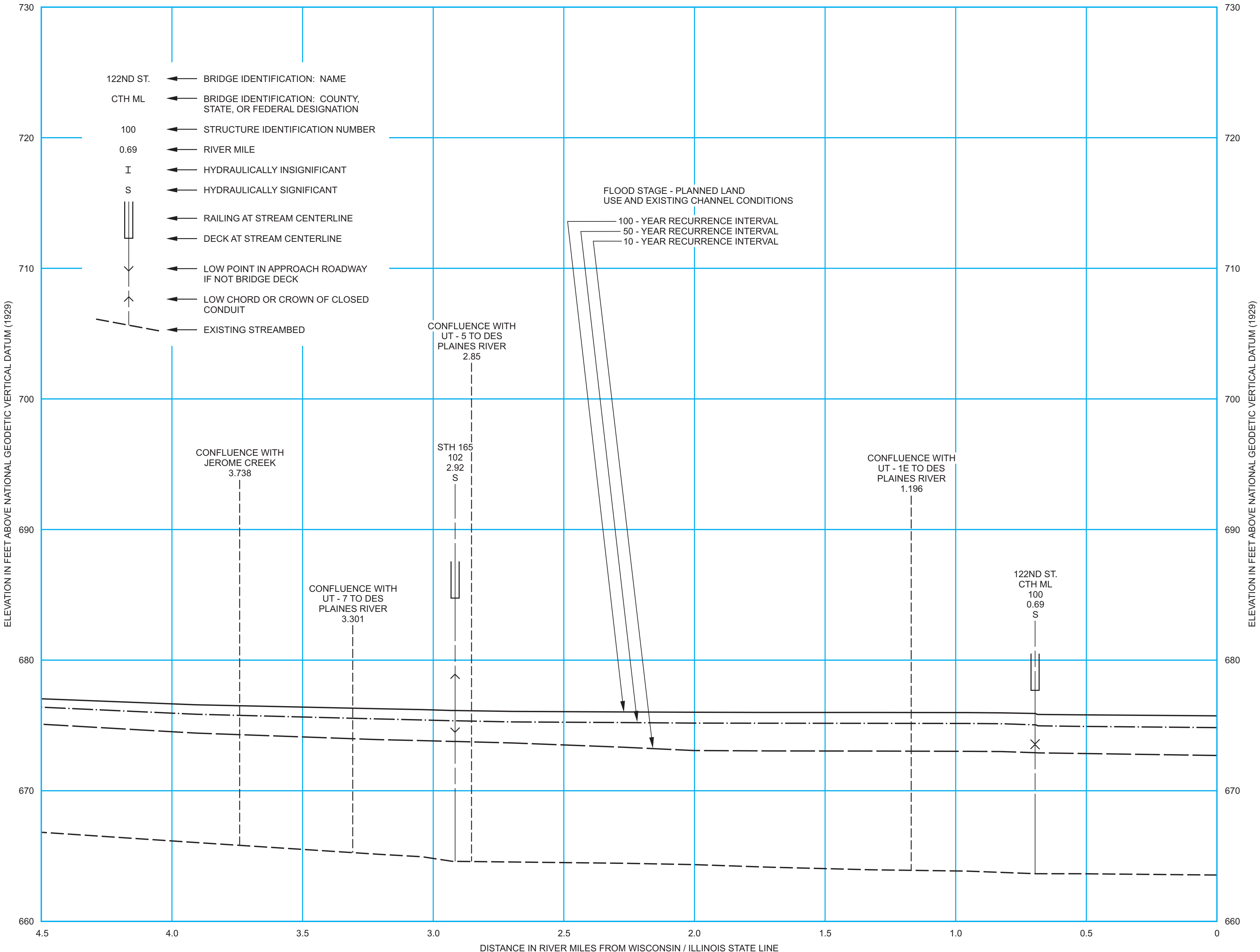
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-1A

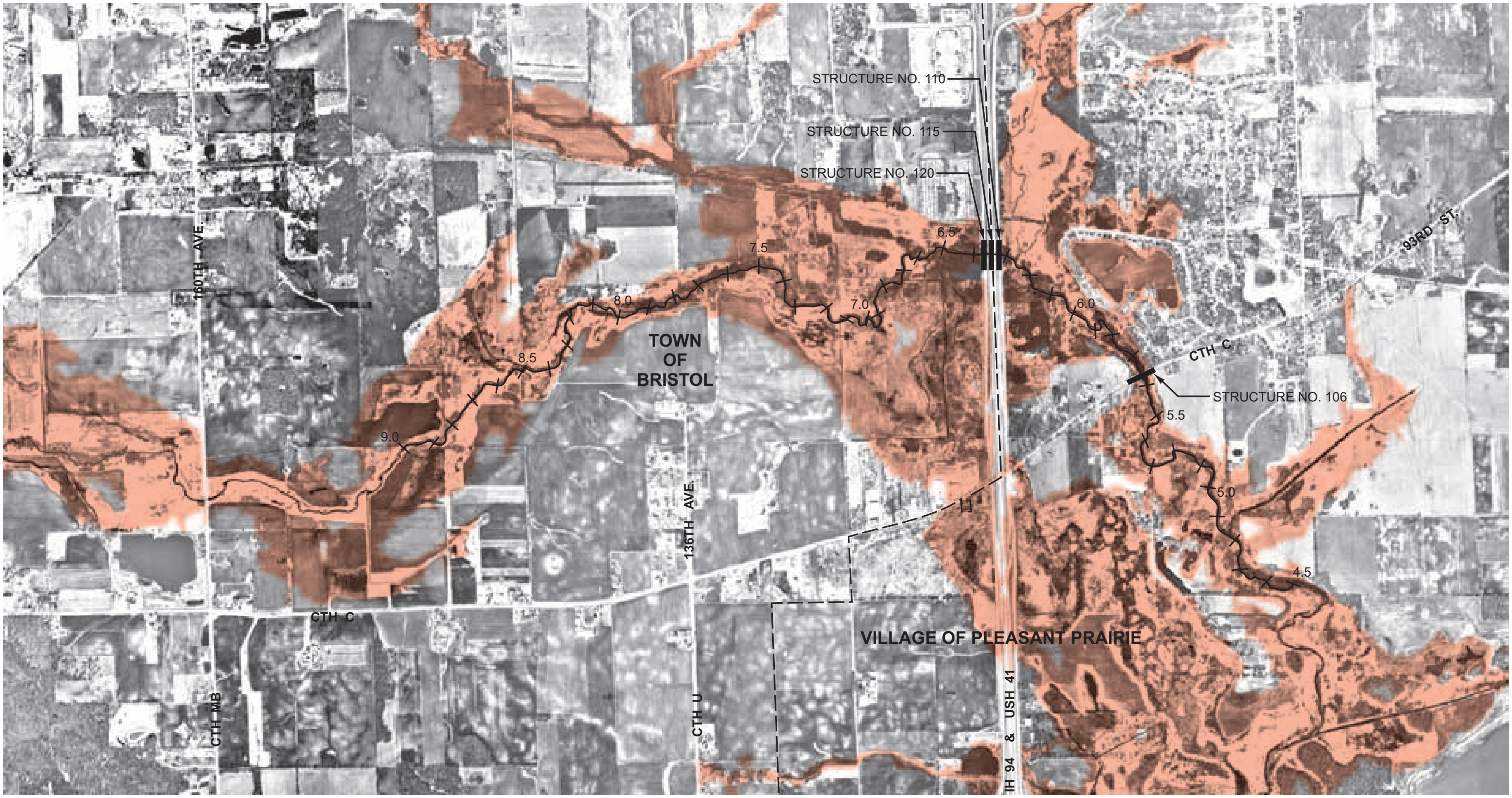
FLOOD STAGE AND STREAMBED PROFILE FOR THE DES PLAINES RIVER (RIVER MILE 0.00 TO 4.50)



Source: SEWRPC.

Map H-1B

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 4.50 TO 9.00)



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

4.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

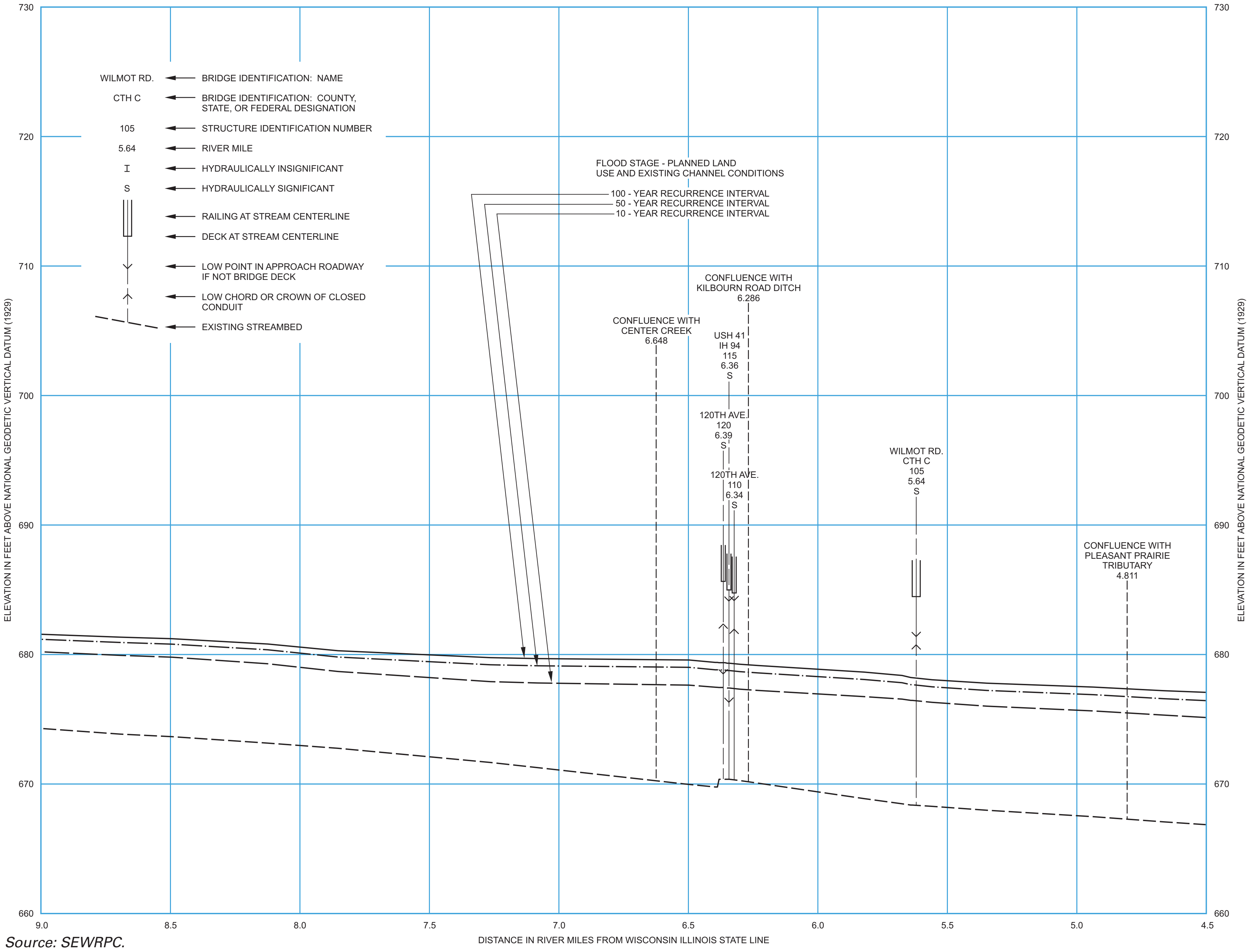
NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-1B

FLOOD STAGE AND STREAMBED PROFILE FOR THE DES PLAINES RIVER (RIVER MILE 4.50 TO 9.00)



Source: SEWRPC.

Map H-1C

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 9.00 TO 13.50)

▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

9.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

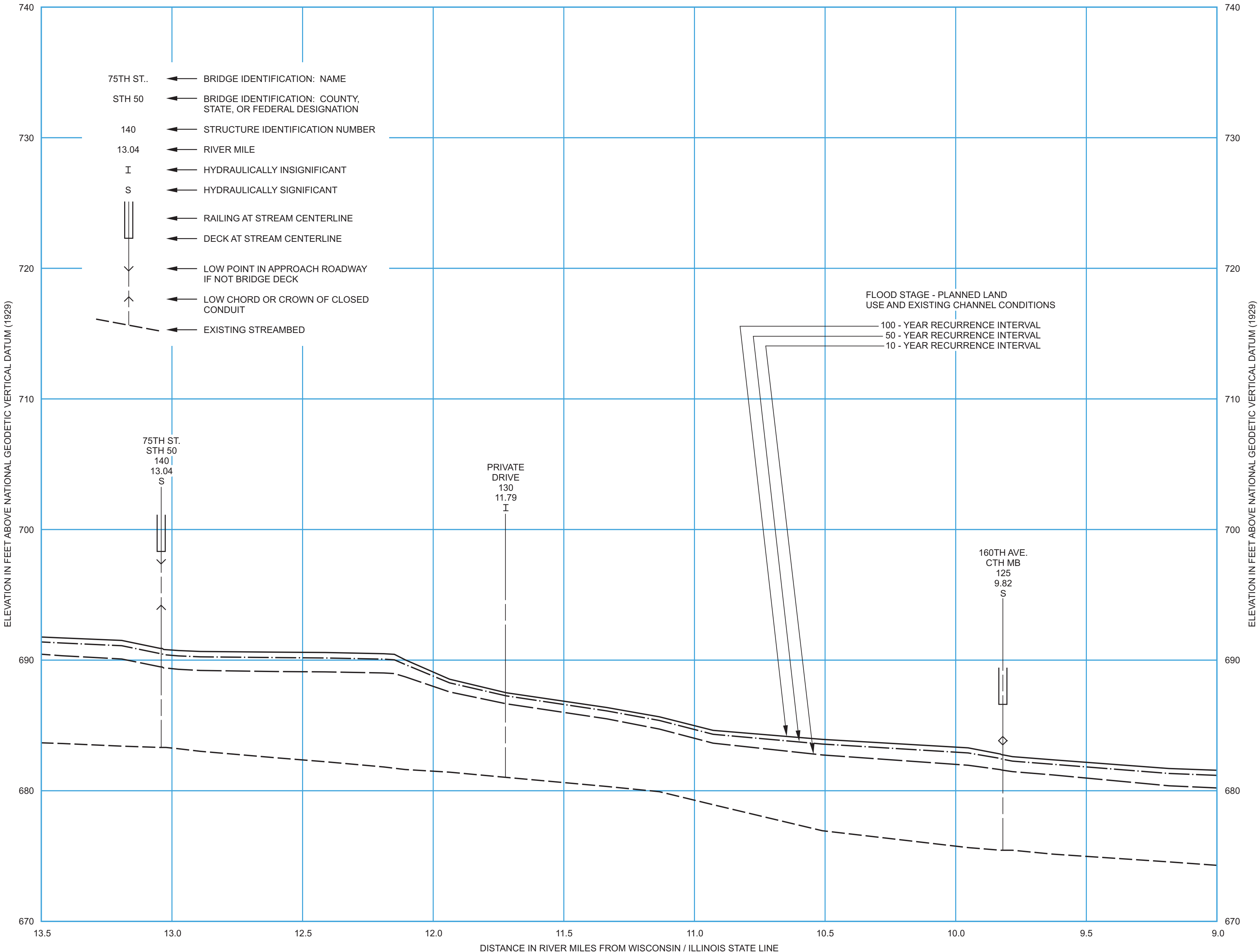
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-1C

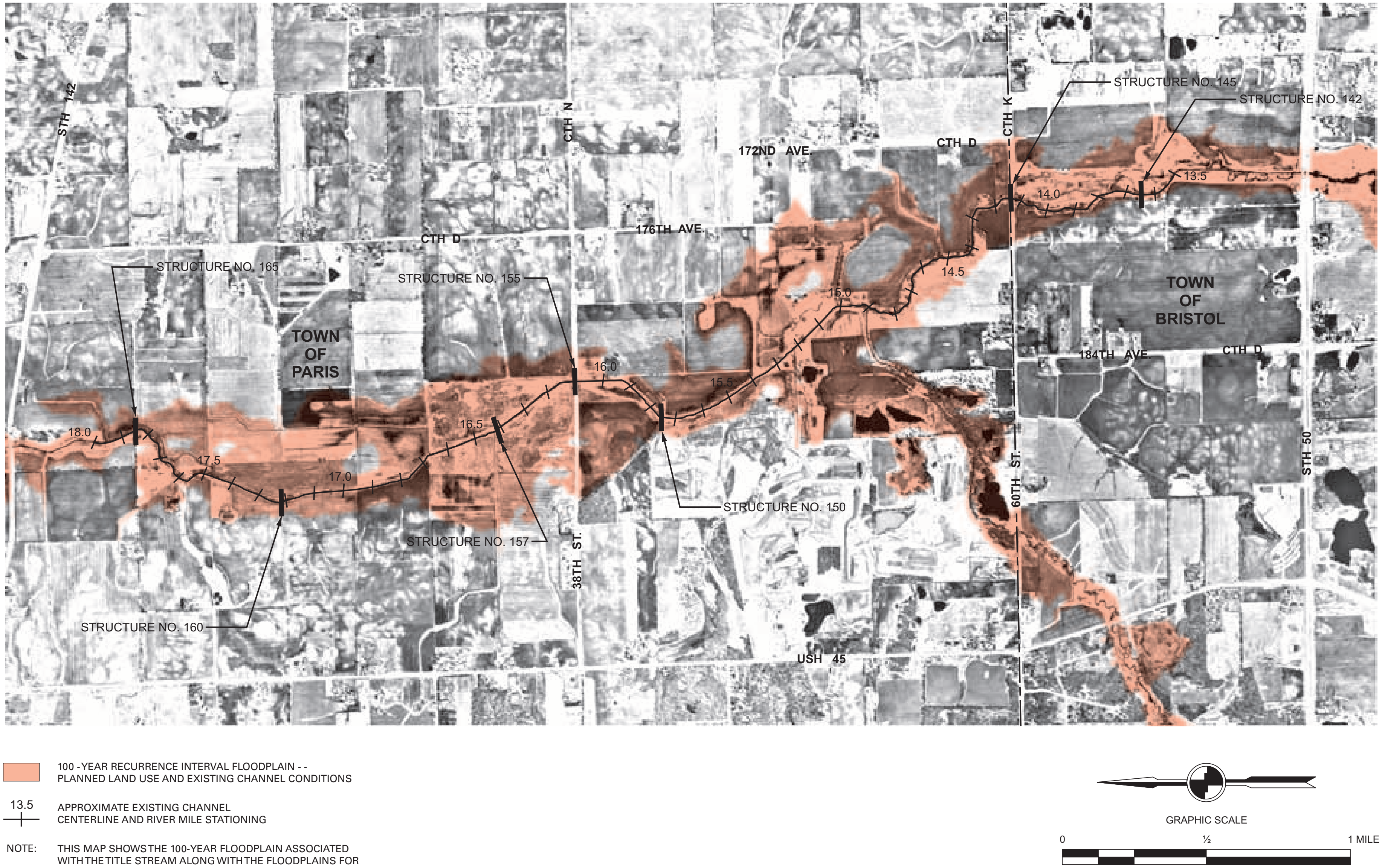
FLOOD STAGE AND STREAMBED PROFILE FOR THE DES PLAINES RIVER (RIVER MILE 9.00 TO 13.50)



Source: SEWRPC.

Map H-1D

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 13.50 TO 18.00)



▨ 100 - YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

13.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

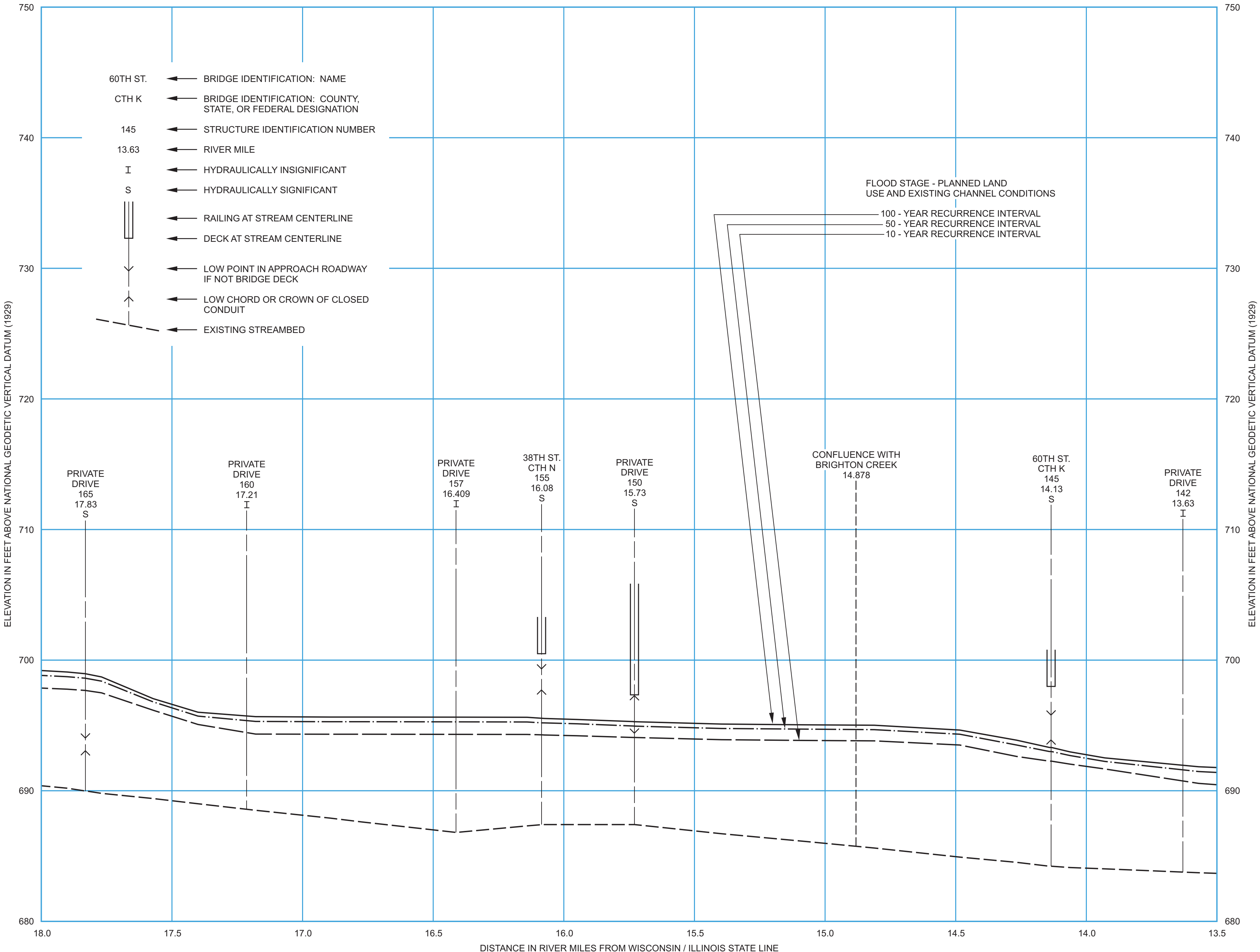
NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-1D

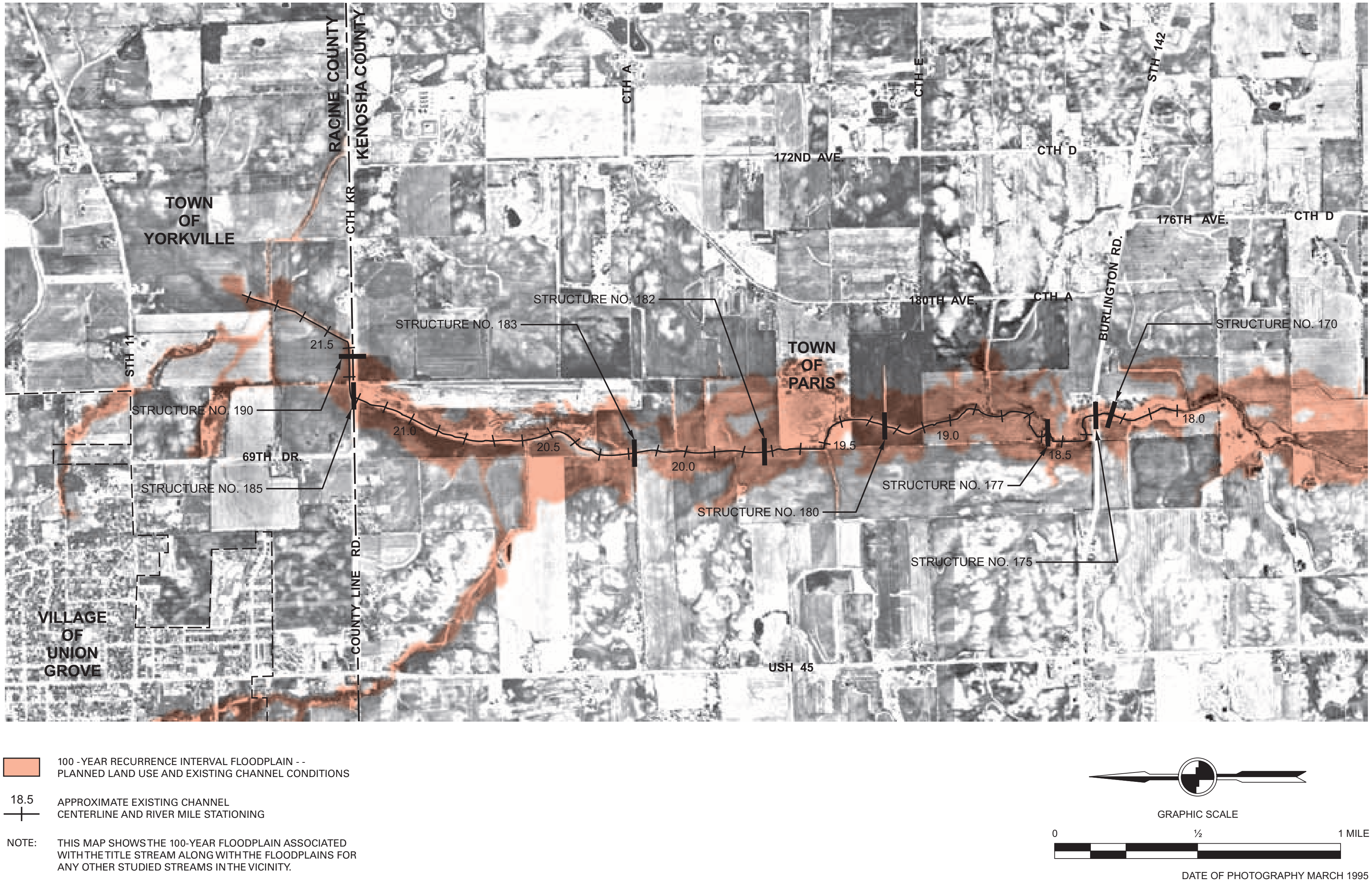
FLOOD STAGE AND STREAMBED PROFILE FOR THE DES PLAINES RIVER (RIVER MILE 13.50 TO 18.00)



Source: SEWRPC.

Map H-1E

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 18.00 TO 21.80)

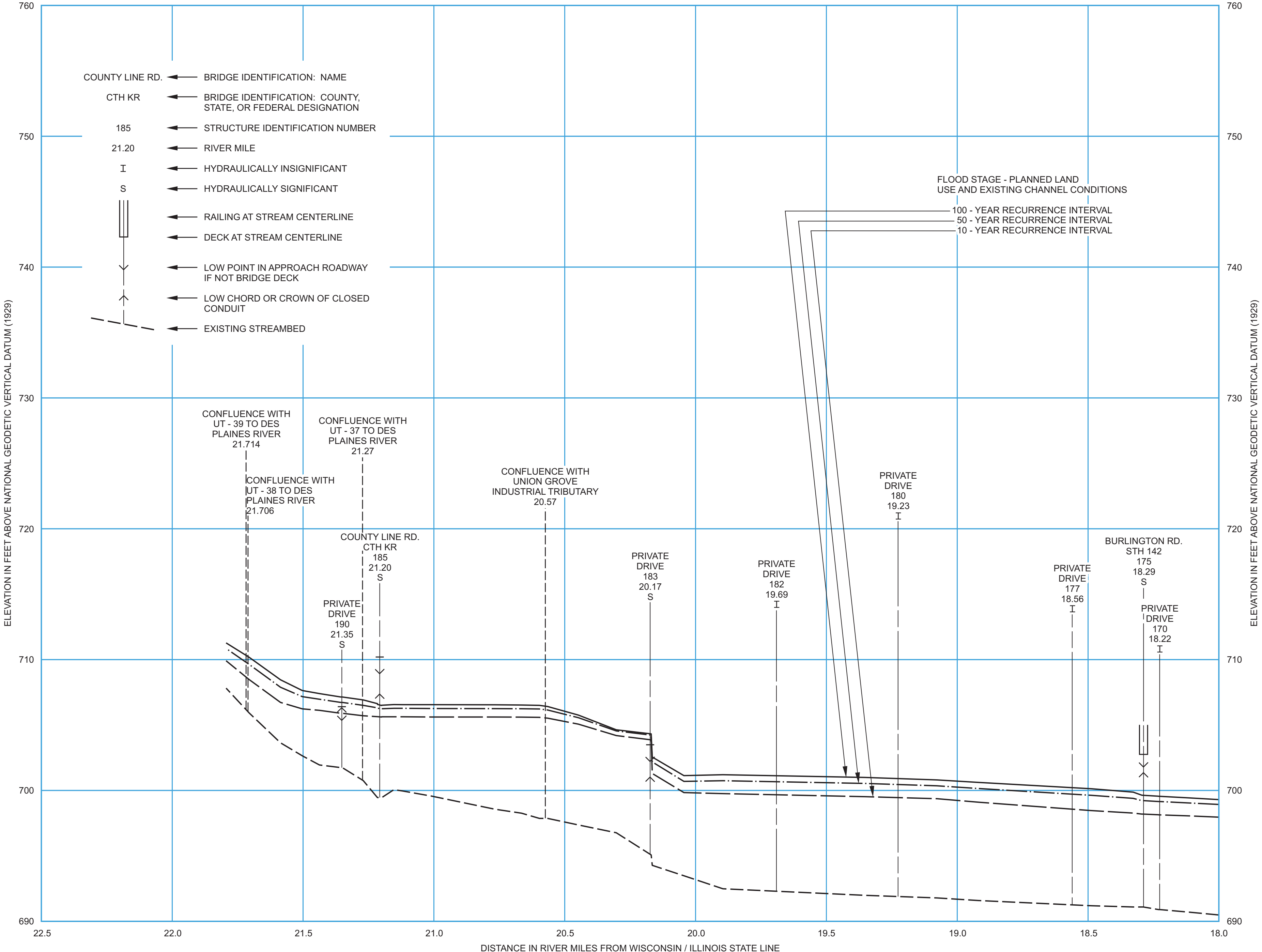


NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

Figure H-1E

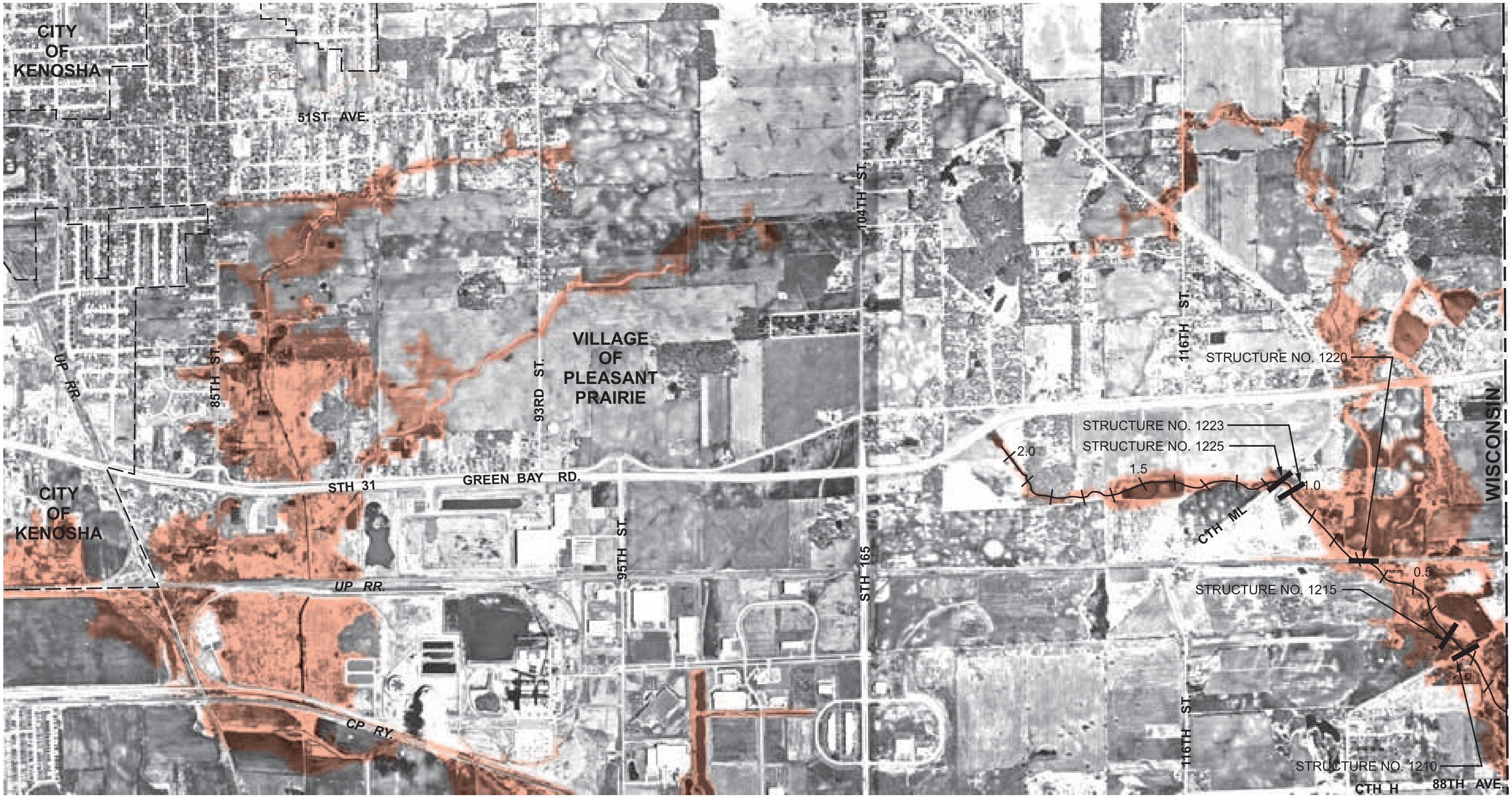
FLOOD STAGE AND STREAMBED PROFILE FOR THE DES PLAINES RIVER (RIVER MILE 18.00 TO 21.80)



Source: SEWRPC.

Map H-2

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1 TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

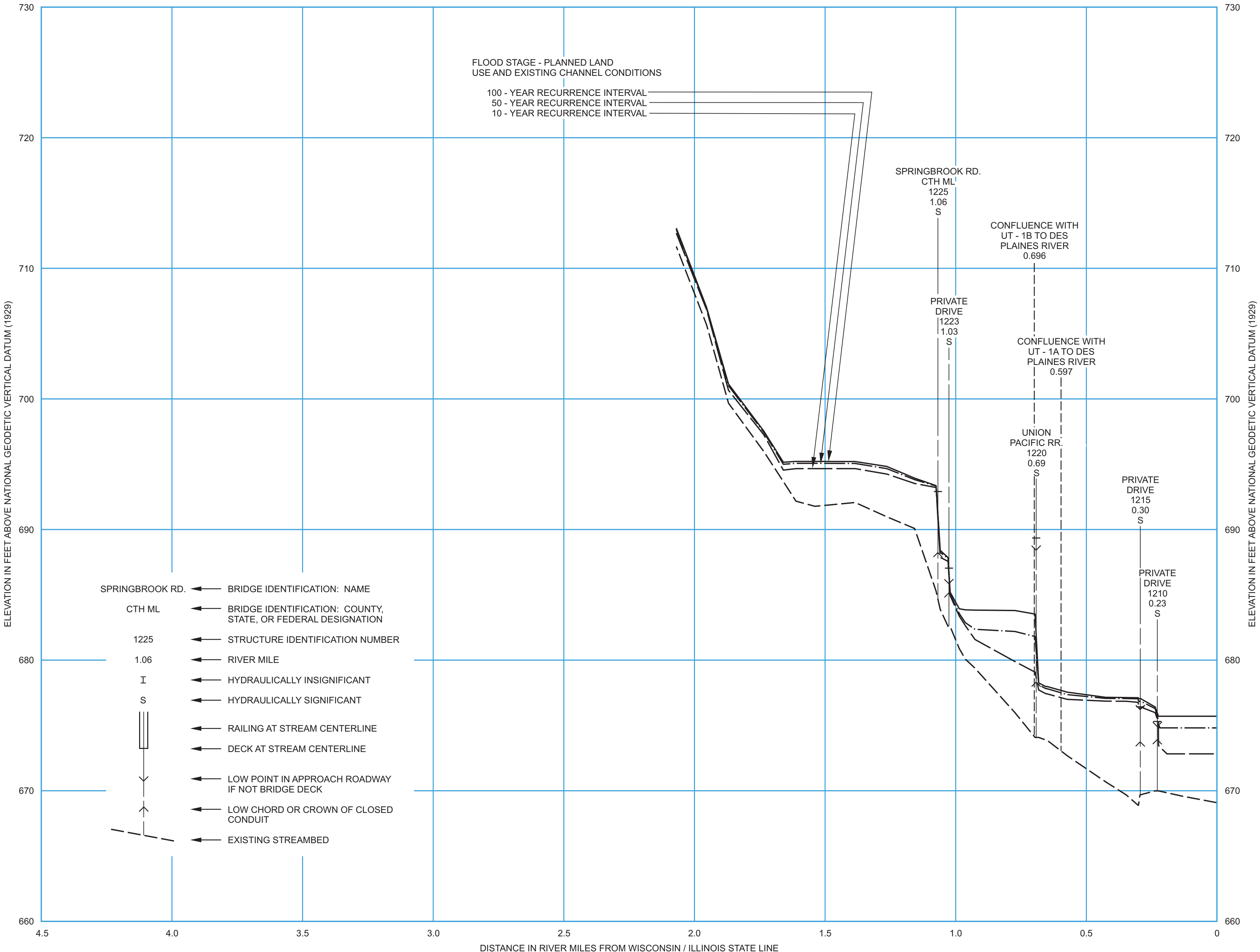
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-2

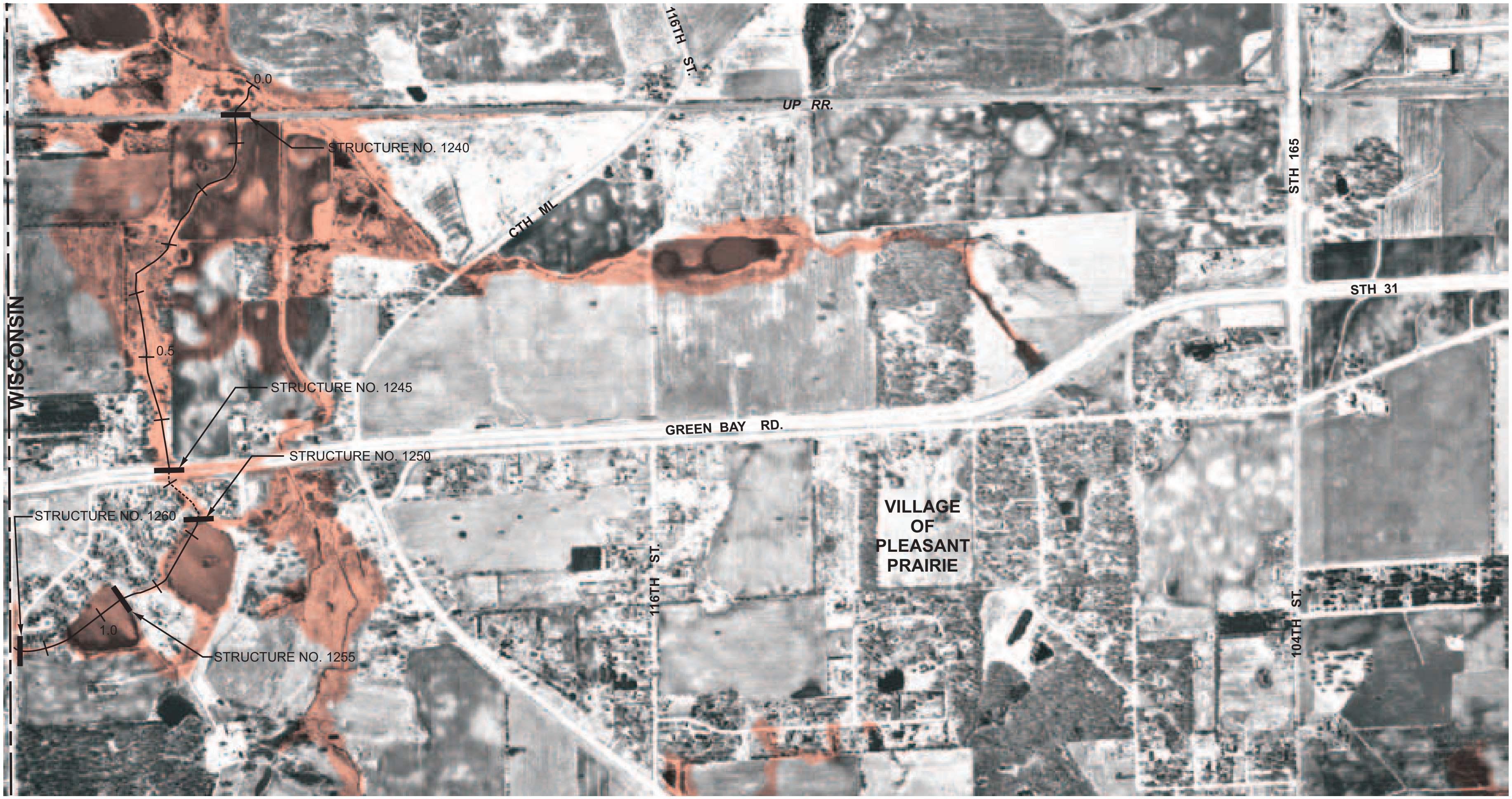
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1 TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-3

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1A TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

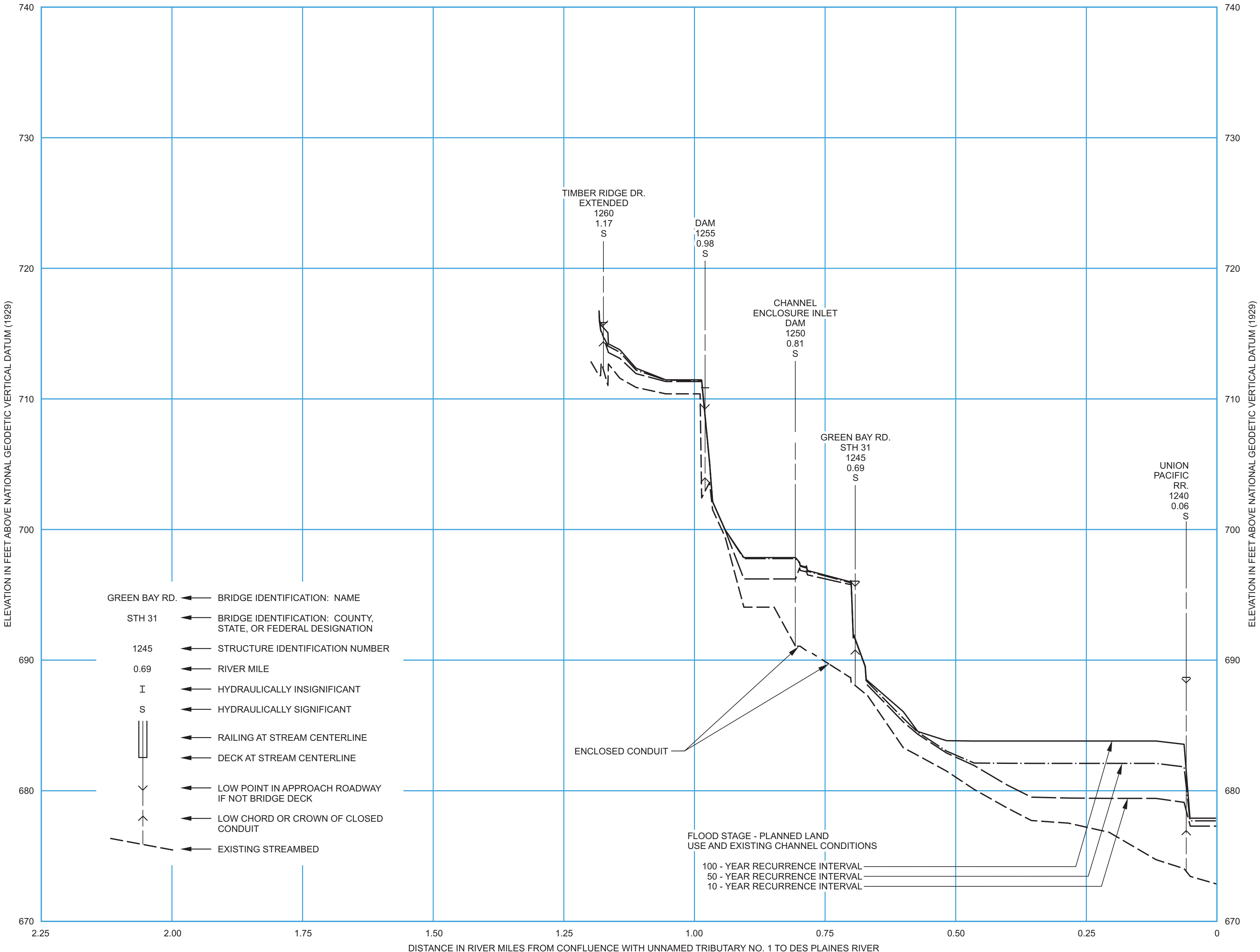
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-3

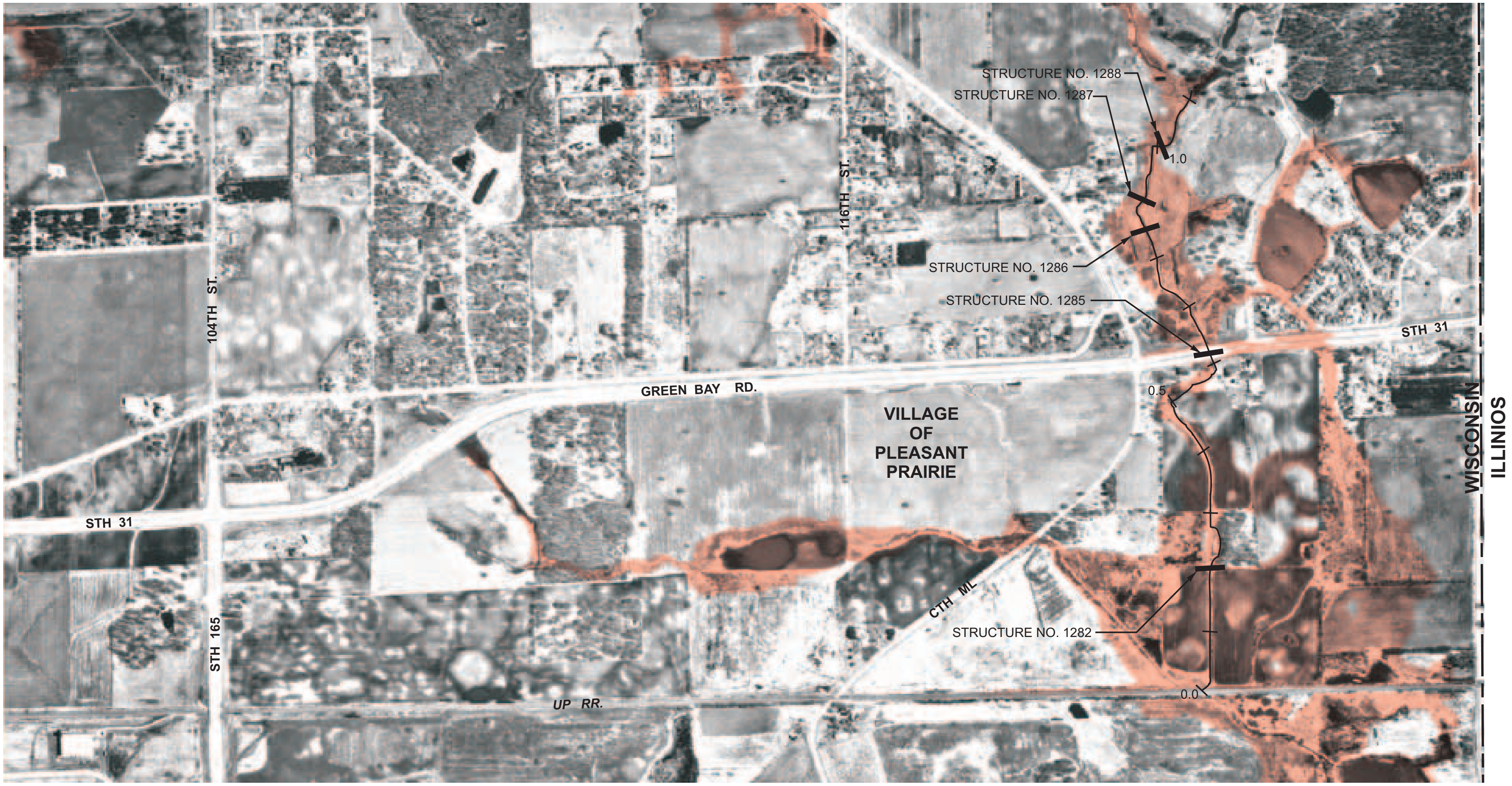
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1A TO THE DES PLAINES RIVER



Source: SEWRPC.

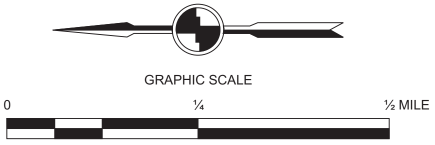
Map H-4

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1B TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

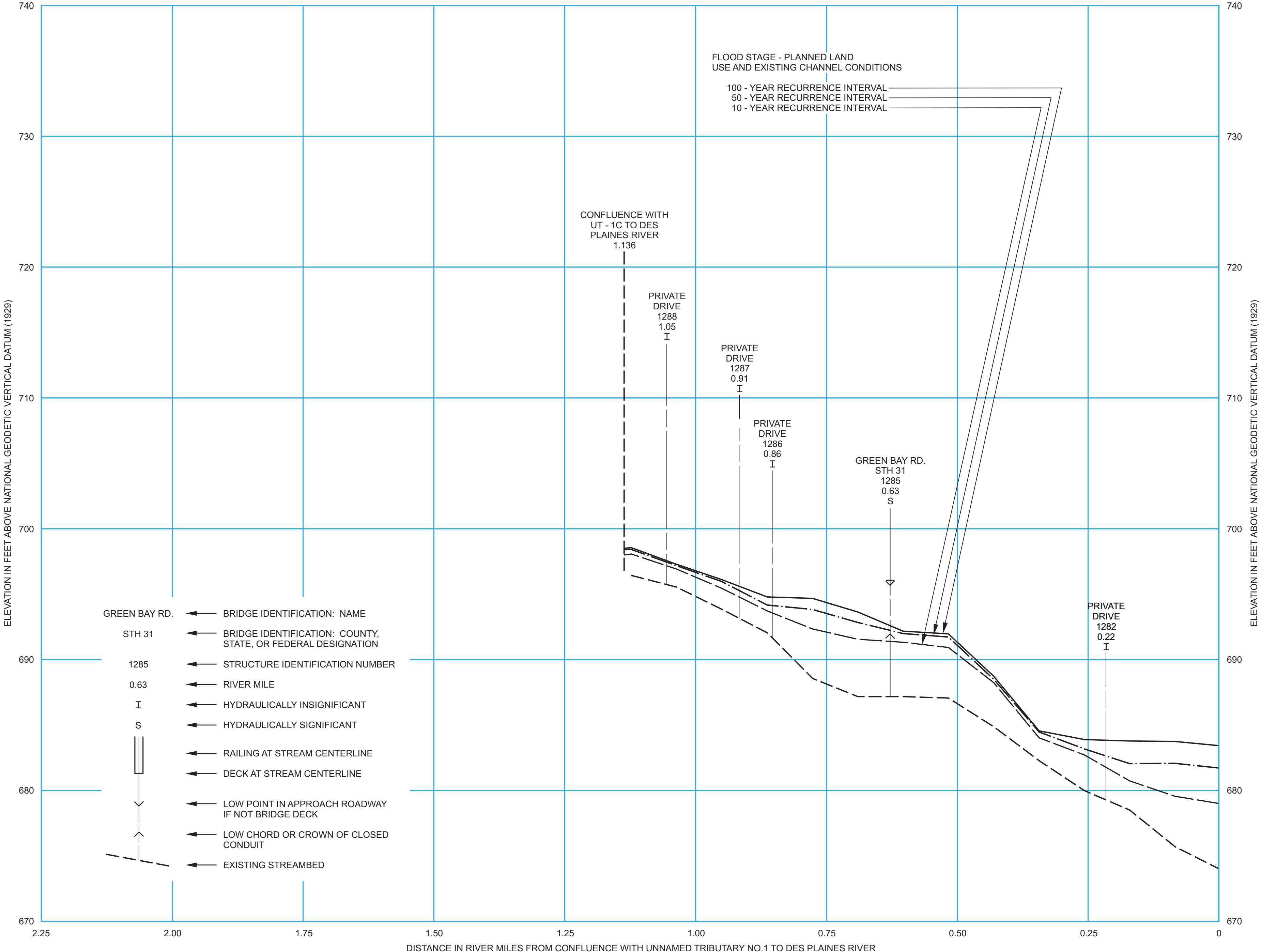


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-4

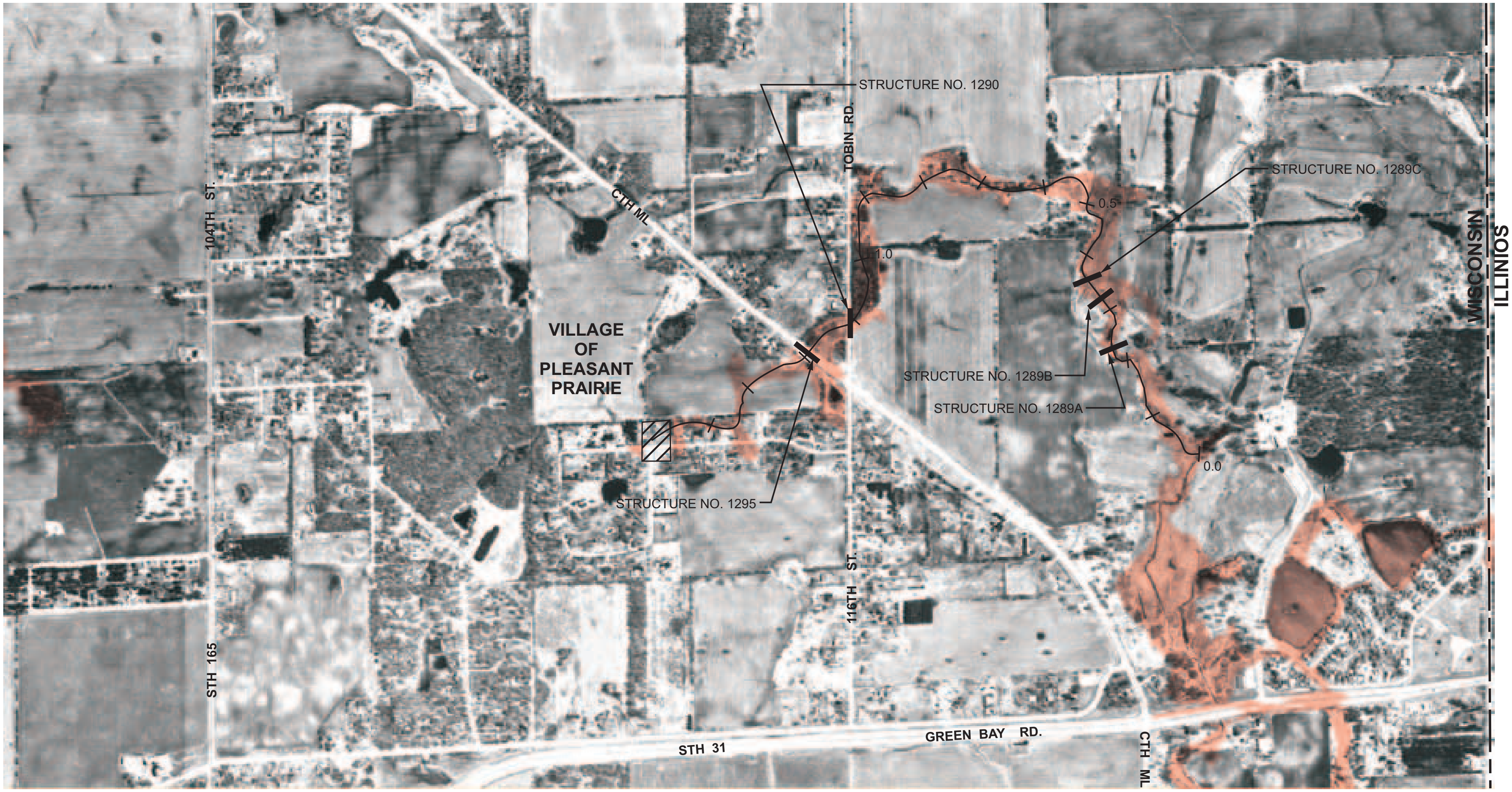
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1B TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-5

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1C TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

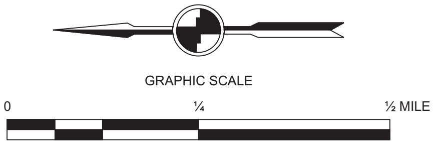


🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

▨ AREA OF DISTURBED TOPOGRAPHY. LIMITS OF FLOODPLAIN UNDETERMINED.

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

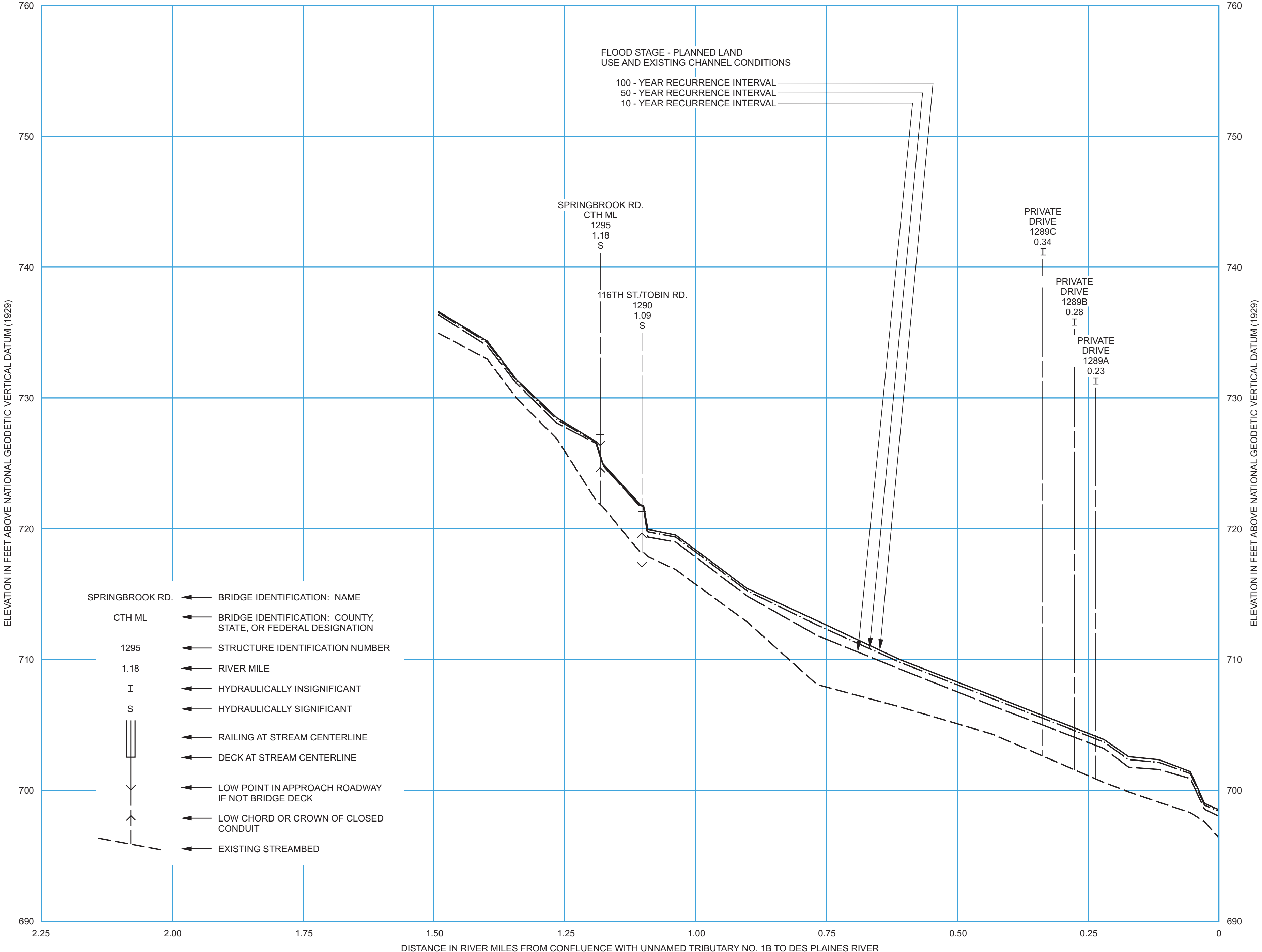


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-5

FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1C TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-6

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1E TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

🟧	100 - YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING
NOTE:	THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

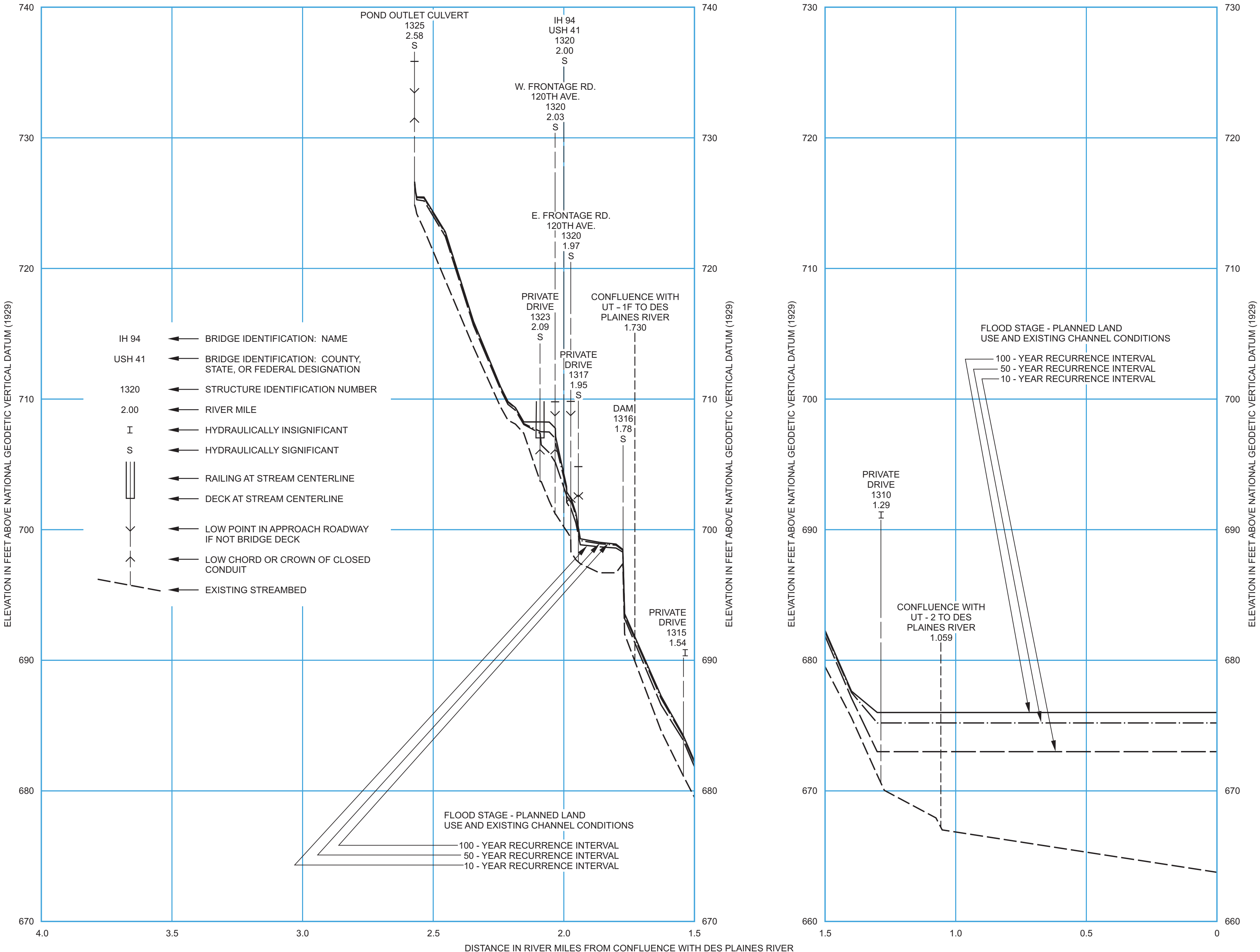
GRAPHIC SCALE

0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Figure H-6

FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1E TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-7

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1F TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

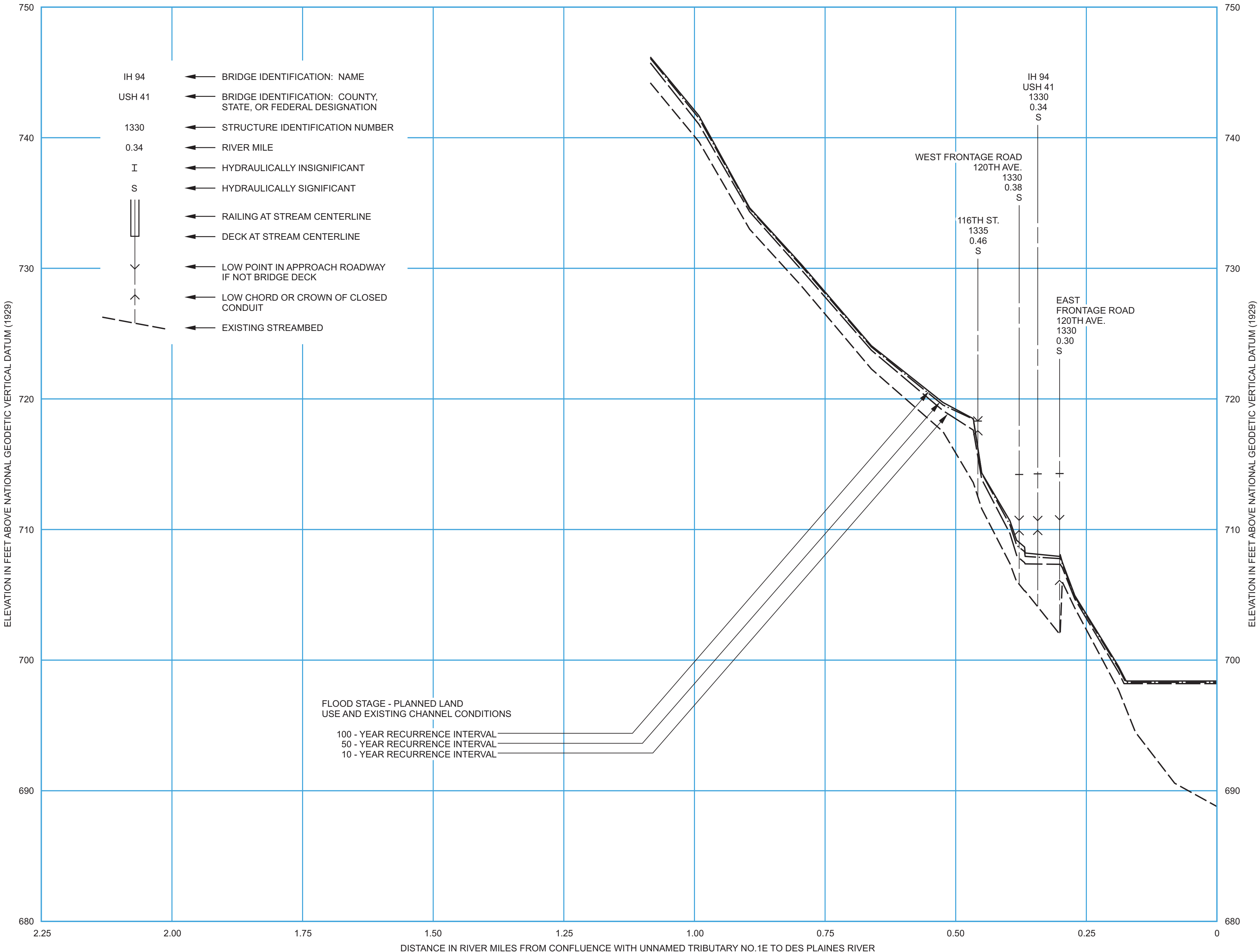
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-7

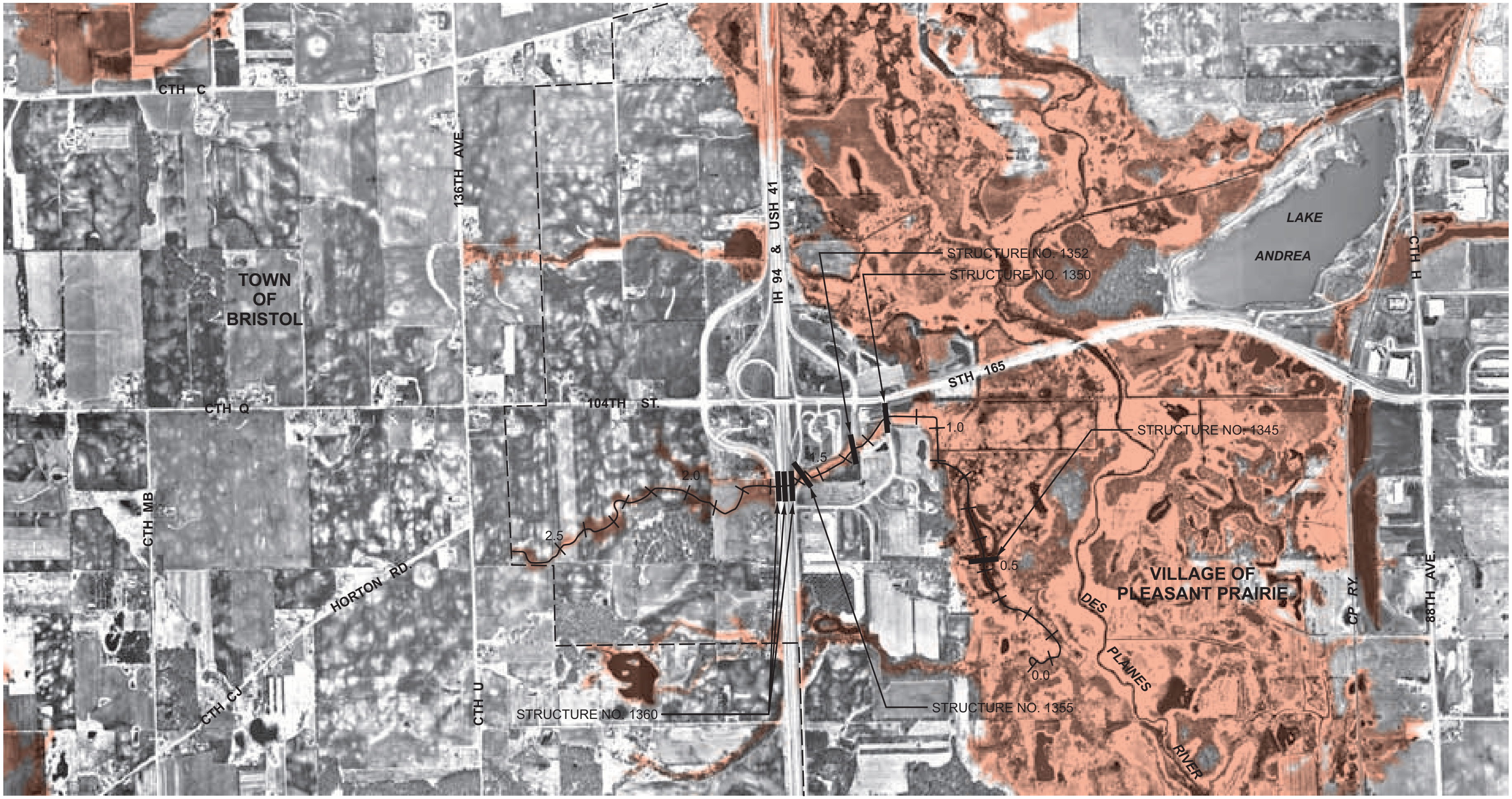
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1F TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-8

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 2 TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

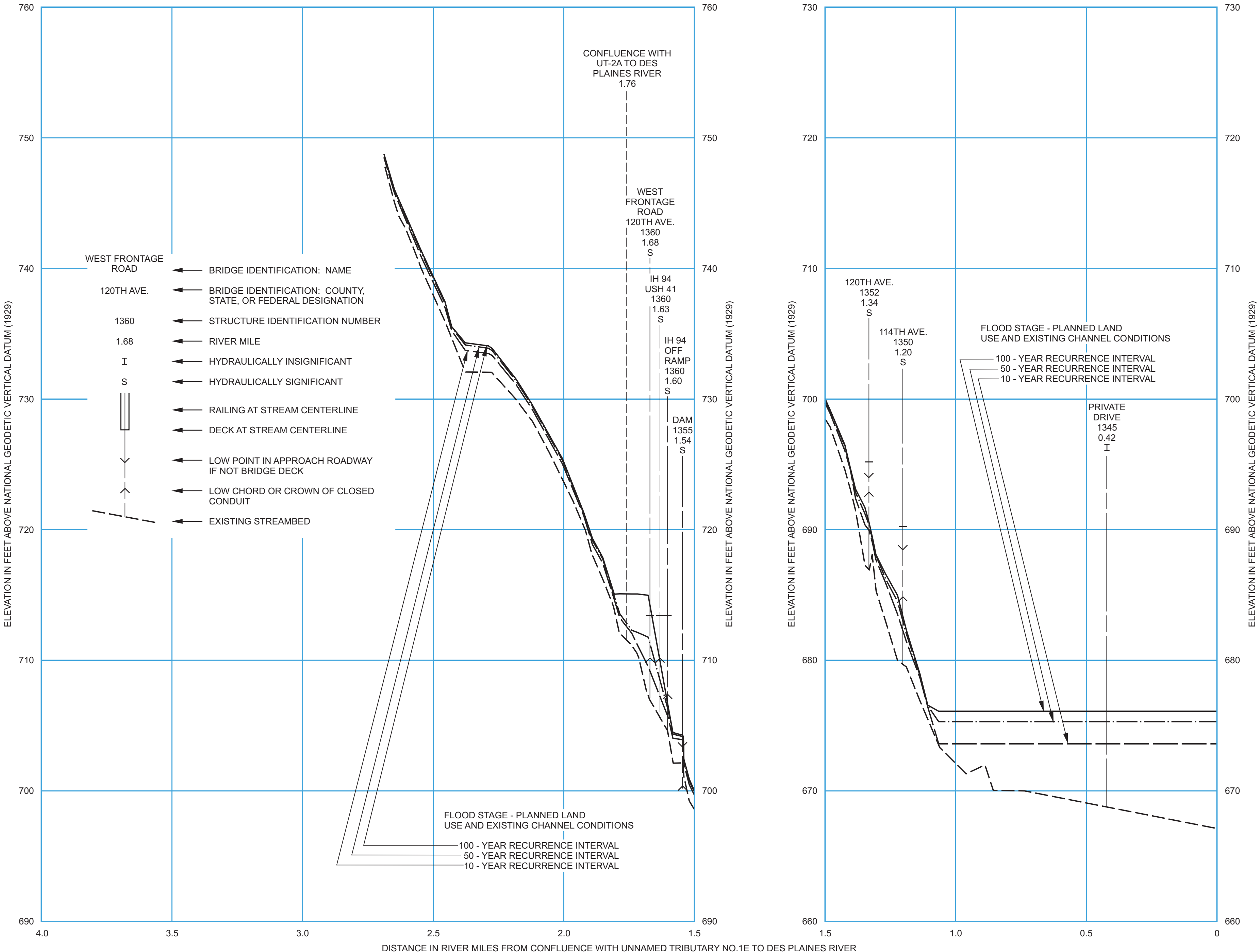
GRAPHIC SCALE

0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Figure H-8

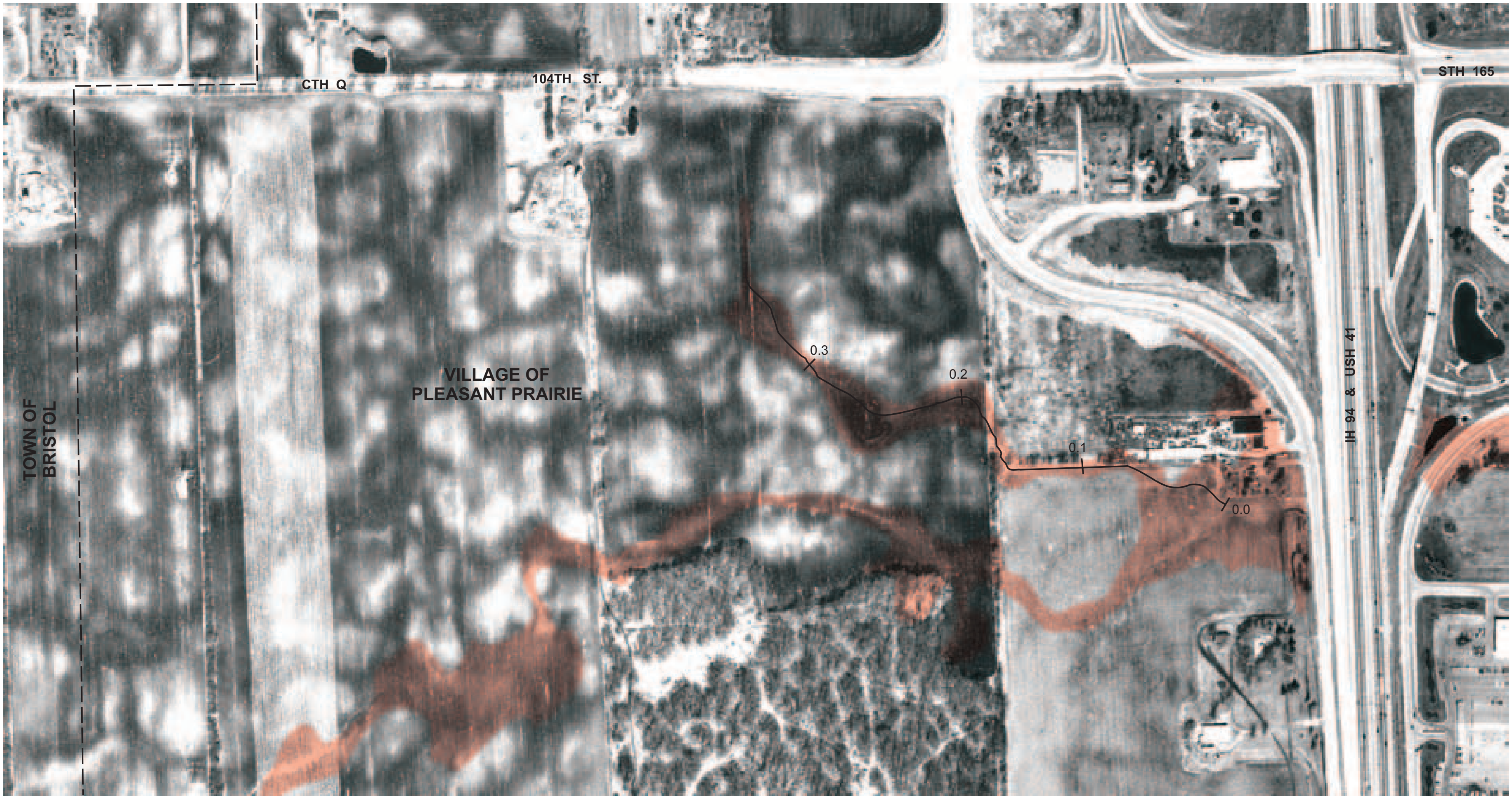
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 2 TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-9

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 2A TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.2 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

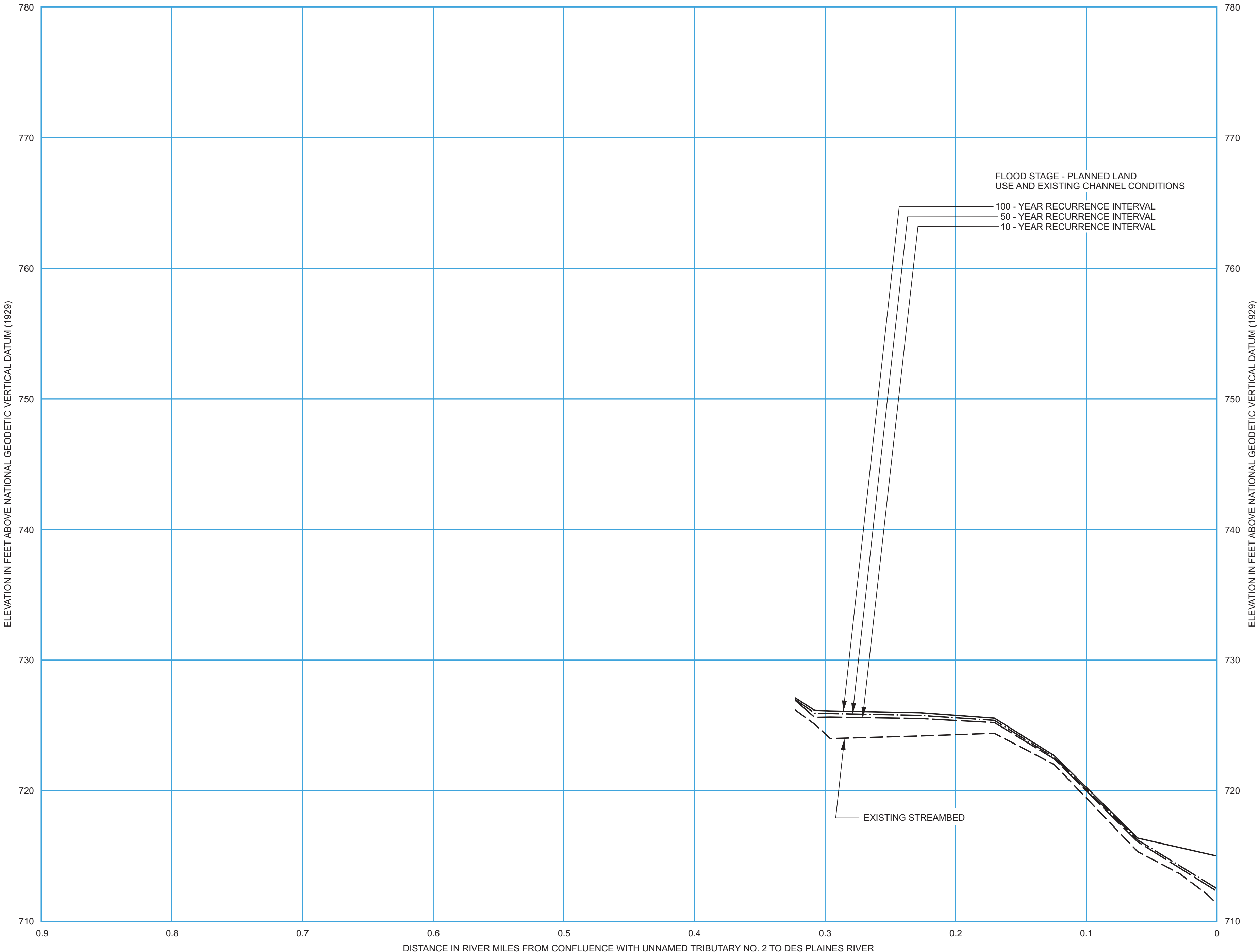
0 400 800 FEET

Source: SEWRPC.

DATE OF PHOTOGRAPHY MARCH 1995

Figure H-9

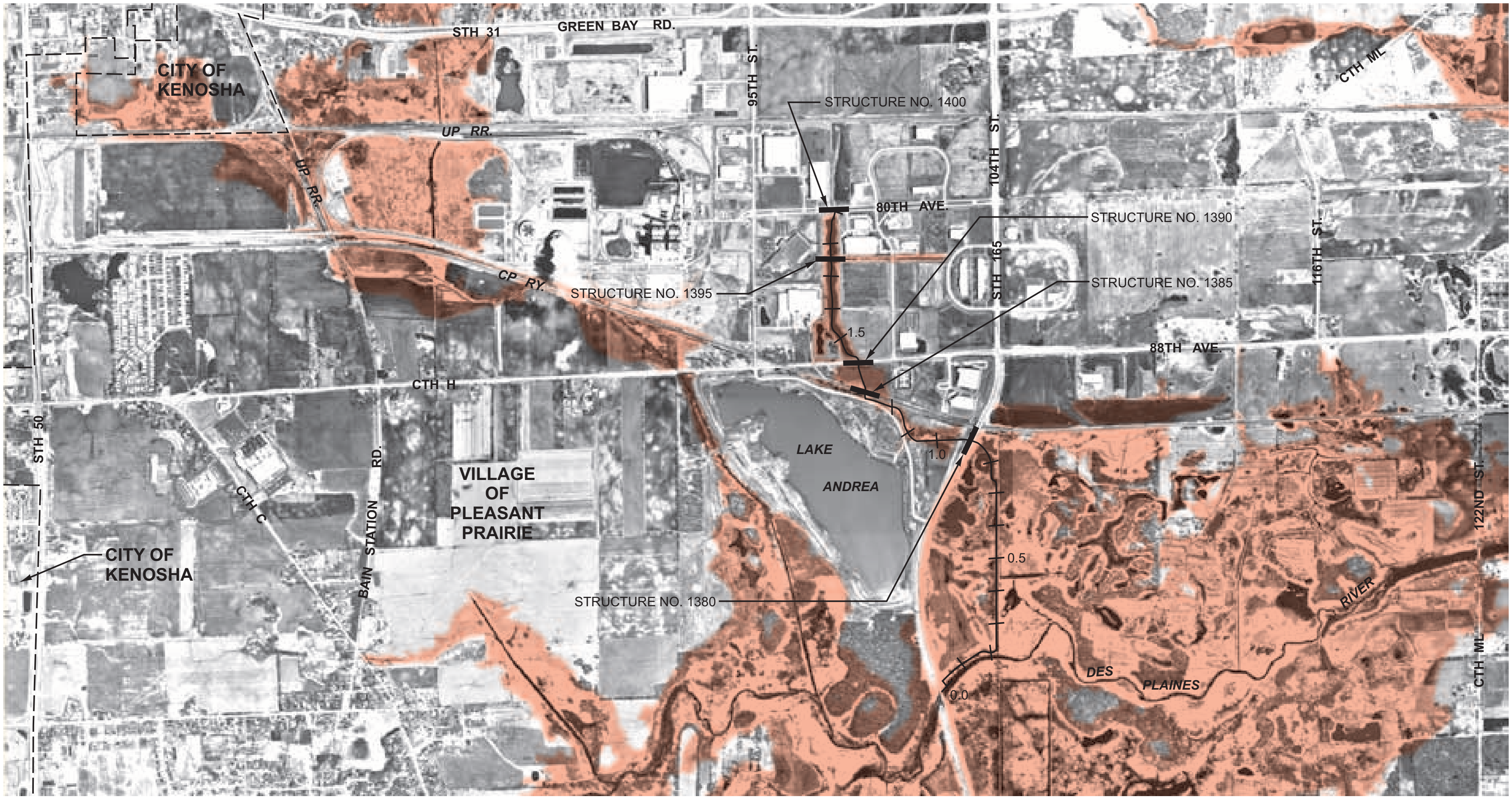
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 2A TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-10

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 5 TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨	100 - YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

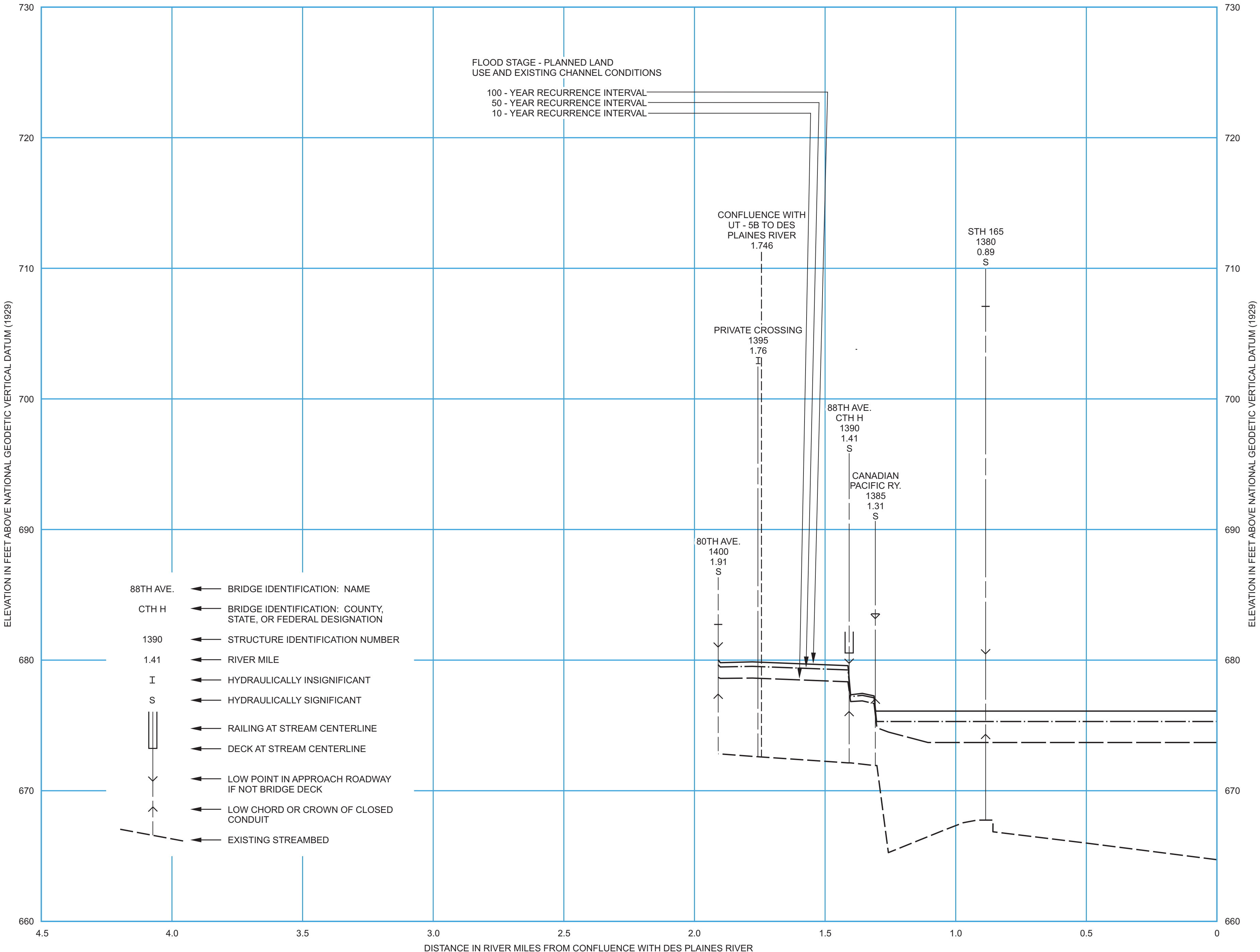
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-10

FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 5 TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-11

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 5B TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

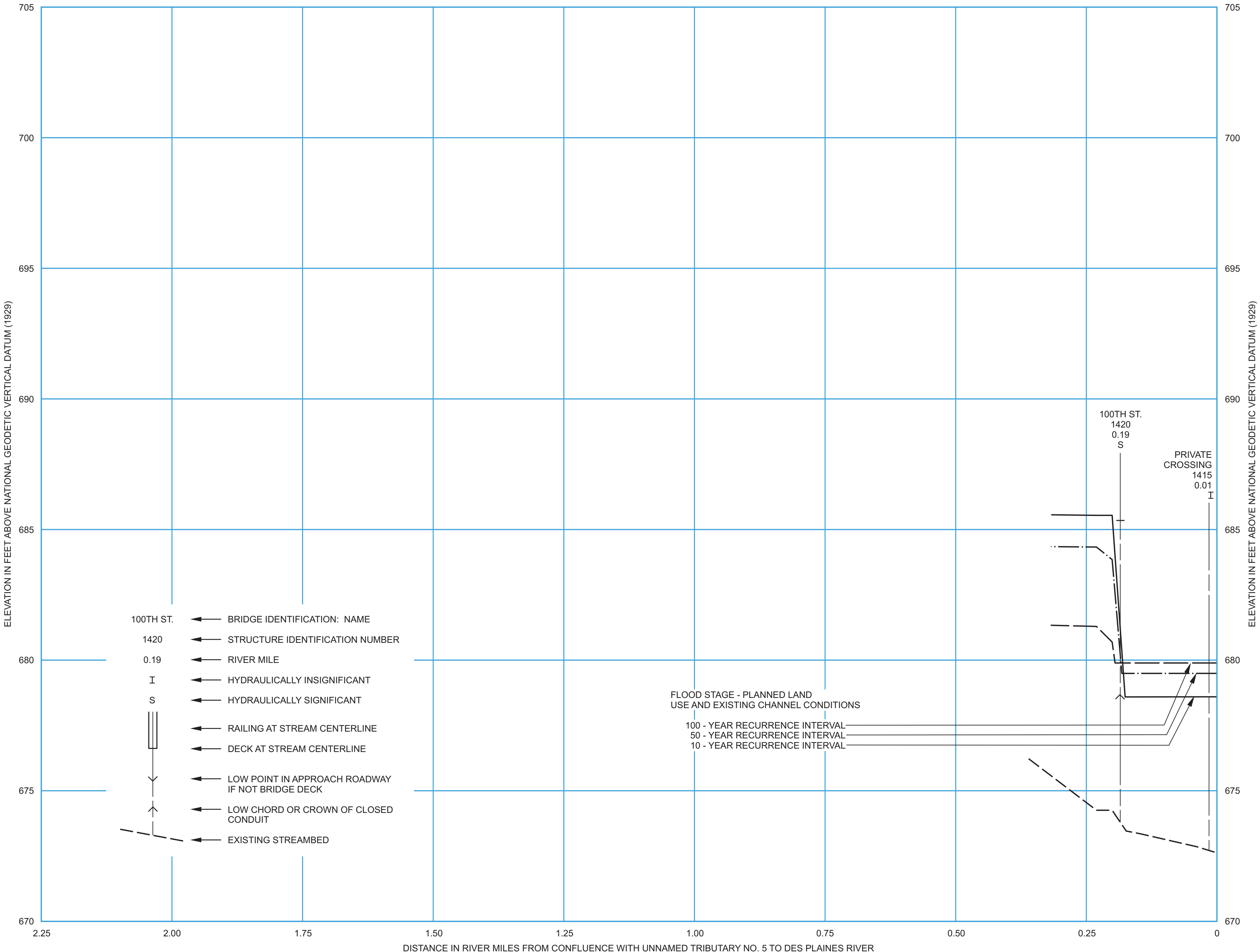
GRAPHIC SCALE

0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Figure H-11

FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 5B TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-12

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 7 TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

🟥 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - -
PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL
CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

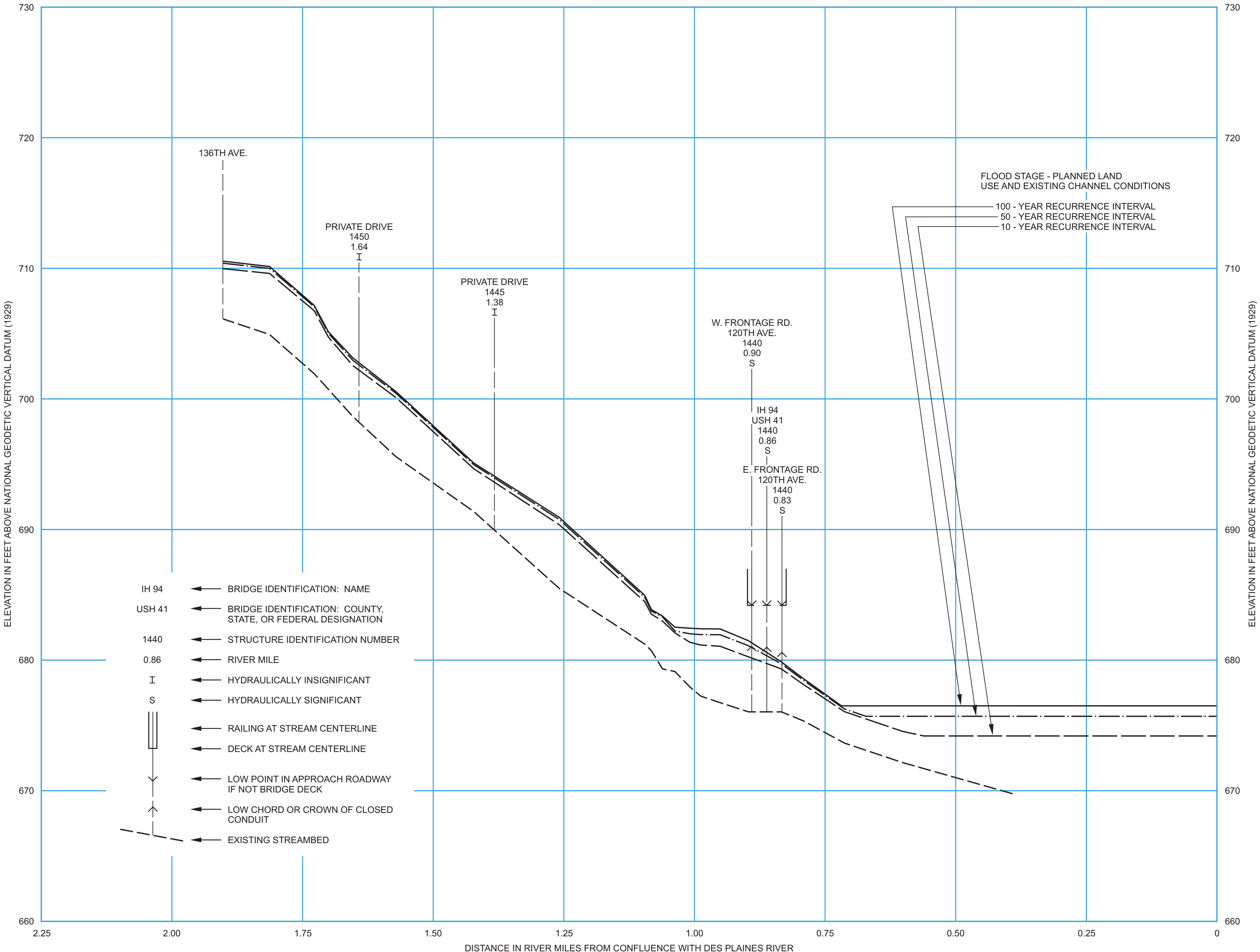
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-12

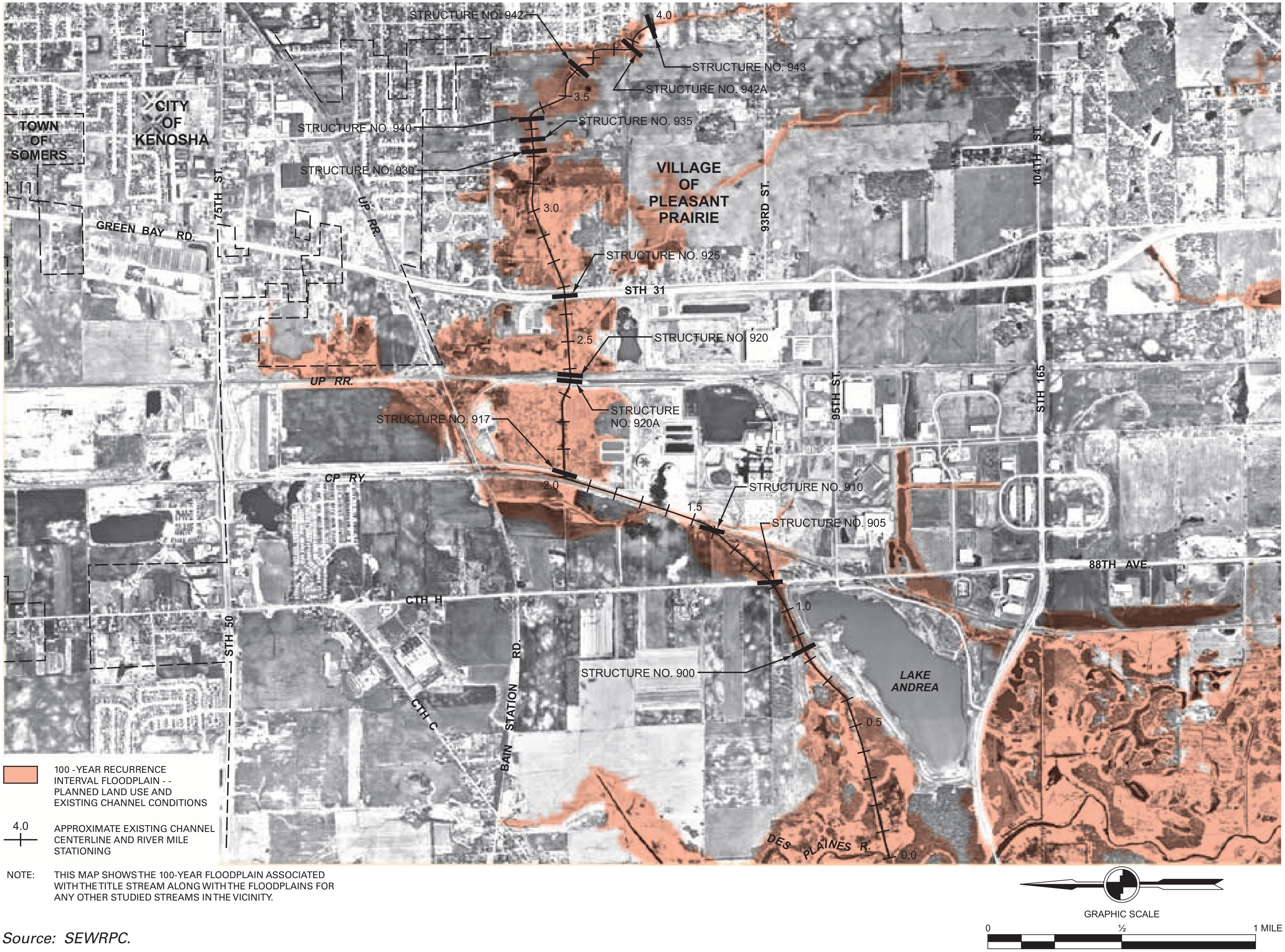
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 7 TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-13A

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 0.00 TO 4.00)



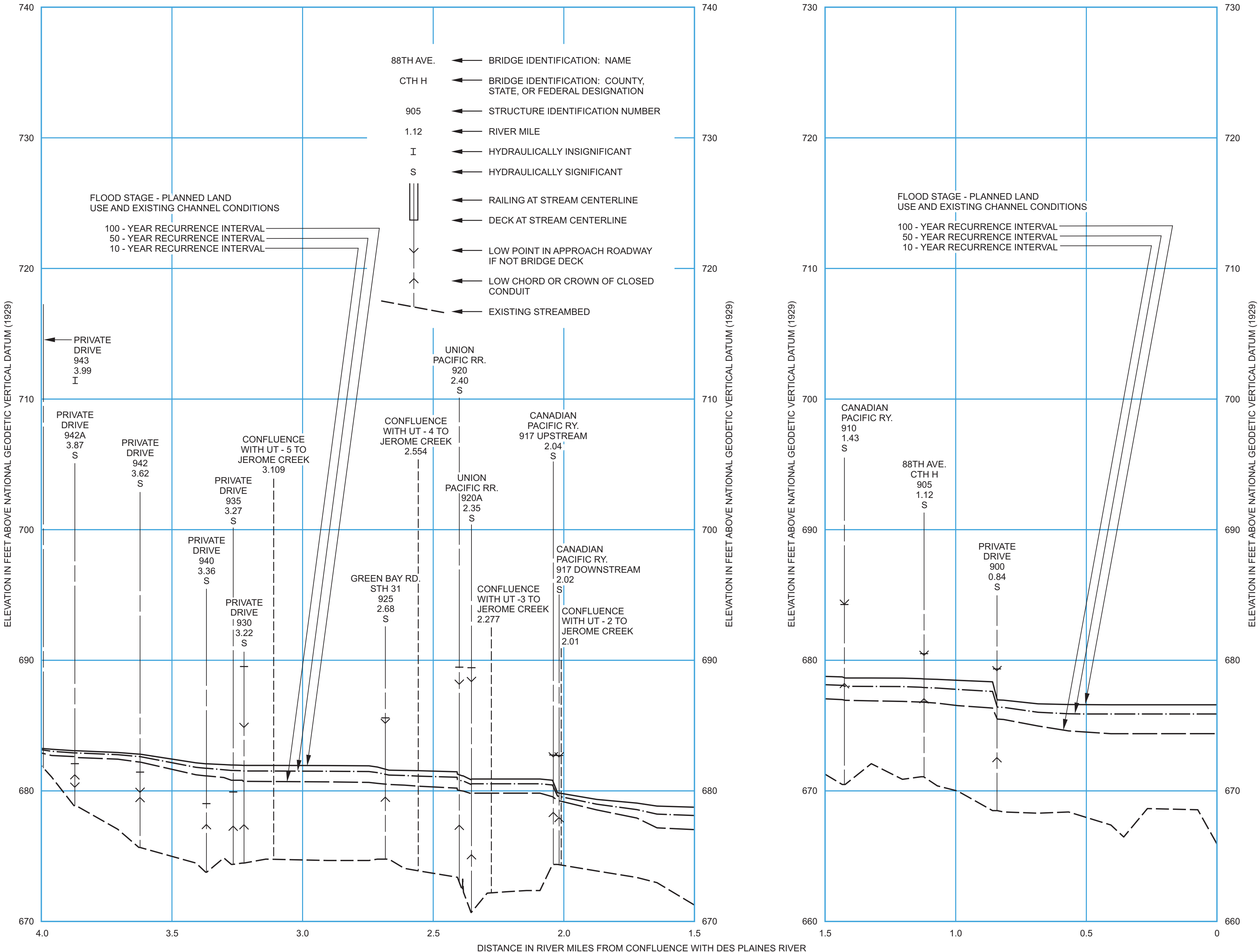
NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-13A

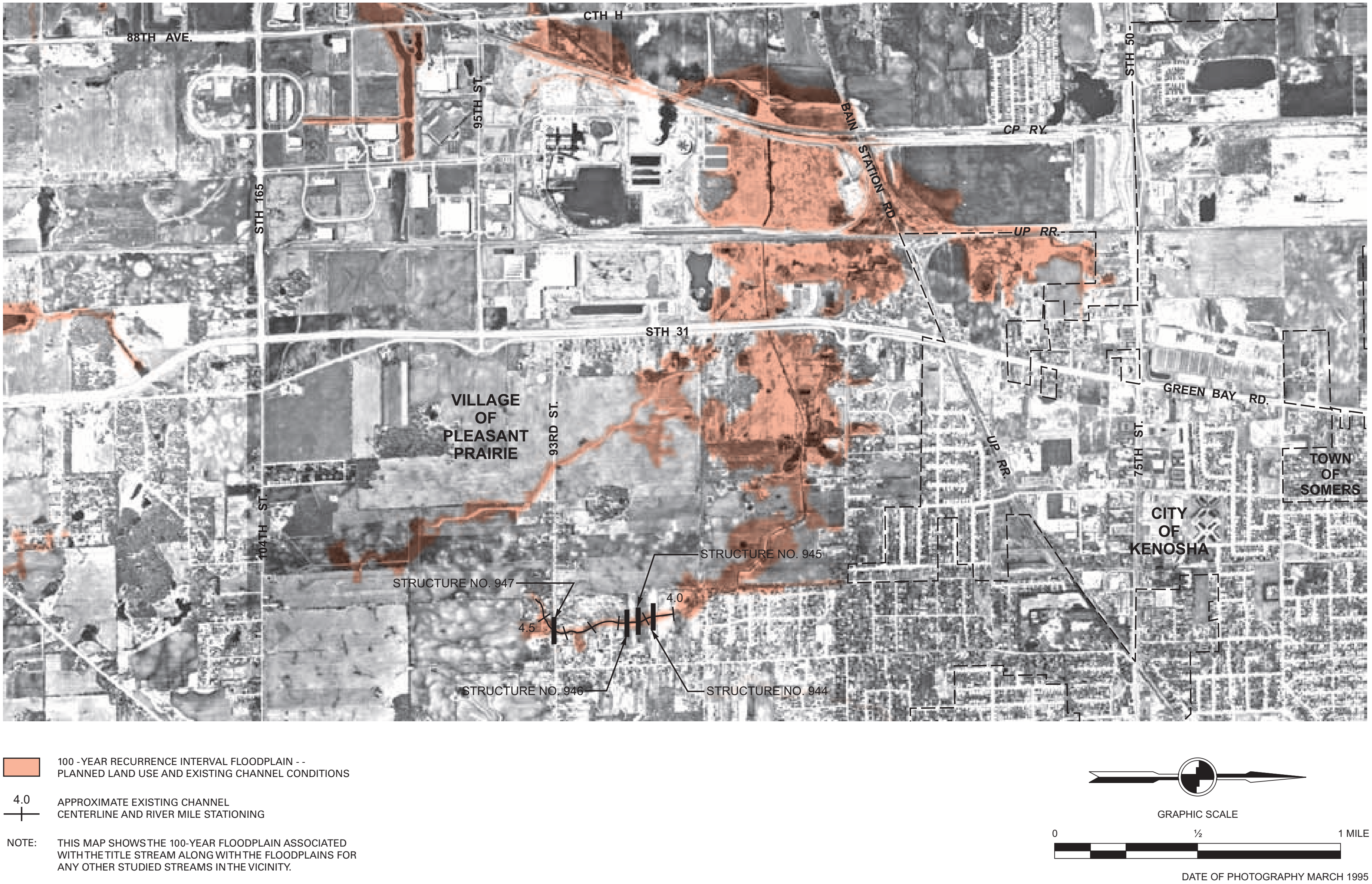
FLOOD STAGE AND STREAMBED PROFILE FOR JEROME CREEK (RIVER MILE 0.00 TO 4.00)



Source: SEWRPC.

Map H-13B

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 4.00 TO 4.75)



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

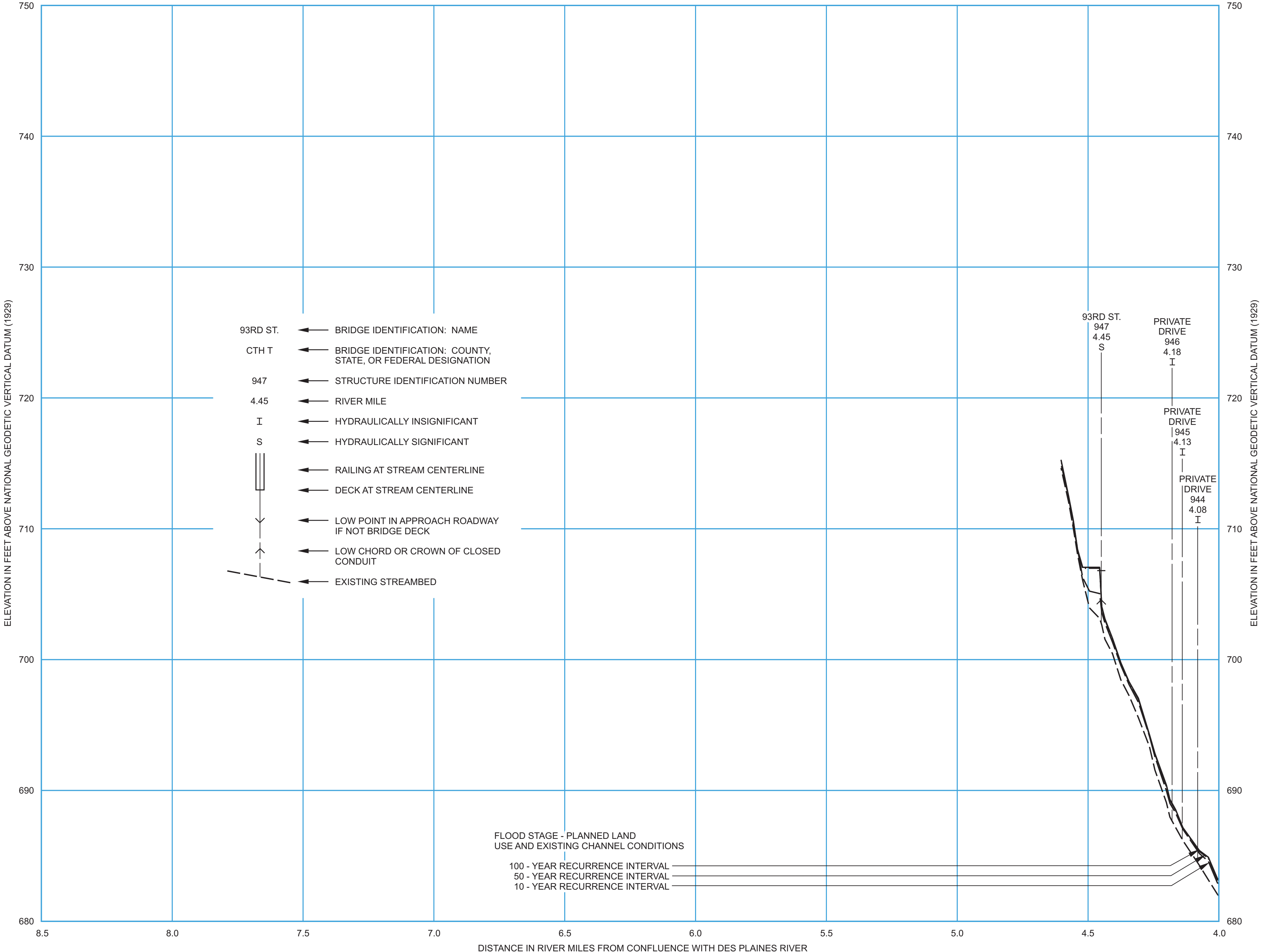
4.0 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

Figure H-13B

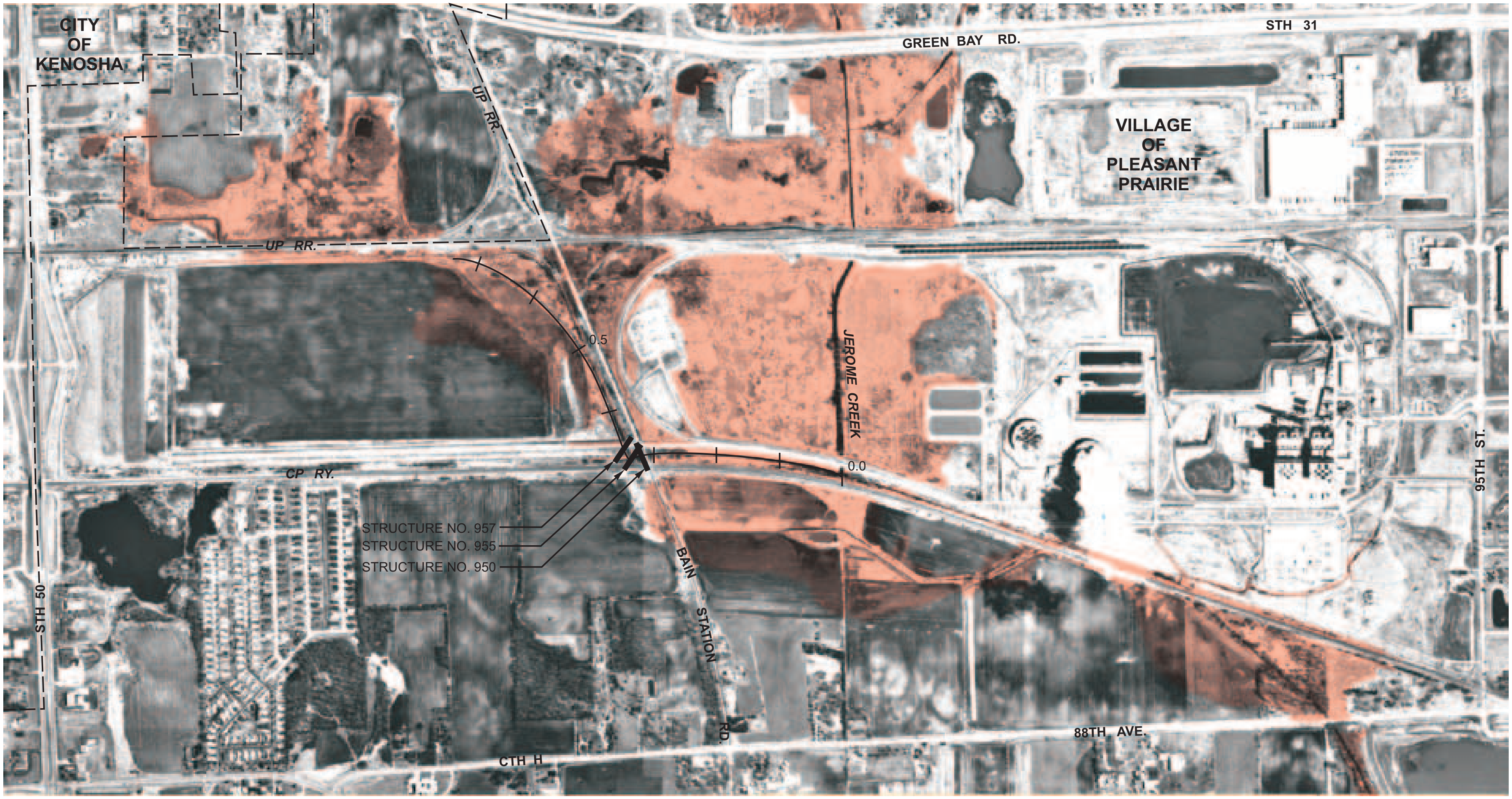
FLOOD STAGE AND STREAMBED PROFILE FOR JEROME CREEK (RIVER MILE 4.00 TO 4.57)



Source: SEWRPC.

Map H-14

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 2 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

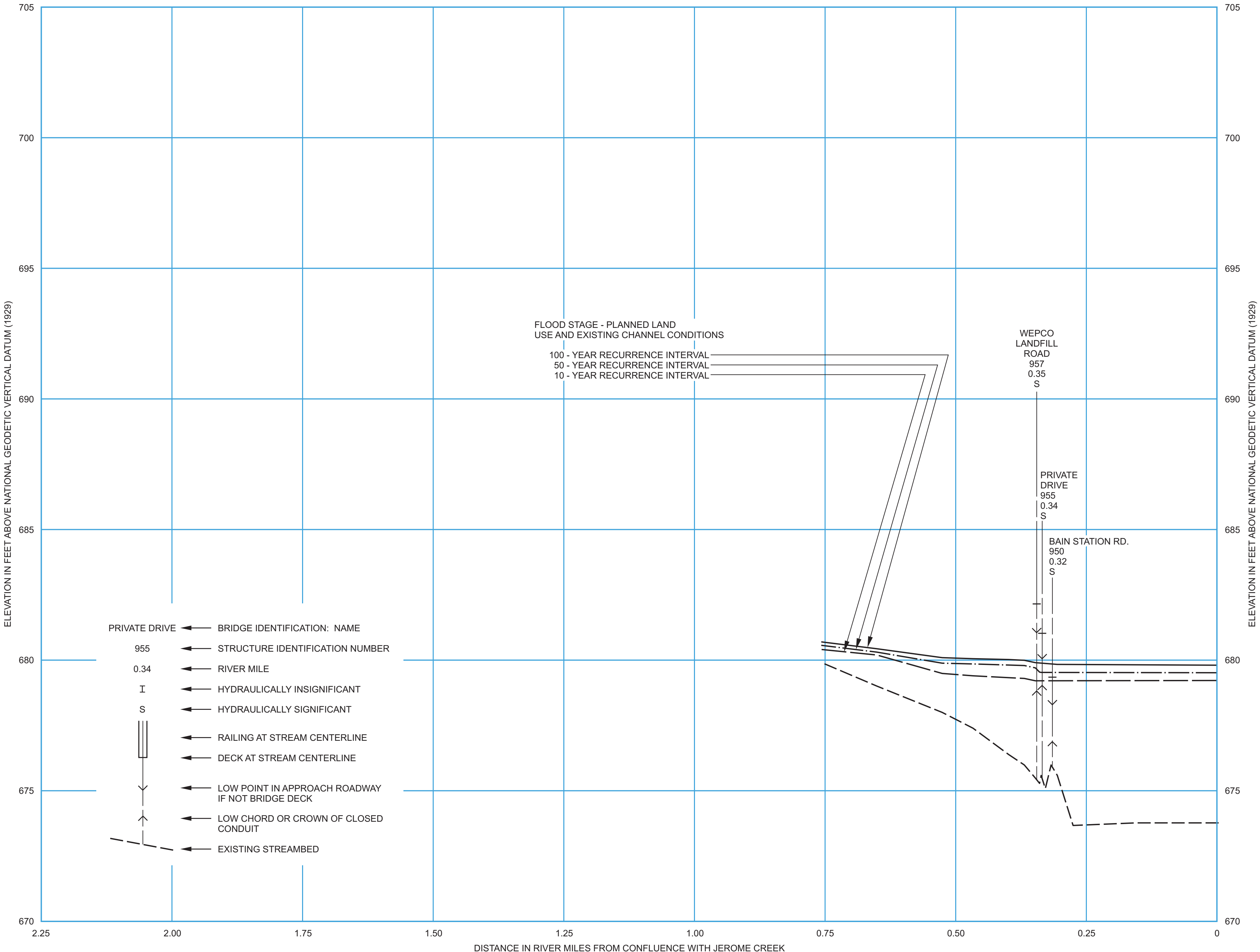
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-14

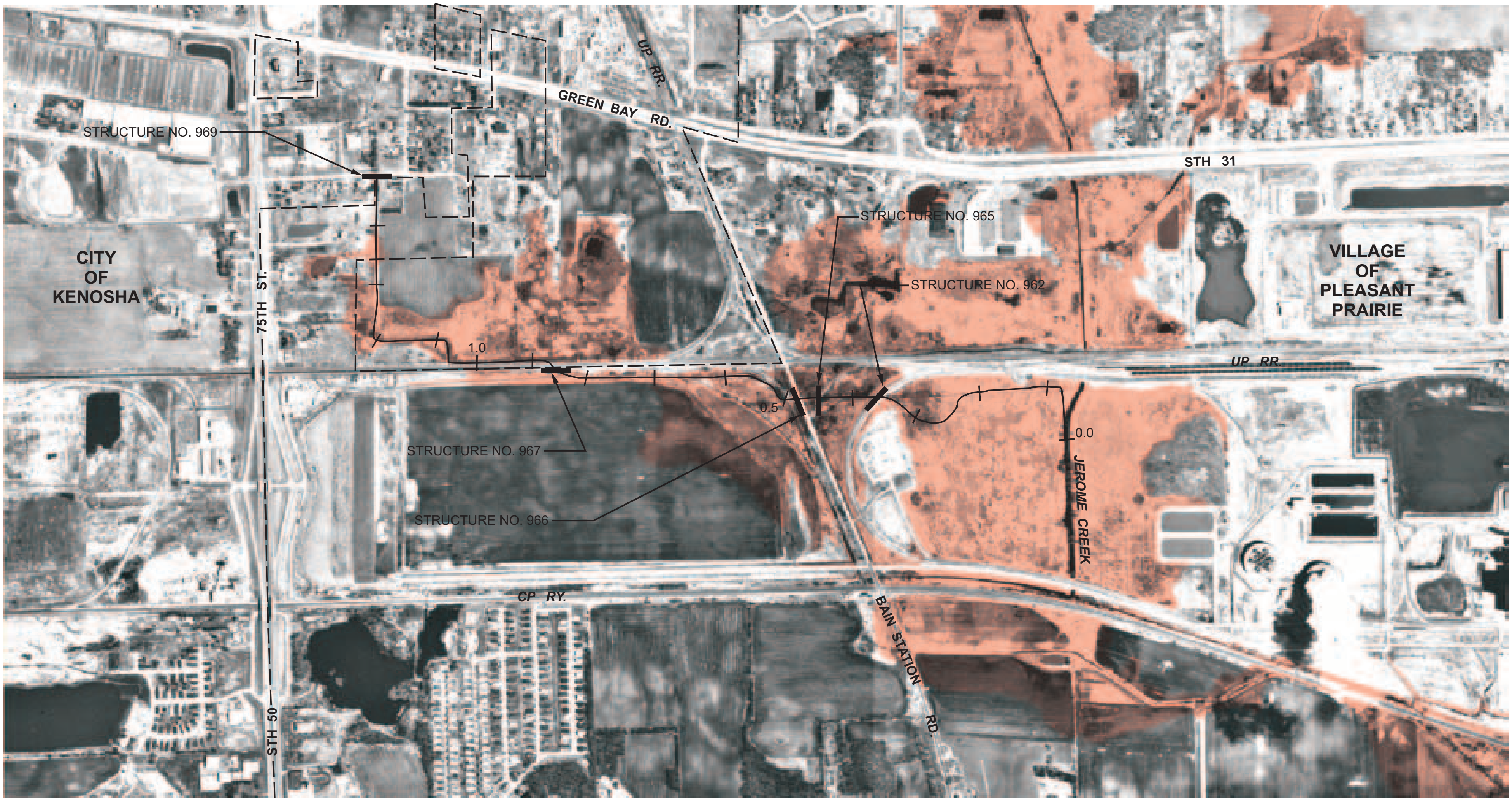
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 2 TO JEROME CREEK



Source: SEWRPC.

Map H-15

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 3 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - -
PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL
CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

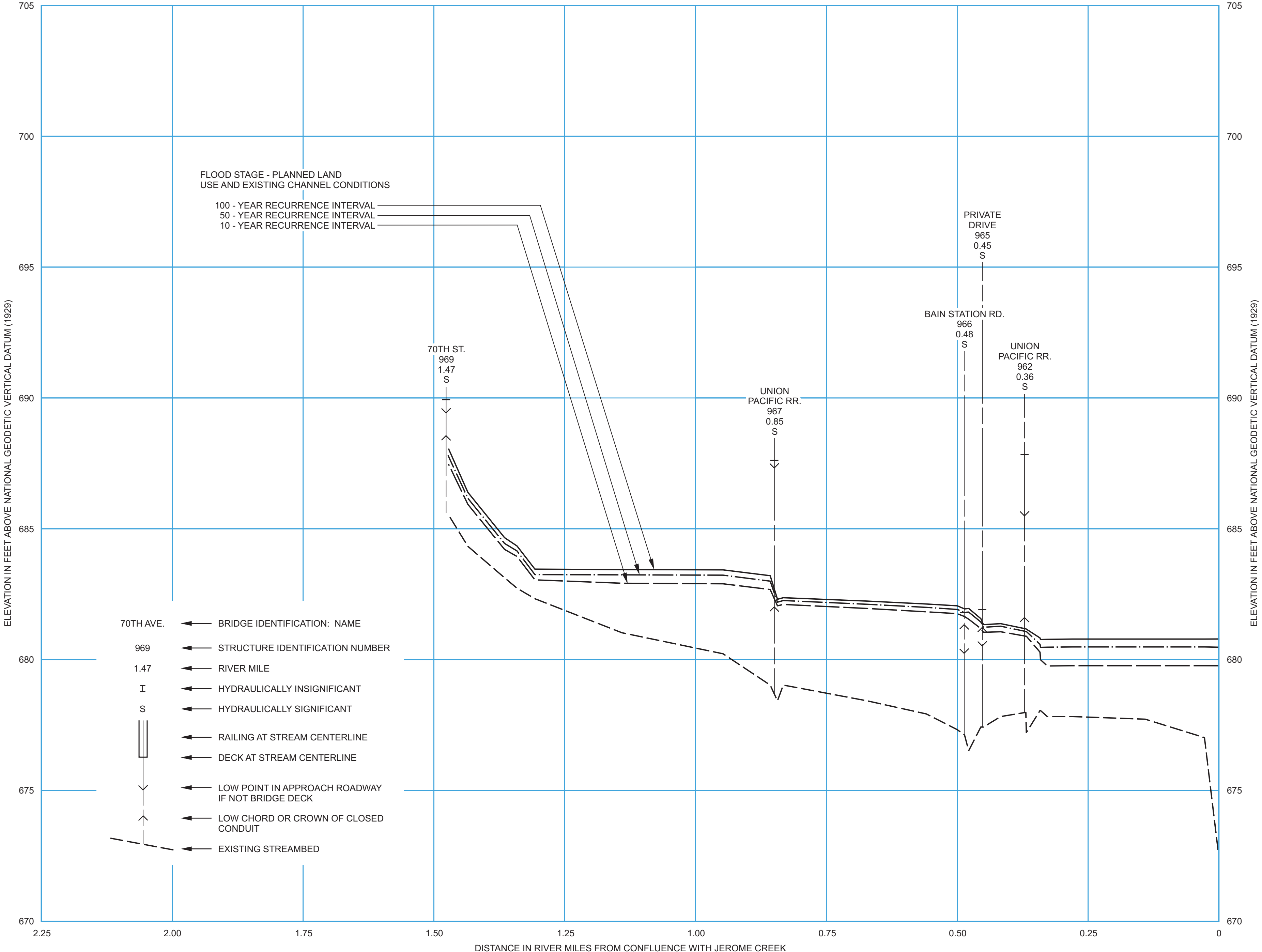
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-15

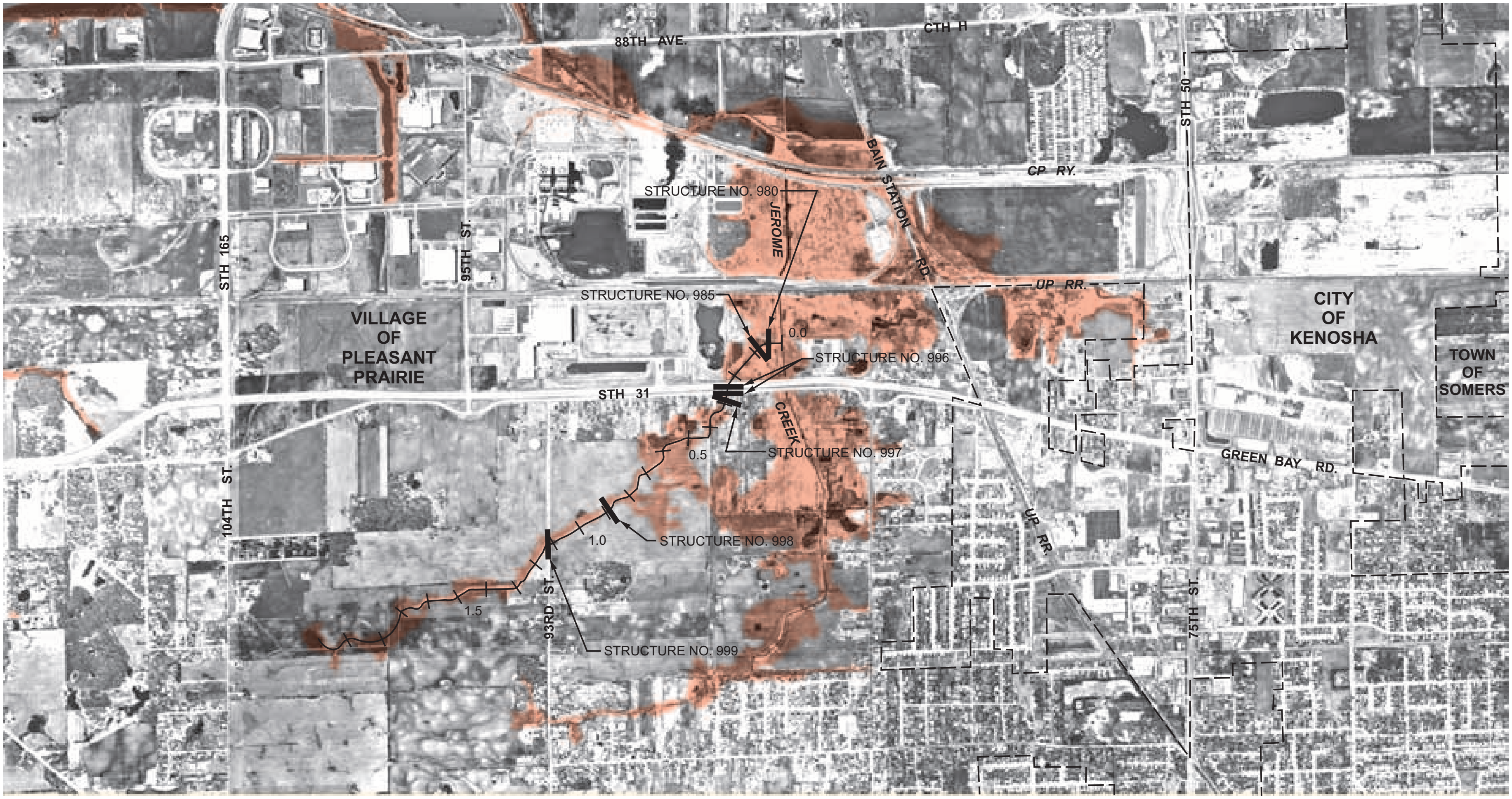
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 3 TO JEROME CREEK



Source: SEWRPC.

Map H-16

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 4 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

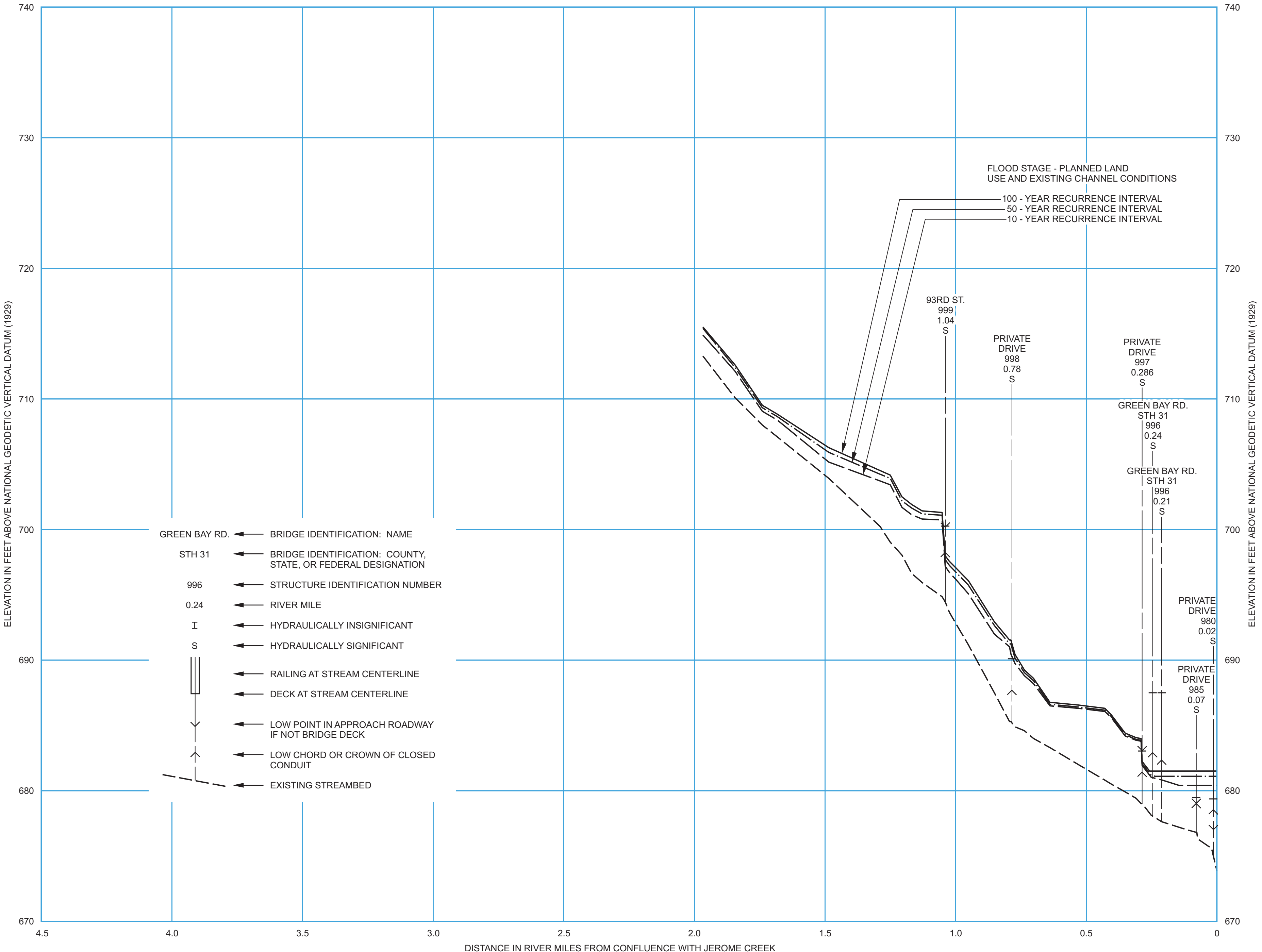
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-16

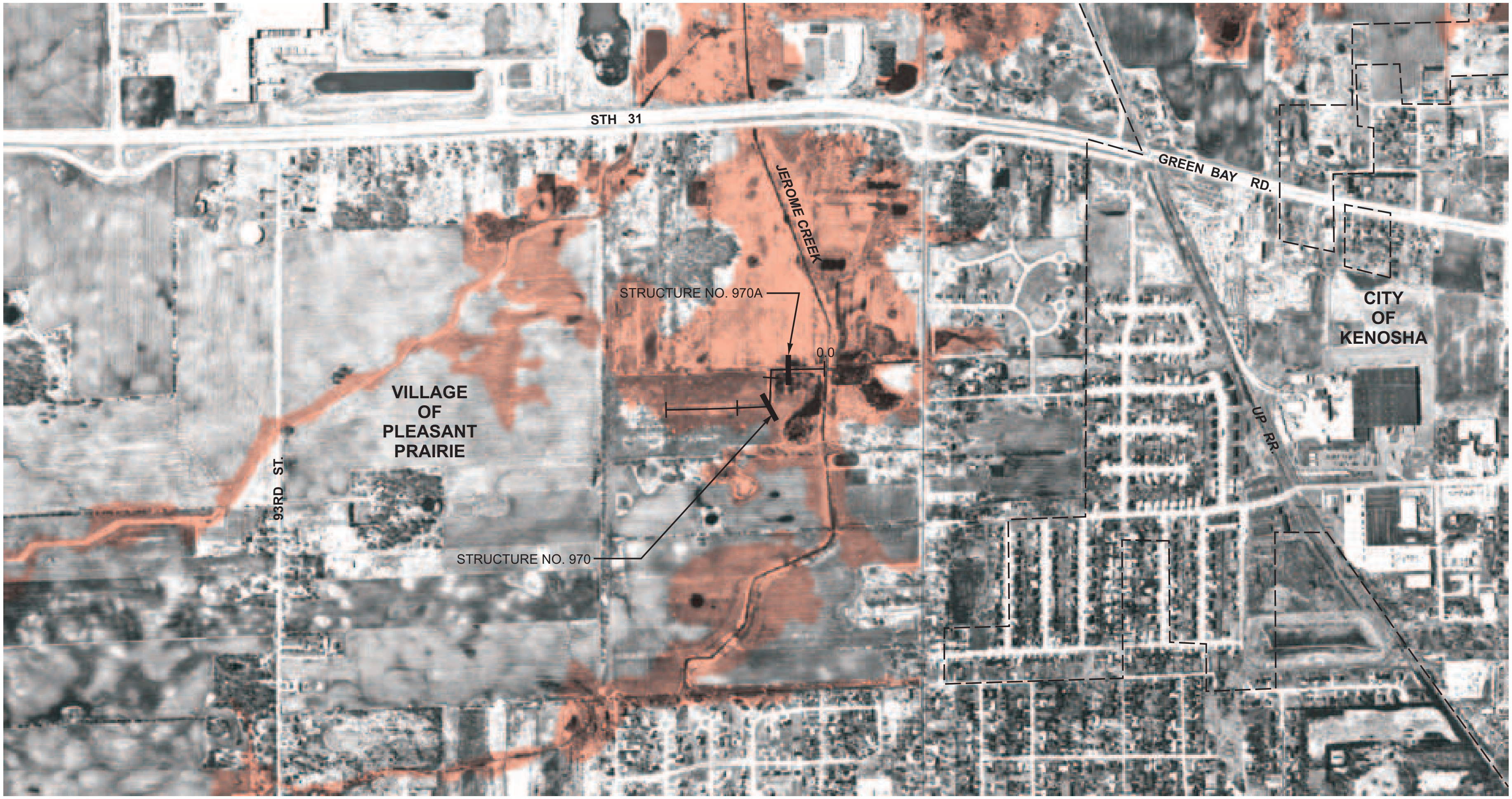
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 4 TO JEROME CREEK



Source: *SEWRPC.*

Map H-17

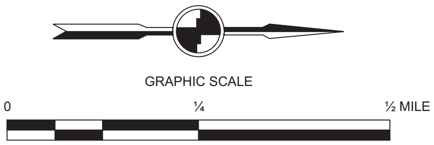
100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 5 TO JEROME CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.0 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

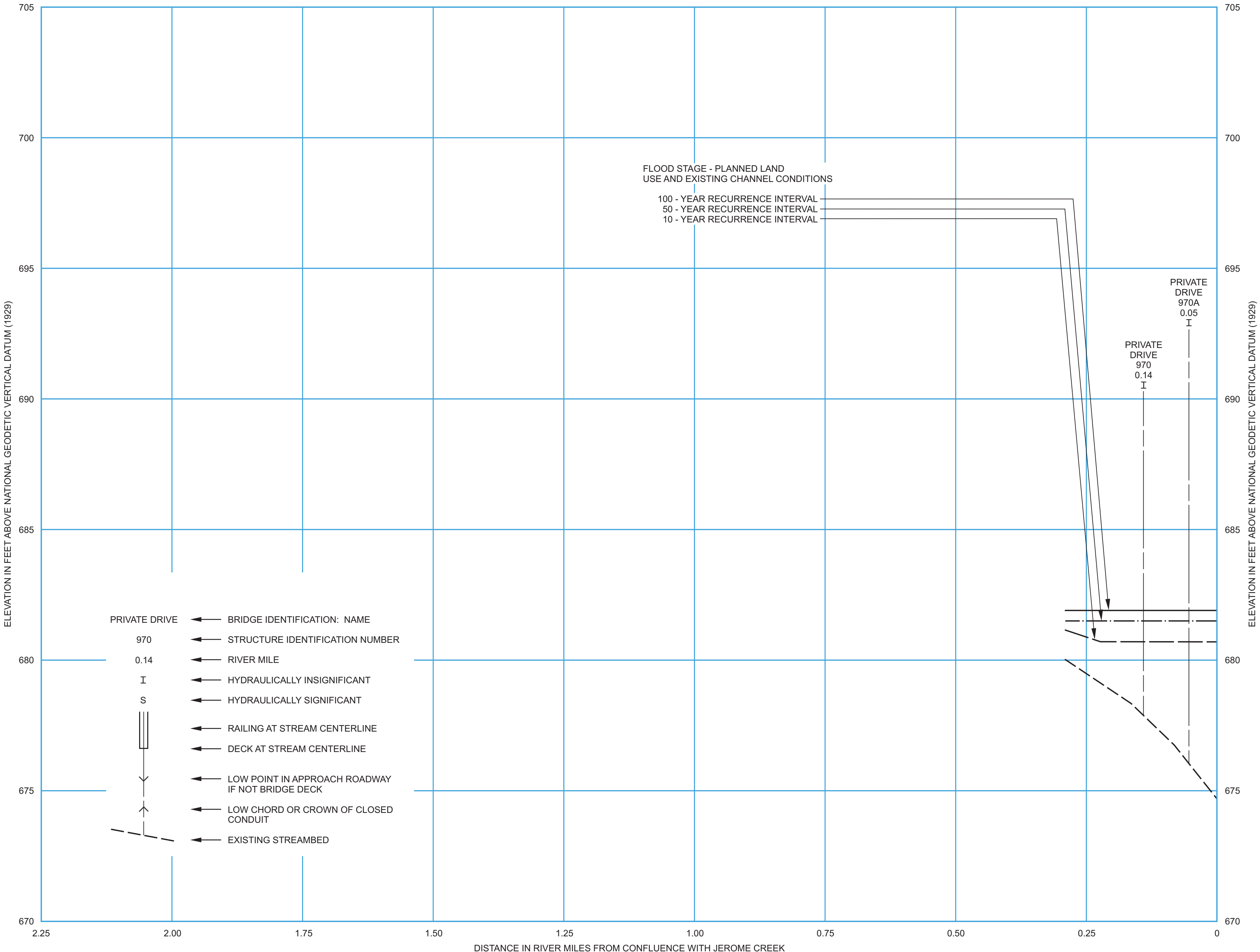


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-17

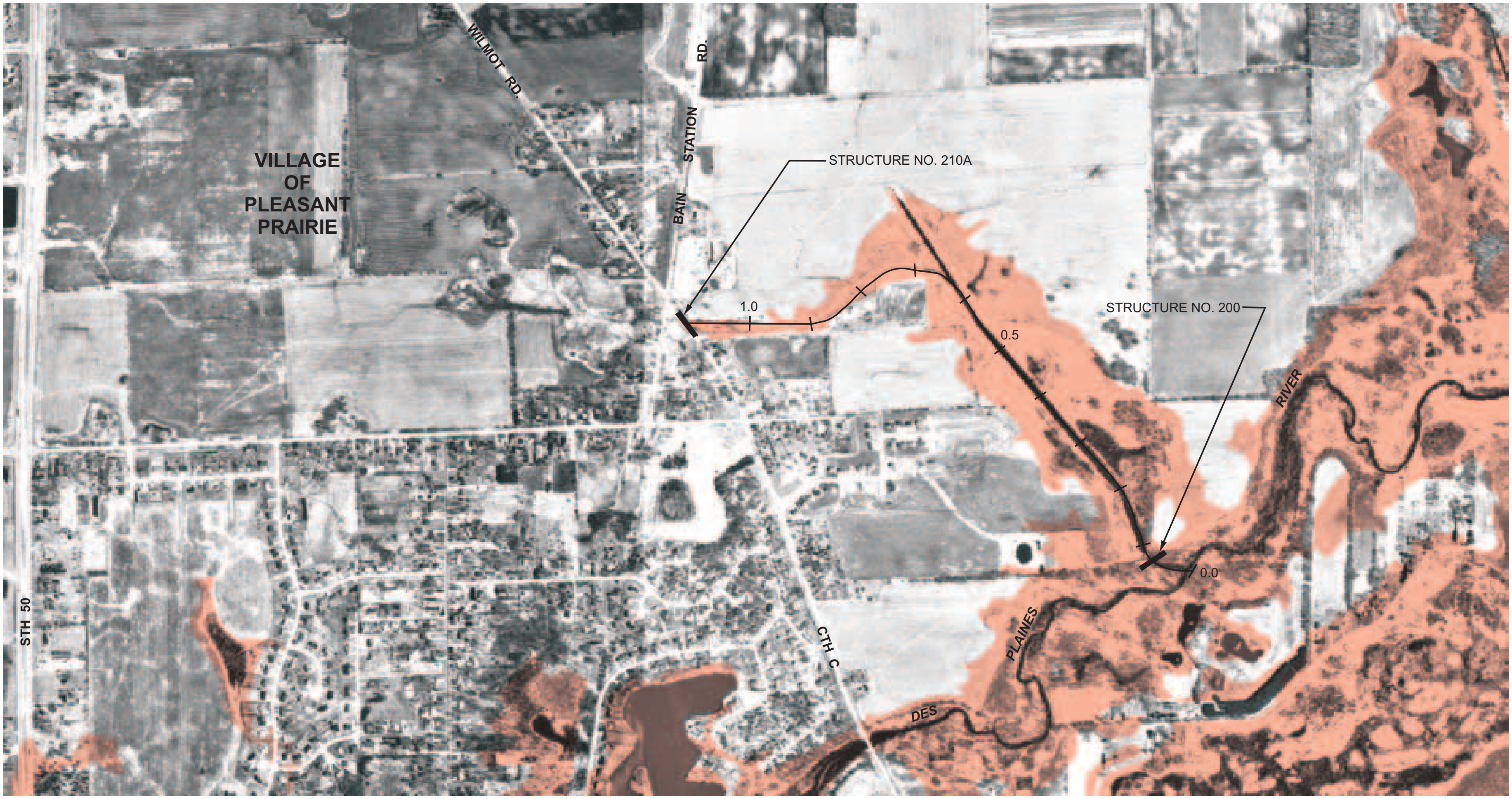
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 5 TO JEROME CREEK



Source: SEWRPC.

Map H-18

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR PLEASANT PRAIRIE TRIBUTARY: PLANNNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

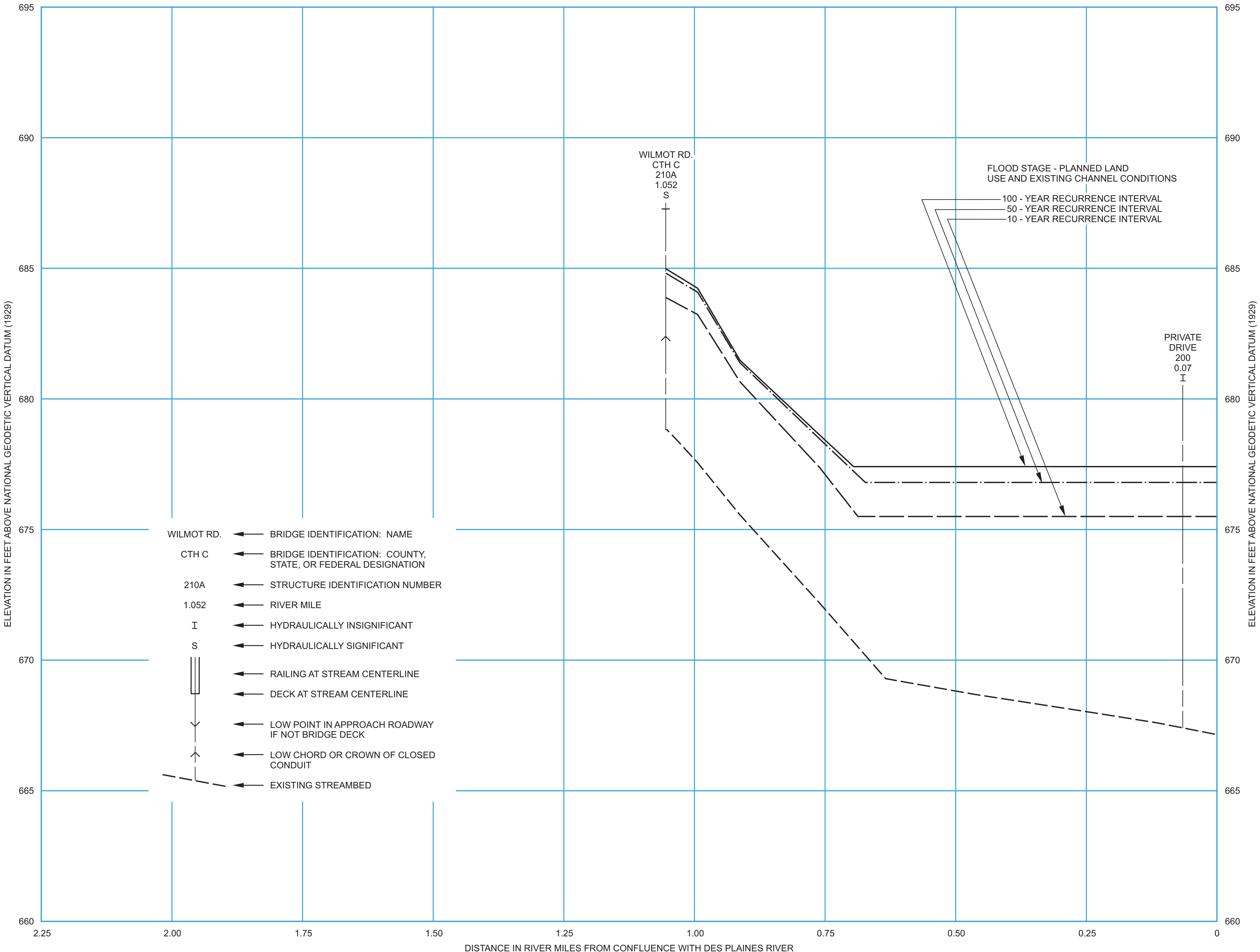
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-18

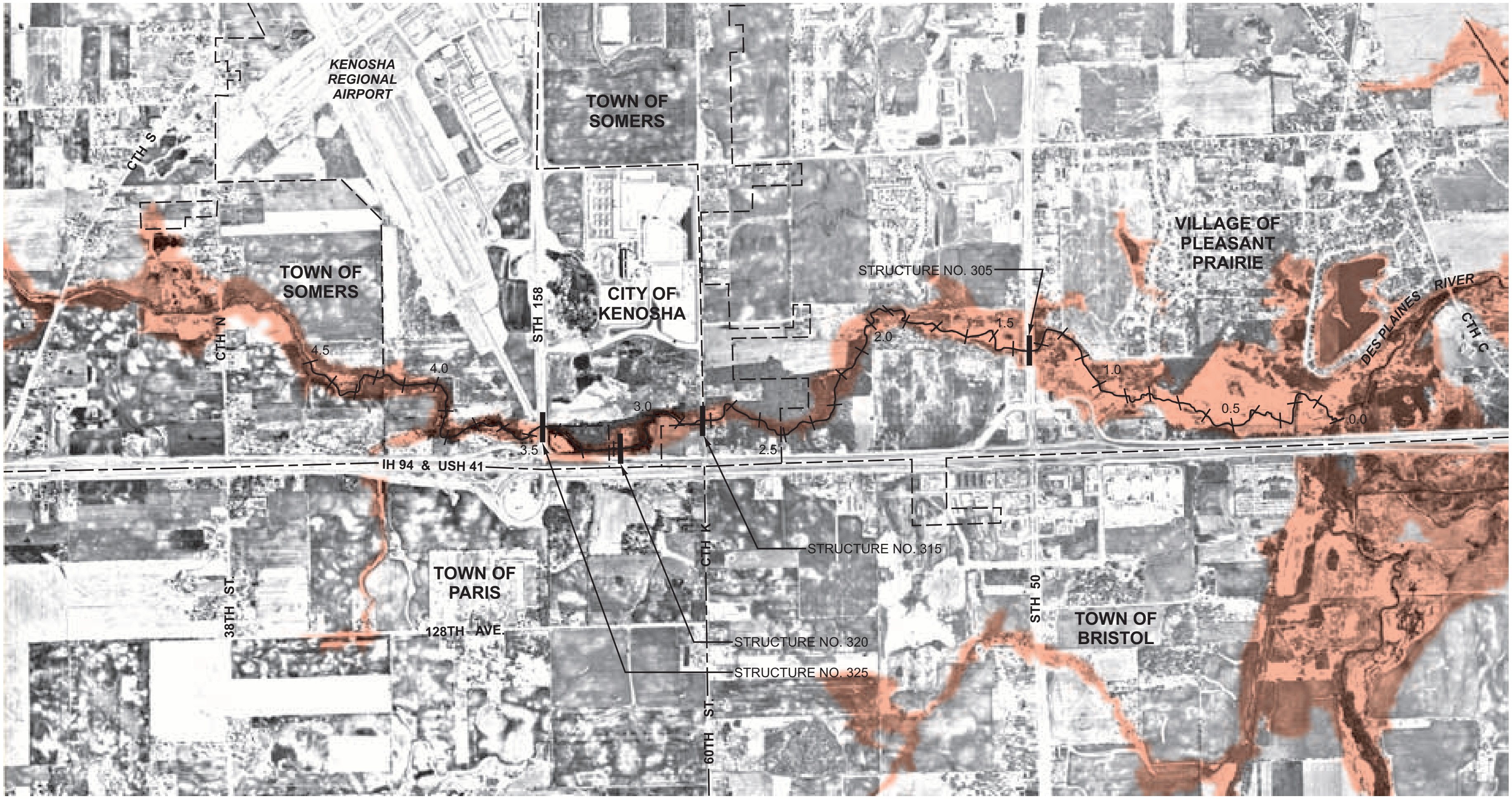
FLOOD STAGE AND STREAMBED PROFILE FOR PLEASANT PRAIRIE TRIBUTARY



Source: SEWRPC.

Map H-19A

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 0.00 TO 4.50)



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

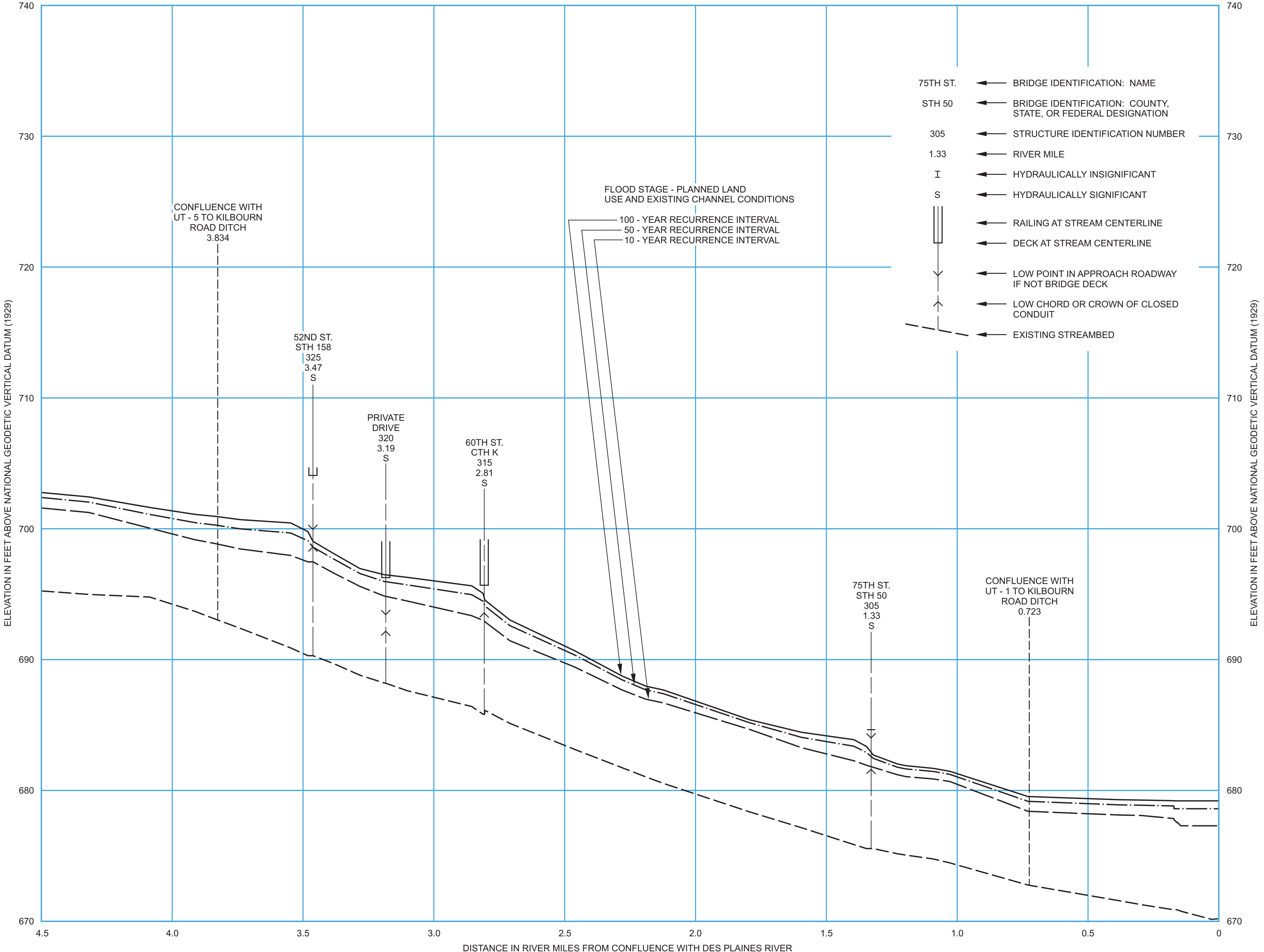
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-19A

FLOOD STAGE AND STREAMBED PROFILE FOR KILBOURN ROAD DITCH (RIVER MILE 0.00 TO 4.50)



Source: SEWRPC.

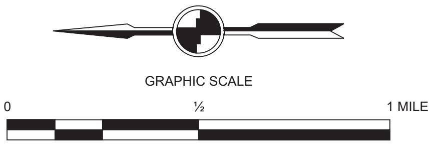
Map H-19B

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 4.50 TO 9.00)

▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

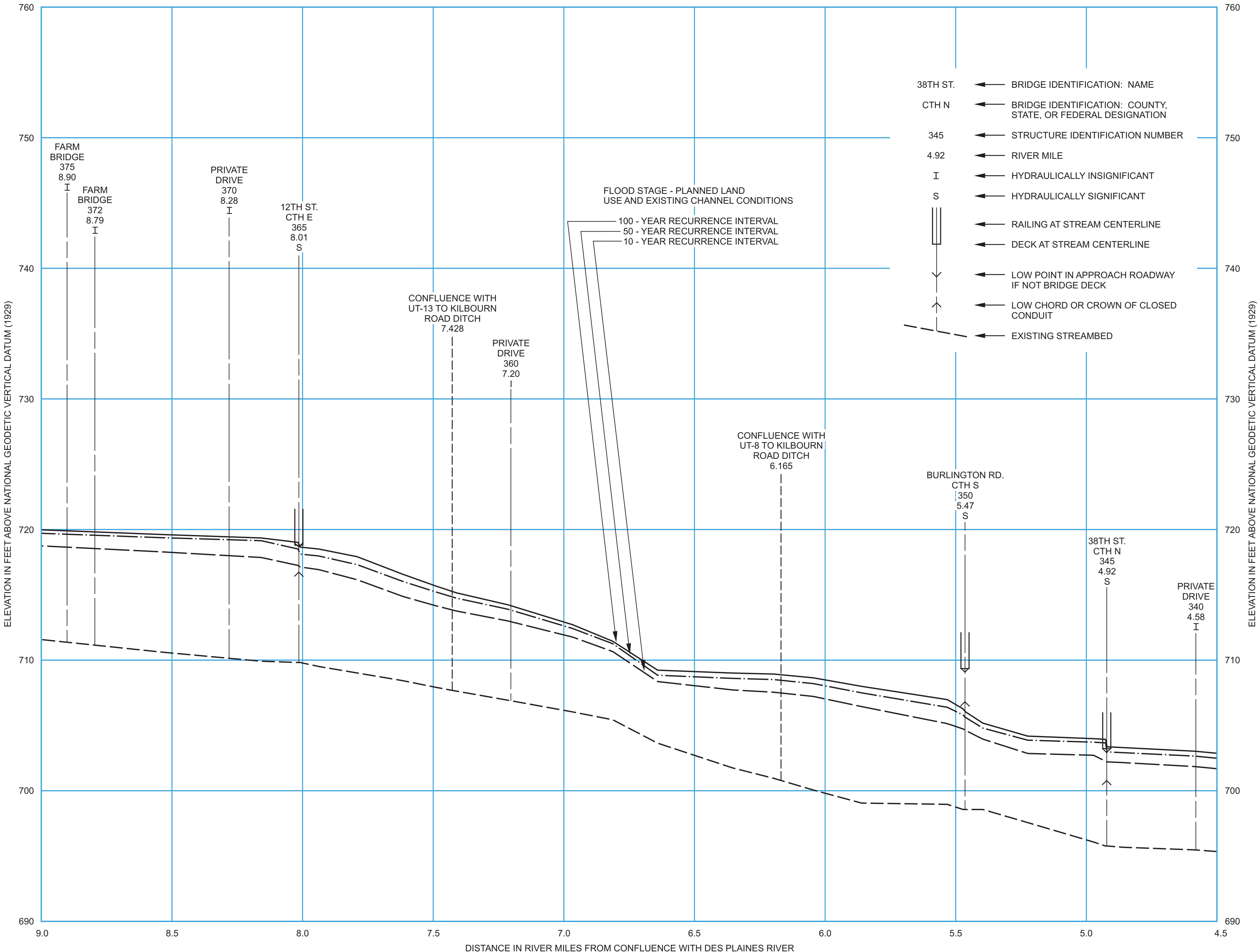


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-19B

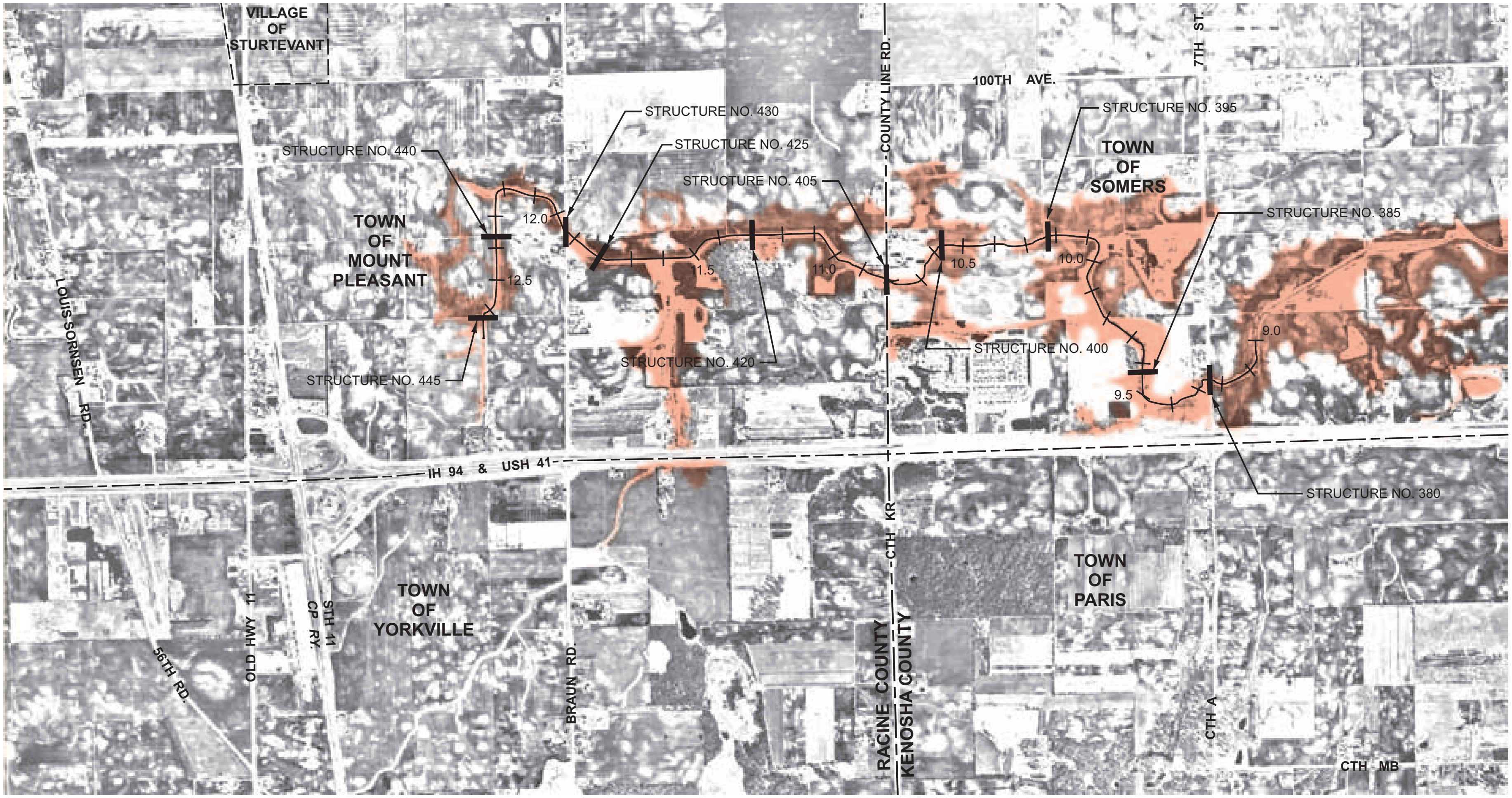
FLOOD STAGE AND STREAMBED PROFILE FOR KILBOURN ROAD DITCH (RIVER MILE 4.50 TO 9.00)



Source: SEWRPC.

Map H-19C

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 9.00 TO 12.63)



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

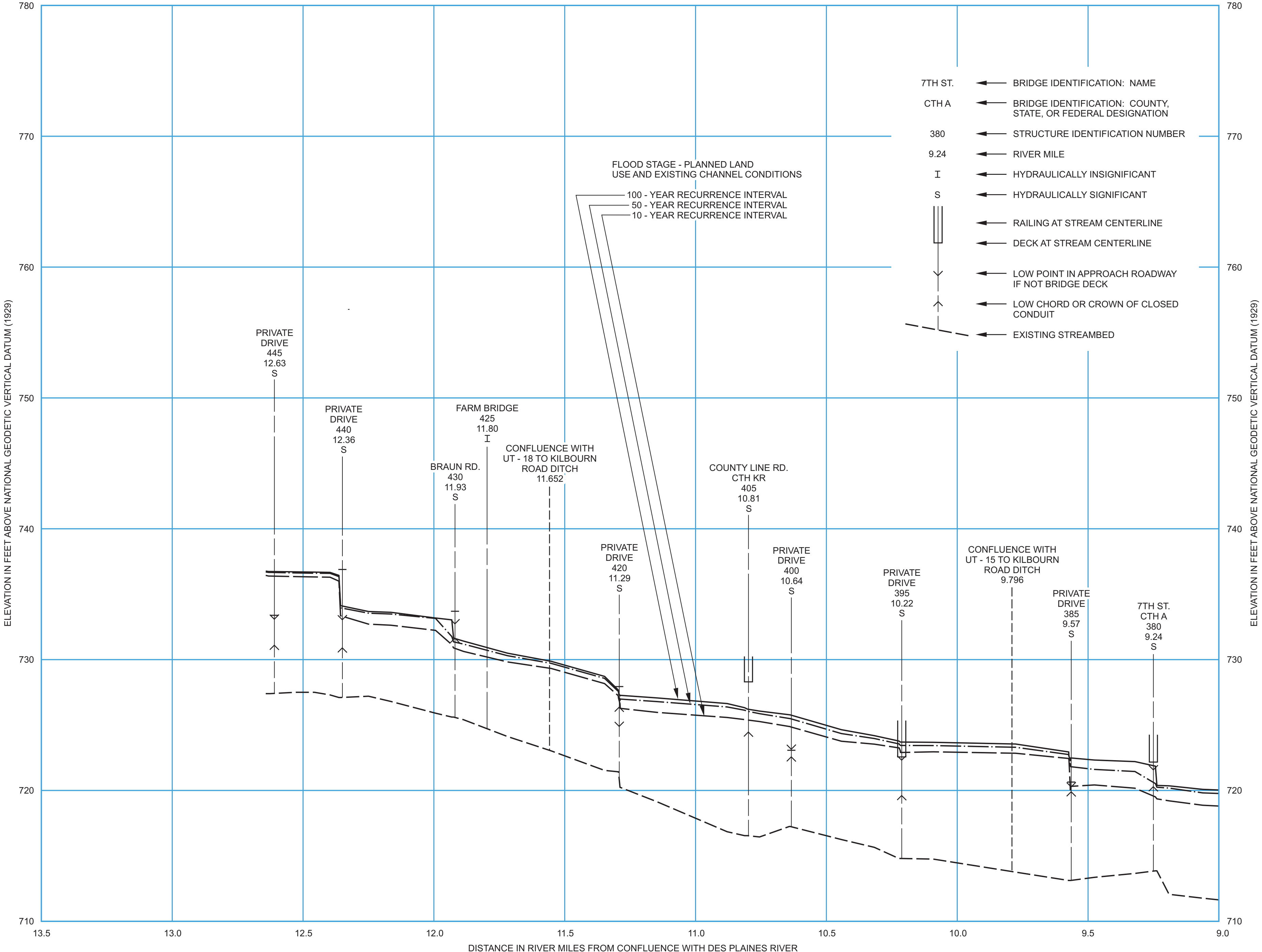
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-19C

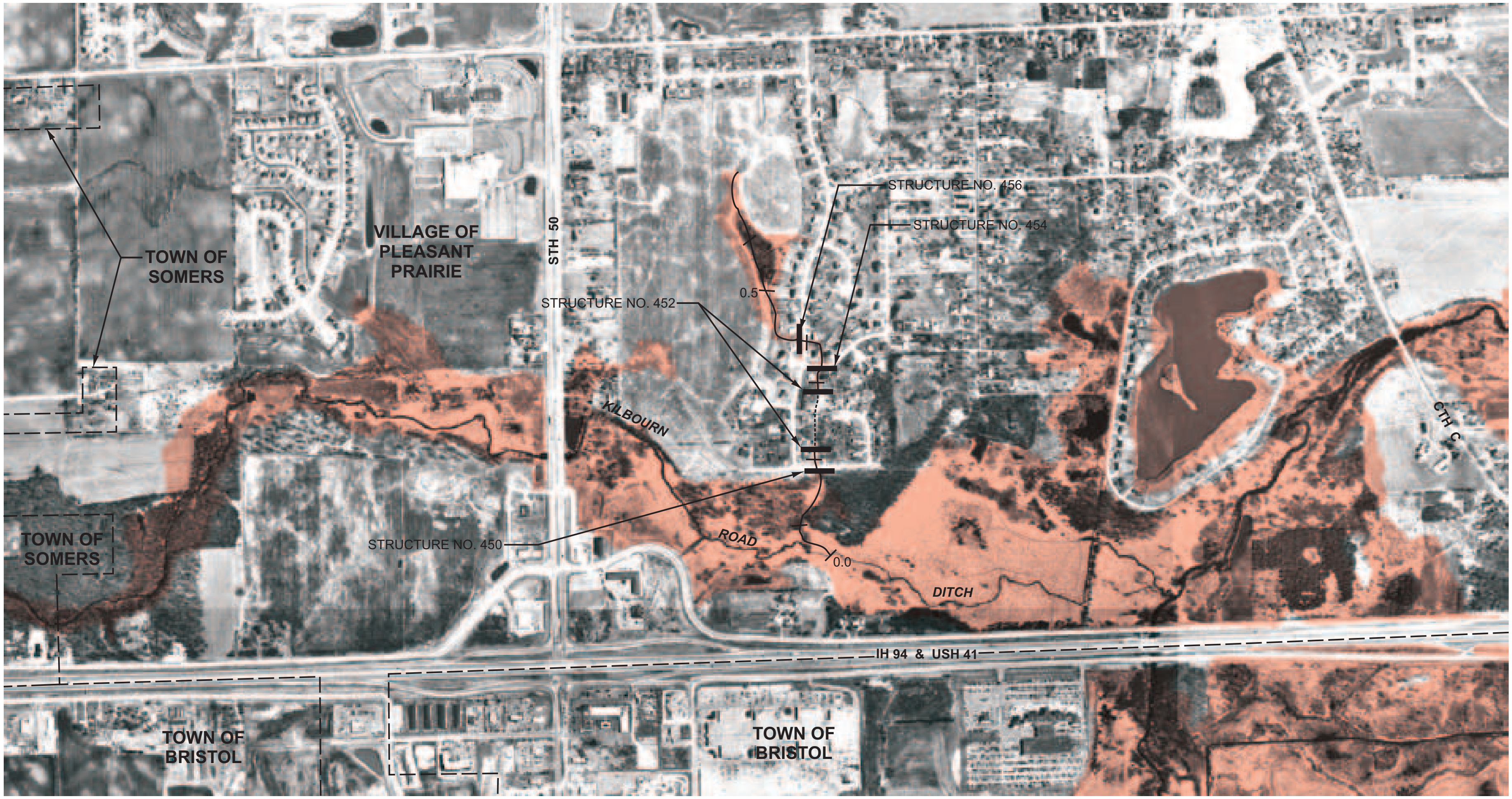
FLOOD STAGE AND STREAMBED PROFILE FOR KILBOURN ROAD DITCH (RIVER MILE 9.00 TO 12.63)



Source: SEWRPC.

Map H-20

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

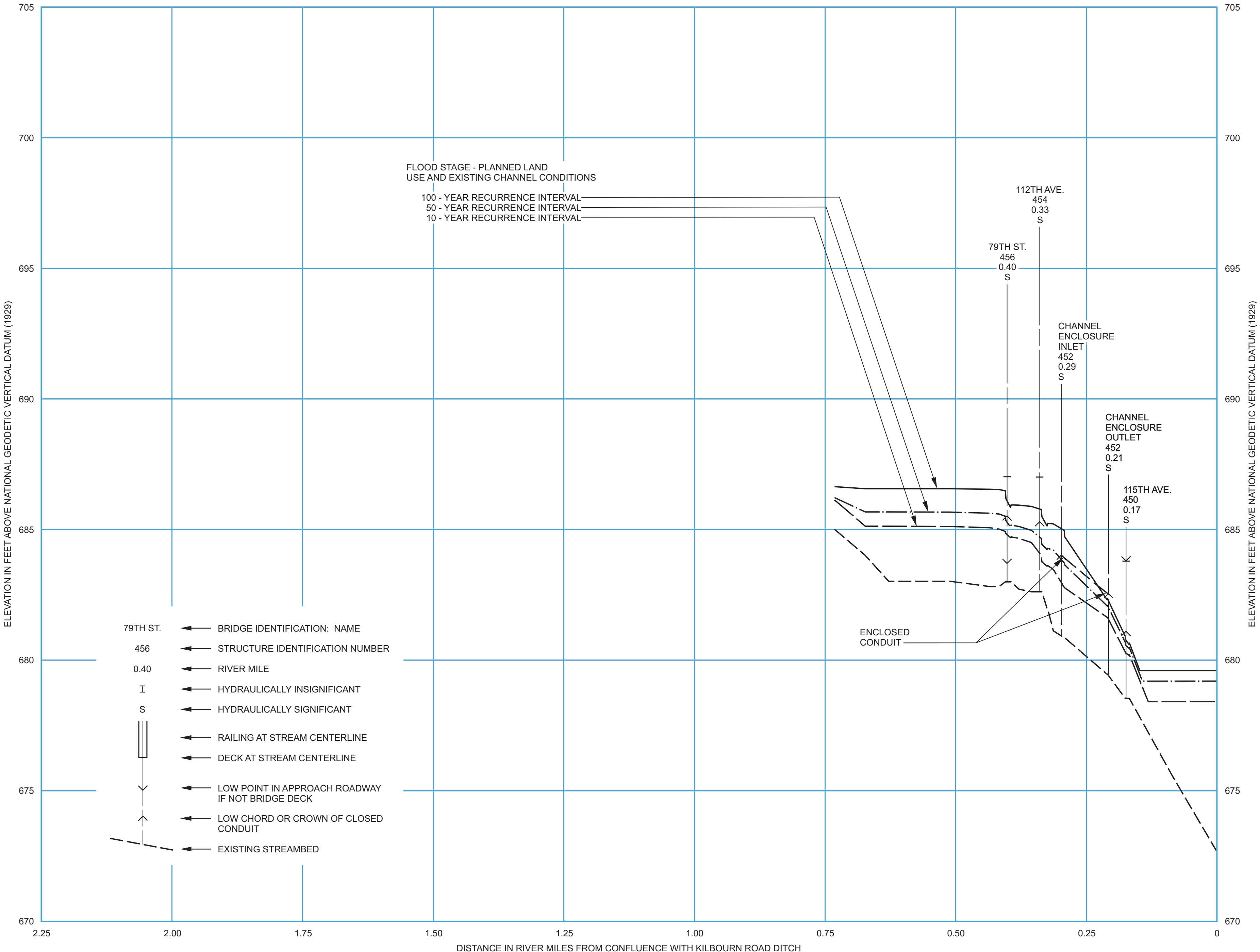
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-20

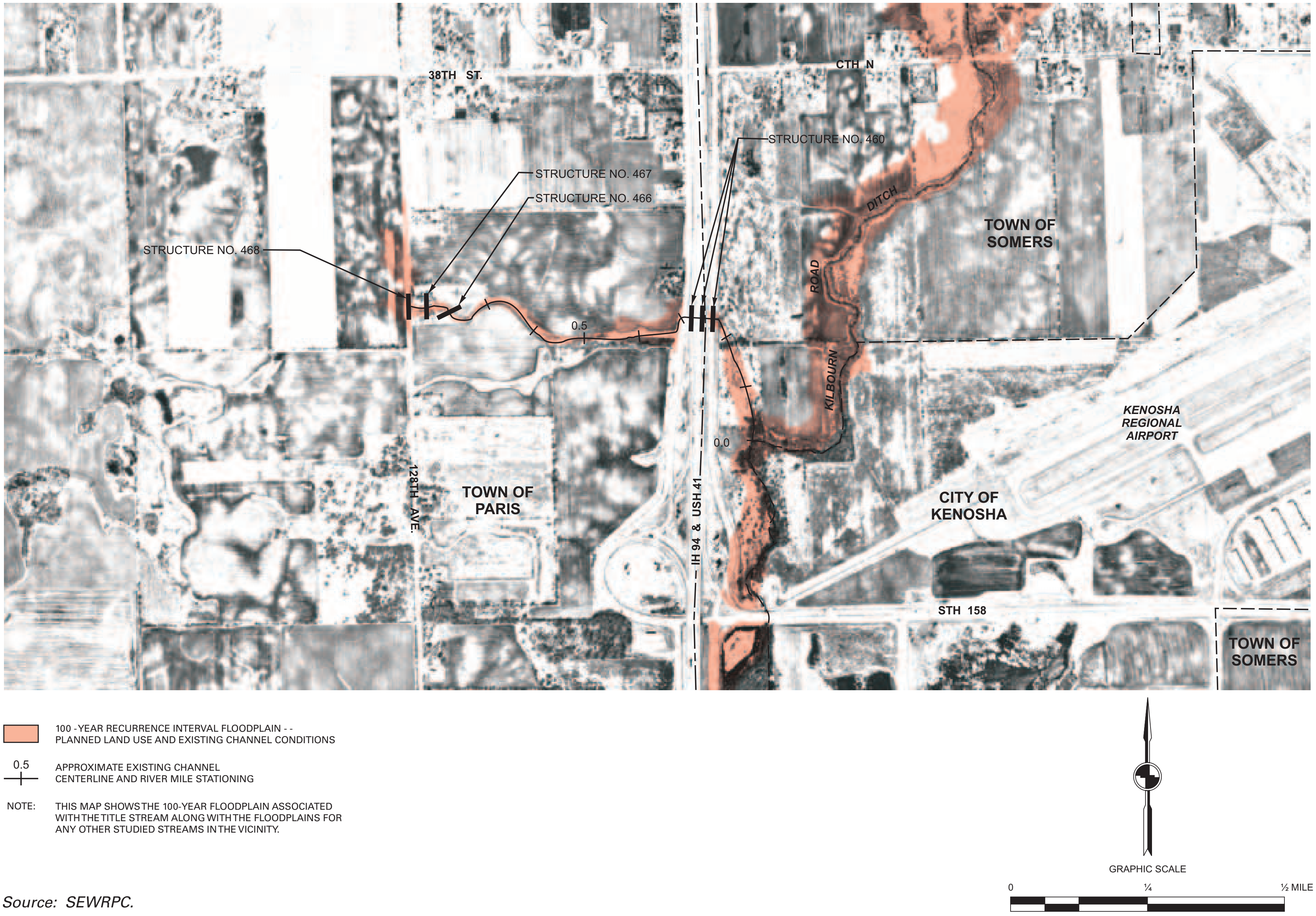
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1 TO KILBOURN ROAD DITCH



Source: SEWRPC.

Map H-21

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 5 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - -
PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL
CENTERLINE AND RIVER MILE STATIONING

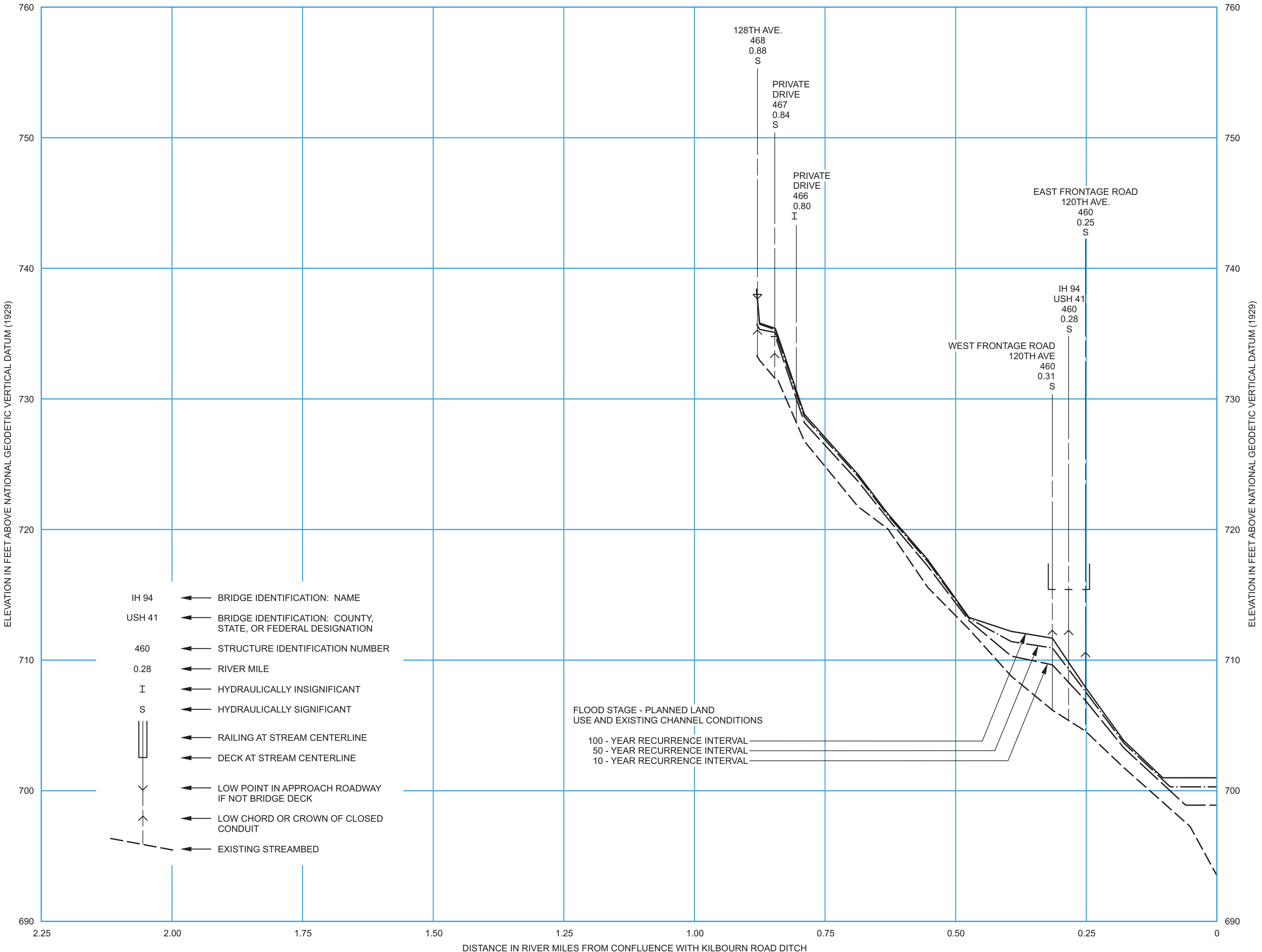
NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-21

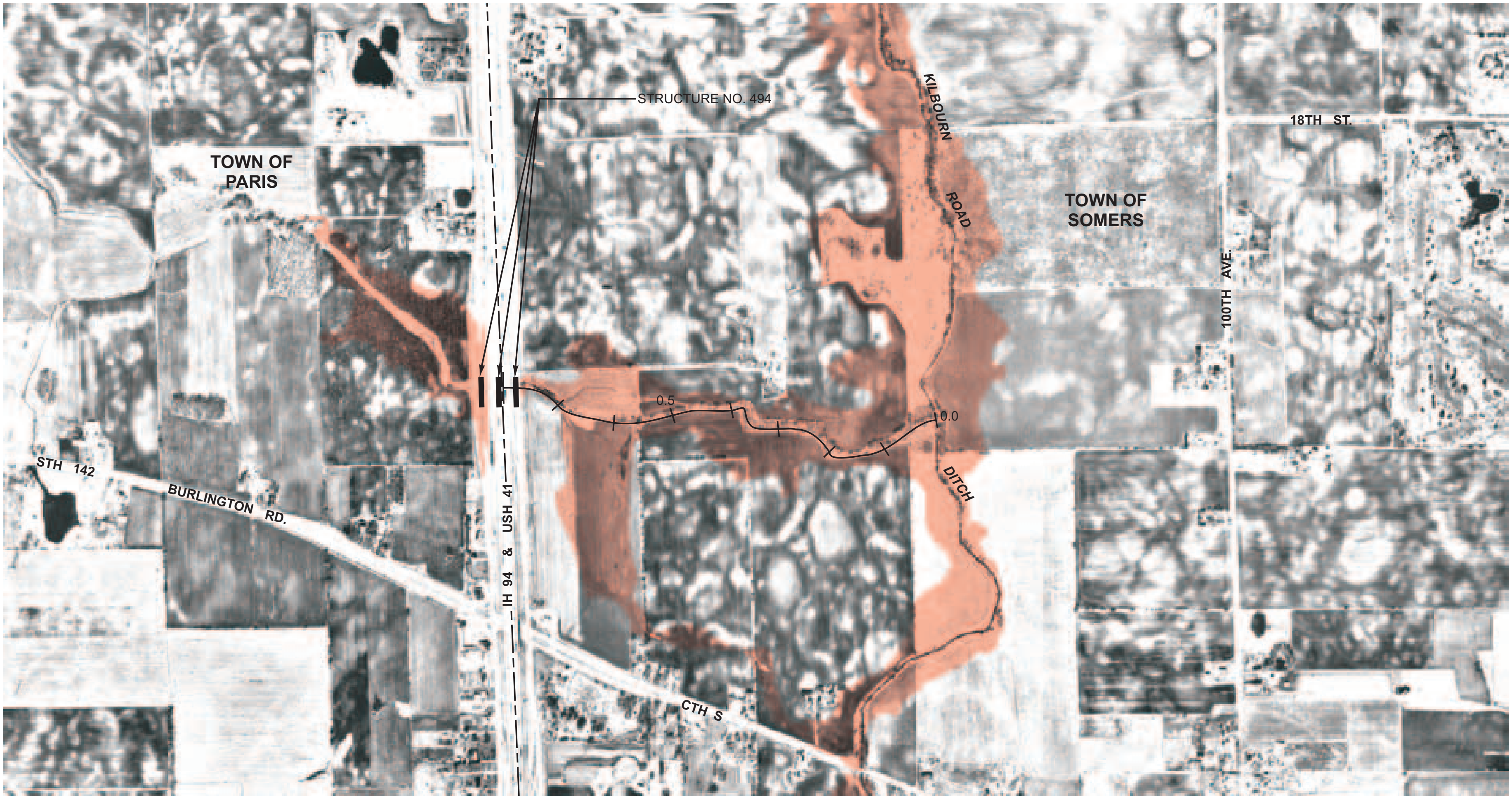
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 5 TO KILBOURN ROAD DITCH



Source: SEWRPC.

Map H-22

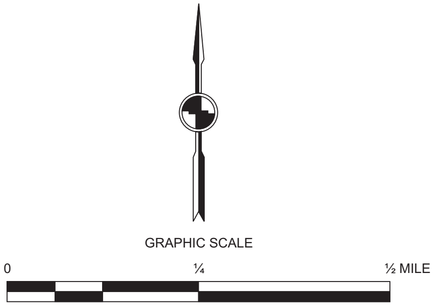
100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 8 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

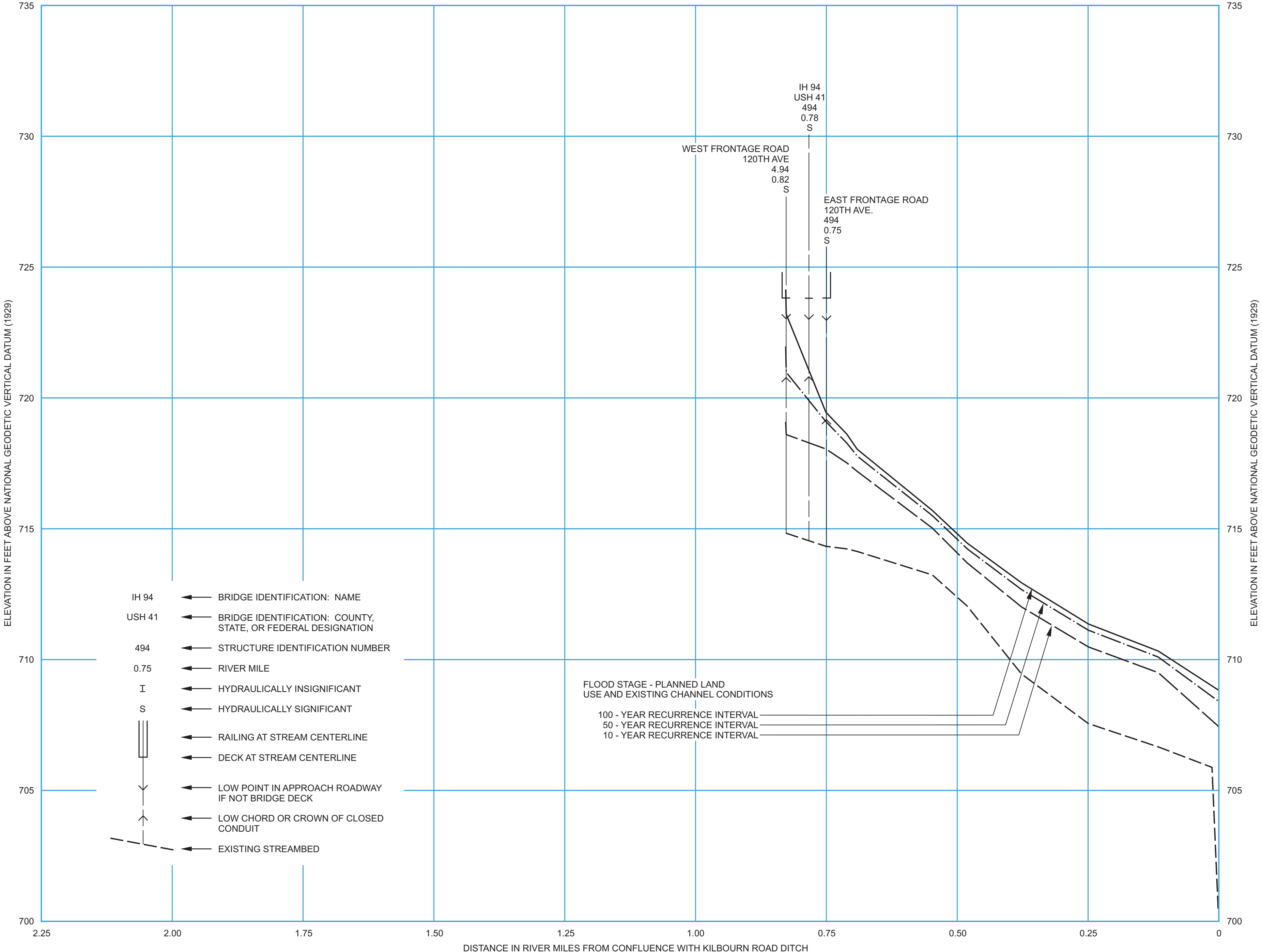


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-22

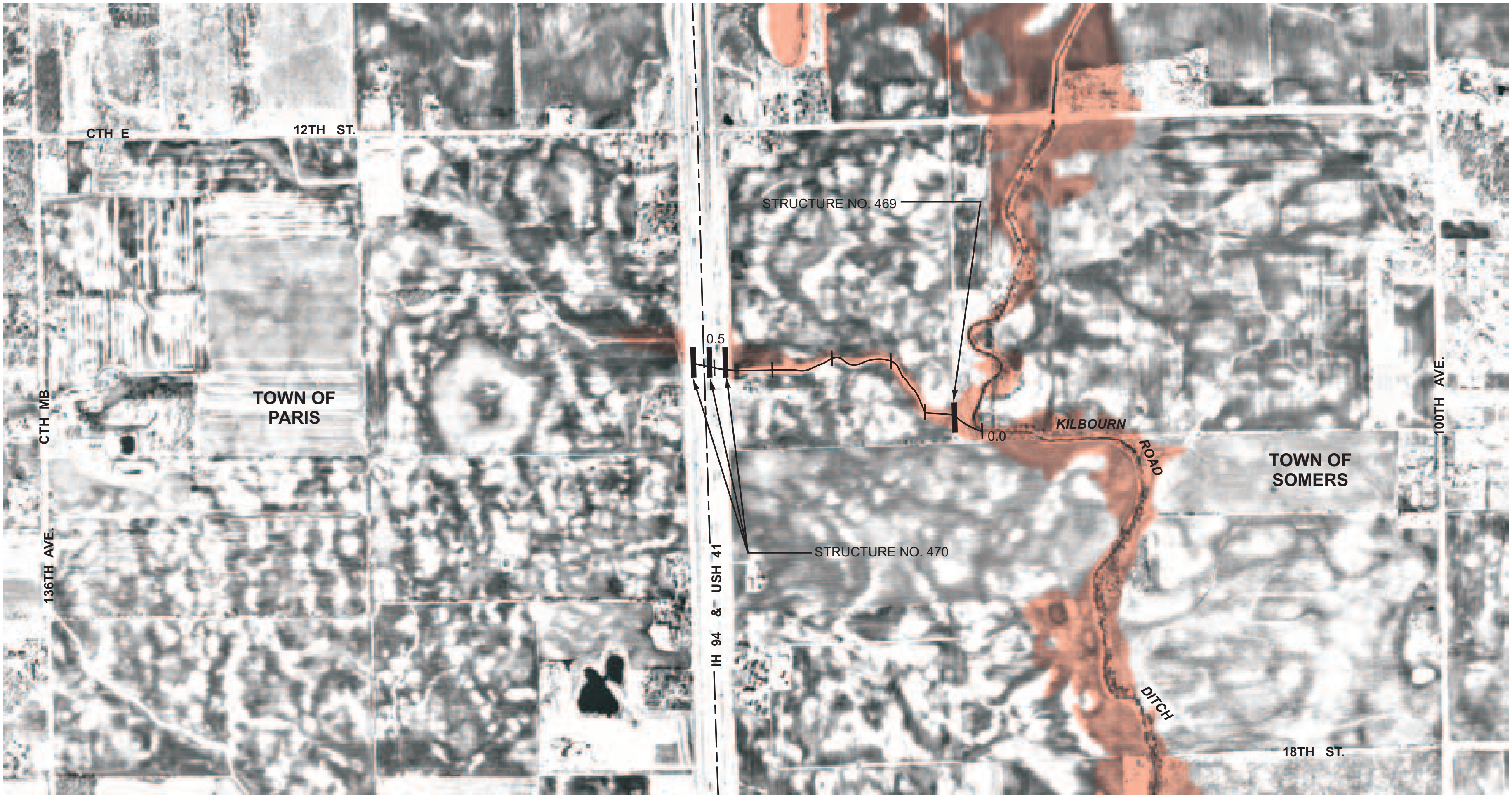
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 8 TO KILBOURN ROAD DITCH



Source: SEWRPC.

Map H-23

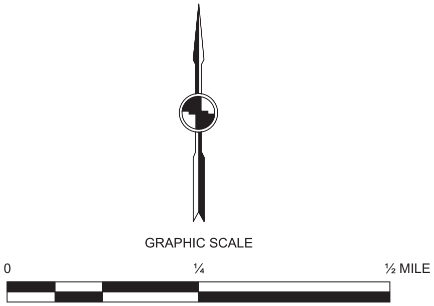
100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 13 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - -
PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL
CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

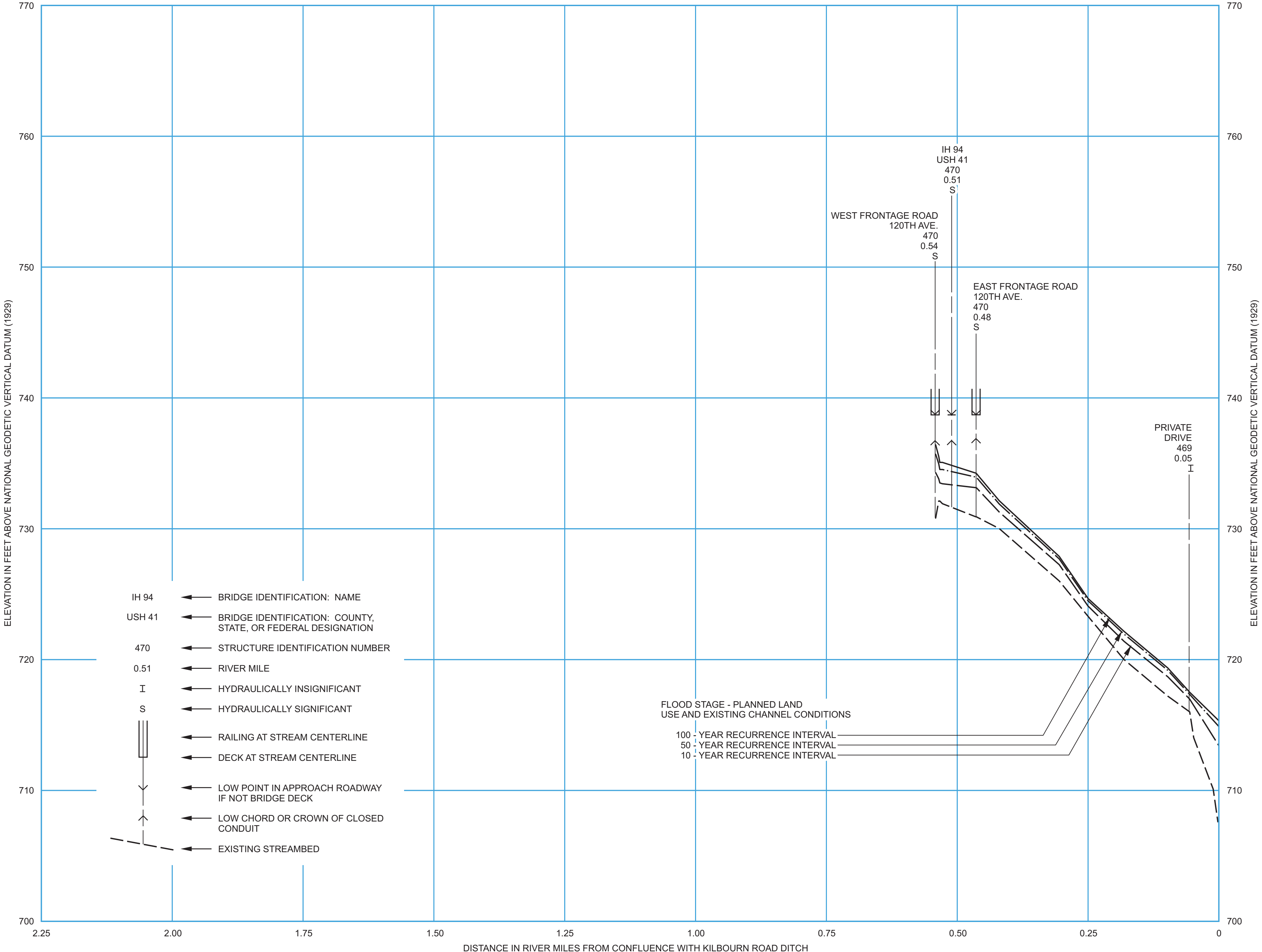


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-23

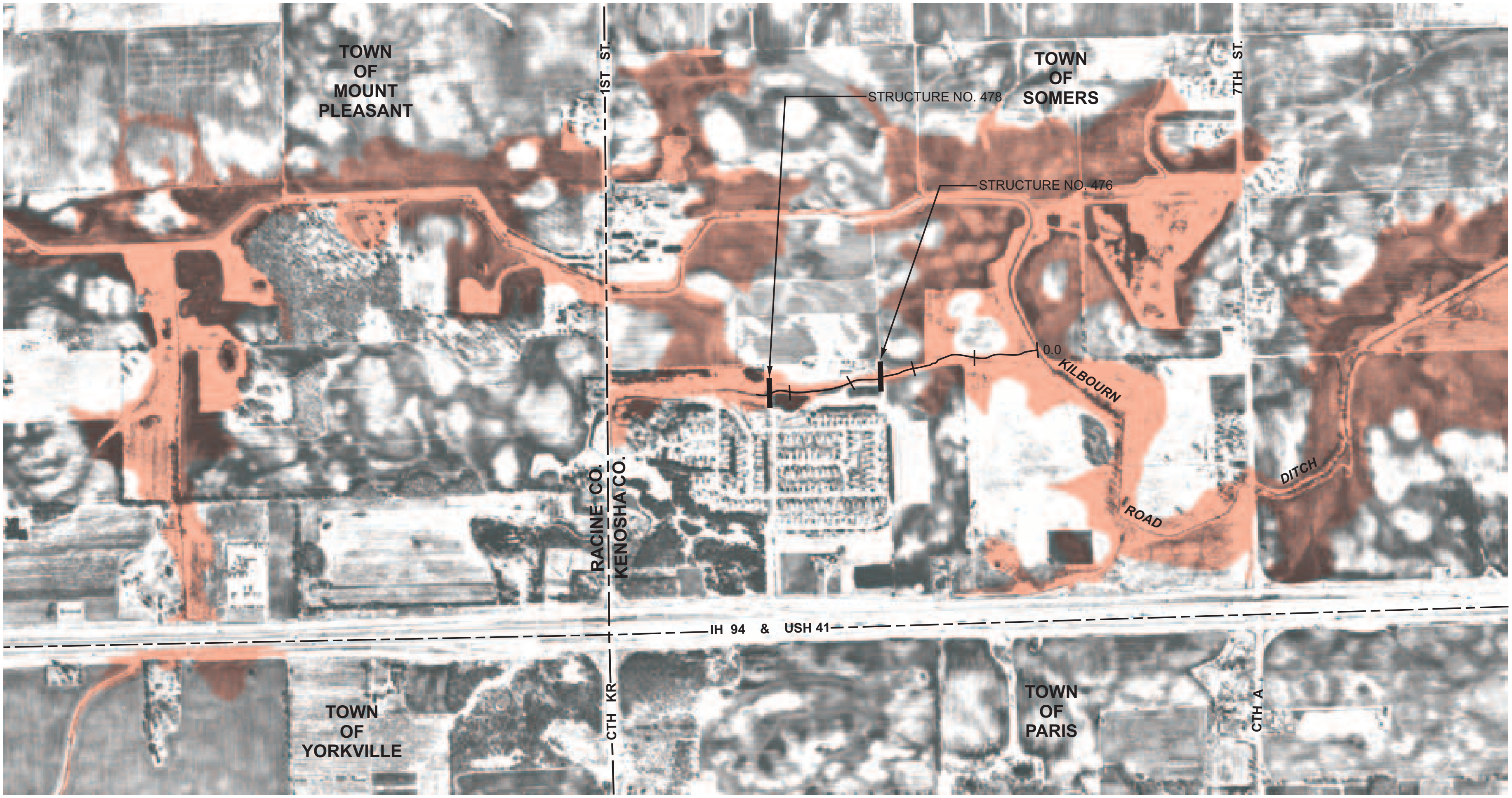
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 13 TO KILBOURN ROAD DITCH



Source: SEWRPC.

Map H-24

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 15 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

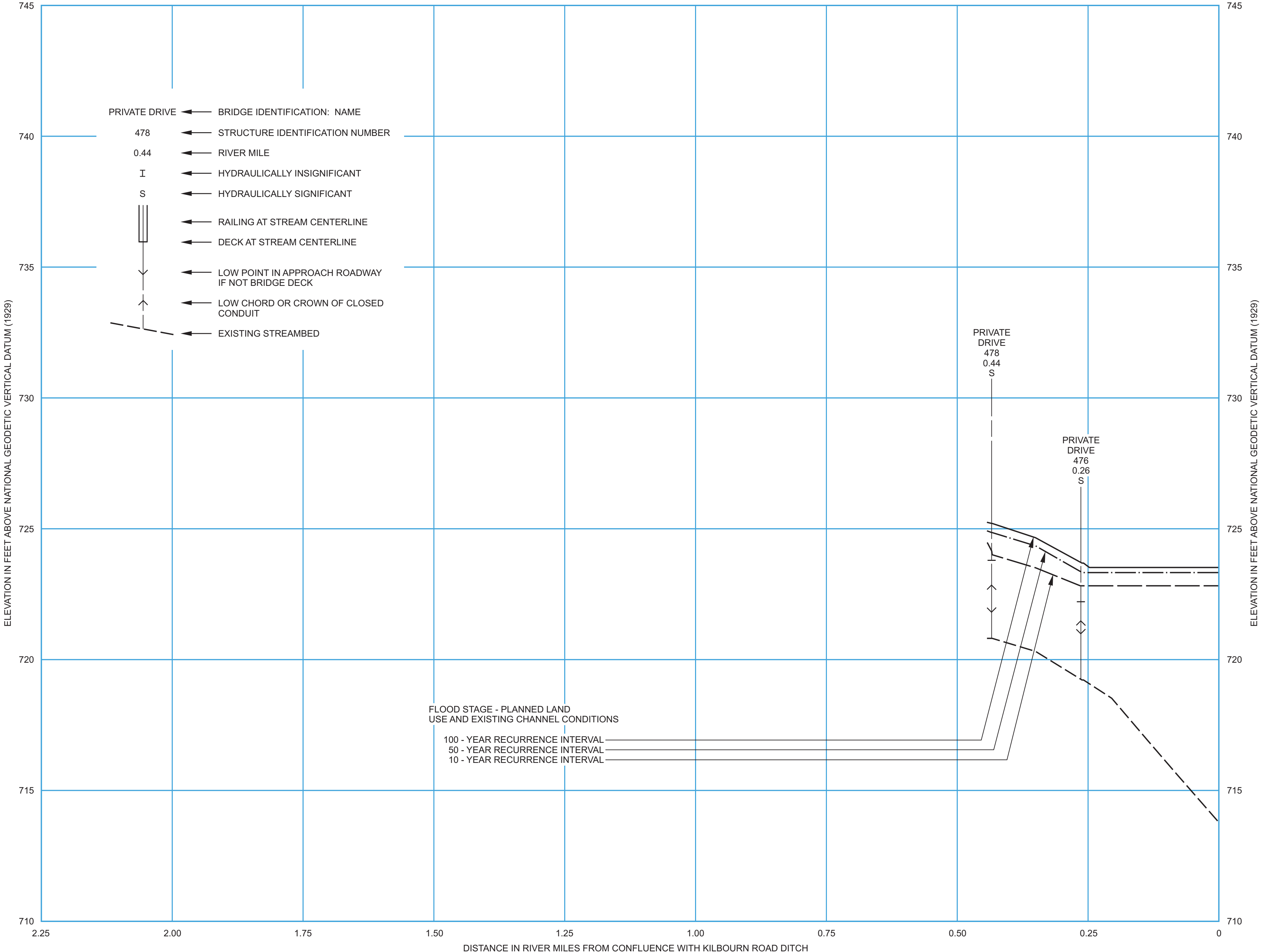
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-24

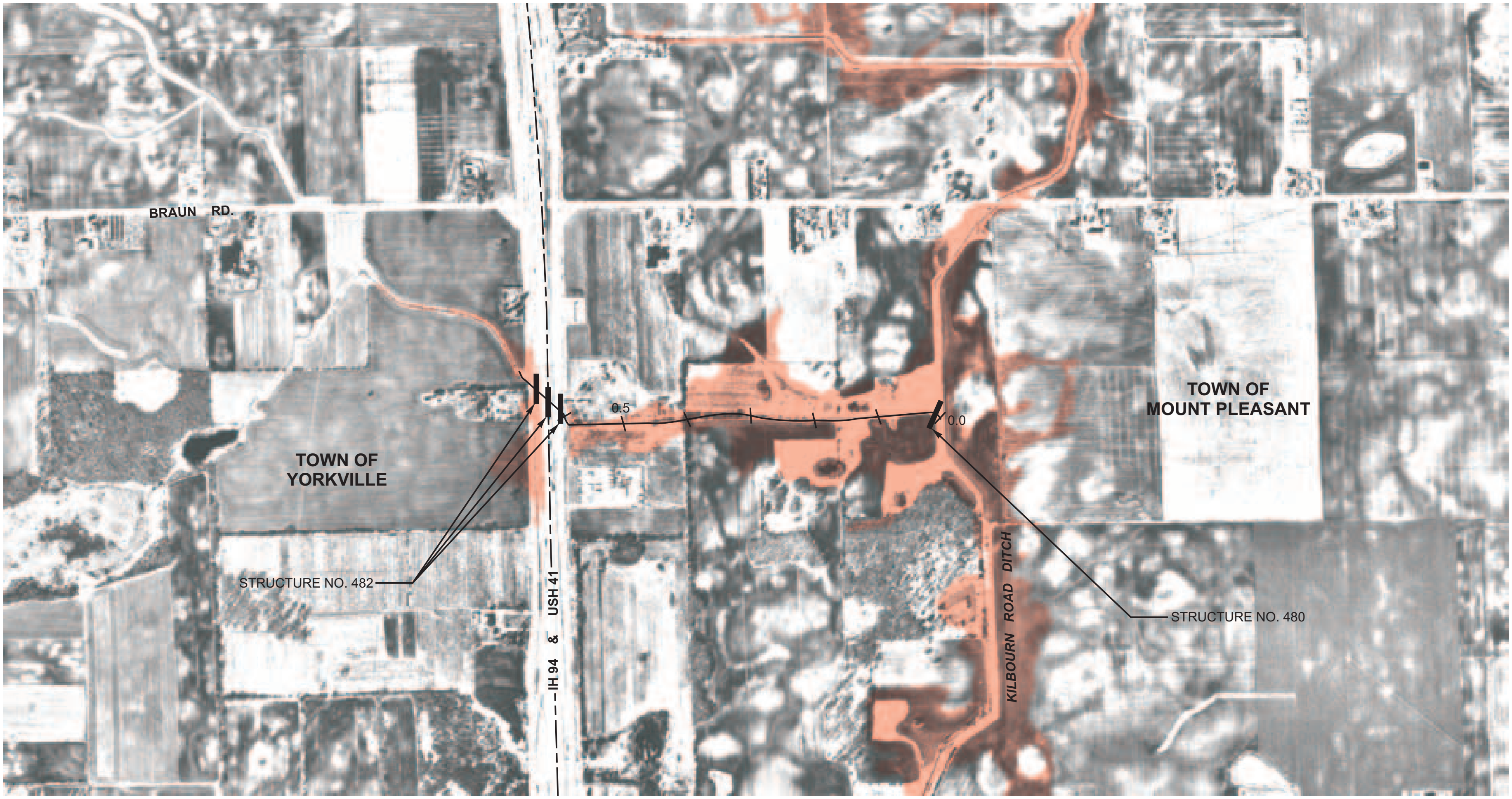
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 15 TO KILBOURN ROAD DITCH



Source: SEWRPC.

Map H-25

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 18 TO KILBOURN ROAD DITCH: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

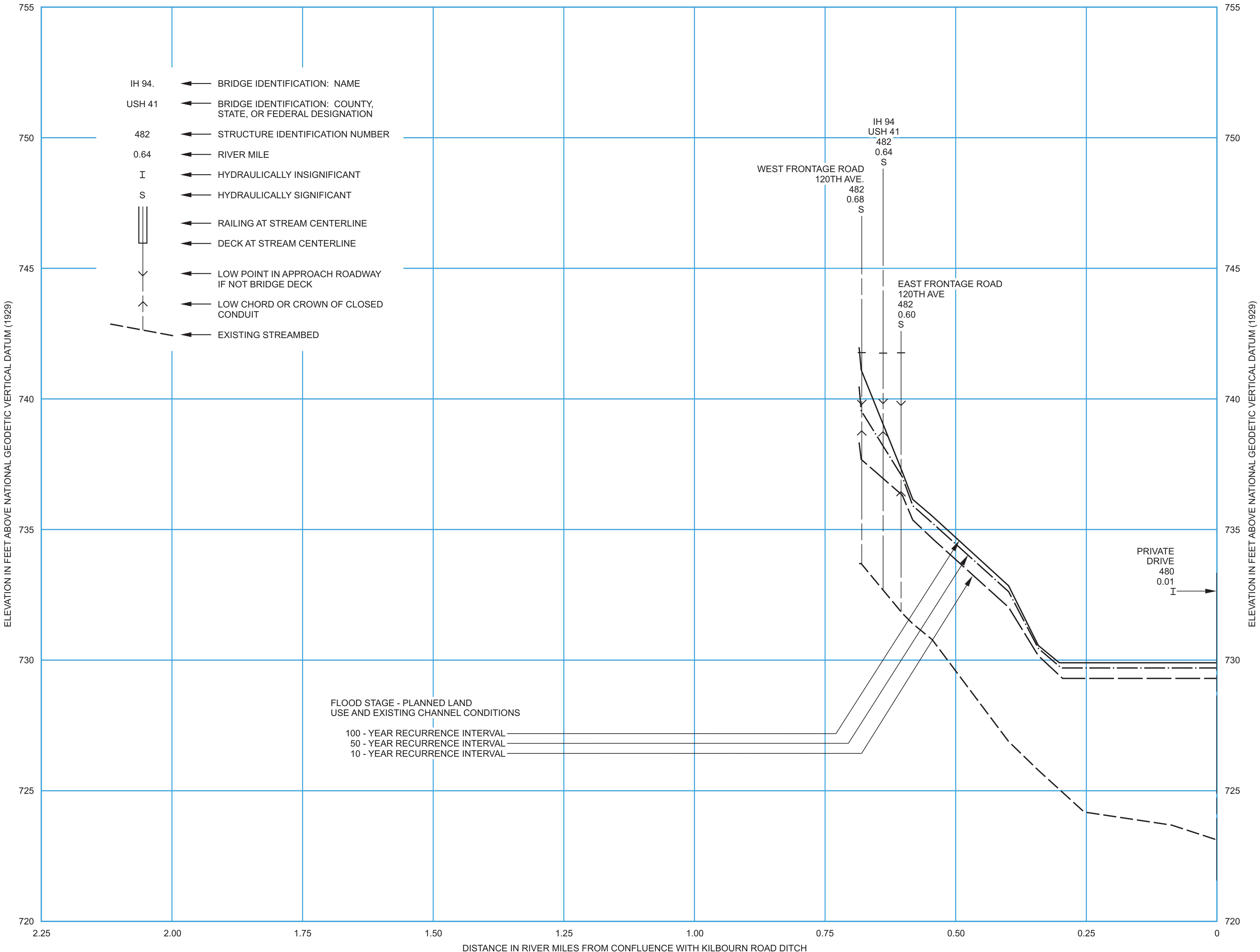
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-25

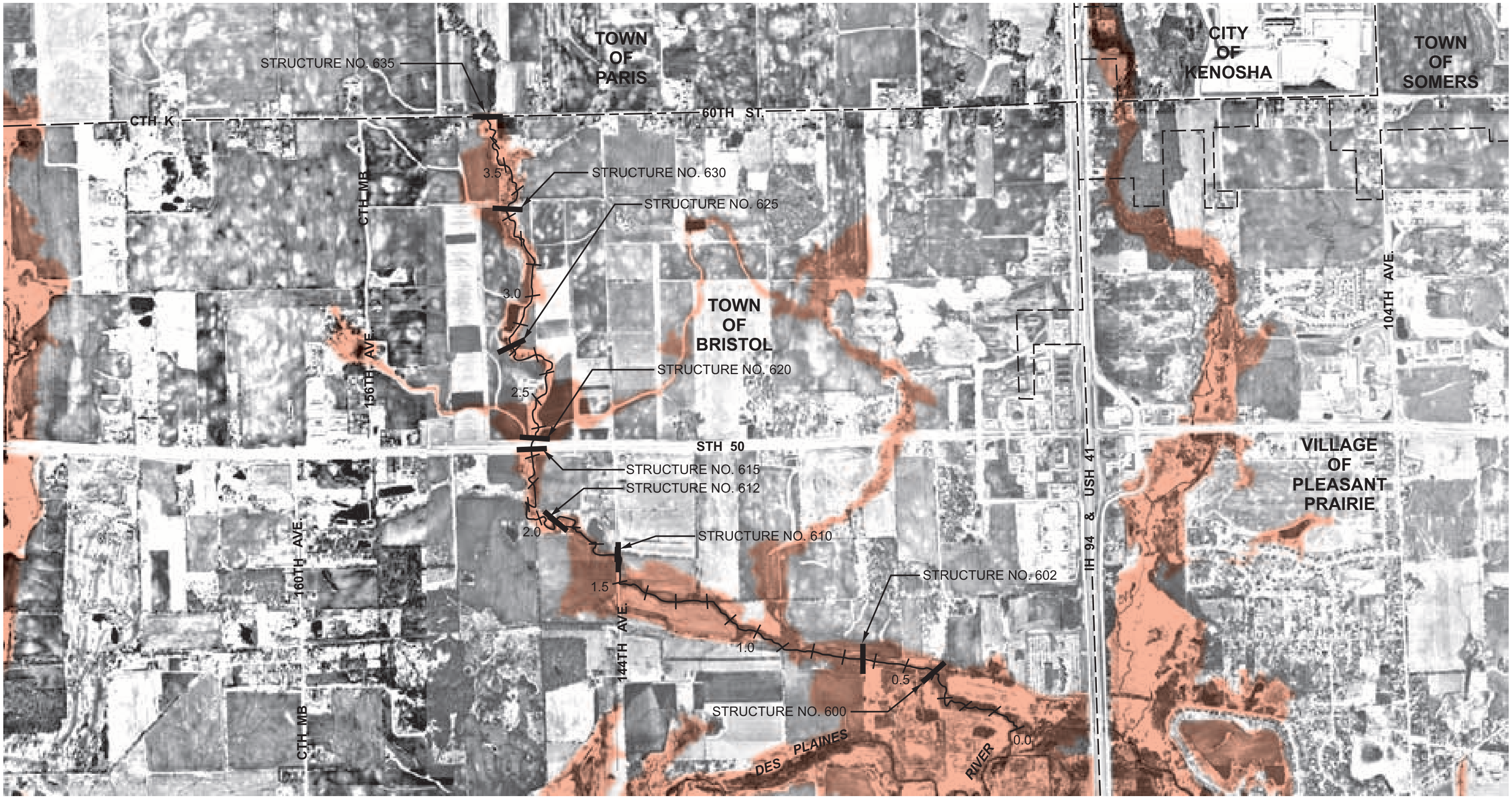
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 18 TO KILBOURN ROAD DITCH



Source: SEWRPC.

Map H-26

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

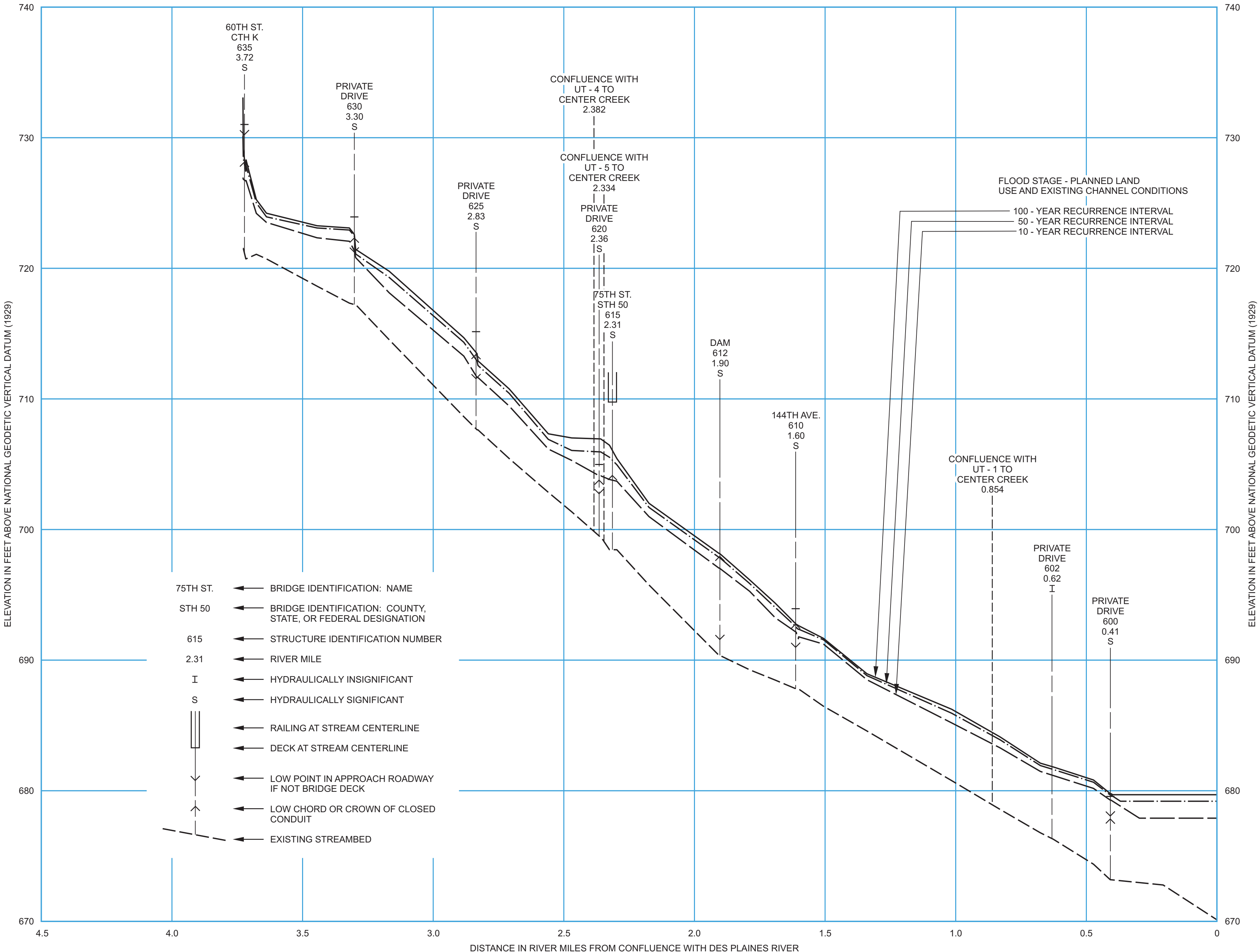
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-26

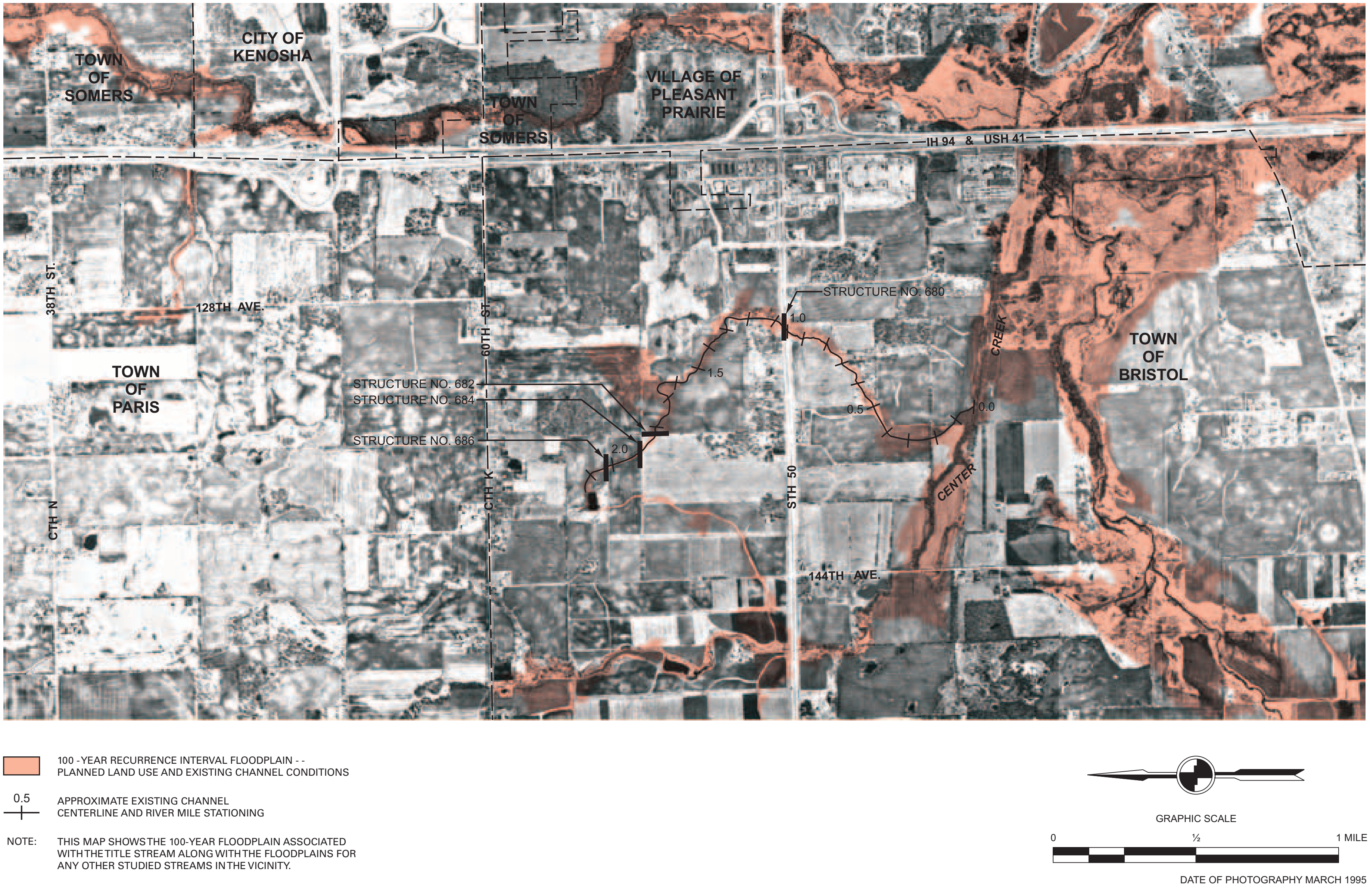
FLOOD STAGE AND STREAMBED PROFILE FOR CENTER CREEK



Source: SEWRPC.

Map H-27

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1 TO CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



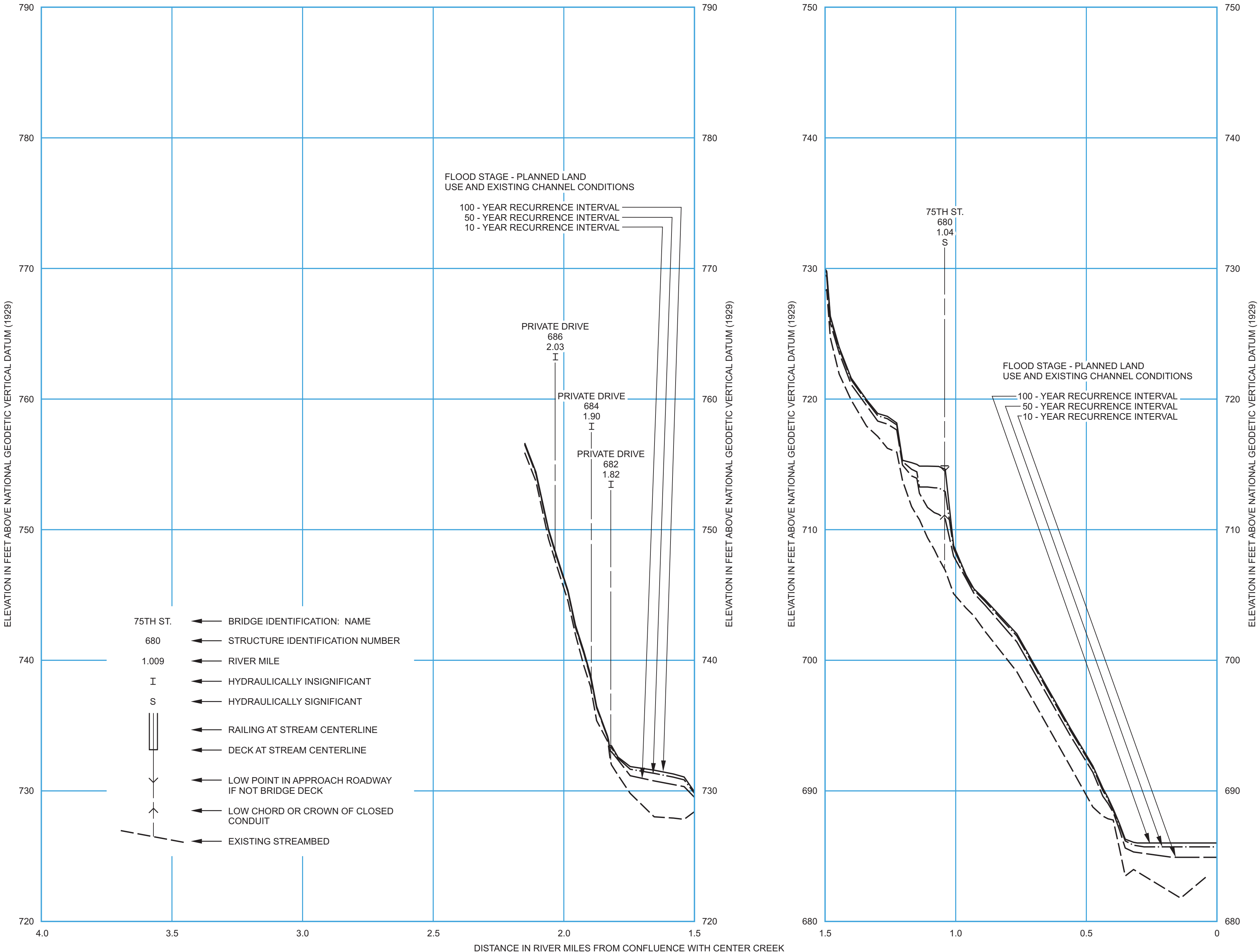
🟧	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

Figure H-27

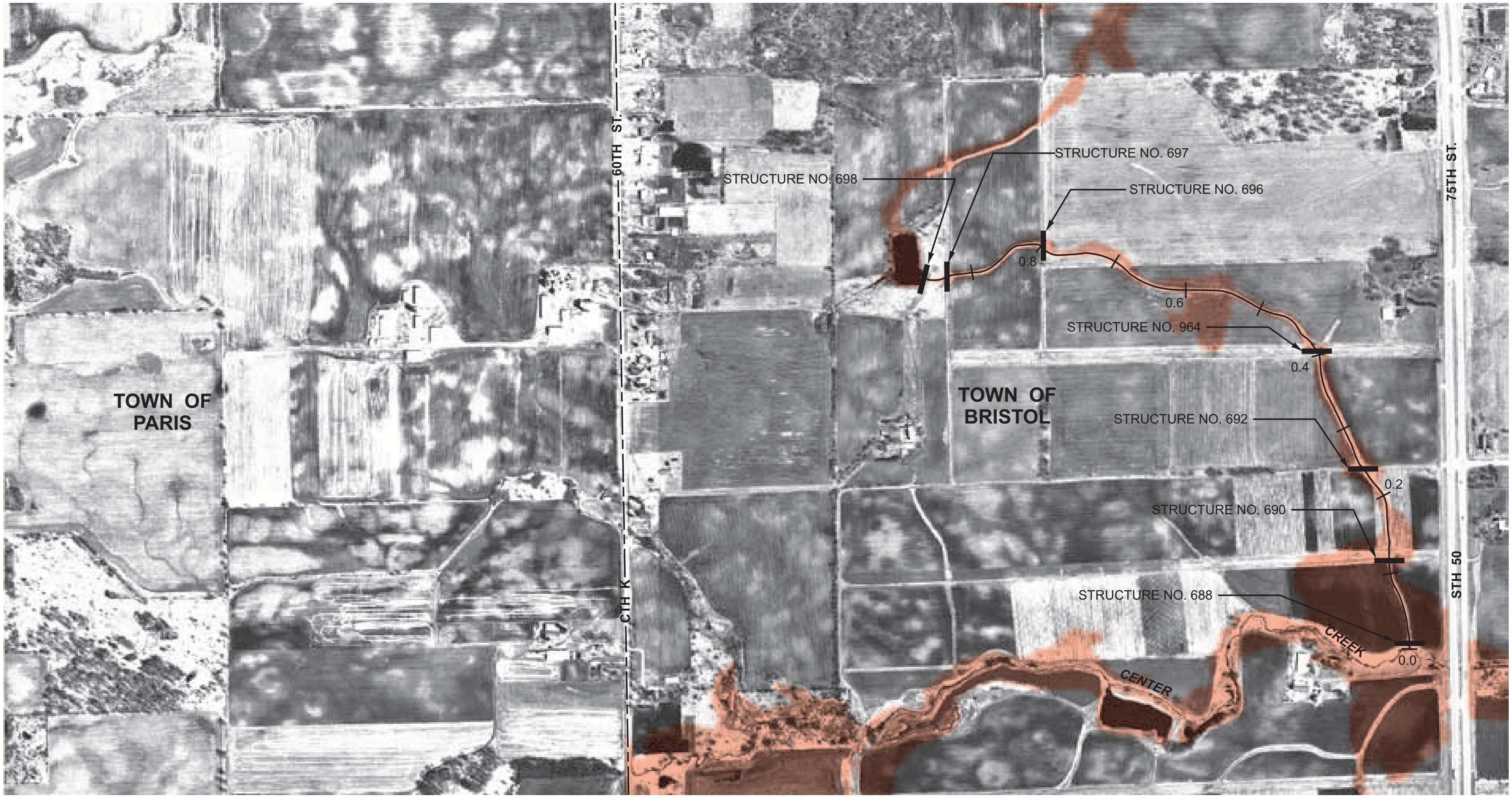
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1 TO CENTER CREEK



Source: SEWRPC.

Map H-28

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 4 TO CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

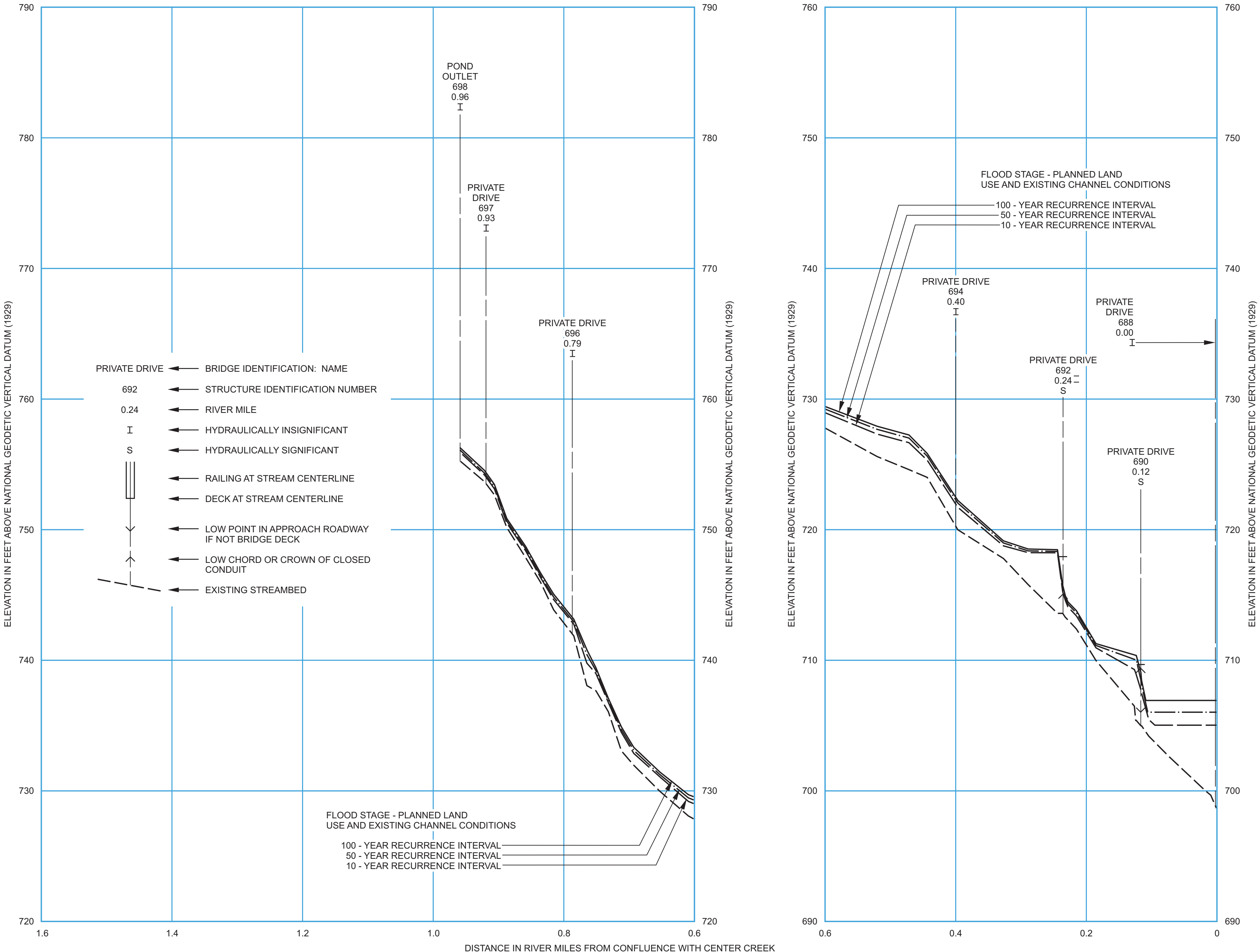
GRAPHIC SCALE

0 800 1600 FEET

DATE OF PHOTOGRAPHY MARCH 1995

Figure H-28

FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 4 TO CENTER CREEK



Source: SEWRPC.

Map H-29

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 5 TO CENTER CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

▨ 100 - YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

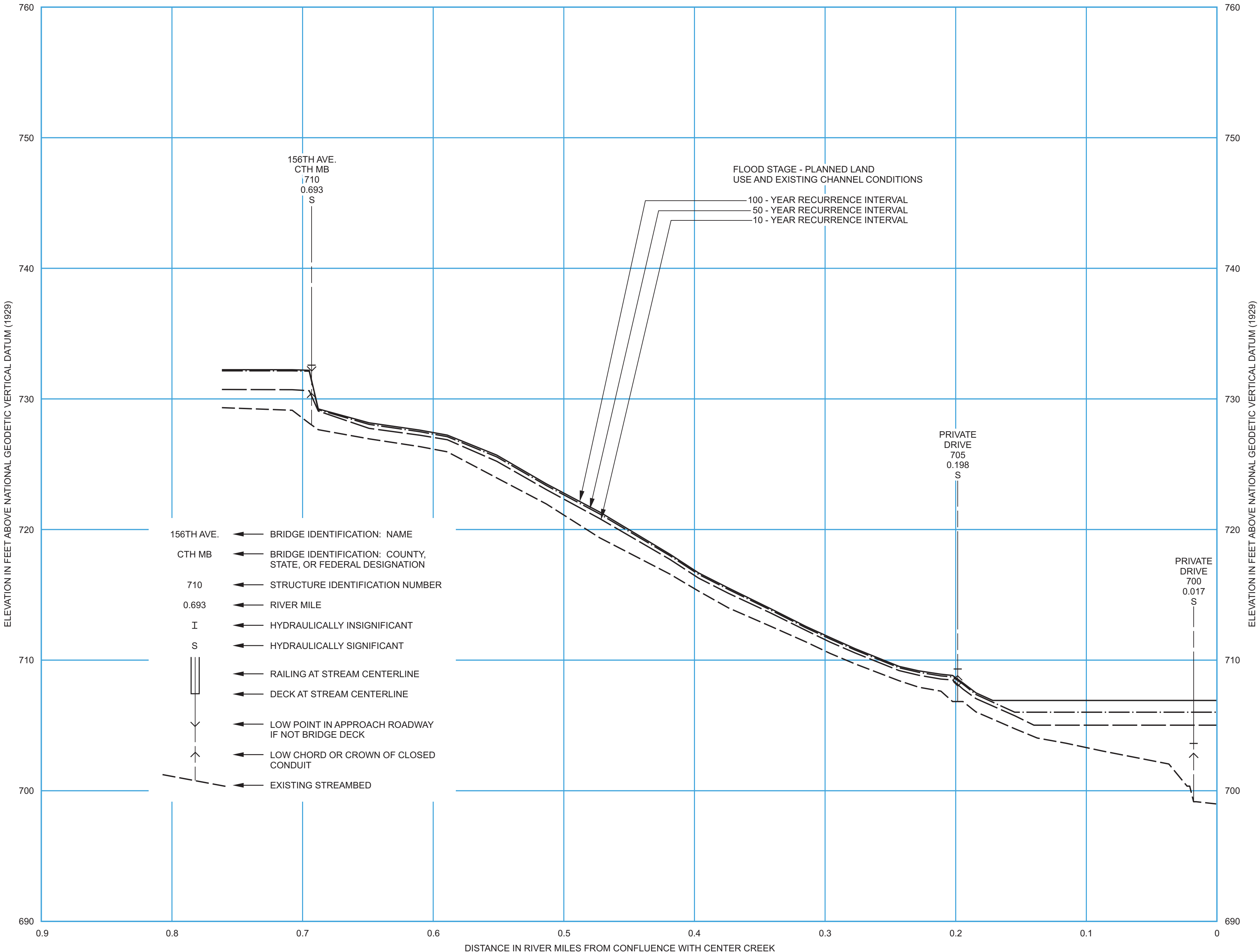
0 400 800 FEET

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-29

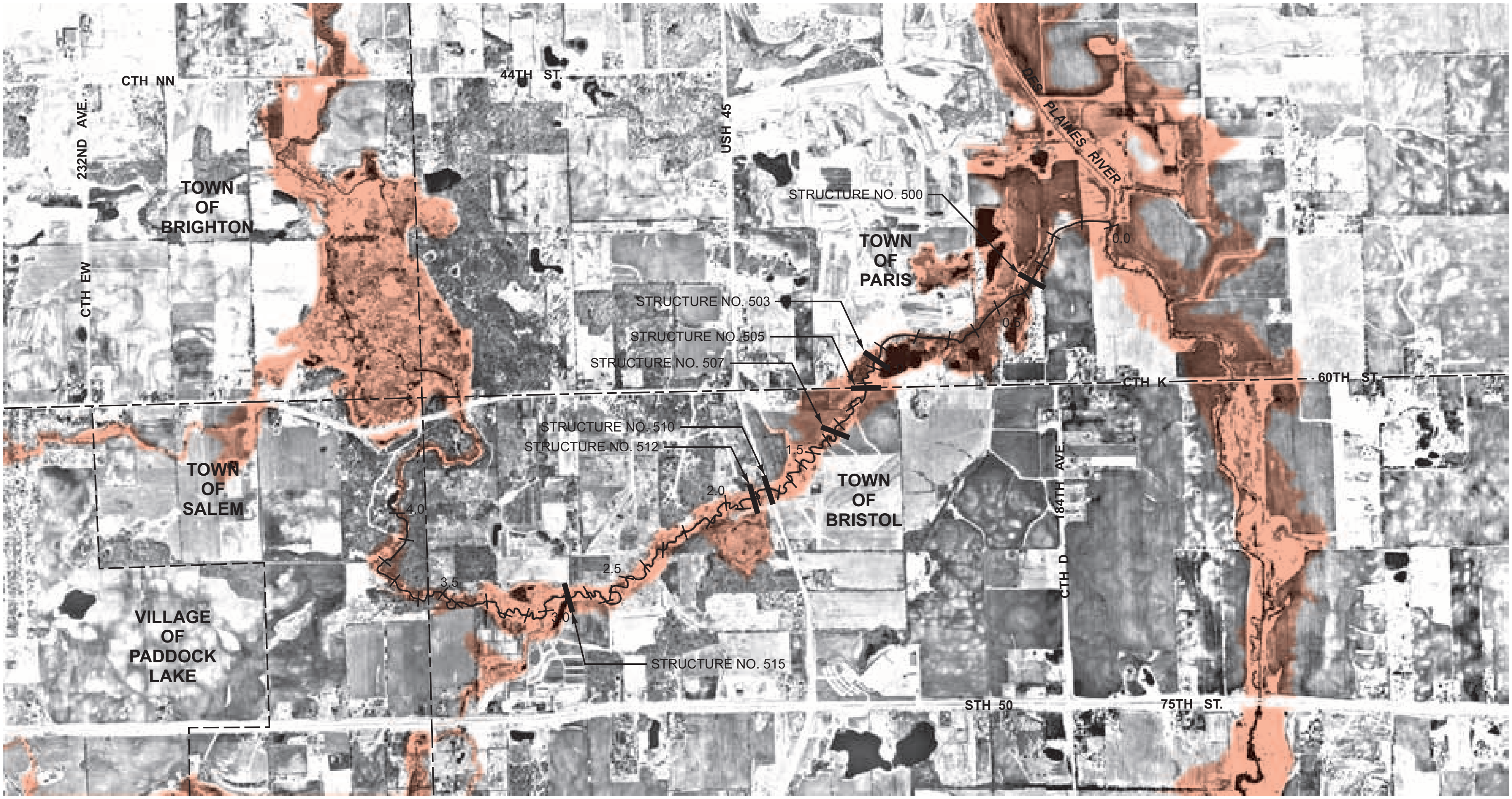
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 5 TO CENTER CREEK



Source: SEWRPC.

Map H-30A

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 0.00 TO 4.00)



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 —┼— APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

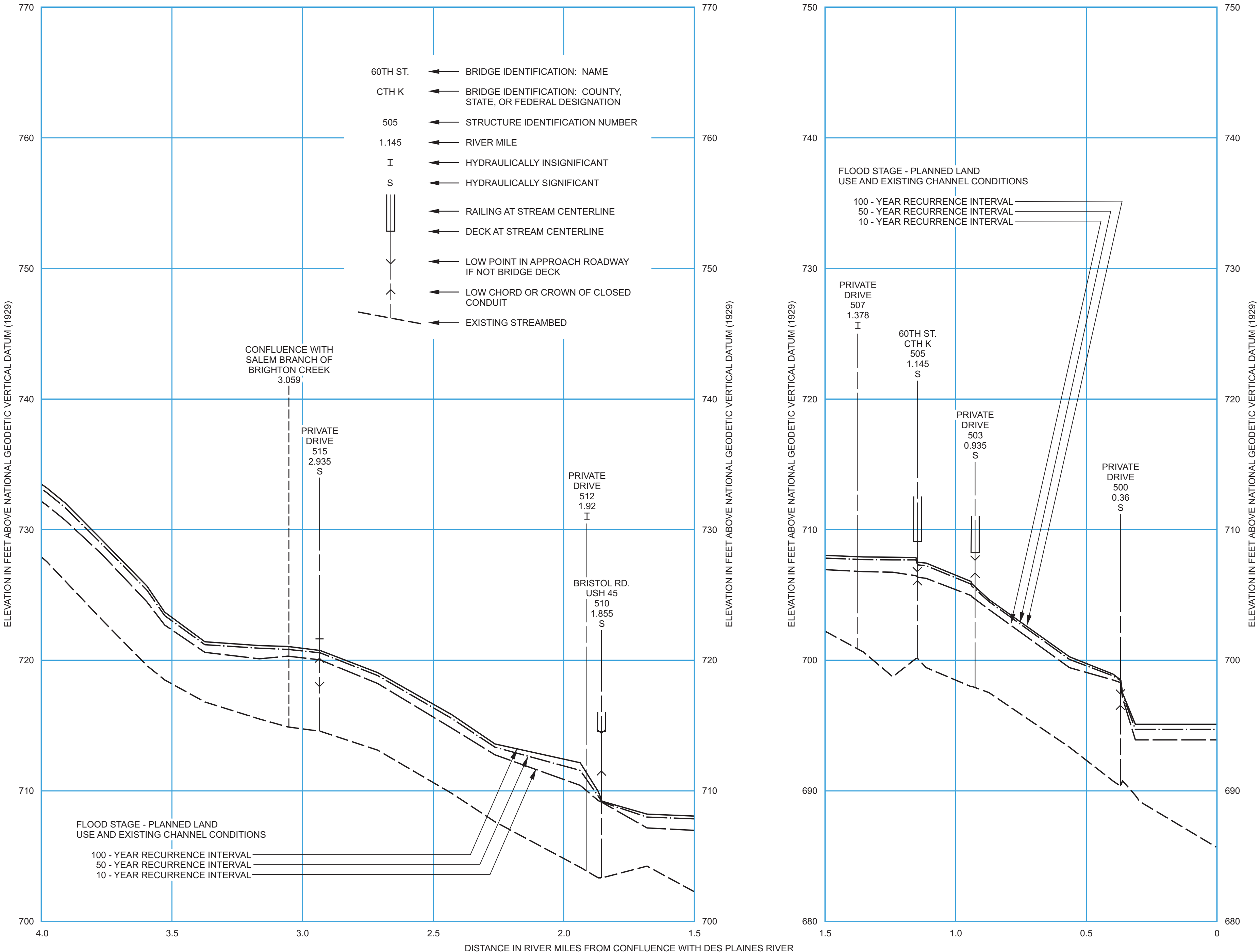
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-30A

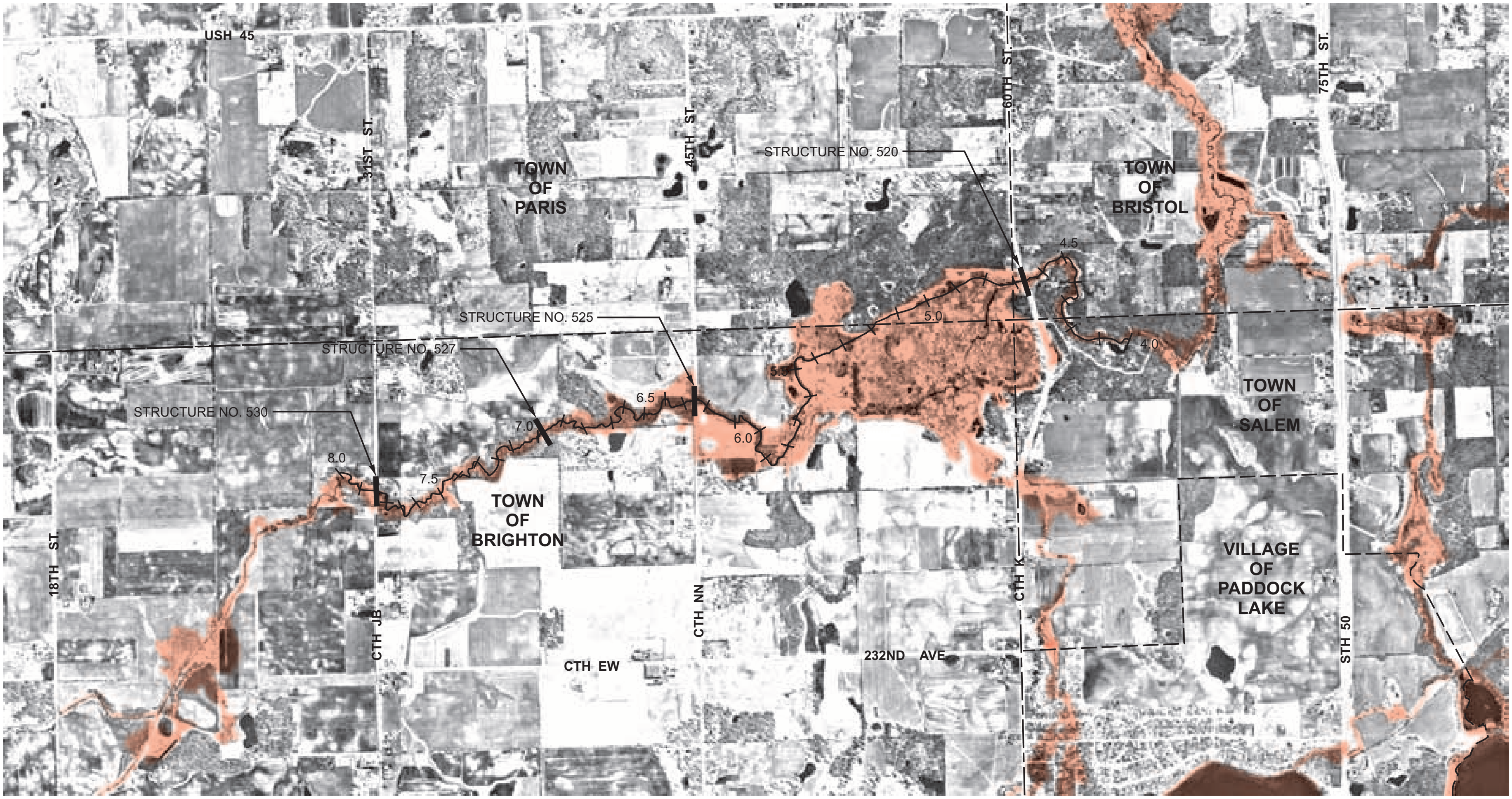
FLOOD STAGE AND STREAMBED PROFILE FOR BRIGHTON CREEK (RIVER MILE 0.00 TO 4.00)



Source: SEWRPC.

Map H-30B

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 4.00 TO 8.00)



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ─┼─ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

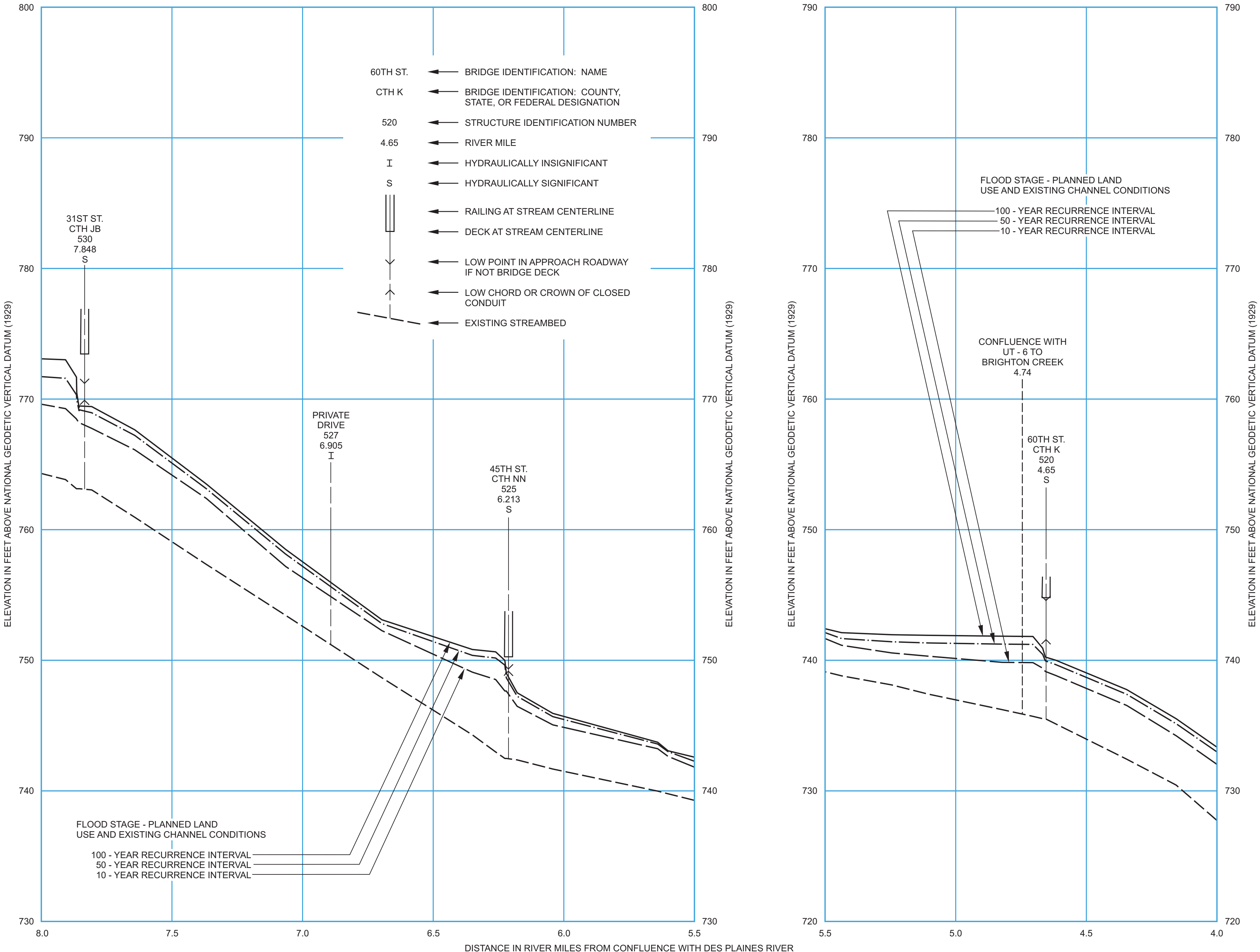
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-30B

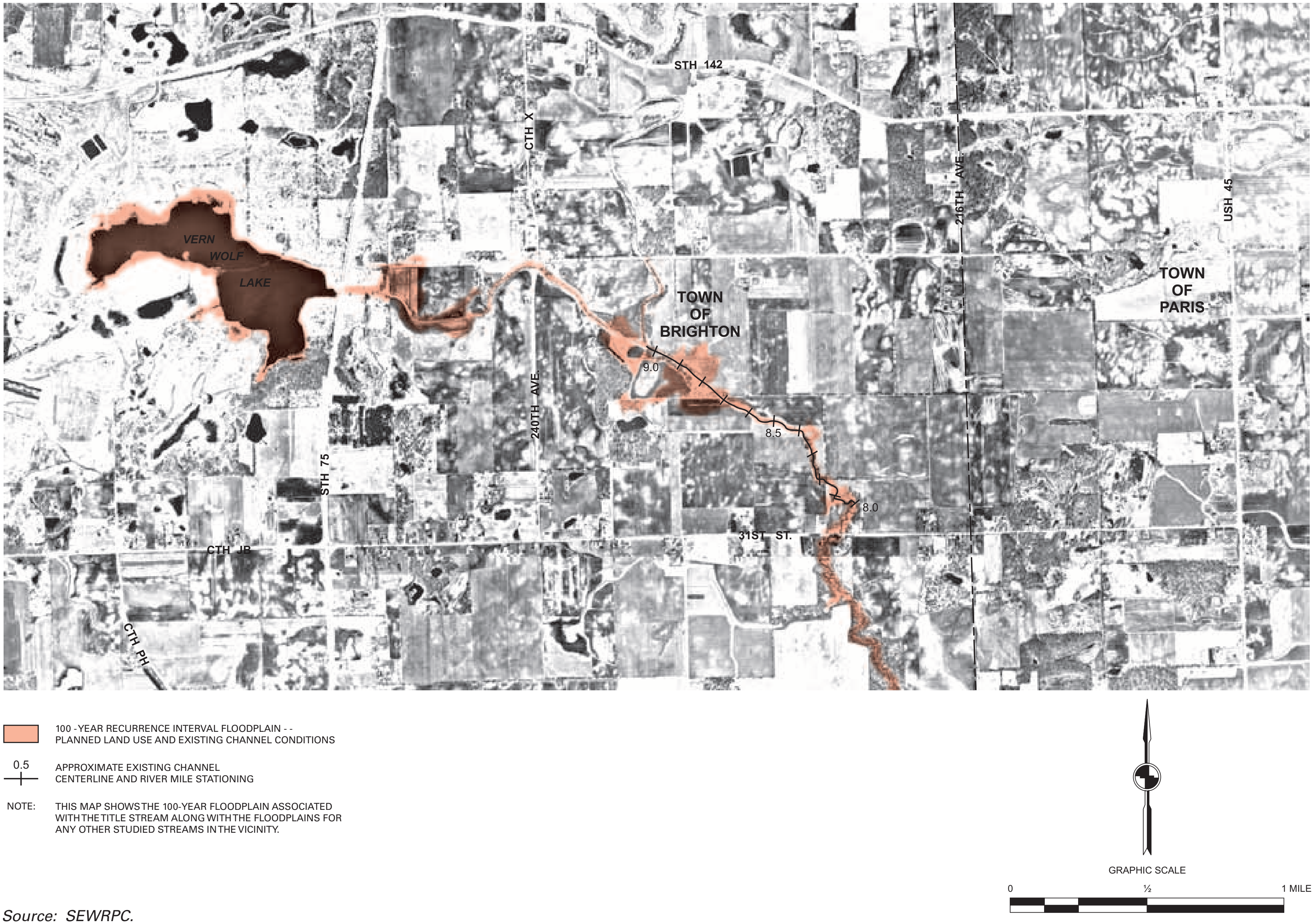
FLOOD STAGE AND STREAMBED PROFILE FOR BRIGHTON CREEK (RIVER MILE 4.00 TO 8.00)



Source: SEWRPC.

Map H-30C

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS (RIVER MILE 8.00 TO 9.02)



▨ 100 - YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

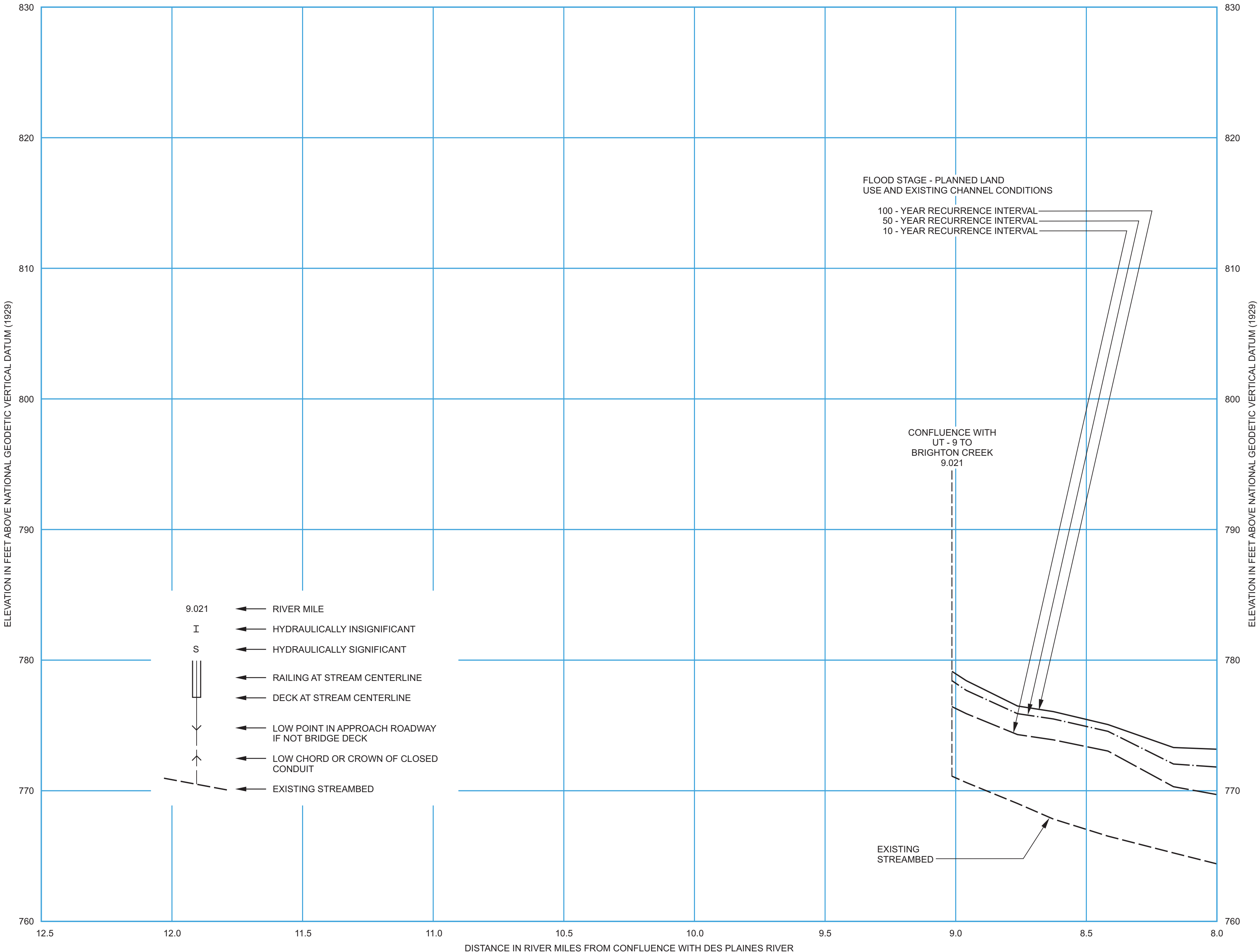
NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-30C

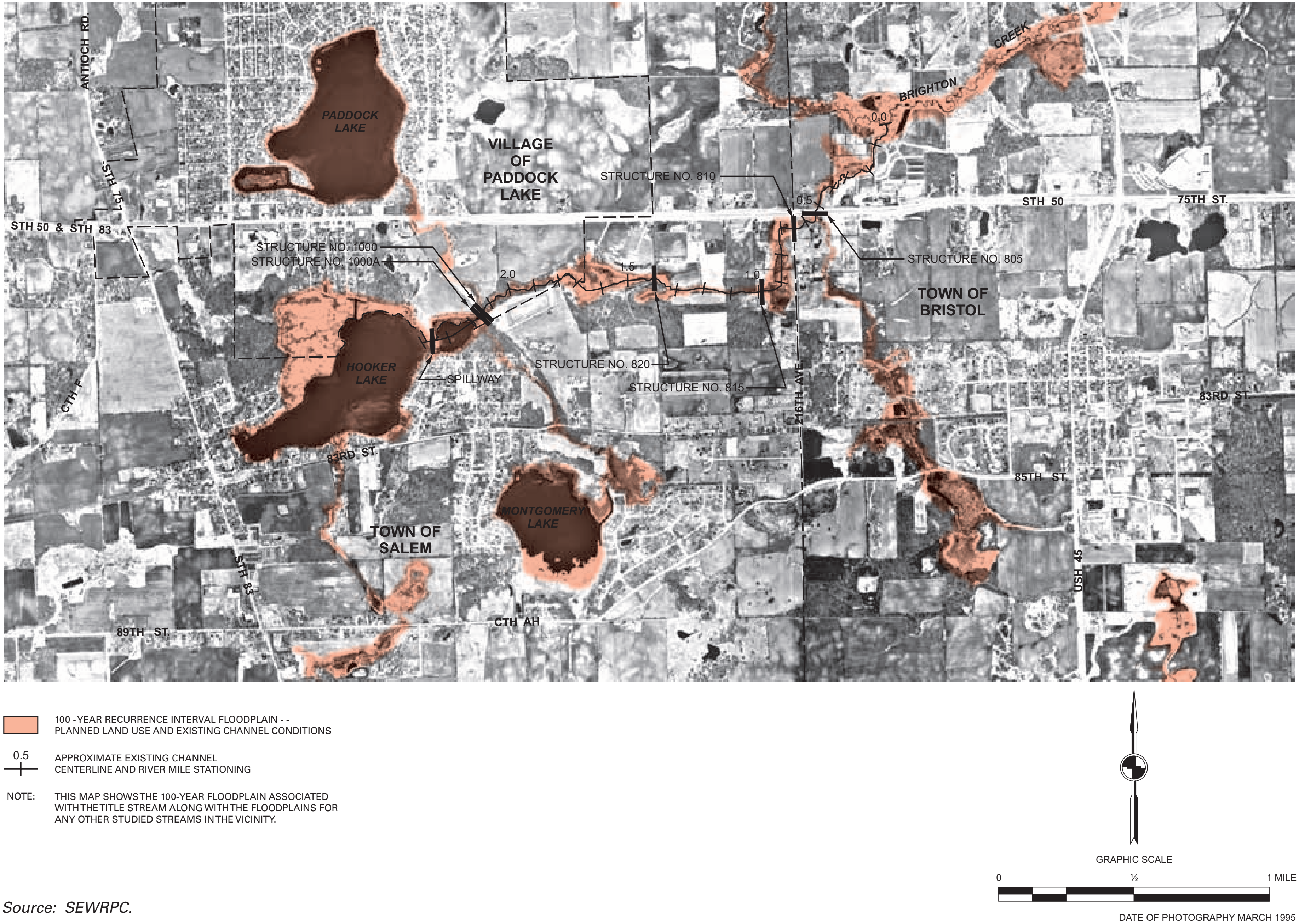
FLOOD STAGE AND STREAMBED PROFILE FOR BRIGHTON CREEK (RIVER MILE 8.00 TO 9.02)



Source: SEWRPC.

Map H-31

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 —+—	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

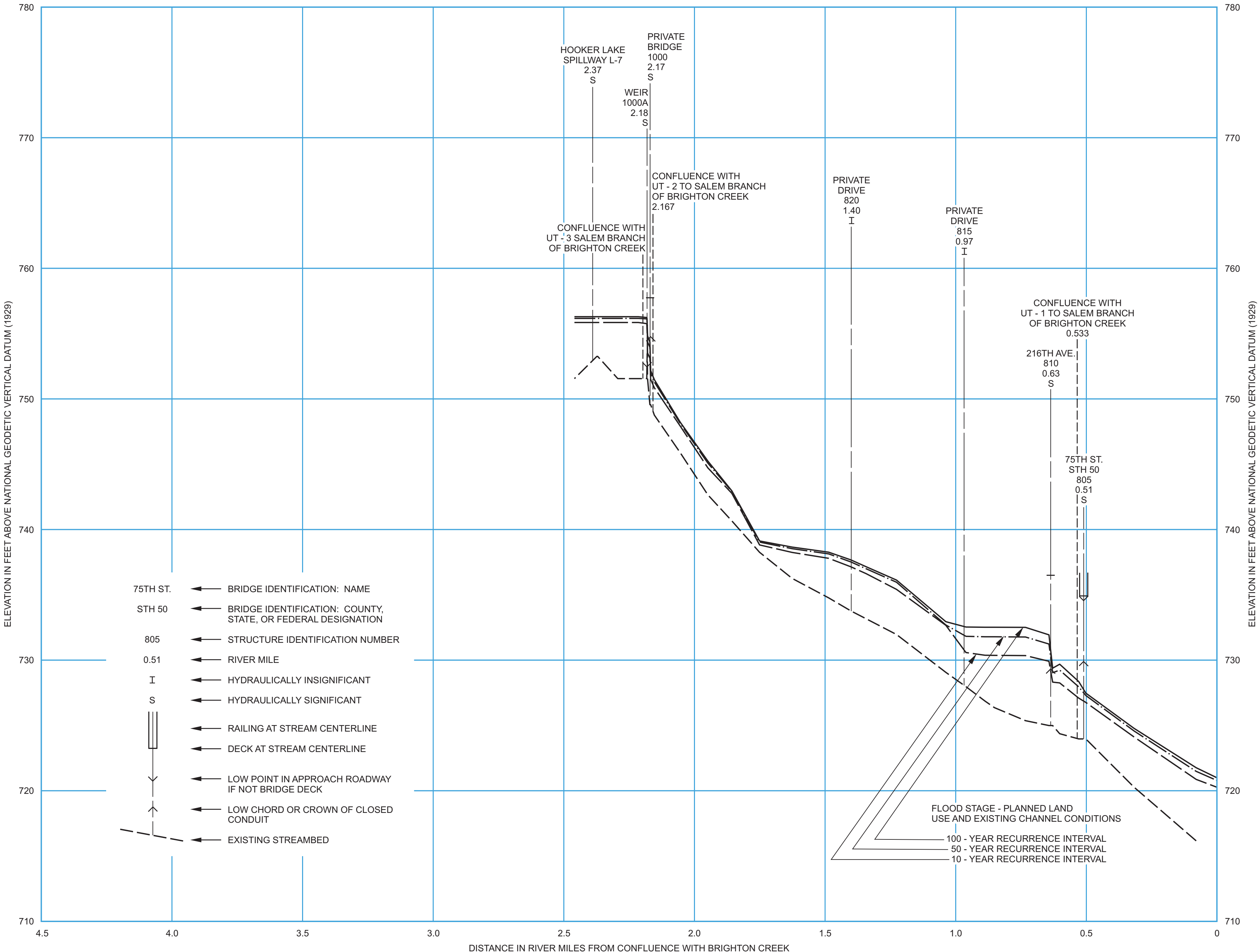
NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-31

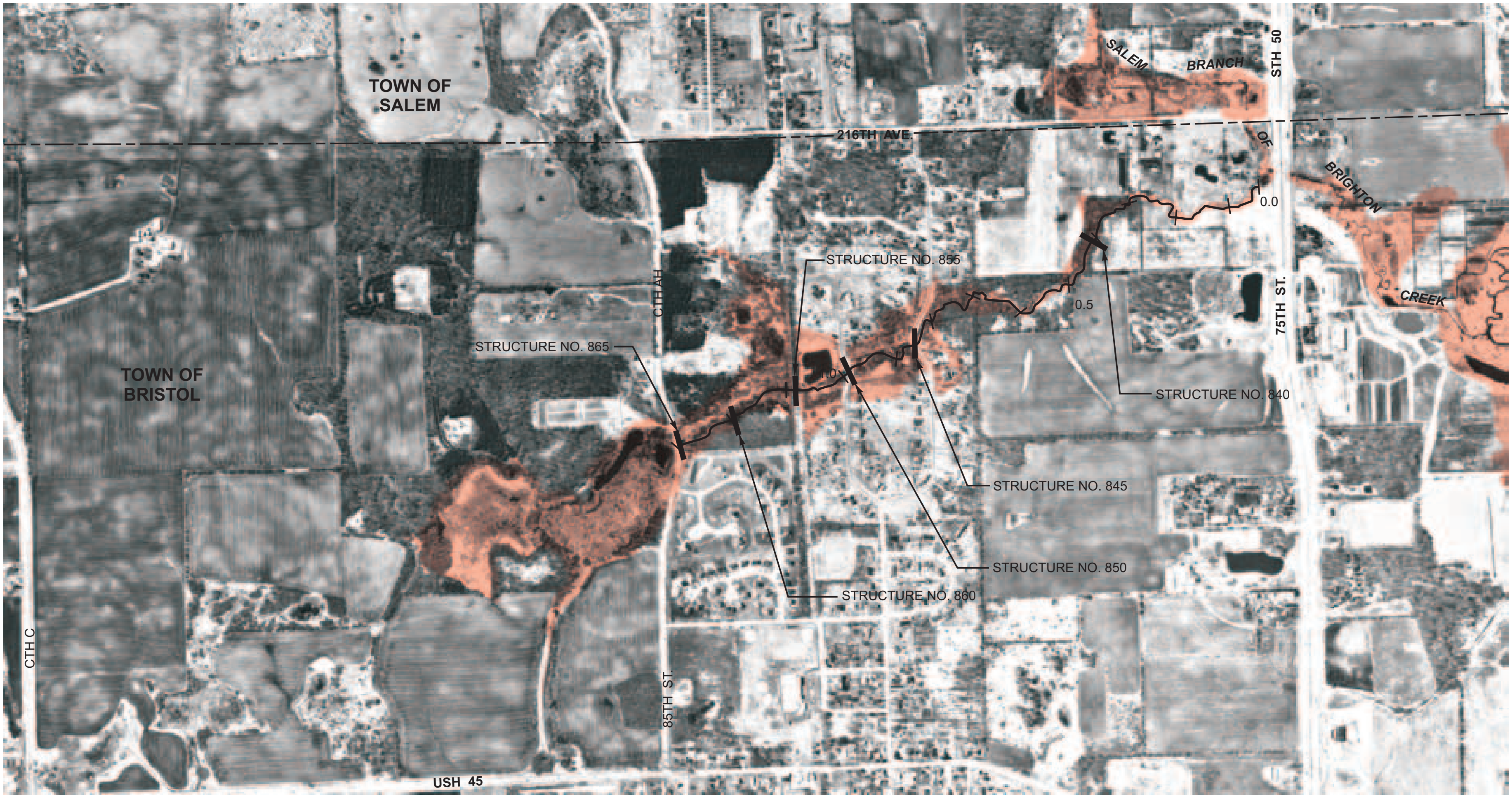
FLOOD STAGE AND STREAMBED PROFILE FOR SALEM BRANCH OF BRIGHTON CREEK



Source: SEWRPC.

Map H-32

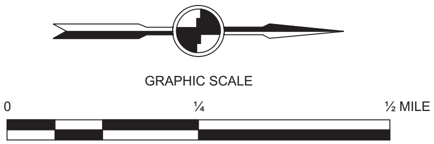
100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1 TO SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

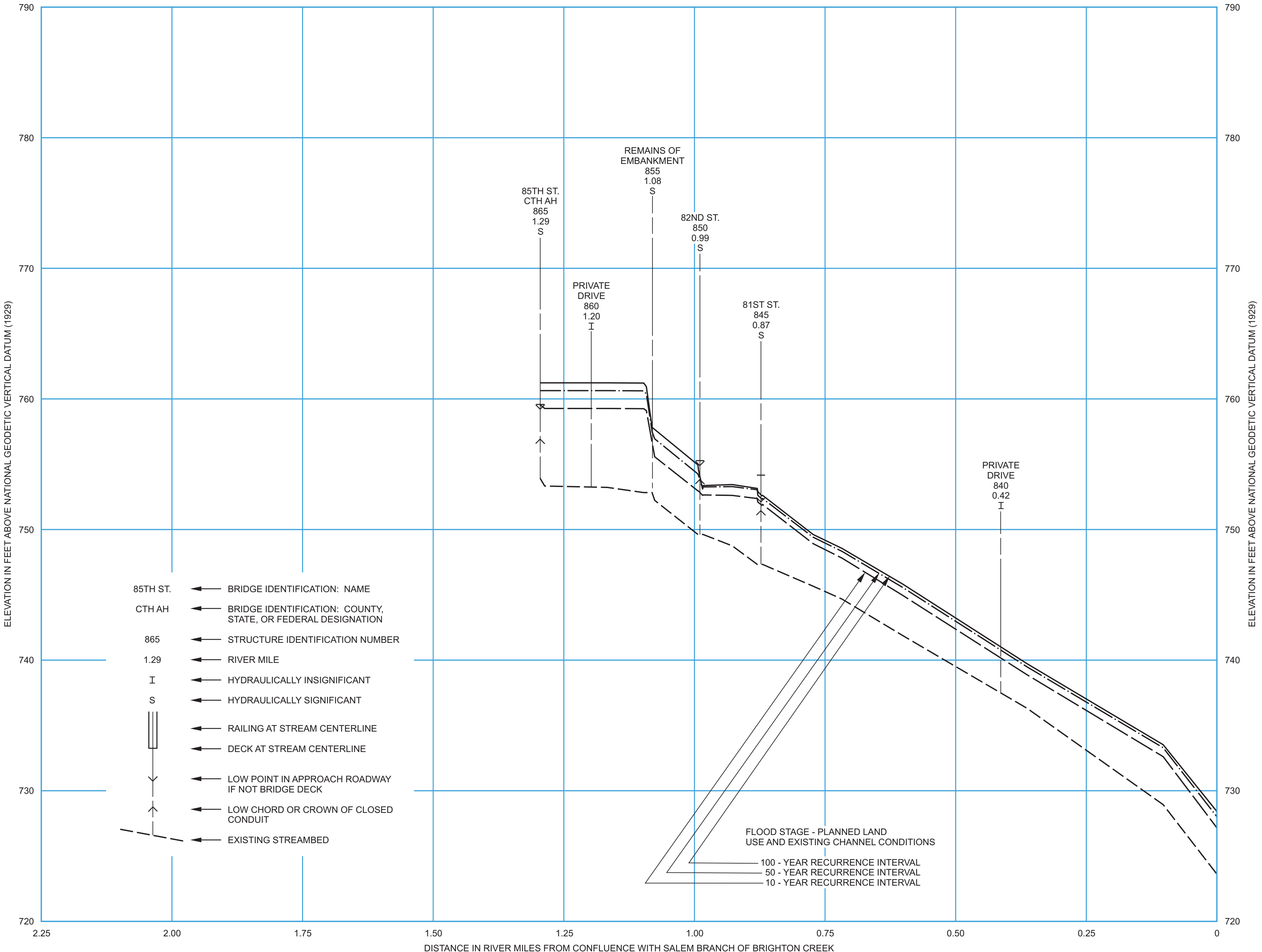


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-32

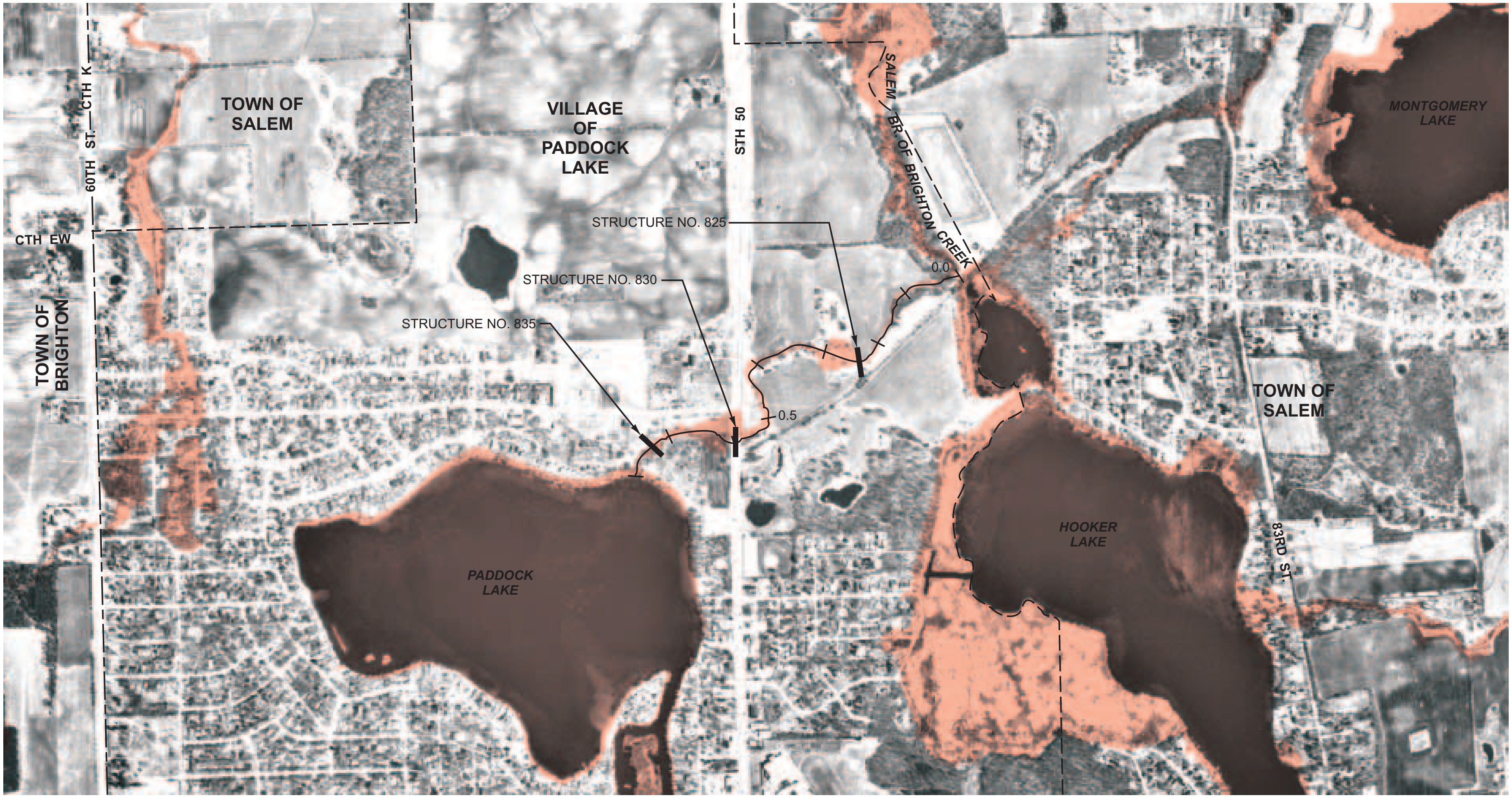
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1 TO SALEM BRANCH OF BRIGHTON CREEK



Source: SEWRPC.

Map H-33

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 2 TO SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

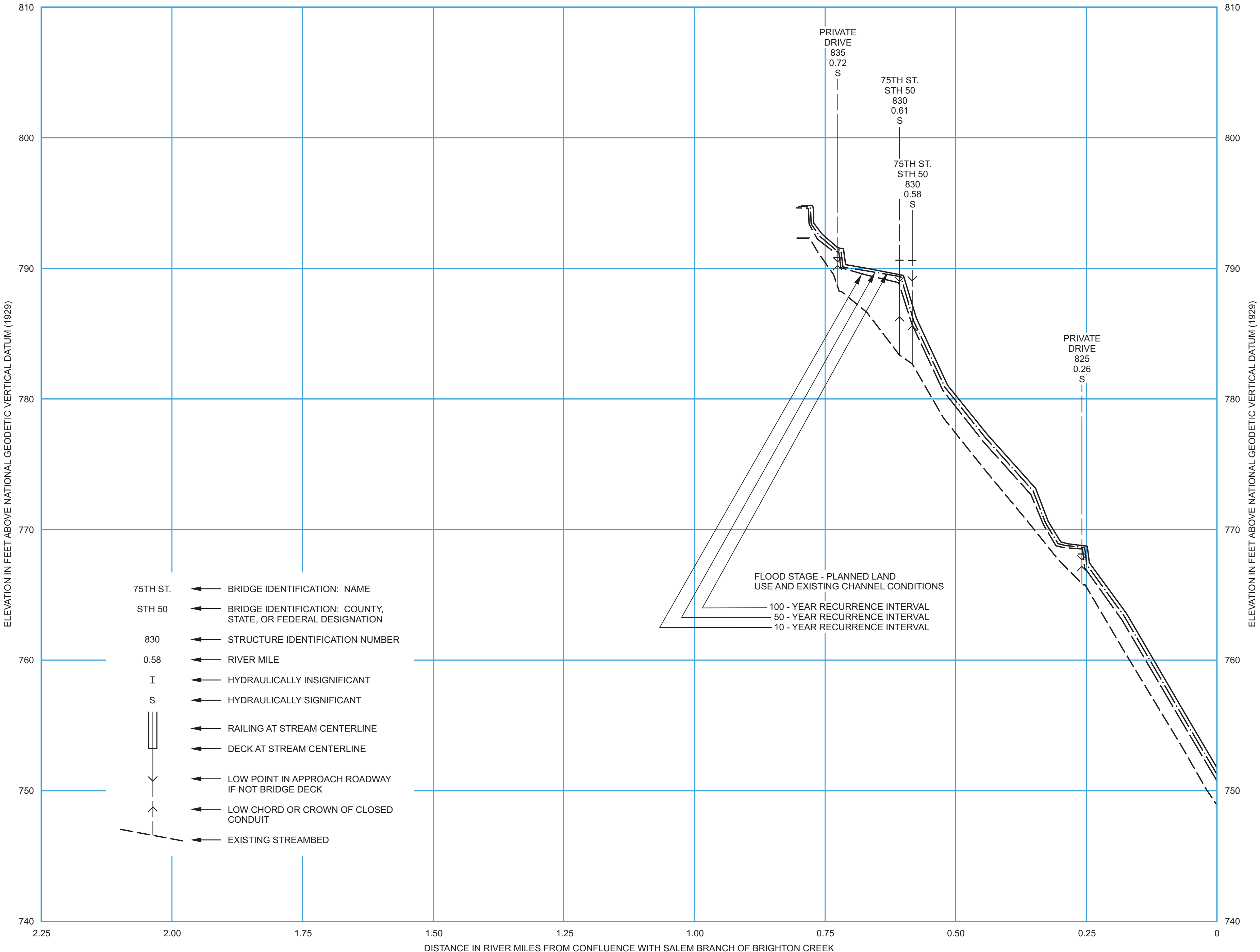
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-33

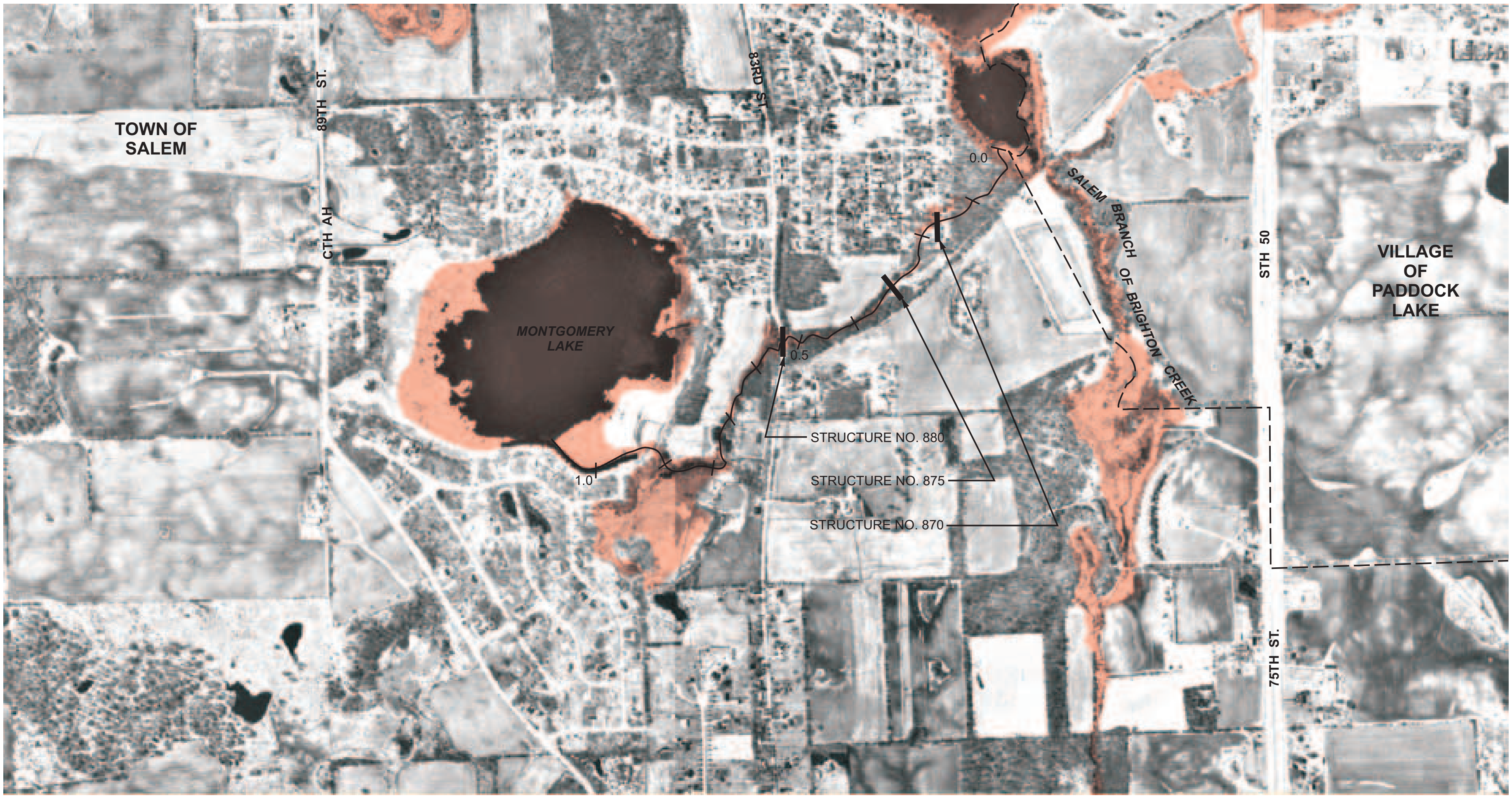
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 2 TO SALEM BRANCH OF BRIGHTON CREEK



Source: SEWRPC.

Map H-34

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 3 TO SALEM BRANCH OF BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

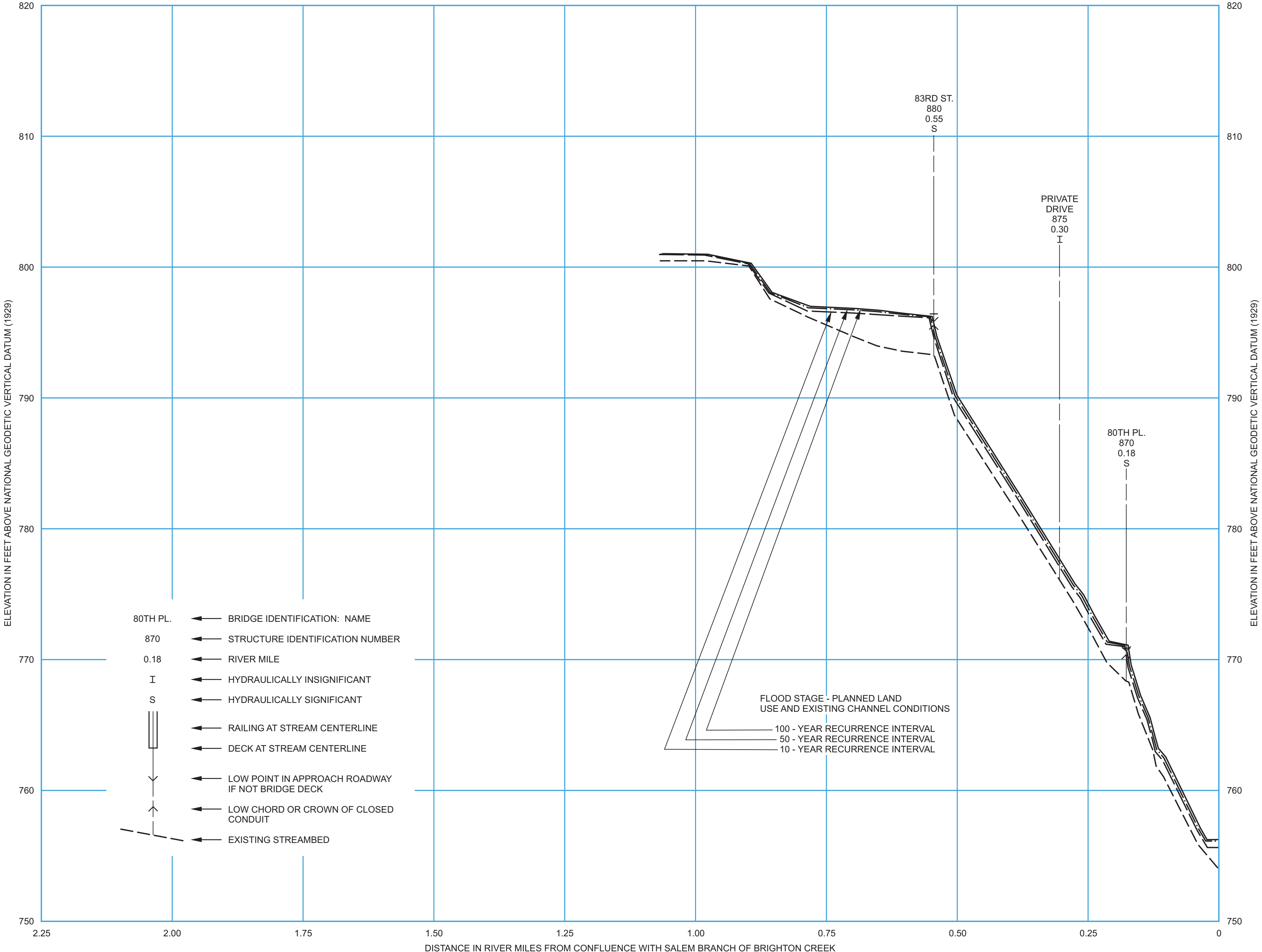
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-34

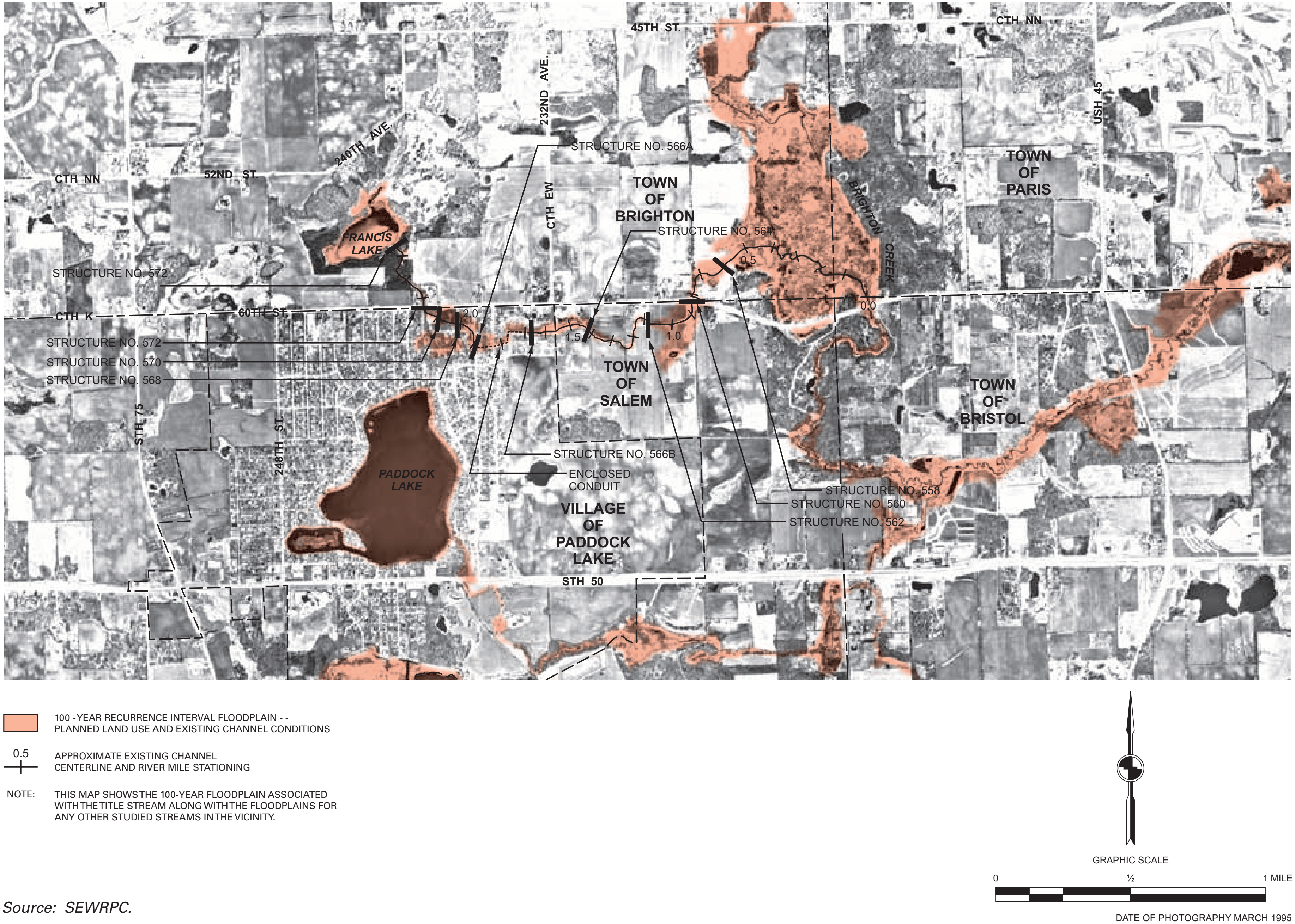
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 3 TO SALEM BRANCH OF BRIGHTON CREEK



Source: SEWRPC.

Map H-35

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 6 TO BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



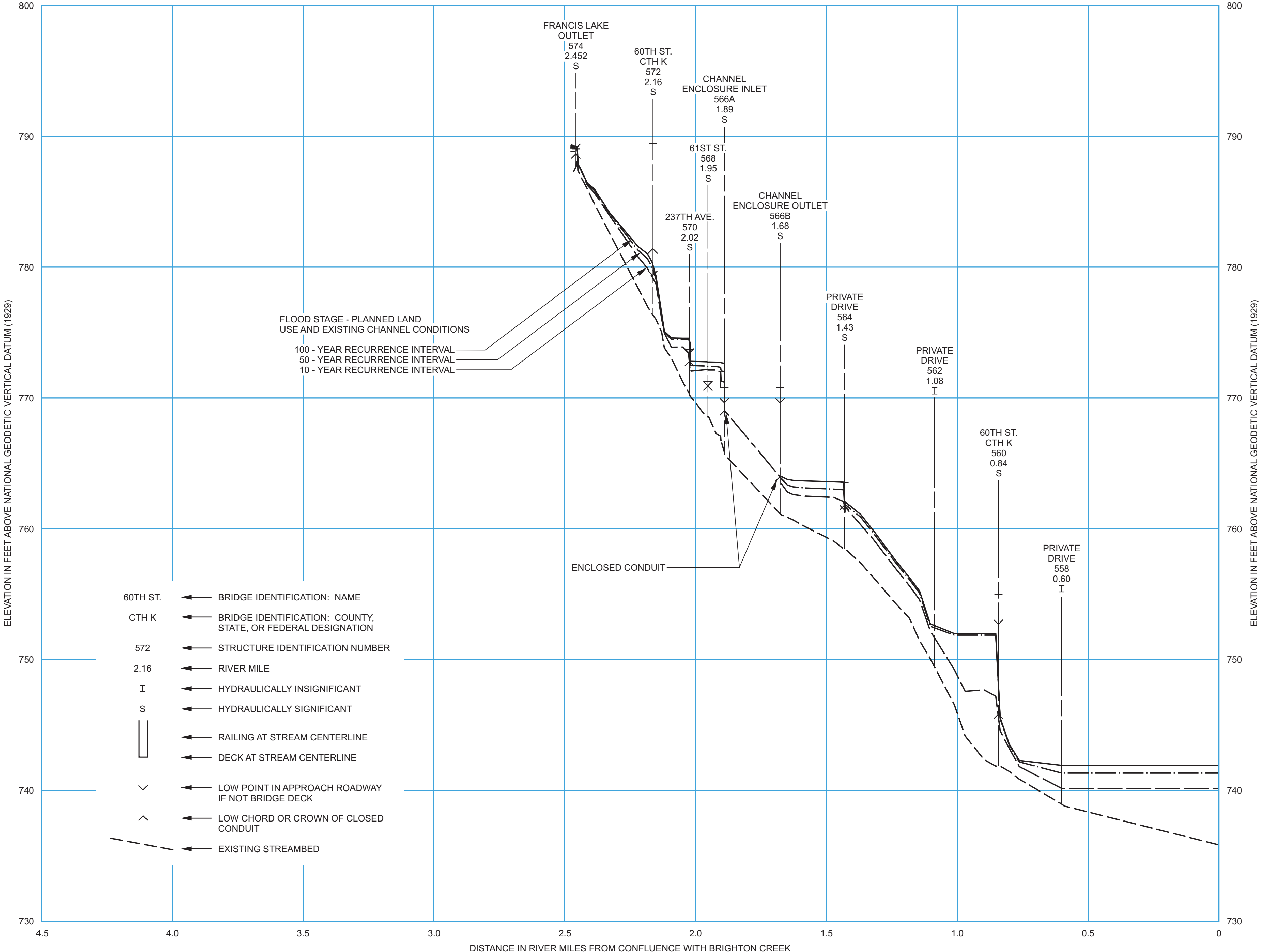
🟧	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ─┼─	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

Figure H-35

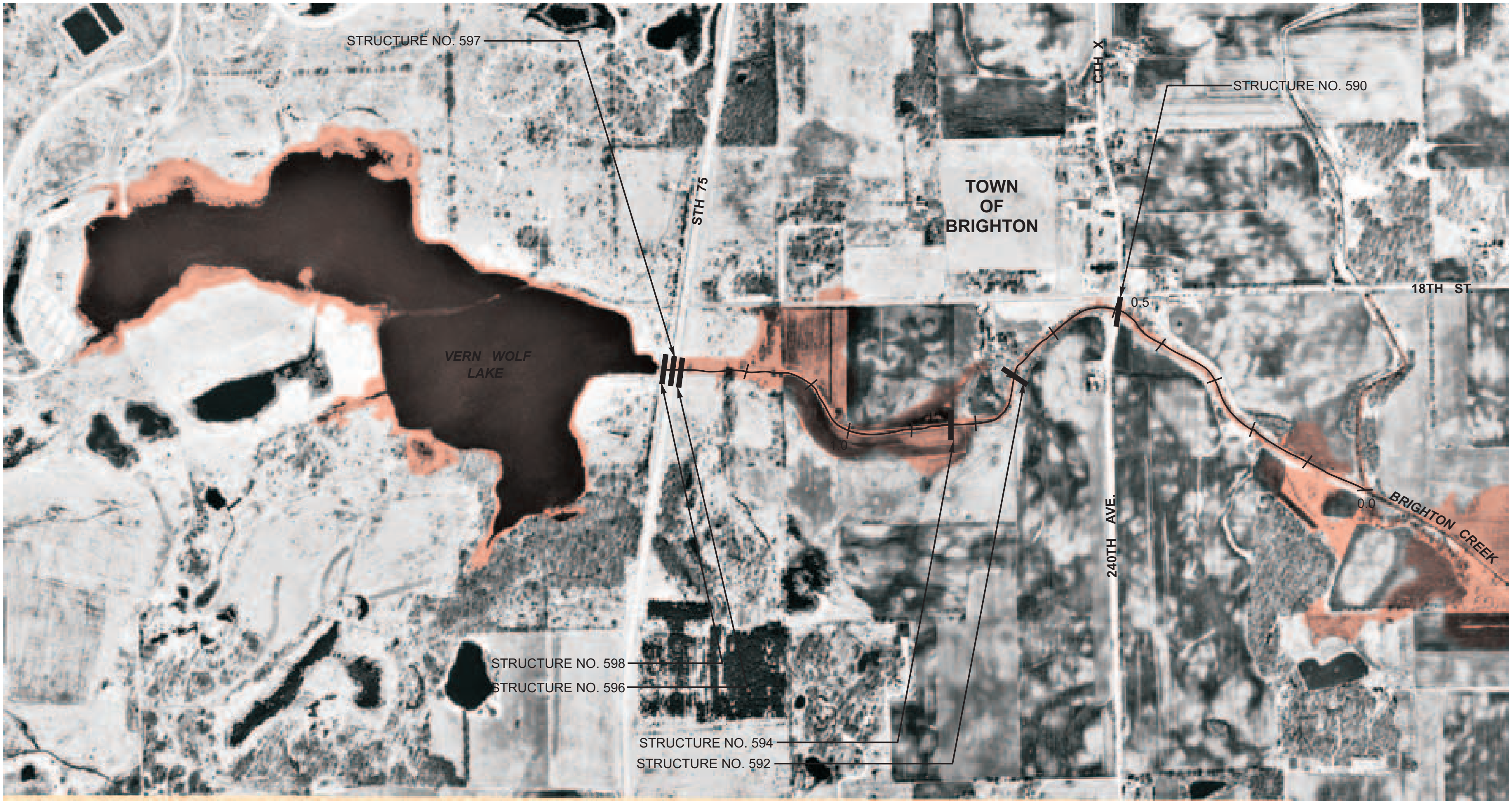
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 6 TO BRIGHTON CREEK



Source: SEWRPC.

Map H-36

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 9 TO BRIGHTON CREEK: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

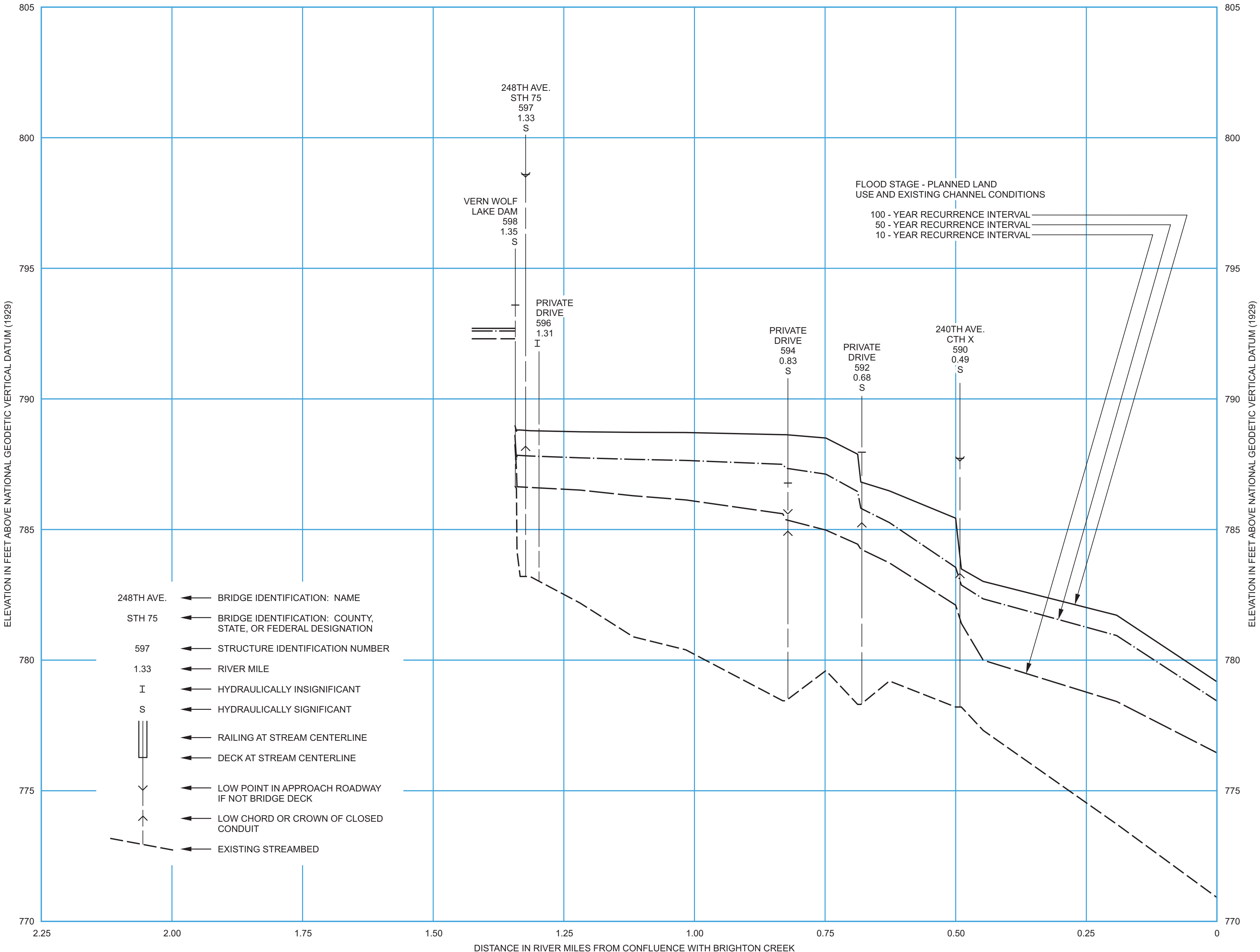
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-36

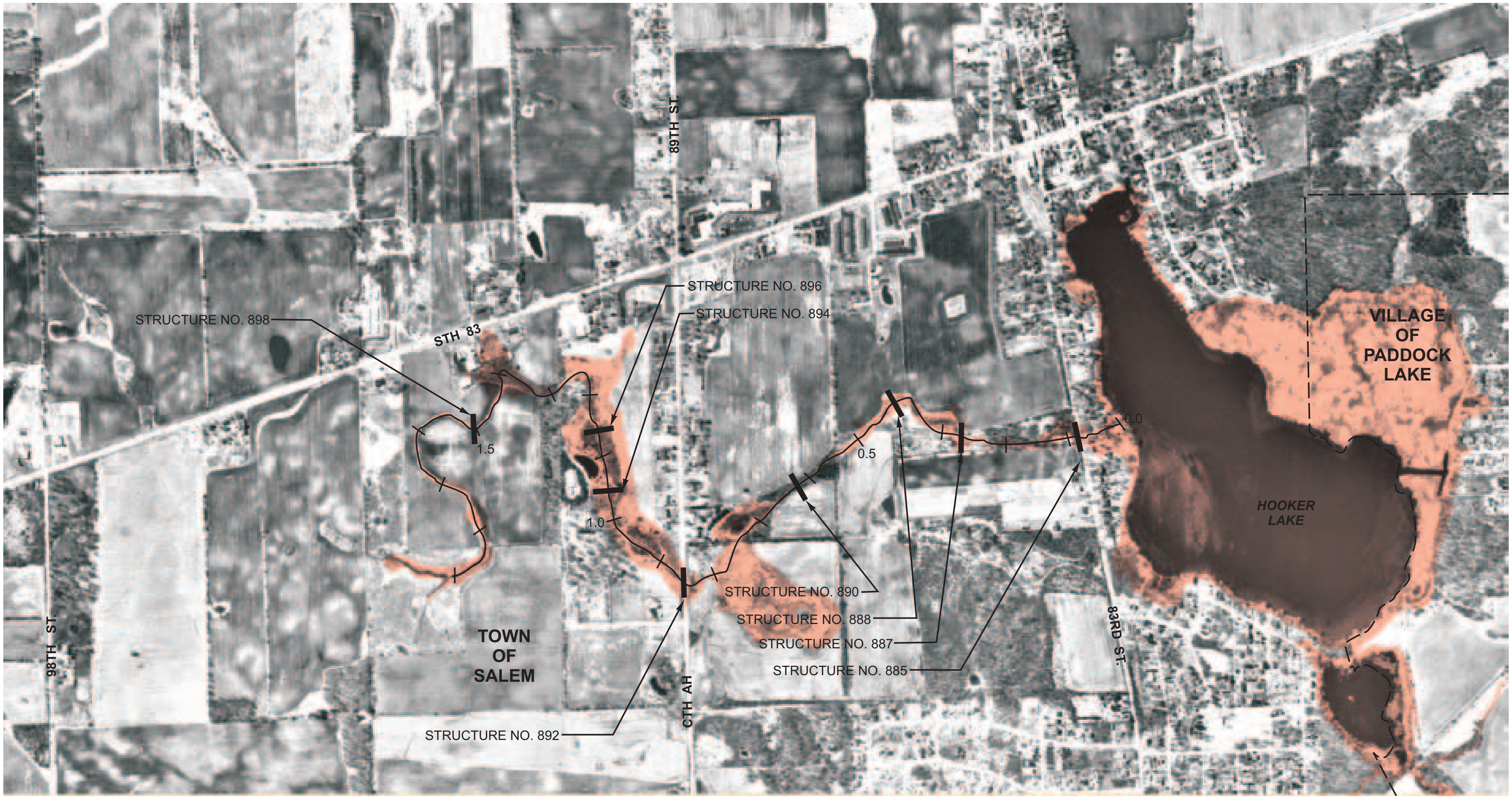
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 9 TO BRIGHTON CREEK



Source: SEWRPC.

Map H-37

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 1 TO HOOKER LAKE: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

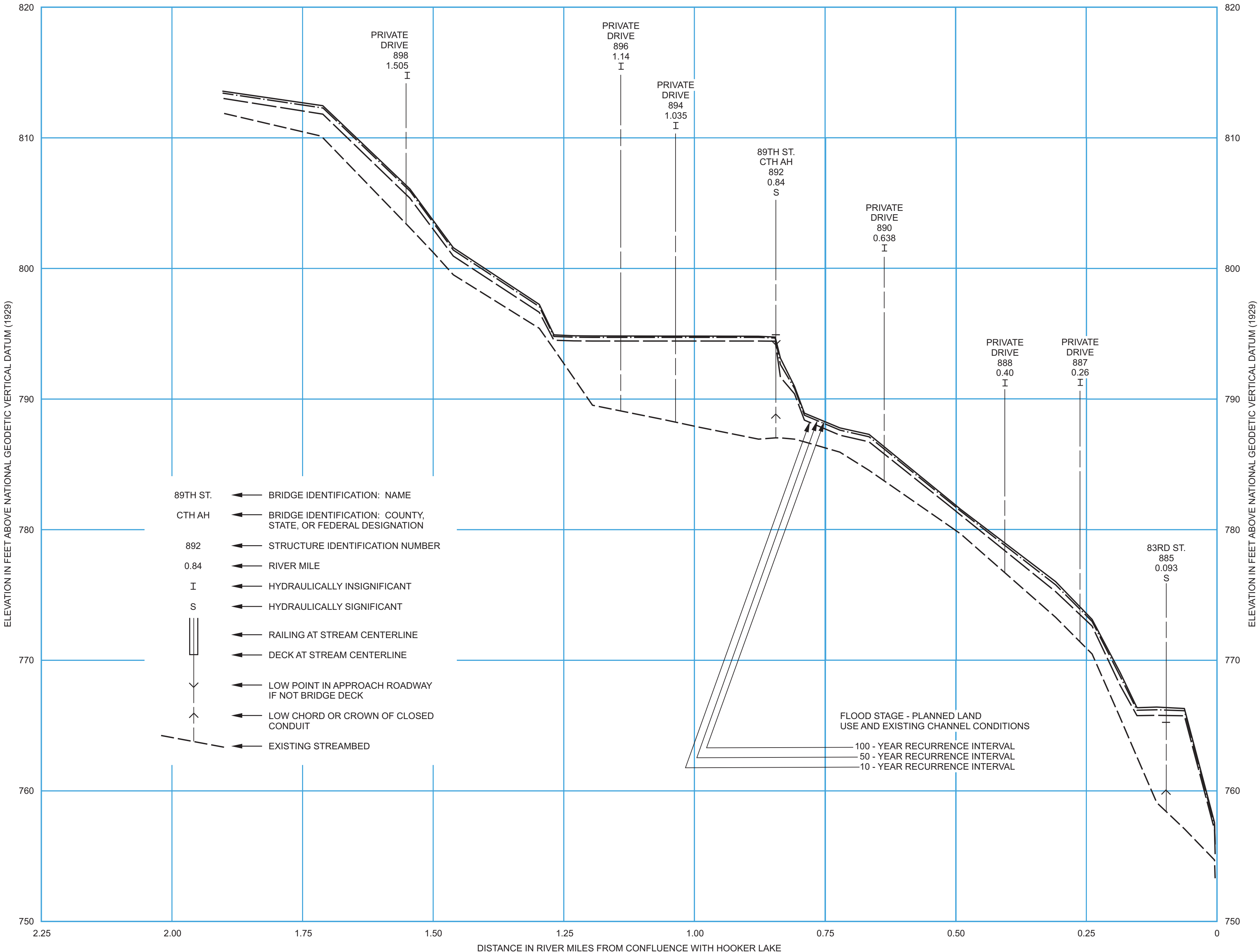
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-37

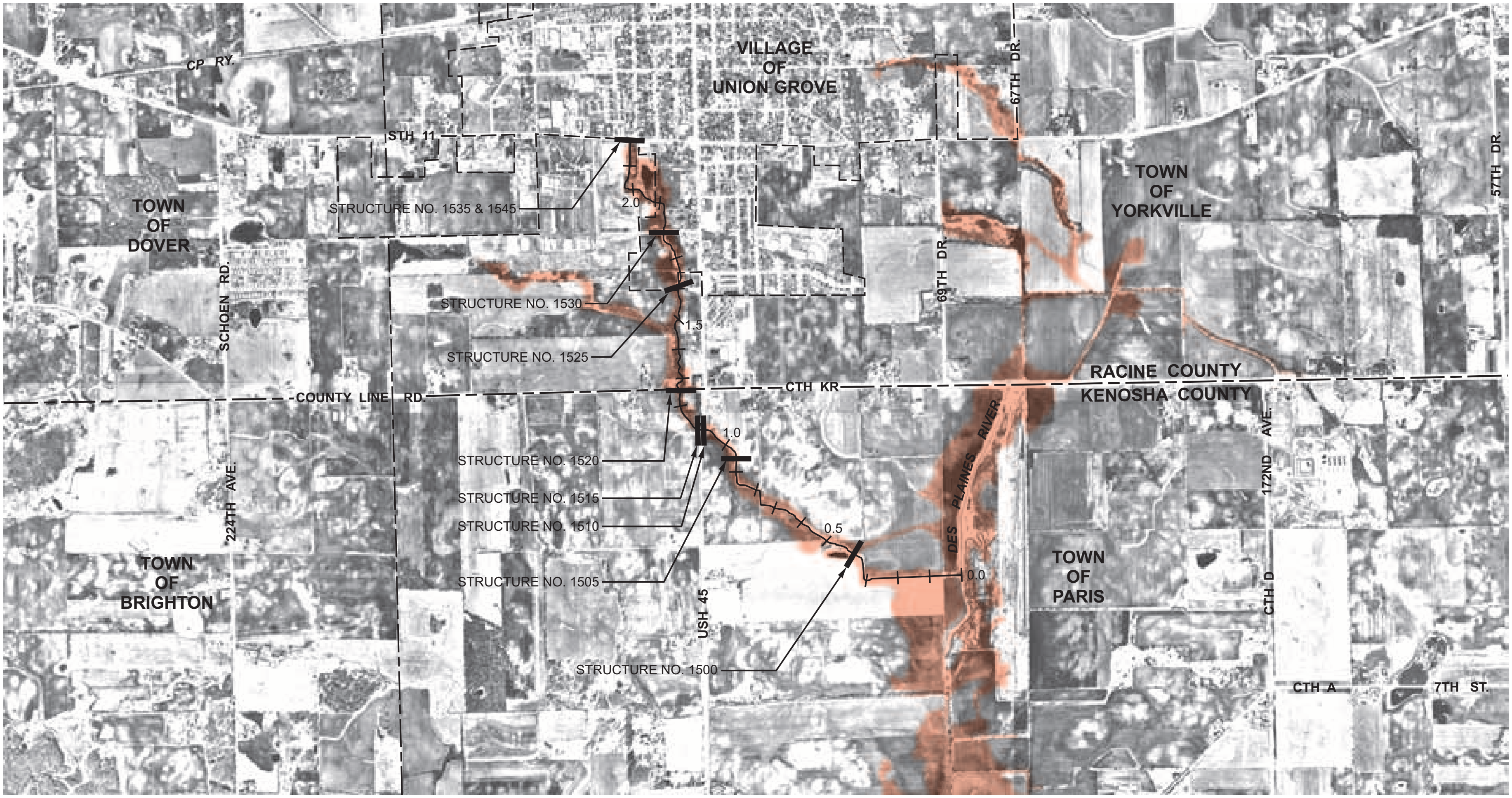
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 1 TO HOOKER LAKE



Source: SEWRPC.

Map H-38

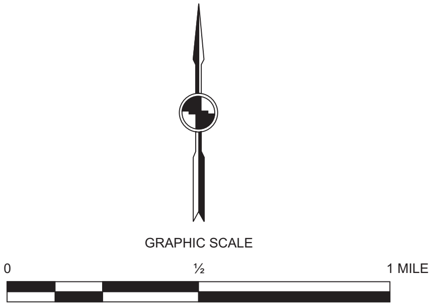
100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNION GROVE INDUSTRIAL TRIBUTARY: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

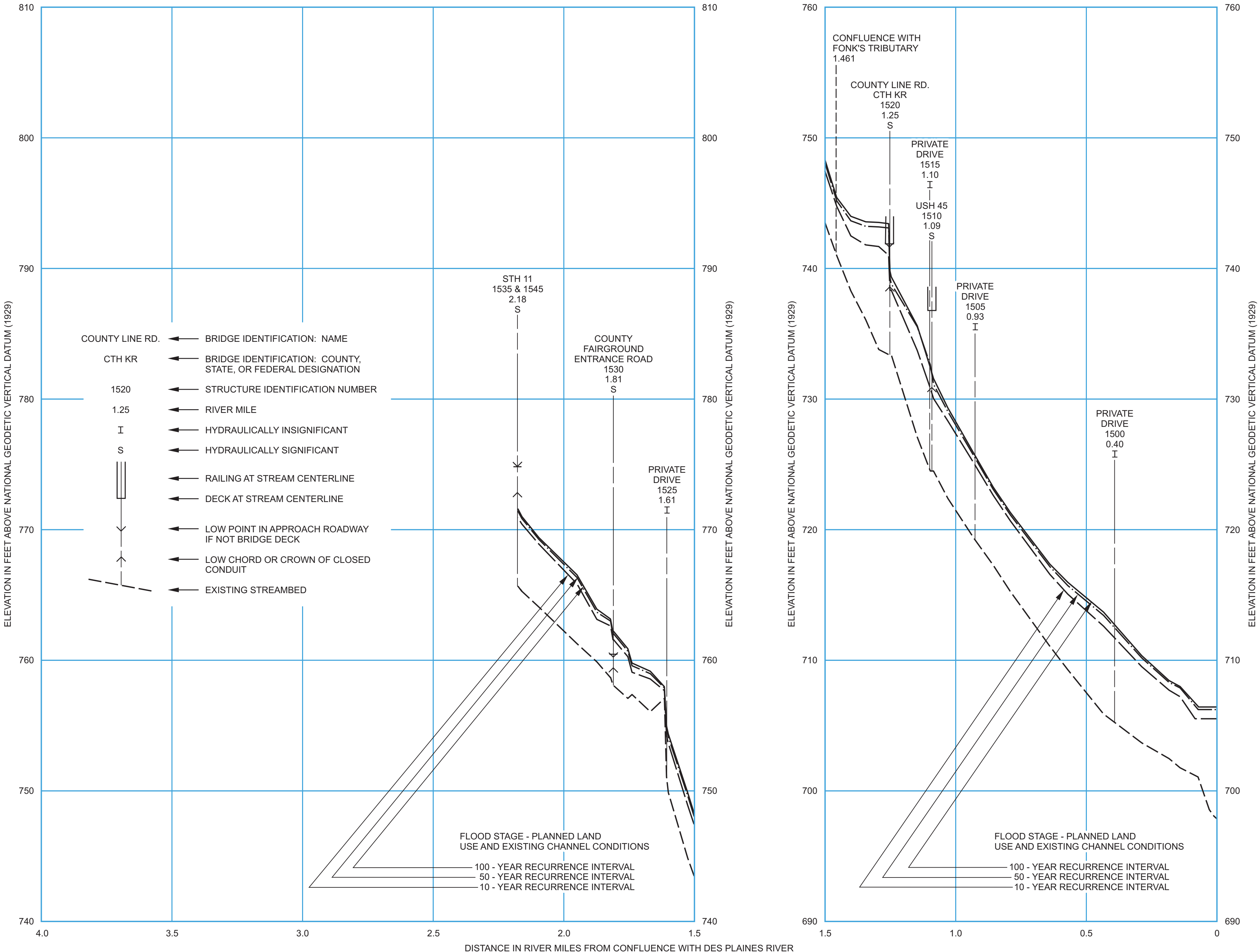


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-38

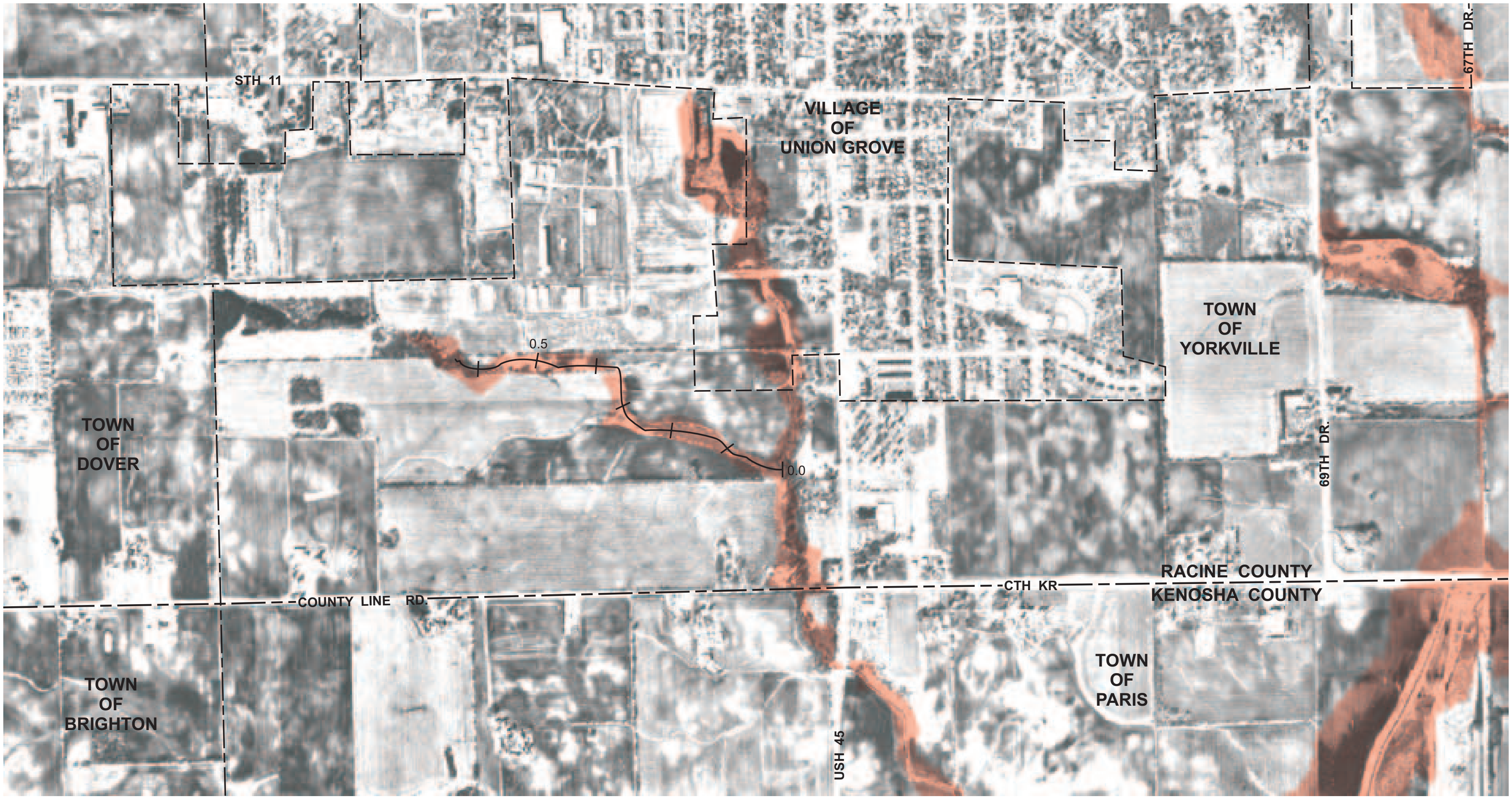
FLOOD STAGE AND STREAMBED PROFILE FOR UNION GROVE INDUSTRIAL TRIBUTARY



Source: SEWRPC.

Map H-39

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR FONK'S TRIBUTARY: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

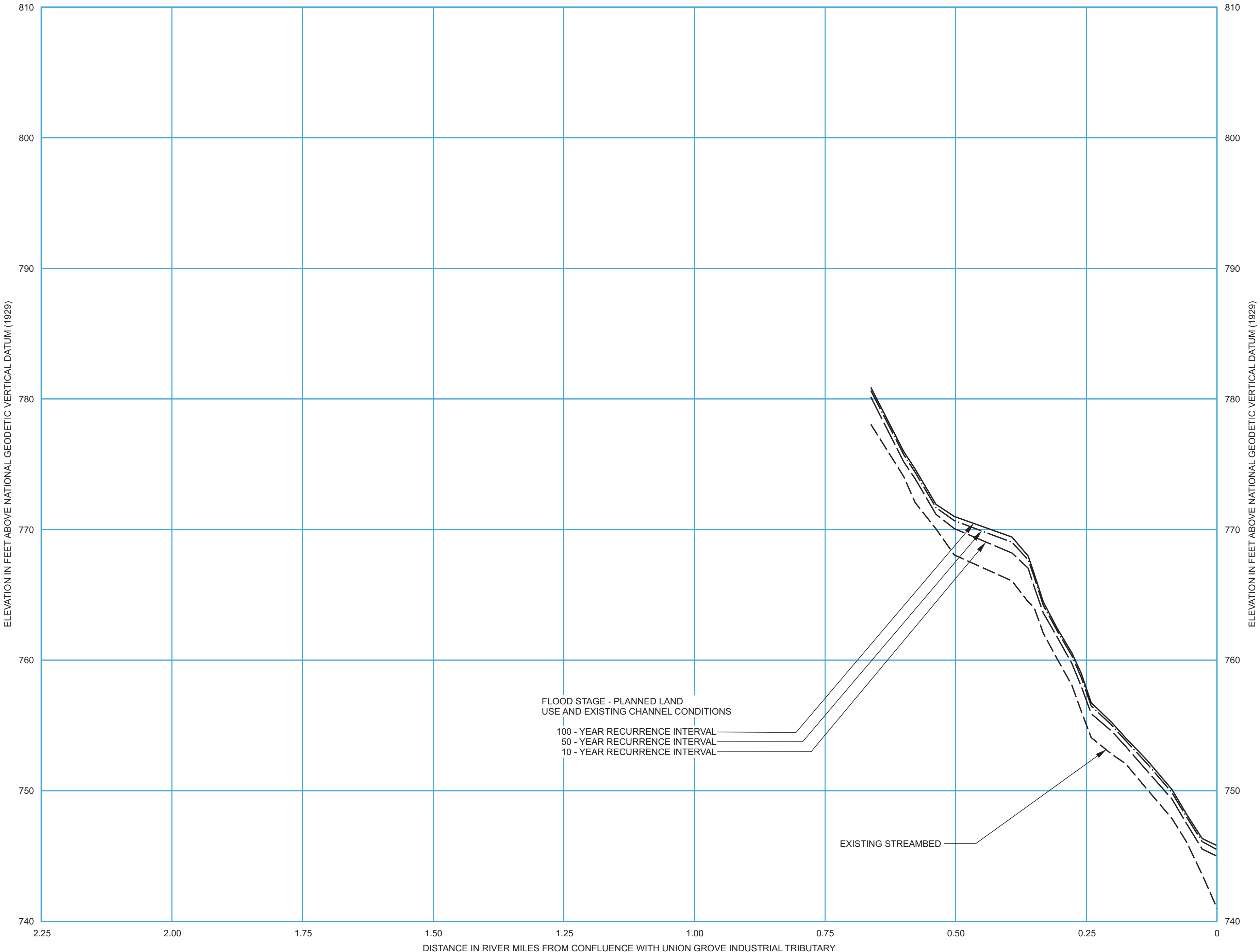
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-39

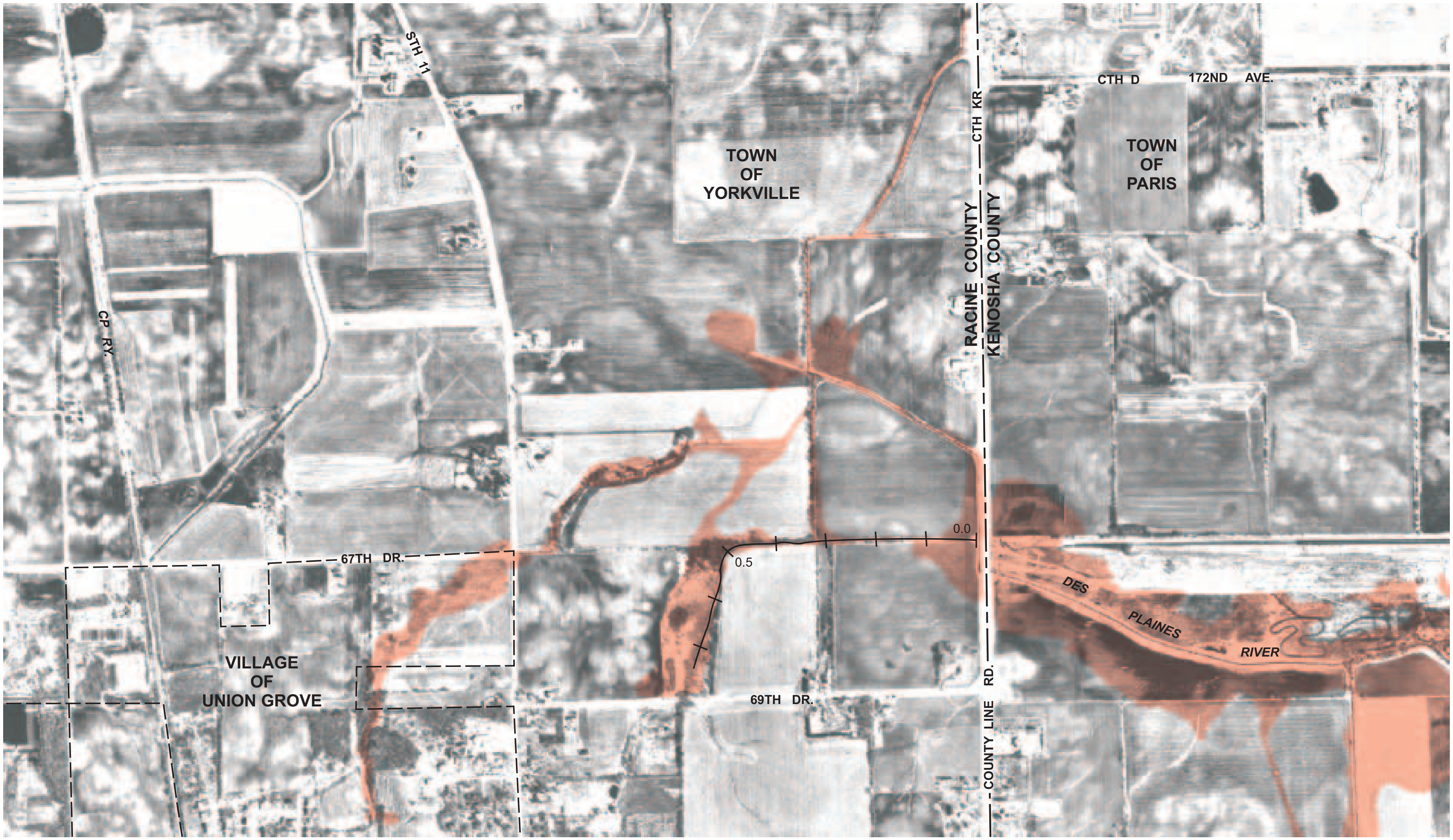
FLOOD STAGE AND STREAMBED PROFILE FOR FONK'S TRIBUTARY



Source: SEWRPC.

Map H-40

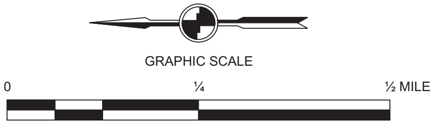
100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 37 TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

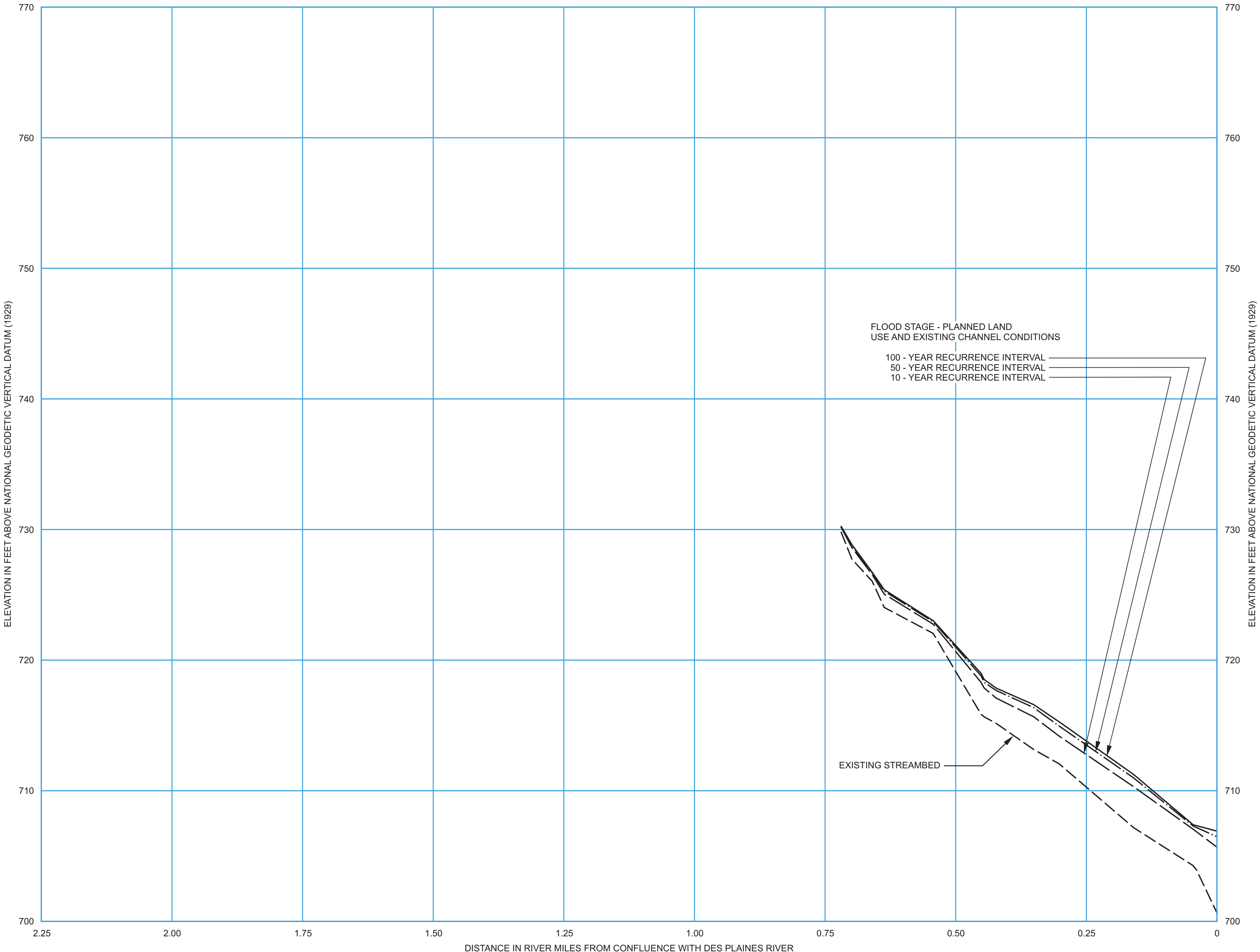


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-40

FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 37 TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-41

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 38 TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

▨	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

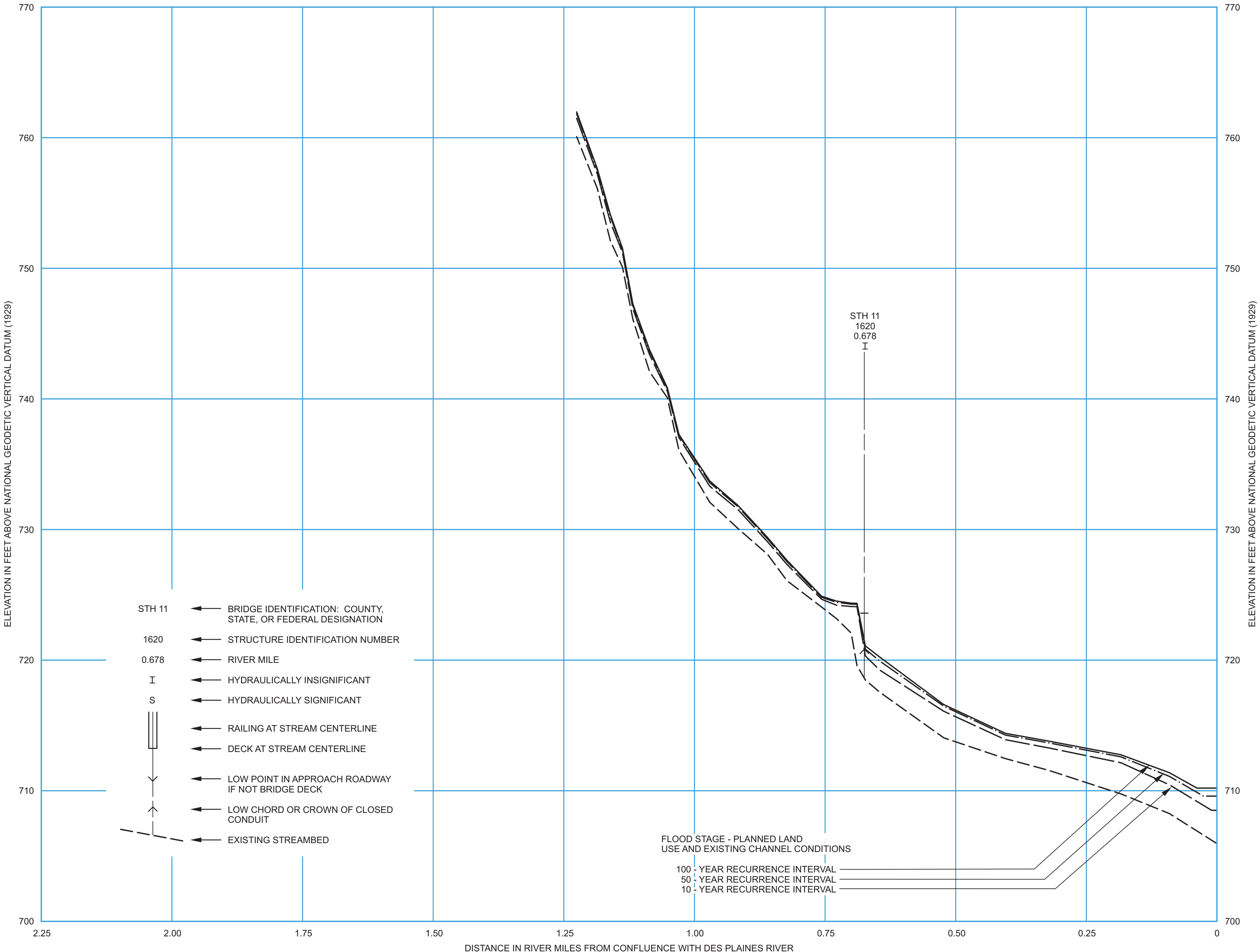
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-41

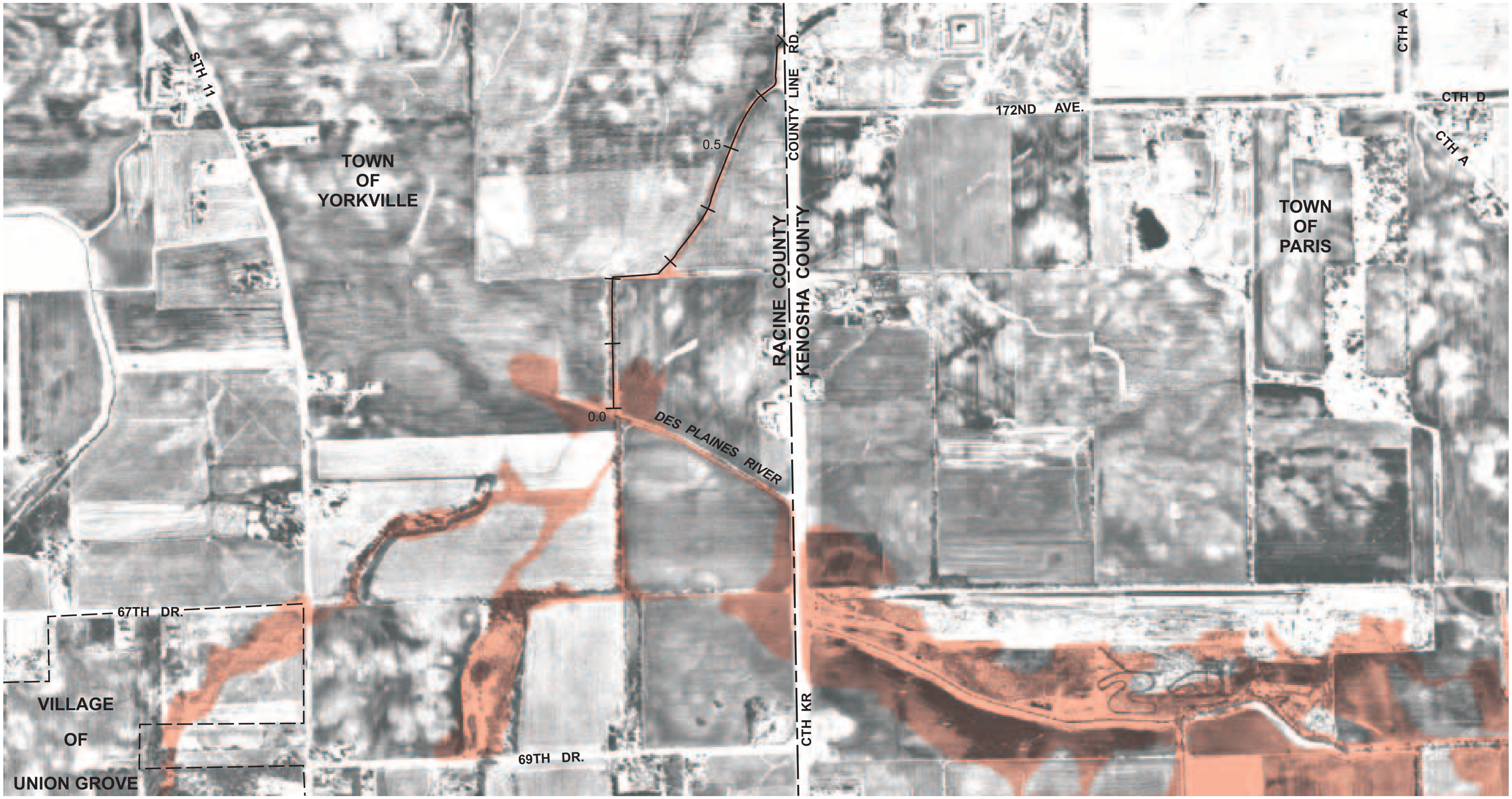
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 38 TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-42

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 39 TO THE DES PLAINES RIVER: PLANNED LAND USE AND EXISTING CHANNNEL CONDITIONS



▨ 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

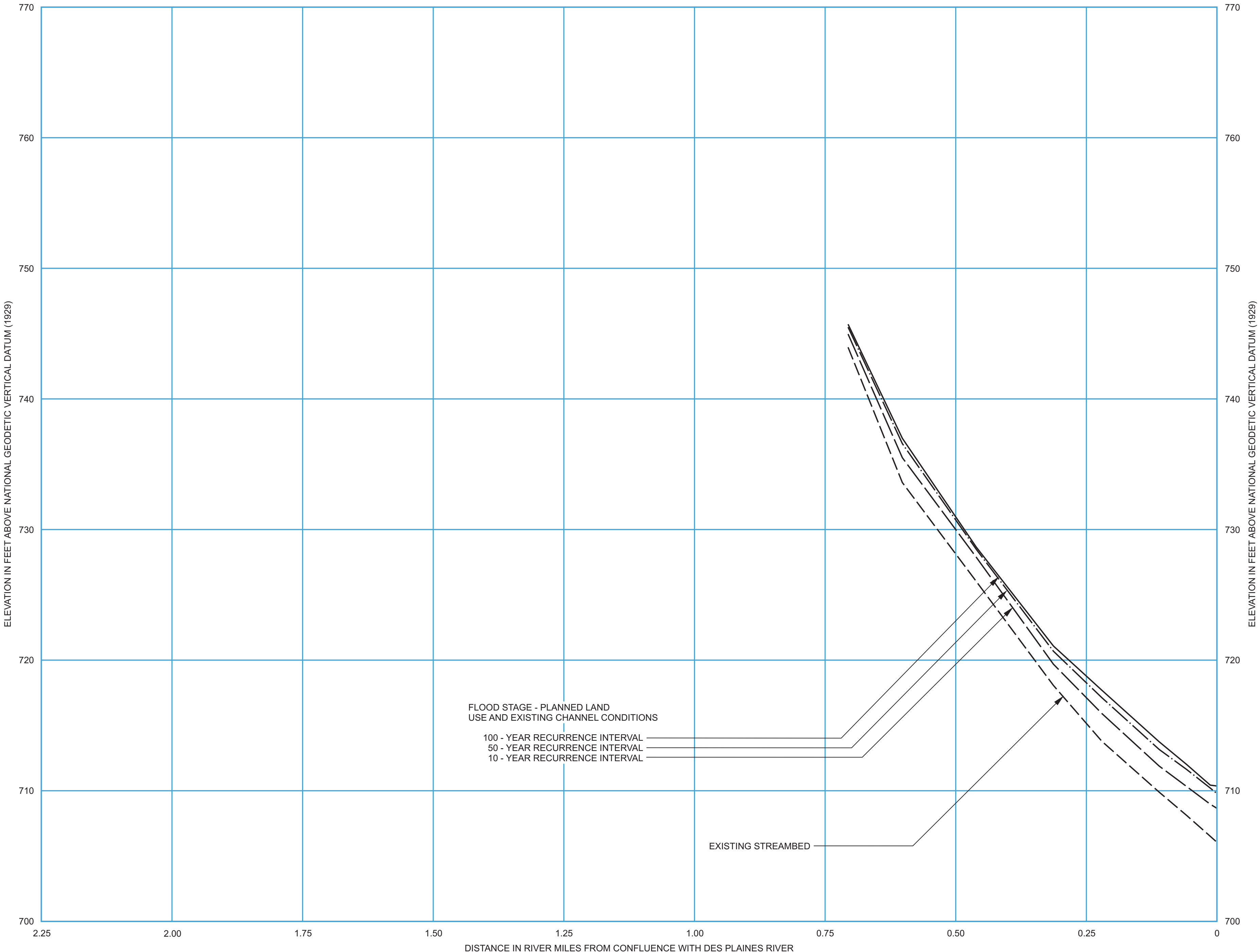
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-42

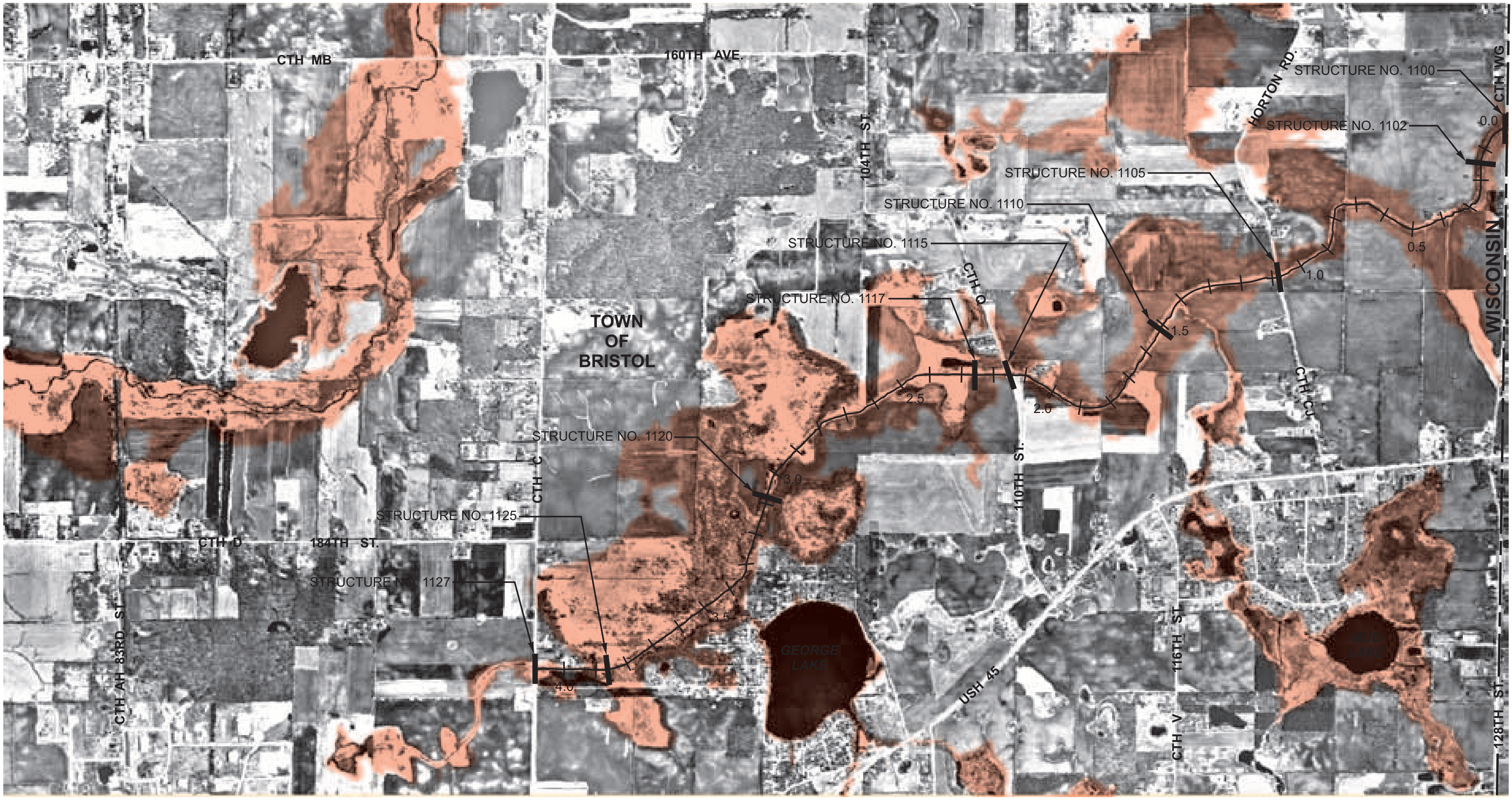
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 39 TO THE DES PLAINES RIVER



Source: SEWRPC.

Map H-43

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR DUTCH GAP CANAL: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



▨	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
0.5 ┼	APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

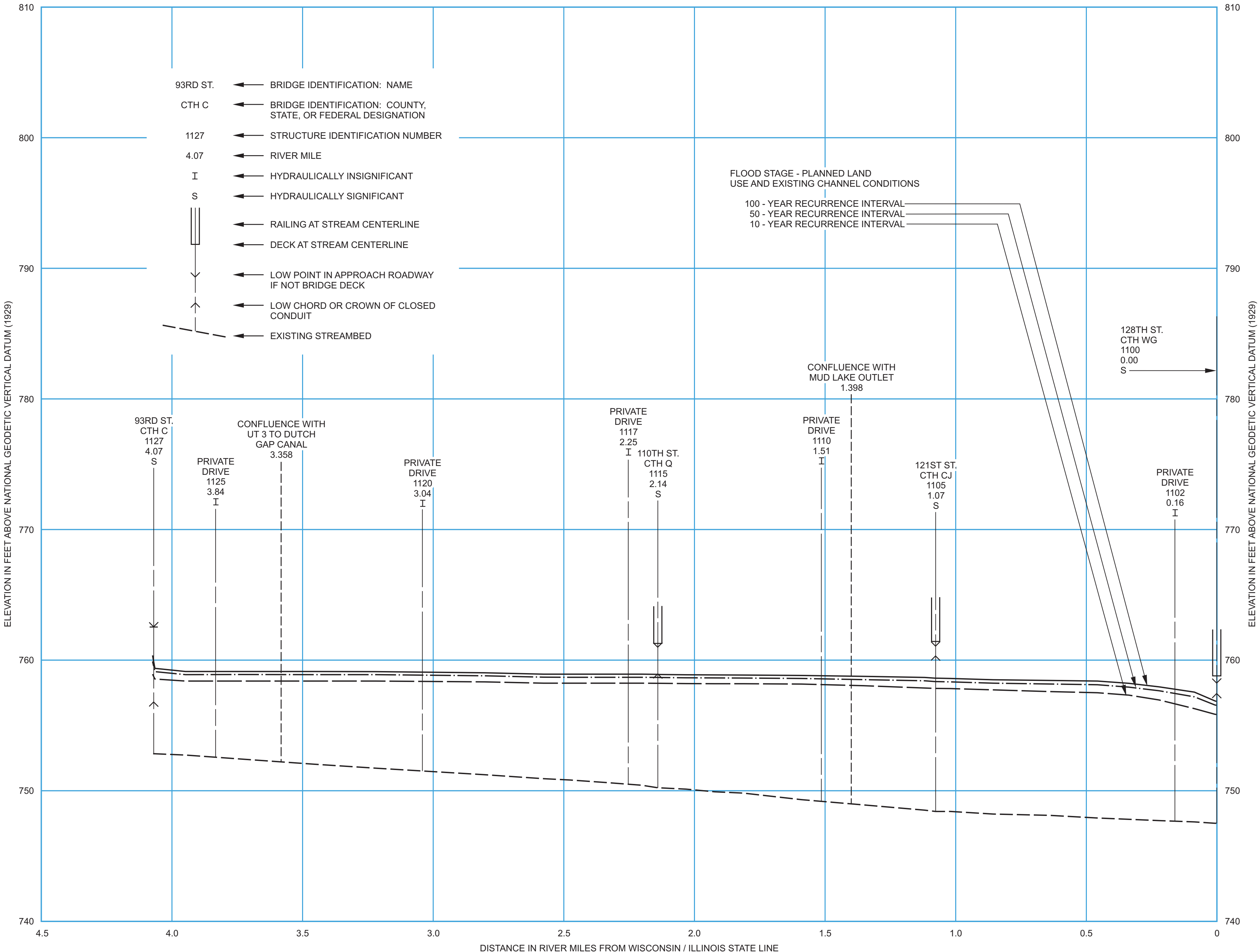
0 ½ 1 MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-43

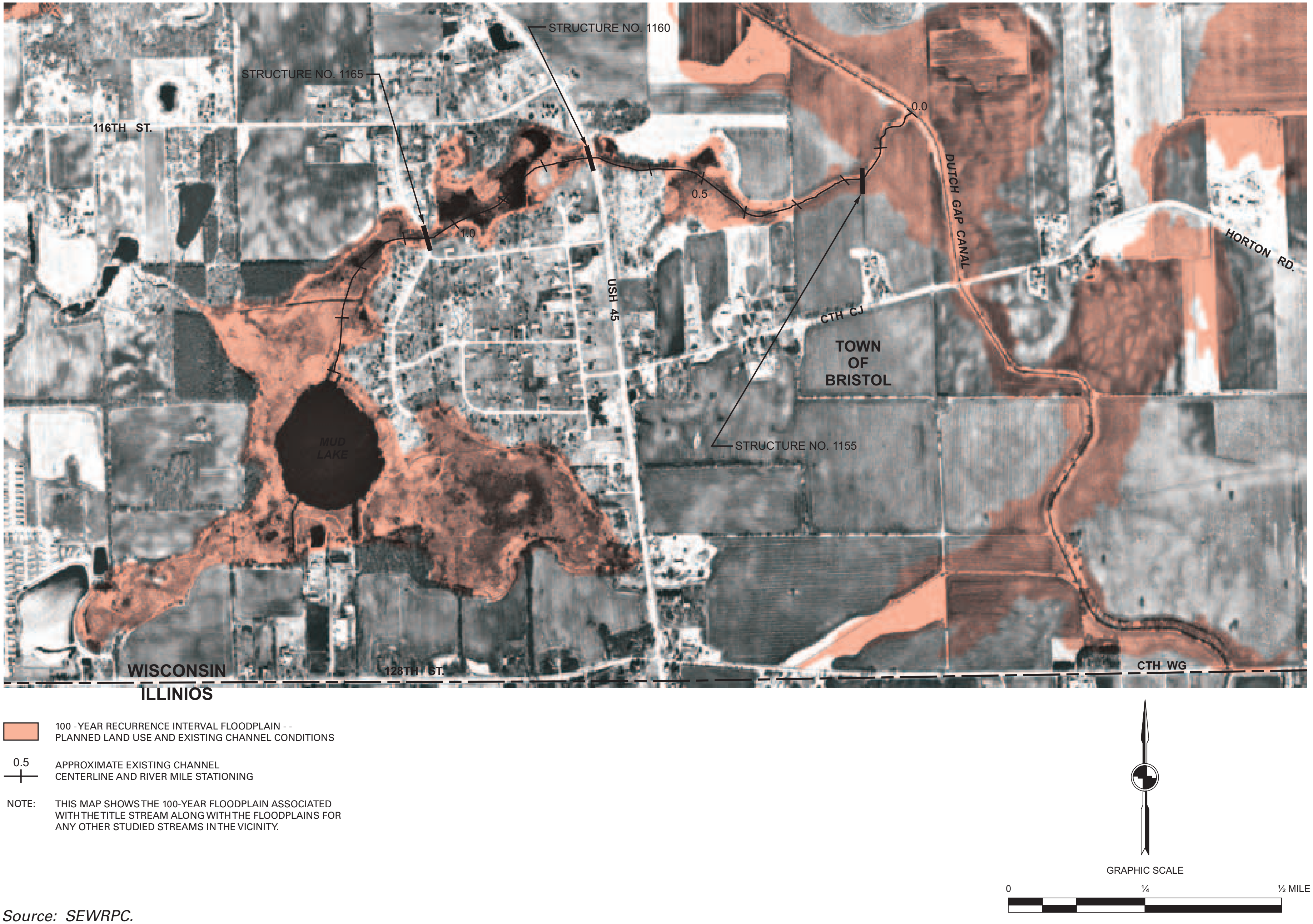
FLOOD STAGE AND STREAMBED PROFILE FOR DUTCH GAP CANAL



Source: SEWRPC.

Map H-44

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR MUD LAKE OUTLET: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

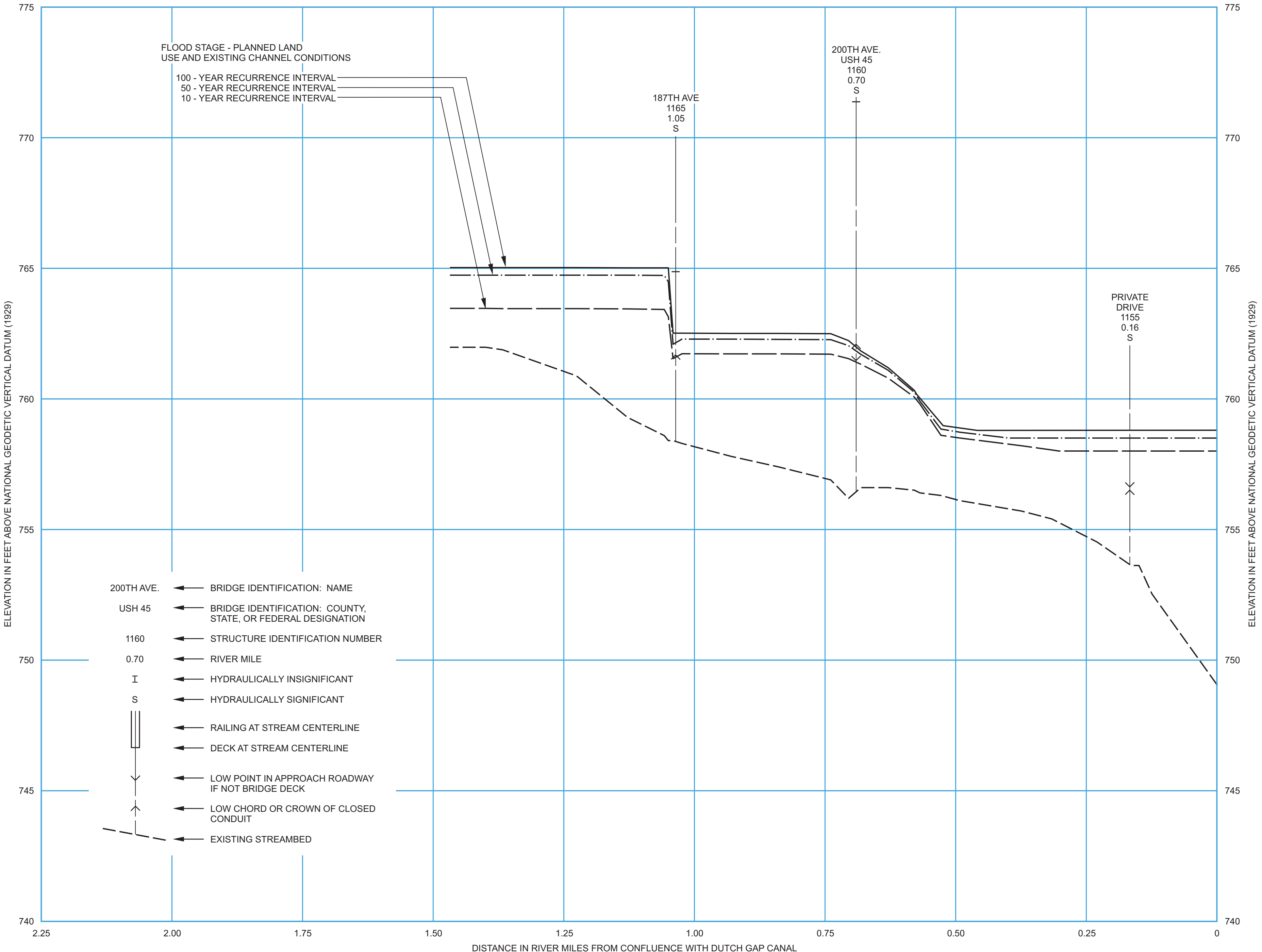
NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

Source: SEWRPC.

DATE OF PHOTOGRAPHY MARCH 1995

Figure H-44

FLOOD STAGE AND STREAMBED PROFILE FOR MUD LAKE OUTLET



Source: SEWRPC.

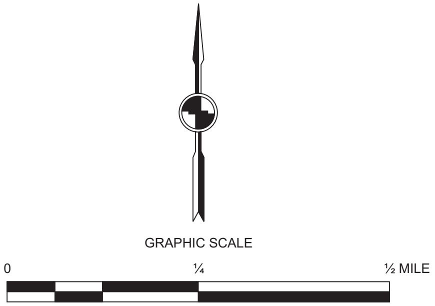
Map H-45

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 3 TO DUTCH GAP CANAL: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - -
PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL
CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

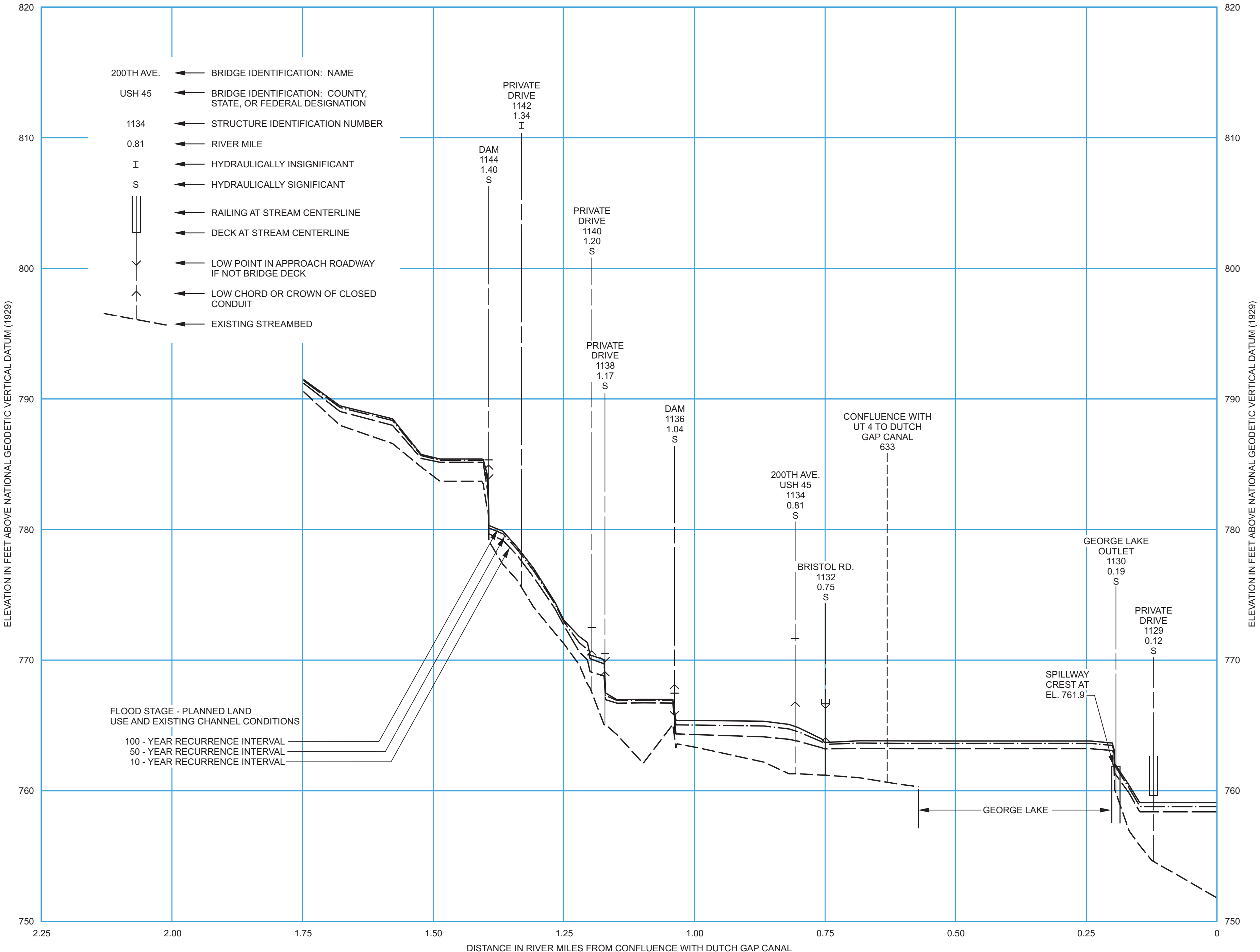


DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-45

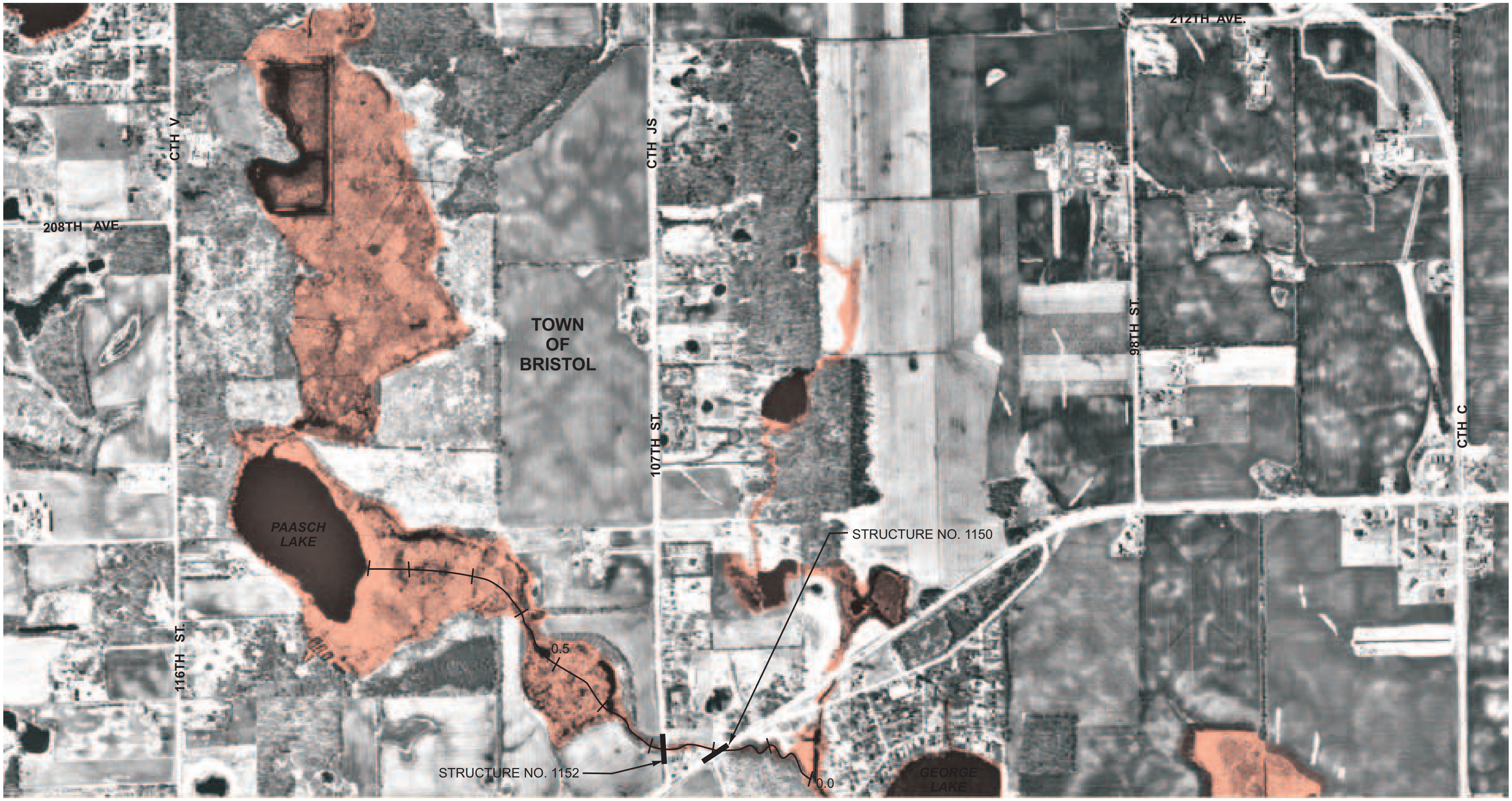
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 3 TO DUTCH GAP CANAL



Source: SEWRPC.

Map H-46

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR UNNAMED TRIBUTARY NO. 4 TO DUTCH GAP CANAL: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧 100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS

0.5 ┼ APPROXIMATE EXISTING CHANNEL CENTERLINE AND RIVER MILE STATIONING

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.

GRAPHIC SCALE

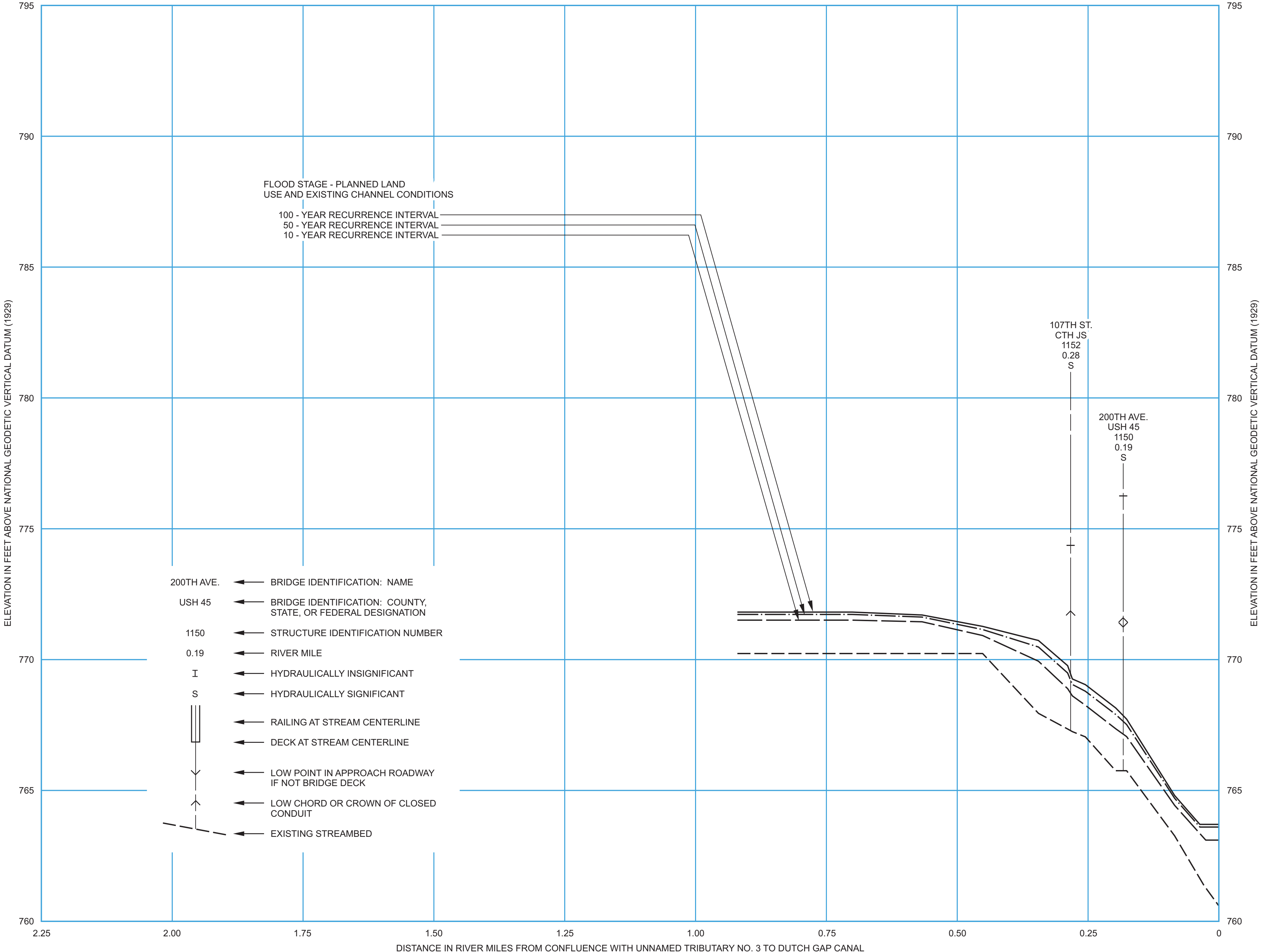
0 ¼ ½ MILE

DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Figure H-46

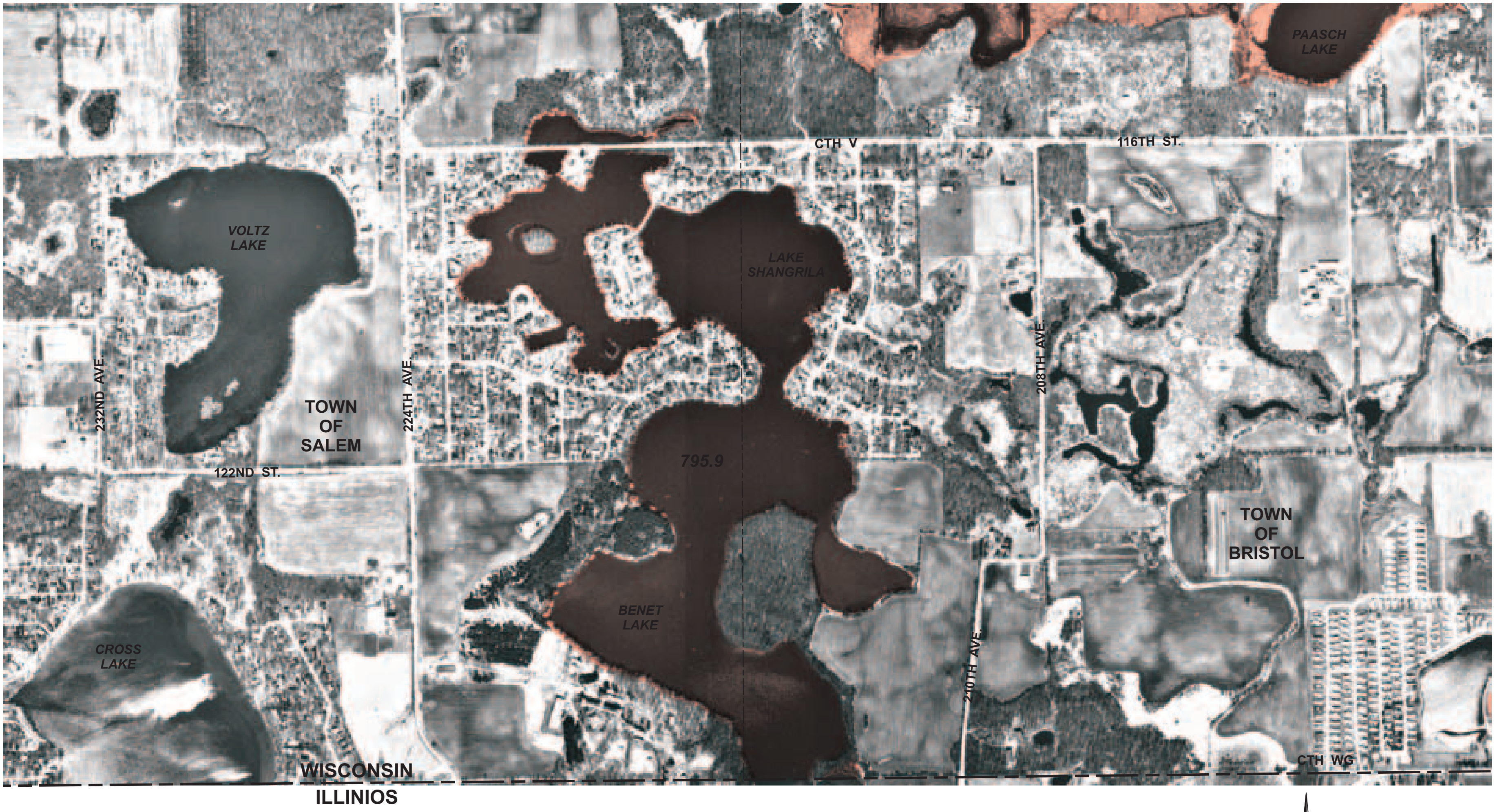
FLOOD STAGE AND STREAMBED PROFILE FOR UNNAMED TRIBUTARY NO. 4 TO DUTCH GAP CANAL



Source: SEWRPC.

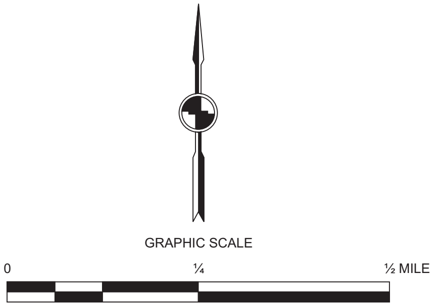
Map H-47

100-YEAR RECURRENCE INTERVAL FLOODPLAIN FOR BENET LAKE AND LAKE SHANGRILA: PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS



🟧	100 -YEAR RECURRENCE INTERVAL FLOODPLAIN - - PLANNED LAND USE AND EXISTING CHANNEL CONDITIONS
795.9	100 -YEAR FLOOD STAGE ELEVATION IN FEET ABOVE NATIONAL GEODETIC VERTICAL DATUM, 1929

NOTE: THIS MAP SHOWS THE 100-YEAR FLOODPLAIN ASSOCIATED WITH THE TITLE STREAM ALONG WITH THE FLOODPLAINS FOR ANY OTHER STUDIED STREAMS IN THE VICINITY.



DATE OF PHOTOGRAPHY MARCH 1995

Source: SEWRPC.

Appendix I

ANALYSIS OF WATERSHEDWIDE DETENTION STORAGE FOR NEW DEVELOPMENT

The following detention storage scenarios were analyzed and presented in the alternatives analysis in Chapter XII of this report:

1. Peak Flow Control for the 100-Year Storm Based on NRCS Method Flows: Consistent with current practice in several of the communities in the watershed, it was assumed that the detention facilities would reduce the peak rate of discharge from the tributary area during a 100-year event under planned land use conditions to the peak rate of discharge from the site during a 10-year event under 1990 land use conditions. The 10- and 100-year peak flows were determined using U.S. Natural Resources Conservation Service (NRCS) design storm methodology within the U. S. Environmental Protection Agency (USEPA) HSPF model.

2. Peak Flow Control for the Two- and 100-Year Storms Based on NRCS Method Flows: The 100-year post-development to 10-year pre-development level of control from the preceding scenario was applied along with control of the post-development two-year storm peak flow to the two-year pre-development peak flow. That level of control of the two-year storm is consistent with the proposed Chapter NR 151, "Runoff Management," of the *Wisconsin Administrative Code*. The two-, 10-, and 100-year peak flows were determined using NRCS design storm methodology within the HSPF model. NRCS methodology was applied to compute peak flood flows and target release rates because it is generally utilized by engineers in the design of stormwater management systems for development in the watershed.

3. Peak Flow Control for the Two- and 100-Year Storms Based on HSPF Continuous Simulation Method Flows: The 100-year post-development to 10-year pre-development and two-year post-development to two-year pre-development peak flow levels of control from the preceding scenario were applied. The two-, 10-, and 100-year peak flows were determined using continuous simulation methodology within the calibrated HSPF model. Continuous simulation methodology was applied to compute peak flood inflows and target release rates because that approach yields inflows and release rates that represent the actual flow frequency relationship at a given location in the watershed.

The following additional approach that refined the third scenario as described above was incorporated in the recommended stormwater and floodland management plan:

4. Peak Flow Control for the Two- and 100-Year Storms Based on Release Rates Established to Avoid Flow Increases on Streams Throughout the Watershed: It was found that, under planned land use conditions, potential increases in downstream two-year flows relative to 1990 land use conditions could generally be avoided by limiting the peak rate of runoff from areas of new development to 0.04 cfs per acre of new development. That level of control was estimated by computing peak 1990 flow rates per acre along streams that are expected to experience significant urban development in their tributary areas. Under 100-year flood conditions, the level of control provided under detention Scenario 3 was found to be adequate to reduce post-development flood peaks relative to 1990 land use conditions along most of the stream reaches in, and downstream from, areas of planned development. In order to simplify the requirement for control of runoff from new development, the multiple potential release rates determined under Scenario 3 (depending on location in the watershed) were reduced to a single, representative 100-year release rate of 0.3 cfs per acre of new development.

These flow limitation requirements were applied to the entire watershed under these analyses. Only the incremental urban development between 1990 and planned land use conditions would be subject to these requirements. In order to simplify the analysis, no accounting for detention storage was made for those hydrologic reaches which showed insignificant increases in urban development as represented by the anticipated change in impervious area.

In order to determine the impact of the required stormwater storage, hypothetical detention basins were developed for each hydrologic reach with significant new urban development. Runoff from the new development was then routed through these detention basins prior to being routed through the stream system.

DETERMINATION OF HYDROLOGIC REACHES TO BE PROVIDED WITH DETENTION STORAGE

For each hydrologic routing reach in the HSPF continuous simulation model, a comparison was made of the impervious area between existing (1990) and planned condition land use. All reaches which showed an increase greater than 20 percent were included in the analysis. Exceptions were made for those reaches with increases greater than 20 percent, but for which the actual increase in acreage was small (two acres or less). Also, internally drained reaches, reaches which already included detention basins, and reaches located within or mainly within Illinois were excluded from the analysis. A total of 102 reaches were included in the analysis.

DETERMINATION OF PRE- AND POST-DEVELOPMENT DISCHARGES AND REQUIRED STORAGE VOLUMES

An effort was made to size the detention basins using procedures similar to those generally employed by design engineers. In this respect, the most common procedure used is the U.S. Natural Resources Conservation Service (NRCS) TR55 methodology which is based on a 24-hour design storm and the SCS (now NRCS) Type II rainfall distribution. Therefore, for Scenarios 1 and 2 above, rather than determine size based on continuous simulation, the HSPF model developed under this watershed study was employed using a 24-hour design storm with a Type II distribution. This approach yields an evaluation of the effects of those two detention storage policies, assuming the application of NRCS TR55 methodology consistent with current design practice. Scenario 4 utilizes a uniform two- and 100-year post-development release rate. That approach is gaining in acceptance within the Southeastern Wisconsin Region. It has the benefits of enabling achievement of a high level of control based on systems planning and watershed modeling concepts, while being straightforward to apply to individual, or regional, detention situations.

Procedure for Control of 100-Year Storm Based on NRCS Method Flows: Scenario 1

A simulation of the 10-year event was made for 1990 land use conditions, using NRCS design storm methodology within the HSPF model. No routing was performed as it was assumed that storage in the engineered drainage system upstream of the proposed basins would be insignificant. The peak discharge from this simulation was used as the design discharge from the proposed stormwater detention basins. As a comparison, 10-year discharges were also computed using SCS discharge charts for agricultural areas which were published in the January 1975 edition of the TR55 manual. This methodology is applicable since most of the land to be developed is currently in agricultural use. The discharges computed with the SCS method agreed fairly well with those computed with the HSPF model.

A second simulation was then made for the 100-year event under planned land use conditions. The volume of the 100-year storm hydrograph above the 10-year design discharge was computed and used as an initial storage volume for the detention basins.

Development of Detention Basin F-Tables

An HSPF F-Table, representing the depth-area-volume-discharge relationship, was developed for each hypothetical detention basin. The following assumptions were made in developing these tables: 1) The basin outlet would consist of a circular reinforced concrete pipe with projecting entrance and inlet control; 2) At the design discharge, the depth in the pond would equal twice the diameter of the outlet pipe.

A dimensionless headwater-discharge relation was developed based on the outlet pipe assumptions noted above. The HSPF F-table was prepared by taking pond depths at 25, 50, and 100 percent of the peak water depth. At 100 percent of the pond depth, the required peak storage and discharge computed above were used. Intermediate storage volumes were computed using a straight-line interpolation, while discharges were taken from the headwater-discharge curve (15, 48, and 100 percent of the design discharge at the 25, 50, and 100 percent depth points).

The HSPF model was then run with the post-development 100-year storm event routed through the detention basins. Adjustment was made to the basin storage volumes until the simulated peak outflow agreed reasonably well with the computed pre-development 10-year discharge.

Procedure for Control of Two- and 100-Year Storms Based on NRCS Method Flows: Scenario 2

This analysis expanded on the 100-year storm analysis described above. The following steps describe the analysis for each detention site:

- The two-year storm was simulated under both 1990 and planned land use conditions, using the NRCS 24-hour design storm as defined above. The increase in volume of the two-year storm post-development (planned land use) hydrograph relative to the two-year pre-development (1990) peak hydrograph was computed. That volume along with the two-year peak flow under 1990 conditions defined an initial estimate of one point of the detention basin volume-discharge relationship.
- The 10-year pre-development storm peak discharge along with the required post-development 100-year storm volume, determined as described above, defined a second point on the volume-discharge relationship.
- The third point on the volume-discharge relationship was taken as zero volume and zero discharge.

Development of Detention Basin F-Tables

An HSPF F-Table, representing the three-point volume-discharge relationship derived as described above, was developed for each hypothetical detention basin.

The HSPF model was then run with the two- and 100-year design storm events routed through the detention basins. Adjustment was made to the basin storage volumes until the simulated peak outflow agreed reasonably well with the target outflow peaks (10-year pre-development discharge for the 100-year storm and two-year pre-development discharge for the two-year storm).

Procedure for Control of Two- and 100-Year Storms Based on HSPF Continuous Simulation Method Flows: Scenario 3

This analysis was similar to the analysis for Scenario 2, except that the target detention basin release rates (10-year 1990 land use peak flow for the 100-year post-development event and two-year 1990 land use peak flow for the two-year post-development event) were determined based on statistical analysis of annual peak flows as simulated with the calibrated HSPF continuous simulation model. NRCS design storm methods were applied to obtain initial estimates of the necessary runoff storage volumes for 100- and two-year flow control. The starting moisture conditions in the NRCS design storm version of the HSPF model were adjusted so that the computed two-, 10-, and 100-year storm peak flows approximated the corresponding flows determined by statistical analysis of annual peak flows computed by continuous simulation. This approach was applied as a straightforward means of obtaining estimates of the necessary detention storage volumes. The development of the volume-discharge relationship for each detention basin followed the same procedure as described above for Scenario 2, with the exception that the target two- and 10-year release rates were established based on the statistical analysis of annual peak flows computed by continuous simulation.

Development of Detention Basin F-Tables

HSPF F-Tables, each representing a three-point volume-discharge relationship derived as described under Scenario 2, were developed for each hypothetical detention basin.

The HSPF model was then run with the two- and 100-year design storm events routed through the detention basins. Adjustment was made to the basin storage volumes until the simulated peak outflow agreed reasonably well with the target outflow peaks (10-year pre-development discharge based on continuous simulation modeling for the 100-year storm and two-year pre-development discharge based on continuous simulation for the two-year storm).

Procedure for Control of Two- and 100-Year Storms Based on Release Rates Established to Avoid Flow Increases on Streams Throughout the Watershed: Scenario 4

This analysis was similar to the analysis for Scenarios 2 and 3, except that single, target detention basin release rates for post-development two- and 100-year conditions were determined with the goal of limiting, or avoiding, flow increases relative to 1990 conditions on streams throughout the watershed. A two-year control rate of 0.04 cfs per acre of new development was estimated by computing peak 1990 flow rates per acre along streams that are expected to experience significant urban development in their tributary areas. Under 100-year flood conditions, the level of control provided under detention Scenario 3 was found to be adequate to reduce post-development flood peaks to desired levels. The multiple release rates determined under Scenario 3 were reduced to a single, representative 100-year release rate of 0.3 cfs per acre of new development.

The following steps describe the analysis for each detention site:

- NRCS design storm methods were applied to obtain initial estimates of the necessary runoff storage volumes for 100- and two-year flow control. The starting moisture conditions in the NRCS design storm version of the HSPF model were adjusted so that the computed two- and 100-year storm peak flows approximated the corresponding flows determined by statistical analysis of annual peak flows computed by continuous simulation. This approach was applied as a straightforward means of obtaining estimates of the necessary detention storage volumes. The development of the volume-discharge relationship for each detention basin followed the same procedure as described above for Scenarios 2 and 3, with the exception that the target two- and 100-year release rates were established based on the 0.04 and 0.3 cfs per acre release rates, respectively.

Development of Detention Basin F-Tables

HSPF F-Tables, each representing a three-point volume-discharge relationship derived as described under Scenario 2, were developed for each hypothetical detention basin.

The HSPF model was then run with the two- and 100-year design storm events routed through the detention basins. Adjustment was made to the basin storage volumes until the simulated peak outflow agreed reasonably well with the target outflow peaks (0.04 cfs per acre of new development release rate for the two-year storm and 0.3 cfs per acre of new development release rate for the 100-year storm).

FINAL STREAMFLOW SIMULATION

For each of the scenarios considered, once the detention basins had been sized based on the 24-hour design storm, they were incorporated in the HSPF continuous simulation model for the entire watershed. A simulation was made for planned land use and existing channel conditions, with the planned detention storage. That simulation enabled the operation of the proposed detention basins to be evaluated over the 55-year period of record and enabled the manner in which the basins would affect flood frequencies along the streams in the watershed to be determined. The results of this simulation were then compared with the flows developed assuming no detention storage for new development as set forth in Tables I-1 through I-6.[1]

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[1] *A separate flow comparison table is not provided for Scenario 4. The effects of that Scenario as an overall component of the recommended floodland and stormwater management plan are set forth in Chapter XII of this report.*

Table I-1

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS

SCENARIO 1

COMPARISON OF PLANNED LAND USE CONDITIONS WITH AND WITHOUT A STORMWATER DETENTION POLICY DESIGNED TO CONTROL THE POST-DEVELOPMENT 100-YEAR STORM PEAK FLOW BASED ON NRCS TR-55 APPROACH[a,b,c]

Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	57	57	0	192	192	0	420	419	0	702	697	-1	847	840	-1
62	16.140	370 feet upstream of CTH N	46	46	0	163	161	-1	379	374	-1	665	654	-2	818	805	-2
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	59	56	-5	237	227	-4	609	587	-4	1,150	1,110	-3	1,460	1,410	-3
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	58	54	-7	229	218	-5	586	562	-4	1,100	1,060	-4	1,390	1,340	-4
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	59	53	-10	233	217	-7	585	555	-5	1,080	1,040	-4	1,360	1,310	-4
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	58	51	-12	223	204	-9	552	519	-6	1,010	963	-5	1,260	1,210	-4
29	20.163	Private drive	76	51	-33	228	182	-20	470	410	-13	758	696	-8	905	844	-7
16	20.594	0.6 mile downstream of County Line Road	21	16	-24	73	62	-15	158	144	-9	261	250	-4	313	306	-2
8	21.196	County Line Road	9	6	-33	41	33	-20	112	96	-14	218	195	-11	279	253	-9
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	15	0	62	62	0	155	155	0	216	216	0

Unnamed Tributary No. 37 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
12	0.045	- -	16	10	-38	44	28	-36	93	63	-32	157	108	-31	190	132	-31

Table I-1 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
6	0.004	- -	9	6	-33	29	19	-34	66	44	-33	118	80	-32	146	99	-32
4	0.673	- -	13	6	-54	34	17	-50	71	36	-49	117	60	-49	142	73	-49

Union Grove Industrial Tributary																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	57	34	-40	163	119	-27	339	272	-20	557	468	-16	671	572	-15
27	1.245	26 feet downstream of Schroeder Road (Hwy KR)	75	38	-49	208	123	-41	430	285	-34	709	506	-29	856	628	-27
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	73	34	-53	186	96	-48	359	198	-45	562	325	-42	665	391	-41

Fonk's Tributary																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
20	0.027	- -	6	5	-17	36	31	-14	117	106	-9	255	235	-8	340	315	-7

Table I-1 (continued)

Lower Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
384	0.000	Wisconsin-Illinois state line	218	220	1	855	865	1	1,620	1,630	1	2,290	2,300	0	2,570	2,580	0
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	222	224	1	869	880	1	1,670	1,680	1	2,380	2,400	1	2,690	2,700	0
358	2.267	0.7 mile downstream of STH 165	225	226	0	872	882	1	1,690	1,710	1	2,450	2,470	1	2,780	2,790	0
304	3.213	0.3 mile upstream of STH 165	196	200	2	796	805	1	1,600	1,610	1	2,360	2,380	1	2,700	2,720	1
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	209	208	0	787	790	0	1,590	1,590	0	2,410	2,390	-1	2,790	2,760	-1
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	127	127	0	553	554	0	1,120	1,120	0	1,650	1,660	1	1,880	1,890	1
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	126	127	1	533	533	0	1,090	1,090	0	1,640	1,640	0	1,890	1,890	0
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	126	127	1	528	528	0	1,090	1,080	-1	1,640	1,640	0	1,890	1,890	0
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	123	124	1	503	504	0	1,050	1,050	0	1,610	1,600	-1	1,870	1,860	-1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	121	121	0	492	493	0	1,040	1,040	0	1,620	1,620	0	1,900	1,890	-1
156	12.600	0.4 mile downstream of 75th Street (STH 50)	120	120	0	478	478	0	1,020	1,020	0	1,610	1,610	0	1,890	1,880	-1
154	13.569	0.5 mile upstream of 75th Street (STH 50)	119	119	0	478	478	0	1,030	1,030	0	1,640	1,630	-1	1,930	1,920	-1
152	14.140	50 feet upstream of 60th Street (CTH K)	118	118	0	478	477	0	1,030	1,030	0	1,640	1,630	-1	1,930	1,920	-1

Unnamed Tributary No. 1 to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
408	0.000	- -	31	29	-6	110	100	-9	270	234	-13	500	416	-17	629	516	-18
407	0.572	- -	73	46	-37	228	165	-28	458	354	-23	716	574	-20	842	683	-19
399	0.681	- -	48	33	-31	166	124	-25	351	272	-23	563	444	-21	668	529	-21
398	0.772	- -	25	15	-40	63	45	-29	110	81	-26	158	116	-27	180	131	-27
396	1.384	- -	8	6	-25	27	18	-33	56	36	-36	89	55	-38	105	64	-39

Table I-1 (continued)

Unnamed Tributary No. 1a to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
404	0.049	- -	11	7	-36	33	23	-30	66	47	-29	102	74	-27	120	88	-27
402	0.701	- -	3	3	0	7	7	0	13	13	0	19	19	0	22	22	0
400	0.966	- -	10	10	0	19	19	0	31	31	0	44	44	0	49	49	0

Unnamed Tributary No. 1b to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
392	0.080	- -	25	18	-28	106	81	-24	249	197	-21	425	343	-19	515	419	-19
390	0.613	- -	25	18	-28	109	80	-27	256	197	-23	436	347	-20	528	426	-19

Unnamed Tributary No. 1c to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
389	0.025	- -	19	10	-47	81	49	-40	197	130	-34	346	241	-30	425	302	-29
388	1.037	- -	7	7	0	25	23	-8	54	53	-2	89	92	3	108	113	5

Unnamed Tributary No. 1e to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
380	1.300	- -	46	23	-50	120	77	-36	218	153	-30	319	235	-26	366	274	-25
374	1.939	- -	21	10	-52	55	31	-44	93	61	-34	129	93	-28	144	109	-24
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Table I-1 (continued)

Unnamed Tributary No. 1f to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
378	0.081	- -	5	4	-20	26	25	-4	65	64	-2	112	111	-1	135	134	-1

Unnamed Tributary No. 2 to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
368	1.063	- -	31	16	-48	79	43	-46	149	79	-47	229	118	-48	268	137	-49
366	1.600	- -	4	4	0	17	12	-29	43	26	-40	78	45	-42	98	55	-44

Unnamed Tributary No. 2a to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
364	0.060	- -	4	3	-25	10	6	-40	21	10	-52	35	14	-60	42	17	-60

Unnamed Tributary No. 7 to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
340	0.598	- -	88	44	-50	221	129	-42	400	244	-39	591	365	-38	682	422	-38
338	0.831	- -	68	34	-50	162	99	-39	275	188	-32	384	280	-27	434	323	-26

Table I-1 (continued)

Pleasant Prairie Tributary																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
302	0.110	- -	112	43	-62	245	127	-48	385	247	-36	509	378	-26	562	441	-22

Center Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	38	33	-13	189	171	-10	459	425	-7	780	740	-5	941	900	-4
206	1.338	0.3 mile downstream of 144th Avenue	26	24	-8	128	127	-1	346	349	1	656	665	1	828	841	2
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	20	18	-10	110	110	0	326	333	2	654	672	3	844	867	3
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	73	73	0	267	267	0	586	586	0	773	773	0

Unnamed Tributary No. 1 to Center Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
212	0.041	- -	14	9	-36	65	41	-37	168	107	-36	308	198	-36	383	248	-35
210	0.888	- -	18	9	-50	63	29	-54	140	65	-54	238	113	-53	289	140	-52

Unnamed Tributary No. 4 to Center Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
200	0.071	- -	14	7	-50	43	20	-53	88	44	-50	142	73	-49	169	89	-47
198	0.471	- -	12	5	-58	34	14	-59	67	30	-55	105	50	-52	124	61	-51

Table I-1 (continued)

Unnamed Tributary No. 5 to Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
202	0.000	- -	10	5	-50	31	22	-29	69	52	-25	118	92	-22	144	113	-22
201	0.689	156th Avenue (CTH MB)	1	1	0	11	11	0	30	30	0	50	50	0	59	59	0

Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	70	71	1	309	309	0	676	673	0	1,070	1,060	-1	1,250	1,250	0
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	65	66	2	328	323	-2	736	722	-2	1,170	1,150	-2	1,370	1,350	-1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	41	36	-12	213	204	-4	496	485	-2	808	792	-2	956	938	-2
113	4.649	60th Street (CTH K)	29	29	0	170	170	0	429	429	0	735	734	0	885	884	0
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	149	149	0	392	392	0	690	690	0	840	840	0
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	149	149	0	442	442	0	847	847	0	1,060	1,060	0
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	129	129	0	386	386	0	739	739	0	927	927	0

Unnamed Tributary No. 6 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
110	0.590	- -	9	8	-11	43	42	-2	100	100	0	163	163	0	193	193	0
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	8	4	-50	21	14	-33	41	33	-20	65	58	-11	78	71	-9
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Table I-1 (continued)

Salem Branch of Brighton Creek

Recurrence Interval (years)

HSPF Model Reach No.	River Mile	Location	1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	34	33	-3	133	126	-5	286	274	-4	455	441	-3	537	523	-3
132	0.600	160 feet downstream of 216th Avenue	23	23	0	68	66	-3	128	124	-3	189	184	-3	218	212	-3
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	30	23	-23	66	56	-15	111	98	-12	155	142	-8	176	162	-8
126	2.214	0.2 mile downstream of Hooker Lake outlet	6	6	0	16	16	0	31	32	3	49	49	0	58	58	0
124	2.370	Hooker Lake outlet	5	6	20	15	15	0	30	30	0	46	46	0	54	54	0

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

Recurrence Interval (years)

HSPF Model Reach No.	River Mile	Location	1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
142	0.100	- -	14	11	-21	64	60	-6	155	150	-3	266	260	-2	323	316	-2
140	1.167	- -	5	4	-20	20	19	-5	46	44	-4	77	73	-5	92	88	-4

Unnamed Tributary No. 2 to Salem Branch of Brighton Creek

Recurrence Interval (years)

HSPF Model Reach No.	River Mile	Location	1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
118	0.019	- -	18	12	-33	41	30	-27	69	53	-23	97	77	-21	110	88	-20
116	0.765	Paddock Lake outlet	7	7	0	13	13	0	19	19	0	25	25	0	27	27	0

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek

Recurrence Interval (years)

HSPF Model Reach No.	River Mile	Location	1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
130	0.000	- -	9	9	0	20	19	-5	34	32	-6	48	45	-6	55	52	-5
128	0.896	Montgomery Lake outlet	9	9	0	15	15	0	21	21	0	26	26	0	28	28	0

Table I-1 (continued)

Unnamed Tributary No. 1 to Hooker Lake

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
122	0.000	- -	13	6	-54	46	32	-30	104	86	-17	192	161	-16	241	201	-17
120	0.835	CTH AH	1	1	0	14	13	-7	45	43	-4	88	84	-5	110	106	-4

Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
294	0.154	- -	175	149	-15	478	437	-9	910	848	-7	1,390	1,300	-6	1,620	1,510	-7
291	1.022	0.3 mile downstream of 75th Street (STH 50)	177	144	-19	484	431	-11	919	840	-9	1,390	1,280	-8	1,620	1,500	-7
286	1.315	75th Street (STH 50)	160	131	-18	454	408	-10	872	807	-7	1,330	1,240	-7	1,550	1,450	-6
281	2.803	60th Street (CTH K)	113	104	-8	364	338	-7	743	702	-6	1,170	1,120	-4	1,380	1,330	-4
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	94	89	-5	294	285	-3	626	610	-3	1,030	1,010	-2	1,240	1,210	-2
270	4.920	38th Street (CTH N)	90	85	-6	297	287	-3	656	635	-3	1,110	1,070	-4	1,370	1,300	-5
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	88	74	-16	237	219	-8	471	451	-4	748	730	-2	964	873	-9
256	7.491	0.5 mile downstream of 12th Street (CTH E)	85	69	-19	217	196	-10	420	394	-6	659	630	-4	819	751	-8
250	8.009	12th Street (CTH E)	83	68	-18	211	186	-12	406	372	-8	634	593	-6	772	705	-9
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	74	56	-24	172	142	-17	311	264	-15	465	399	-14	541	465	-14
226	11.717	0.2 mile downstream of Braun Road	73	41	-44	181	114	-37	346	216	-38	541	327	-40	639	380	-41
222	12.355	Private drive 0.4 mile upstream of Braun Road	69	35	-49	162	89	-45	289	157	-46	428	228	-47	495	260	-47

Unnamed Tributary No. 1 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
292	0.083	- -	4	3	-25	14	11	-21	29	25	-14	48	42	-13	57	51	-11

Table I-1 (continued)

Unnamed Tributary No. 5 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
278	0.049	- -	9	7	-22	32	28	-13	73	69	-5	125	124	-1	153	155	1
276	0.841	- -	0	0	0	5	5	0	24	24	0	59	59	0	81	81	0

Unnamed Tributary No. 8 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
268	0.113	- -	21	14	-33	99	88	-11	288	284	-1	590	615	4	770	818	6
266	0.750	- -	8	8	0	80	80	0	313	313	0	749	749	0	1,030	1,030	0

Unnamed Tributary No. 13 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
258	0.055	- -	3	3	0	21	20	-5	74	72	-3	165	164	-1	221	221	0

Unnamed Tributary No. 18 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
230	0.085	- -	35	19	-46	108	69	-36	242	162	-33	421	284	-33	518	348	-33

Table I-1 (continued)

Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
332	0.402	0.4 mile upstream confluence with the Des Plaines River	48	43	-10	104	91	-13	158	138	-13	202	178	-12	220	194	-12
330	0.813	0.3 mile downstream of 88th Avenue (CTH H)	53	41	-23	87	76	-13	110	103	-6	125	122	-2	131	129	-2
324	1.716	0.6 mile upstream of 88th Avenue (CTH H)	29	31	7	47	49	4	58	59	2	64	65	2	66	67	2
325	2.350	UP Railroad	37	37	0	52	53	2	62	64	3	70	71	1	72	74	3
312	2.550	0.1 mile downstream of Green Bay Road (STH 31)	52	42	-19	96	75	-22	149	115	-23	202	155	-23	226	174	-23
306	3.863	Private drive 0.6 mile downstream of 93rd Street	3	3	0	12	9	-25	27	19	-30	49	32	-35	60	39	-35

Unnamed Tributary No. 2 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
322	0.010	- -	7	6	-14	14	13	-7	20	20	0	25	24	-4	27	26	-4

Unnamed Tributary No. 3 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
320	0.028	- -	23	20	-13	29	27	-7	35	32	-9	39	37	-5	41	38	-7

Unnamed Tributary No. 4 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
316	0.017	Private drive	38	23	-39	104	67	-36	168	126	-25	219	189	-14	240	218	-9
314	0.950	- -	47	21	-55	130	64	-51	256	133	-48	403	217	-46	476	261	-45

Table I-1 (continued)

Unnamed Tributary No. 5 to Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
310	0.080	- -	8	4	-50	25	12	-52	52	26	-50	84	43	-49	100	51	-49

Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	53	53	0	205	204	0	431	430	0	673	673	0	787	788	0
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	31	32	3	110	111	1	212	212	0	308	309	0	351	352	0
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	29	29	0	87	87	0	162	163	1	238	239	0	273	274	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	46	2	91	91	0	138	139	1	160	161	1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	22	5	40	40	0	57	57	0	64	65	2

Mud Lake Outlet																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	22	22	0	57	58	2	90	91	1	116	117	1	126	127	1
446	0.840	0.2 mile upstream of USH 45	29	28	-3	55	55	0	75	75	0	89	89	0	94	94	0

Table I-1 (continued)

Unnamed Tributary No. 3 to Dutch Gap Canal																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
432	0.076	- -	8	8	0	28	28	0	63	63	0	106	107	1	129	130	1
424	0.569	- -	3	2	-33	12	11	-8	29	28	-3	51	51	0	62	63	2

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *The areas tributary to the following streams would either not have urban development under planned land use conditions, or would have no significant new urban development between 1990 and the attainment of planned land use conditions:*

- *Unnamed Tributary No. 9 to Brighton Creek*
- *Unnamed Tributary No. 15 to Kilbourn Road Ditch*
- *Unnamed Tributary No. 4 to Dutch Gap Canal*

Therefore, those streams are not included in this table.

[c] *Unnamed Tributary Nos. 5 and 5b to the Des Plaines River are not included in this table because their tributary area has become essentially fully developed since 1990 and because the streams flow into an existing detention basin which controls peak rates of runoff as specified under the overall stormwater management plan prepared for the Lakeview Corporate Park in the Village of Pleasant Prairie.*

Source: SEWRPC.

Table I-2

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS

SCENARIO 1

COMPARISON OF 1990 LAND USE CONDITIONS AND PLANNED LAND USE WITH A STORMWATER DETENTION POLICY DESIGNED TO CONTROL THE POST-DEVELOPMENT 100-YEAR STORM PEAK FLOW BASED ON NRCS TR-55 APPROACH[a,b,c]

Upper Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	45	57	27	183	192	5	413	419	1	687	697	1	825	840	2
62	16.140	370 feet upstream of CTH N	35	46	31	150	161	7	366	374	2	646	654	1	794	805	1
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	38	56	47	202	227	12	576	587	2	1,130	1,110	-2	1,450	1,410	-3
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	36	54	50	192	218	14	551	562	2	1,090	1,060	-3	1,400	1,340	-4
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	34	53	56	188	217	15	545	555	2	1,080	1,040	-4	1,390	1,310	-6
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	32	51	59	174	204	17	506	519	3	1,010	963	-5	1,300	1,210	-7
29	20.163	Private drive	27	51	89	141	182	29	395	410	4	768	696	-9	977	844	-14
16	20.594	0.6 mile downstream of County Line Road	9	16	78	51	62	22	145	144	-1	278	250	-10	351	306	-13
8	21.196	County Line Road	4	6	50	29	33	14	100	96	-4	219	195	-11	291	253	-13
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	15	0	62	62	0	155	155	0	216	216	0

Unnamed Tributary No. 37 to the Upper Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
12	0.045	- -	5	10	100	20	28	40	60	63	5	125	108	-14	165	132	-20

Table I-2 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
6	0.004	- -	2	6	200	14	19	36	45	44	-2	100	80	-20	130	99	-24
4	0.673	- -	3	6	100	13	17	31	35	36	3	75	60	-20	100	73	-27

Union Grove Industrial Tributary

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	17	34	100	88	119	35	256	272	6	515	468	-9	667	572	-14
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	17	34	100	66	96	45	172	198	15	334	325	-3	428	391	-9

Fonk's Tributary

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
20	0.027	- -	3	5	67	28	31	11	108	106	-2	254	235	-7	347	315	-9

Table I-2 (continued)

Lower Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
384	0.000	Wisconsin-Illinois state line	171	220	29	797	865	9	1,570	1,630	4	2,240	2,300	3	2,520	2,580	2
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	172	224	30	808	880	9	1,610	1,680	4	2,330	2,400	3	2,620	2,700	3
358	2.267	0.7 mile downstream of STH 165	169	226	34	807	882	9	1,630	1,710	5	2,380	2,470	4	2,690	2,790	4
304	3.213	0.3 mile upstream of STH 165	158	200	27	744	805	8	1,530	1,610	5	2,270	2,380	5	2,590	2,720	5
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	151	208	38	718	790	10	1,520	1,590	5	2,300	2,390	4	2,650	2,760	4
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	118	127	8	537	554	3	1,110	1,120	1	1,630	1,660	2	1,870	1,890	1
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	116	127	9	519	533	3	1,080	1,090	1	1,630	1,640	1	1,880	1,890	1
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	116	127	9	514	528	3	1,080	1,080	0	1,630	1,640	1	1,880	1,890	1
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	110	124	13	491	504	3	1,040	1,050	1	1,590	1,600	1	1,840	1,860	1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	106	121	14	480	493	3	1,030	1,040	1	1,600	1,620	1	1,860	1,890	2
156	12.600	0.4 mile downstream of 75th Street (STH 50)	102	120	18	465	478	3	1,010	1,020	1	1,590	1,610	1	1,850	1,880	2
154	13.569	0.5 mile upstream of 75th Street (STH 50)	101	119	18	464	478	3	1,020	1,030	1	1,610	1,630	1	1,880	1,920	2
152	14.140	50 feet upstream of 60th Street (CTH K)	101	118	17	464	477	3	1,020	1,030	1	1,610	1,630	1	1,880	1,920	2

Unnamed Tributary No. 1 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
408	0.000	- -	11	29	164	55	100	82	145	234	61	267	416	56	332	516	55
407	0.572	- -	8	46	475	90	165	83	281	354	26	527	574	9	651	683	5
399	0.681	- -	6	33	450	65	124	91	210	272	30	398	444	12	495	529	7
398	0.772	- -	2	15	650	19	45	137	58	81	40	108	116	7	134	131	-2
396	1.384	- -	1	6	500	6	18	200	17	36	112	34	55	62	43	64	49

Table I-2 (continued)

Unnamed Tributary No. 1a to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
404	0.049	- -	11	29	164	55	100	82	145	234	61	267	416	56	332	516	55
402	0.701	- -	8	46	475	90	165	83	281	354	26	527	574	9	651	683	5
400	0.966	- -	6	33	450	65	124	91	210	272	30	398	444	12	495	529	7
401	1.113	- -	2	15	650	19	45	137	58	81	40	108	116	7	134	131	-2

Unnamed Tributary No. 1b to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
392	0.080	- -	4	18	350	49	81	65	162	197	22	307	343	12	379	419	11
390	0.613	- -	4	18	350	50	80	60	167	197	18	320	347	8	397	426	7

Unnamed Tributary No. 1c to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
389	0.025	- -	2	10	400	26	49	88	92	130	41	192	241	26	248	302	22
388	1.037	- -	3	7	133	15	23	53	39	53	36	73	92	26	90	113	26

Table I-2 (continued)

Unnamed Tributary No. 1e to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
380	1.300	- -	7	23	229	52	77	48	142	153	8	249	235	-6	302	274	-9
374	1.939	- -	5	10	100	23	31	35	57	61	7	99	93	-6	120	109	-9
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Unnamed Tributary No. 1f to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
378	0.081	- -	3	4	33	24	25	4	64	64	0	112	111	-1	136	134	-1

Unnamed Tributary No. 2 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
368	1.063	- -	4	16	300	17	43	153	47	79	68	91	118	30	116	137	18
366	1.600	- -	1	4	300	5	12	140	13	26	100	27	45	67	34	55	62

Unnamed Tributary No. 2a to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
364	0.060	- -	<0.5	3	- -	2	6	200	5	10	100	9	14	56	10	17	70

Table I-2 (continued)

Unnamed Tributary No. 7 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
340	0.598	- -	12	44	267	89	129	45	236	244	3	403	365	-9	482	422	-12
338	0.831	- -	7	34	386	66	99	50	177	188	6	297	280	-6	351	323	-8

Pleasant Prairie Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
302	0.110		9	43	378	72	127	76	197	247	25	344	378	10	414	441	7

Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	19	33	74	155	171	10	418	425	2	723	740	2	869	900	4
206	1.338	0.3 mile downstream of 144th Avenue	15	24	60	114	127	11	333	349	5	630	665	6	788	841	7
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	12	18	50	100	110	10	323	333	3	655	672	3	839	867	3
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	72	73	1	262	267	2	574	586	2	758	773	2

Table I-2 (continued)

Unnamed Tributary No. 1 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
212	0.041	- -	2	9	350	35	41	17	127	107	-16	257	198	-23	325	248	-24
210	0.888	- -	1	9	800	19	29	53	78	65	-17	165	113	-32	212	140	-34

Unnamed Tributary No. 4 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
200	0.071	- -	1	7	600	16	20	25	58	44	-24	116	73	-37	146	89	-39
198	0.471	- -	1	5	400	12	14	17	40	30	-25	79	50	-37	100	61	-39

Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	61	71	16	296	309	4	660	673	2	1,040	1,060	2	1,220	1,250	2
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	57	66	16	310	323	4	716	722	1	1,150	1,150	0	1,340	1,350	1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	33	36	9	203	204	0	483	485	0	779	792	2	914	938	3
113	4.649	60th Street (CTH K)	29	29	0	169	170	1	425	429	1	725	734	1	873	884	1
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	148	149	1	388	392	1	683	690	1	831	840	1
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	148	149	1	437	442	1	836	847	1	1,050	1,060	1
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	128	129	1	381	386	1	726	739	2	909	927	2

Table I-2 (continued)

Unnamed Tributary No. 6 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
110	0.590	- -	8	8	0	41	42	2	99	100	1	164	163	-1	194	193	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	3	4	33	14	14	0	34	33	-3	63	58	-8	78	71	-9
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	24	33	38	118	126	7	277	274	-1	456	441	-3	543	523	-4
132	0.600	160 feet downstream of 216th Avenue	17	23	35	62	66	6	124	124	0	189	184	-3	219	212	-3
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	17	23	35	51	56	10	97	98	1	147	142	-3	171	162	-5
126	2.214	0.2 mile downstream of Hooker Lake outlet	4	6	50	14	16	14	29	32	10	46	49	7	55	58	5
124	2.370	Hooker Lake outlet	4	6	50	13	15	15	28	30	7	44	46	5	52	54	4

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
142	0.100	- -	8	11	38	56	60	7	151	150	-1	269	260	-3	329	316	-4
140	1.167	- -	2	4	100	17	19	12	44	44	0	77	73	-5	93	88	-5

Table I-2 (continued)

Unnamed Tributary No. 2 to Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
118	0.019	- -	10	12	20	27	30	11	55	53	-4	86	77	-10	102	88	-14
116	0.765	Paddock Lake outlet	6	7	17	12	13	8	17	19	12	23	25	9	25	27	8

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
130	0.000	- -	7	9	29	17	19	12	31	32	3	47	45	-4	54	52	-4
128	0.896	Montgomery Lake outlet	8	9	13	14	15	7	20	21	5	25	26	4	27	28	4

Unnamed Tributary No. 1 to Hooker Lake

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
122	0.000	- -	2	6	200	29	32	10	99	86	-13	192	161	-16	241	201	-17
120	0.835	CTH AH	1	1	0	12	13	8	43	43	0	86	84	-2	109	106	-3

Table I-2 (continued)

Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years) 1.01 1990 Land Use	1.01 With Detention (planned land use)	1.01 Percent Difference	2 1990 Land Use	2 With Detention (planned land use)	2 Percent Difference	10 1990 Land Use	10 With Detention (planned land use)	10 Percent Difference	50 1990 Land Use	50 With Detention (planned land use)	50 Percent Difference	100 1990 Land Use	100 With Detention (planned land use)	100 Percent Difference
294	0.154		59	149	153	301	437	45	721	848	18	1,210	1,300	7	1,450	1,510	4
291	1.022	0.3 mile downstream of 75th Street (STH 50)	57	144	153	299	431	44	720	840	17	1,210	1,280	6	1,450	1,500	3
286	1.315	75th Street (STH 50)	55	131	138	286	408	43	690	807	17	1,160	1,240	7	1,400	1,450	4
281	2.803	60th Street (CTH K)	49	104	112	264	338	28	650	702	8	1,110	1,120	1	1,340	1,330	-1
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	44	89	102	215	285	33	554	610	10	1,000	1,010	1	1,250	1,210	-3
270	4.920	38th Street (CTH N)	43	85	98	223	287	29	592	635	7	1,100	1,070	-3	1,370	1,300	-5
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	36	74	106	171	219	28	432	451	4	779	730	-6	964	873	-9
256	7.491	0.5 mile downstream of 12th Street (CTH E)	33	69	109	146	196	34	366	394	8	661	630	-5	819	751	-8
250	8.009	12th Street (CTH E)	32	68	113	137	186	36	344	372	8	622	593	-5	772	705	-9
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	20	56	180	76	142	87	187	264	41	339	399	18	422	465	10
226	11.717	0.2 mile downstream of Braun Road	14	41	193	50	114	128	119	216	82	211	327	55	262	380	45
222	12.355	Private drive 0.4 mile upstream of Braun Road	16	35	119	50	89	78	112	157	40	192	228	19	236	260	10

Unnamed Tributary No. 1 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years) 1.01 1990 Land Use	1.01 With Detention (planned land use)	1.01 Percent Difference	2 1990 Land Use	2 With Detention (planned land use)	2 Percent Difference	10 1990 Land Use	10 With Detention (planned land use)	10 Percent Difference	50 1990 Land Use	50 With Detention (planned land use)	50 Percent Difference	100 1990 Land Use	100 With Detention (planned land use)	100 Percent Difference
292	0.083	- -	2	3	50	10	11	10	25	25	0	45	42	-7	55	51	-7

Unnamed Tributary No. 5 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years) 1.01 1990 Land Use	1.01 With Detention (planned land use)	1.01 Percent Difference	2 1990 Land Use	2 With Detention (planned land use)	2 Percent Difference	10 1990 Land Use	10 With Detention (planned land use)	10 Percent Difference	50 1990 Land Use	50 With Detention (planned land use)	50 Percent Difference	100 1990 Land Use	100 With Detention (planned land use)	100 Percent Difference
278	0.049	- -	5	7	40	25	28	12	65	69	6	130	124	-5	160	155	-3
276	0.841	- -	0	0	0	5	5	0	25	24	-4	60	59	-2	80	81	1

Table I-2 (continued)

Unnamed Tributary No. 8 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
268	0.113	- -	9	14	56	75	88	17	280	284	1	645	615	-5	875	818	-7
266	0.750	- -	8	8	0	80	80	0	310	313	1	745	749	1	1,020	1,030	1

Unnamed Tributary No. 13 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
258	0.055	- -	2	3	50	20	20	0	70	72	3	165	164	-1	220	221	0

Unnamed Tributary No. 18 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
230	0.085	- -	5	19	280	40	69	73	145	162	12	325	284	-13	435	348	-20

Table I-2 (continued)

Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
332	0.402	0.4 mile upstream confluence with the Des Plaines River	26	43	65	78	91	17	137	138	1	191	178	-7	215	194	-10
330	0.813	0.3 mile downstream of 88th Avenue (CTH H)	29	41	41	71	76	7	106	103	-3	131	122	-7	141	129	-9
324	1.716	0.6 mile upstream of 88th Avenue (CTH H)	20	31	55	40	49	23	55	59	7	66	65	-2	70	67	-4
325	2.350	UP Railroad	22	37	68	43	53	23	59	64	8	71	71	0	75	74	-1
312	2.550	0.1 mile downstream of Green Bay Road (STH 31)	41	42	2	72	75	4	108	115	6	143	155	8	159	174	9
306	3.863	Private drive 0.6 mile downstream of 93rd Street	1	3	200	5	9	80	16	19	19	31	32	3	39	39	0

Unnamed Tributary No. 2 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
322	0.010	- -	2	6	200	7	13	86	14	20	43	21	24	14	25	26	4

Unnamed Tributary No. 3 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
320	0.028	- -	6	20	233	17	27	59	26	32	23	33	37	12	35	38	9

Table I-2 (continued)

Unnamed Tributary No. 5 to Jerome Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
310	0.080	- -	0	4	300	8	12	50	27	26	-4	54	43	-20	67	51	-24

Dutch Gap Canal

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	49	53	8	197	204	4	421	430	2	665	673	1	782	788	1
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	29	32	10	108	111	3	210	212	1	309	309	0	353	353	0
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	26	29	12	84	87	4	161	163	1	238	239	0	274	274	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	46	2	91	91	0	138	139	1	160	161	1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	22	5	39	40	3	56	57	2	64	65	2

Mud Lake Outlet

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	18	22	22	54	58	7	90	91	1	117	117	0	128	127	-1
446	0.840	0.2 mile upstream of USH 45	19	28	47	52	55	6	77	75	-3	92	89	-3	98	94	-4

Table I-2 (continued)

Unnamed Tributary No. 3 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
432	0.076	- -	8	8	0	28	28	0	62	63	2	106	107	1	129	130	1
424	0.569	- -	2	2	0	10	11	10	28	28	0	50	51	2	62	63	2

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *The areas tributary to the following streams would either not have urban development under planned land use conditions, or would have no significant new urban development between 1990 and the attainment of planned land use conditions:*

- *Unnamed Tributary No. 9 to Brighton Creek*
- *Unnamed Tributary No. 15 to Kilbourn Road Ditch*
- *Unnamed Tributary No. 4 to Dutch Gap Canal*

Therefore, those streams are not included in this table.

[c] *Unnamed Tributary Nos. 5 and 5b to the Des Plaines River are not included in this table because their tributary area has become essentially fully developed since 1990 and because the streams flow into an existing detention basin which controls peak rates of runoff as specified under the overall stormwater management plan prepared for the Lakeview Corporate Park in the Village of Pleasant Prairie.*

Source: SEWRPC.

Table I-3

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS

SCENARIO 2

COMPARISON OF PLANNED LAND USE CONDITIONS WITH AND WITHOUT A STORMWATER DETENTION POLICY DESIGNED TO CONTROL THE POST-DEVELOPMENT TWO- AND 100-YEAR STORM PEAK FLOWS BASED ON NRCS TR-55 APPROACH[a,b,c]

Upper Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	57	57	0	192	192	0	420	420	0	702	699	0	847	843	0
62	16.140	370 feet upstream of CTH N	46	46	0	163	161	-1	379	375	-1	665	658	-1	818	811	-1
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	59	58	-2	237	231	-3	609	592	-3	1,150	1,120	-3	1,460	1,410	-3
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	58	56	-3	229	222	-3	586	568	-3	1,100	1,070	-3	1,390	1,350	-3
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	59	56	-5	233	222	-5	585	561	-4	1,080	1,040	-4	1,360	1,310	-4
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	58	54	-7	223	211	-5	552	525	-5	1,010	965	-4	1,260	1,210	-4
29	20.163	Private drive	76	59	-22	228	193	-15	470	417	-11	758	690	-9	905	830	-8
16	20.594	0.6 mile downstream of County Line Road	21	19	-10	73	68	-7	158	149	-6	261	249	-5	313	300	-4
8	21.196	County Line Road	9	8	-11	41	37	-10	112	100	-11	218	194	-11	279	248	-11
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	15	0	62	62	0	155	155	0	216	216	0

Unnamed Tributary No. 37 to the Upper Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
12	0.045	- -	16	13	-19	44	34	-23	93	70	-25	157	114	-27	190	137	-28

Table I-3 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
6	0.004	- -	9	8	-11	29	23	-21	66	50	-24	118	85	-28	146	104	-29
4	0.673	- -	13	10	-23	34	23	-32	71	44	-38	117	68	-42	142	81	-43

Union Grove Industrial Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	57	39	-32	163	125	-23	339	275	-19	557	464	-17	671	563	-16
27	1.245	26 feet downstream of Schroeder Road (Hwy KR)	75	43	-43	208	131	-37	430	289	-33	709	500	-29	856	614	-28
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	73	40	-45	186	103	-45	359	201	-44	562	318	-43	665	378	-43

Fonk's Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
20	0.027	- -	6	5	-17	36	33	-8	117	107	-9	255	235	-8	340	313	-8

Table I-3 (continued)

Lower Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
384	0.000	Wisconsin-Illinois state line	218	220	1	855	863	1	1,620	1,630	1	2,290	2,300	0	2,570	2,580	0
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	222	224	1	869	878	1	1,670	1,680	1	2,380	2,400	1	2,690	2,700	0
358	2.267	0.7 mile downstream of STH 165	225	226	0	872	880	1	1,690	1,710	1	2,450	2,470	1	2,780	2,790	0
304	3.213	0.3 mile upstream of STH 165	196	199	2	796	802	1	1,600	1,600	0	2,360	2,380	1	2,700	2,720	1
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	209	208	0	787	791	1	1,590	1,590	0	2,410	2,400	0	2,790	2,770	-1
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	127	127	0	553	554	0	1,120	1,120	0	1,650	1,660	1	1,880	1,890	1
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	126	127	1	533	533	0	1,090	1,090	0	1,640	1,640	0	1,890	1,890	0
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	126	127	1	528	528	0	1,090	1,090	0	1,640	1,640	0	1,890	1,890	0
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	123	124	1	503	504	0	1,050	1,050	0	1,610	1,610	0	1,870	1,860	-1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	121	121	0	492	493	0	1,040	1,040	0	1,620	1,620	0	1,900	1,890	-1
156	12.600	0.4 mile downstream of 75th Street (STH 50)	120	120	0	478	478	0	1,020	1,020	0	1,610	1,610	0	1,890	1,890	0
154	13.569	0.5 mile upstream of 75th Street (STH 50)	119	119	0	478	478	0	1,030	1,030	0	1,640	1,630	-1	1,930	1,920	-1
152	14.140	50 feet upstream of 60th Street (CTH K)	118	118	0	478	479	0	1,030	1,030	0	1,640	1,630	-1	1,930	1,920	-1

Unnamed Tributary No. 1 to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
408	0.000	- -	31	30	-3	110	105	-5	270	249	-8	500	449	-10	629	560	-11
407	0.572	- -	73	57	-22	228	191	-16	458	388	-15	716	605	-16	842	710	-16
399	0.681	- -	48	40	-17	166	142	-14	351	296	-16	563	468	-17	668	551	-18
398	0.772	- -	25	18	-28	63	49	-22	110	85	-23	158	117	-26	180	131	-27
396	1.384	- -	8	6	-25	27	20	-26	56	39	-30	89	58	-35	105	66	-37

Table I-3 (continued)

Unnamed Tributary No. 1a to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
404	0.049	- -	11	9	-18	33	27	-18	66	53	-20	102	80	-22	120	92	-23
402	0.701	- -	3	3	0	7	7	0	13	13	0	19	19	0	22	22	0
400	0.966	- -	10	10	0	19	19	0	31	31	0	44	44	0	49	49	0

Unnamed Tributary No. 1b to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
392	0.080	- -	25	22	-12	106	95	-10	249	218	-12	425	367	-14	515	441	-14
390	0.613	- -	25	22	-12	109	94	-14	256	219	-14	436	370	-15	528	446	-16

Unnamed Tributary No. 1c to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
389	0.025	- -	19	14	-26	81	60	-26	197	146	-26	346	254	-27	425	311	-27
388	1.037	- -	7	11	57	25	36	44	54	71	31	89	109	22	108	128	19

Unnamed Tributary No. 1e to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
380	1.300	- -	46	25	-46	120	77	-36	218	150	-31	319	231	-28	366	270	-26
374	1.939	- -	21	12	-43	55	32	-42	93	60	-35	129	91	-29	144	107	-26
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Table I-3 (continued)

Unnamed Tributary No. 1f to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
378	0.081	- -	5	4	-20	26	25	-4	65	64	-2	112	111	-1	135	134	-1

Unnamed Tributary No. 2 to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
368	1.063	- -	31	19	-39	79	44	-44	149	76	-49	229	110	-52	268	126	-53
366	1.600	- -	4	4	0	17	12	-29	43	26	-40	78	44	-44	98	53	-46

Unnamed Tributary No. 2a to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
364	0.060	- -	4	3	-25	10	6	-40	21	9	-57	35	13	-63	42	14	-67

Unnamed Tributary No. 7 to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
340	0.598	- -	88	49	-44	221	132	-40	400	241	-40	591	356	-40	682	411	-40
338	0.831	- -	68	38	-44	162	101	-38	275	185	-33	384	272	-29	434	314	-28

Table I-3 (continued)

Pleasant Prairie Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
302	0.110	- -	112	71	-37	245	173	-29	385	287	-25	509	393	-23	562	439	-22

Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	38	36	-5	189	178	-6	459	434	-5	780	745	-4	941	902	-4
206	1.338	0.3 mile downstream of 144th Avenue	26	25	-4	128	128	0	346	349	1	656	666	2	828	843	2
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	20	19	-5	110	111	1	326	333	2	654	672	3	844	867	3
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	73	73	0	267	267	0	586	586	0	773	773	0

Unnamed Tributary No. 1 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
212	0.041	- -	14	11	-21	65	49	-25	168	121	-28	308	214	-31	383	264	-31
210	0.888	- -	18	14	-22	63	41	-35	140	84	-40	238	134	-44	289	159	-45

Unnamed Tributary No. 4 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
200	0.071	- -	14	11	-21	43	30	-30	88	57	-35	142	85	-40	169	98	-42
198	0.471	- -	12	8	-33	34	21	-38	67	39	-42	105	56	-47	124	65	-48

Table I-3 (continued)

Unnamed Tributary No. 5 to Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
202	0.000	- -	10	8	-20	31	27	-13	69	59	-14	118	97	-18	144	117	-19
201	0.689	156th Avenue (CTH MB)	1	1	0	11	11	0	30	30	0	50	50	0	59	59	0

Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	70	71	1	309	311	1	676	677	0	1,070	1,070	0	1,250	1,260	1
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	65	67	3	328	327	0	736	731	-1	1,170	1,160	-1	1,370	1,350	-1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	41	37	-10	213	207	-3	496	488	-2	808	792	-2	956	935	-2
113	4.649	60th Street (CTH K)	29	29	0	170	170	0	429	429	0	735	734	0	885	884	0
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	149	149	0	392	392	0	690	690	0	840	840	0
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	149	149	0	442	442	0	847	847	0	1,060	1,060	0
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	129	129	0	386	386	0	739	739	0	927	927	0

Unnamed Tributary No. 6 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
110	0.590	- -	9	8	-11	43	42	-2	100	100	0	163	163	0	193	193	0
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	8	4	-50	21	14	-33	41	33	-20	65	58	-11	78	71	-9
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Table I-3 (continued)

Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	34	34	0	133	130	-2	286	279	-2	455	447	-2	537	528	-2
132	0.600	160 feet downstream of 216th Avenue	23	23	0	68	67	-1	128	125	-2	189	186	-2	218	214	-2
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	30	26	-13	66	60	-9	111	103	-7	155	146	-6	176	166	-6
126	2.214	0.2 mile downstream of Hooker Lake outlet	6	6	0	16	16	0	31	32	3	49	50	2	58	58	0
124	2.370	Hooker Lake outlet	5	6	20	15	15	0	30	30	0	46	46	0	54	54	0

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
142	0.100	- -	14	12	-14	64	62	-3	155	153	-1	266	264	-1	323	319	-1
140	1.167	- -	5	5	0	20	20	0	46	46	0	77	76	-1	92	91	-1

Unnamed Tributary No. 2 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
118	0.019	- -	18	14	-22	41	34	-17	69	58	-16	97	81	-16	110	92	-16
116	0.765	Paddock Lake outlet	7	7	0	13	13	0	19	19	0	25	25	0	27	27	0

Table I-3 (continued)

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
130	0.000	- -	9	9	0	20	20	0	34	33	-3	48	47	-2	55	53	-4
128	0.896	Montgomery Lake outlet	9	9	0	15	15	0	21	21	0	26	26	0	28	28	0

Unnamed Tributary No. 1 to Hooker Lake

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
122	0.000	- -	13	9	-31	46	37	-20	104	91	-13	180	160	-11	220	196	-11
120	0.835	CTH AH	1	1	0	14	13	-7	45	43	-4	88	84	-5	110	106	-4

Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
294	0.154	- -	175	159	-9	478	449	-6	910	858	-6	1,390	1,300	-6	1,620	1,520	-6
291	1.022	0.3 mile downstream of 75th Street (STH 50)	177	155	-12	484	443	-8	919	849	-8	1,390	1,290	-7	1,620	1,500	-7
286	1.315	75th Street (STH 50)	160	140	-13	454	418	-8	872	816	-6	1,330	1,250	-6	1,550	1,450	-6
281	2.803	60th Street (CTH K)	113	106	-6	364	341	-6	743	703	-5	1,170	1,120	-4	1,380	1,330	-4
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	94	92	-2	294	288	-2	626	610	-3	1,030	1,000	-3	1,240	1,210	-2
270	4.920	38th Street (CTH N)	90	89	-1	297	291	-2	656	634	-3	1,110	1,060	-5	1,350	1,290	-4
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	88	79	-10	237	223	-6	471	452	-4	748	726	-3	890	866	-3
256	7.491	0.5 mile downstream of 12th Street (CTH E)	85	74	-13	217	200	-8	420	396	-6	659	628	-5	780	746	-4
250	8.009	12th Street (CTH E)	83	73	-12	211	191	-9	406	375	-8	634	592	-7	749	702	-6
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	74	63	-15	172	148	-14	311	268	-14	465	400	-14	541	463	-14
226	11.717	0.2 mile downstream of Braun Road	73	50	-32	181	123	-32	346	218	-37	541	319	-41	639	366	-43
222	12.355	Private drive 0.4 mile upstream of Braun Road	69	45	-35	162	99	-39	289	162	-44	428	224	-48	495	252	-49

Table I-3 (continued)

Unnamed Tributary No. 1 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
292	0.083	- -	4	4	0	14	13	-7	29	27	-7	48	44	-8	57	52	-9

Unnamed Tributary No. 5 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
278	0.049	- -	9	7	-22	32	28	-13	73	69	-5	125	124	-1	153	154	1
276	0.841	- -	0	0	0	5	5	0	24	24	0	59	59	0	81	81	0

Unnamed Tributary No. 8 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
268	0.113	- -	21	15	-29	99	88	-11	288	283	-2	590	611	4	770	812	5
266	0.750	- -	8	8	0	80	80	0	313	313	0	749	749	0	1030	1030	0

Unnamed Tributary No. 13 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
258	0.055	- -	3	3	0	21	20	-5	74	72	-3	165	164	-1	221	221	0

Unnamed Tributary No. 18 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
230	0.085	- -	35	21	-40	108	71	-34	242	160	-34	421	276	-34	518	337	-35

Table I-3 (continued)

Jerome Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
332	0.402	0.4 mile upstream confluence with the Des Plaines River	48	47	-2	104	98	-6	158	144	-9	202	183	-9	220	198	-10
330	0.813	0.3 mile downstream of 88th Avenue (CTH H)	53	47	-11	87	82	-6	110	107	-3	125	124	-1	131	130	-1
324	1.716	0.6 mile upstream of 88th Avenue (CTH H)	29	32	10	47	49	4	58	59	2	64	65	2	66	67	2
325	2.350	UP Railroad	37	39	5	52	54	4	62	64	3	70	71	1	72	74	3
312	2.550	0.1 mile downstream of Green Bay Road (STH 31)	52	42	-19	96	78	-19	149	121	-19	202	166	-18	226	186	-18
306	3.863	Private drive 0.6 mile downstream of 93rd Street	3	3	0	12	10	-17	27	22	-19	49	37	-24	60	45	-25

Unnamed Tributary No. 2 to Jerome Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
322	0.010	- -	7	6	-14	14	13	-7	20	20	0	25	24	-4	27	26	-4

Unnamed Tributary No. 3 to Jerome Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
320	0.028	- -	23	21	-9	29	27	-7	35	33	-6	39	37	-5	41	39	-5

Unnamed Tributary No. 4 to Jerome Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
316	0.017	Private Drive	38	32	-16	104	86	-17	168	145	-14	219	198	-10	240	220	-8
314	0.950	- -	47	34	-28	130	90	-31	256	164	-36	403	240	-40	476	276	-42

Table I-3 (continued)

Unnamed Tributary No. 5 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
310	0.080	- -	8	6	-25	25	16	-36	52	31	-40	84	47	-44	100	55	-45

Dutch Gap Canal

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	53	53	0	205	205	0	431	430	0	673	673	0	787	788	0
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	31	32	3	110	111	1	212	212	0	308	309	0	351	352	0
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	29	29	0	87	87	0	162	163	1	238	239	0	273	274	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	46	2	91	91	0	138	139	1	160	161	1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	22	5	40	40	0	57	57	0	157	158	1

Mud Lake Outlet

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	22	22	0	57	58	2	90	91	1	116	117	1	126	127	1
446	0.840	0.2 mile upstream of USH 45	29	29	0	55	55	0	75	75	0	89	89	0	94	94	0

Table I-3 (continued)

Unnamed Tributary No. 3 to Dutch Gap Canal																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
432	0.076	- -	8	8	0	28	28	0	63	63	0	106	107	1	129	130	1
424	0.569	- -	3	2	-33	12	11	-8	29	28	-3	51	51	0	62	62	0

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *The areas tributary to the following streams would either not have urban development under planned land use conditions, or would have no significant new urban development between 1990 and the attainment of planned land use conditions:*

- *Unnamed Tributary No. 9 to Brighton Creek*
- *Unnamed Tributary No. 15 to Kilbourn Road Ditch*
- *Unnamed Tributary No. 4 to Dutch Gap Canal*

Therefore, those streams are not included in this table.

[c] *Unnamed Tributary Nos. 5 and 5b to the Des Plaines River are not included in this table because their tributary area has become essentially fully developed since 1990 and because the streams flow into an existing detention basin which controls peak rates of runoff as specified under the overall stormwater management plan prepared for the Lakeview Corporate Park in the Village of Pleasant Prairie.*

Source: SEWRPC.

Table I-4

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS

SCENARIO 2

COMPARISON OF 1990 LAND USE CONDITIONS AND PLANNED LAND USE WITH A STORMWATER DETENTION POLICY DESIGNED TO CONTROL THE POST-DEVELOPMENT TWO- AND 100-YEAR STORM PEAK FLOWS BASED UPON NRCS TR-55 APPROACH[a,b,c]

Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	45	57	27	183	192	5	413	420	2	687	699	2	825	843	2
62	16.140	370 feet upstream of CTH N	35	46	31	150	161	7	366	375	2	646	658	2	794	811	2
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	38	58	53	202	231	14	576	592	3	1,130	1,120	-1	1,450	1,410	-3
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	36	56	56	192	222	16	551	568	3	1,090	1,070	-2	1,400	1,350	-4
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	34	56	65	188	222	18	545	561	3	1,080	1,040	-4	1,390	1,310	-6
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	32	54	69	174	211	21	506	525	4	1,010	965	-4	1,300	1,210	-7
29	20.163	Private drive	27	59	119	141	193	37	395	417	6	768	690	-10	977	830	-15
16	20.594	0.6 mile downstream of County Line Road	9	19	111	51	68	33	145	149	3	278	249	-10	351	300	-15
8	21.196	County Line Road	4	8	100	29	37	28	100	100	0	219	194	-11	291	248	-15
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	15	0	62	62	0	155	155	0	216	216	0

Unnamed Tributary No. 37 to the Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
12	0.045	- -	5	13	160	20	34	70	60	70	17	125	114	-9	165	137	-17

Table I-4 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
6	0.004	- -	2	8	300	14	23	64	45	50	11	100	85	-15	130	104	-20
4	0.673	- -	3	10	233	13	23	77	35	44	26	75	68	-9	100	81	-19

Union Grove Industrial Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	17	39	129	88	125	42	256	275	7	515	464	-10	667	563	-16
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	17	40	135	66	103	56	172	201	17	334	318	-5	428	378	-12

Fonk's Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
20	0.027	- -	3	5	67	28	33	18	108	107	-1	254	235	-7	347	313	-10

Table I-4 (continued)

Lower Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
384	0.000	Wisconsin-Illinois state line	171	220	29	797	863	8	1,570	1,630	4	2,240	2,300	3	2,520	2,580	2
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	172	224	30	808	878	9	1,610	1,680	4	2,330	2,400	3	2,620	2,700	3
358	2.267	0.7 mile downstream of STH 165	169	226	34	807	880	9	1,630	1,710	5	2,380	2,470	4	2,690	2,790	4
304	3.213	0.3 mile upstream of STH 165	158	199	26	744	802	8	1,530	1,600	5	2,270	2,380	5	2,590	2,720	5
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	151	208	38	718	791	10	1,520	1,590	5	2,300	2,400	4	2,650	2,770	5
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	118	127	8	537	554	3	1,100	1,120	2	1,630	1,660	2	1,870	1,890	1
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	116	127	9	519	533	3	1,080	1,090	1	1,630	1,640	1	1,880	1,890	1
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	116	127	9	514	528	3	1,080	1,090	1	1,630	1,640	1	1,880	1,890	1
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	110	124	13	491	504	3	1,040	1,050	1	1,590	1,610	1	1,840	1,860	1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	106	121	14	480	493	3	1,030	1,040	1	1,600	1,620	1	1,860	1,890	2
156	12.600	0.4 mile downstream of 75th Street (STH 50)	102	120	18	465	478	3	1,010	1,020	1	1,590	1,610	1	1,850	1,890	2
154	13.569	0.5 mile upstream of 75th Street (STH 50)	101	119	18	464	478	3	1,020	1,030	1	1,610	1,630	1	1,880	1,920	2
152	14.140	50 feet upstream of 60th Street (CTH K)	101	118	17	464	479	3	1,020	1,030	1	1,610	1,630	1	1,880	1,920	2

Unnamed Tributary No. 1 to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
408	0.000	- -	11	30	173	55	105	91	145	249	72	267	449	68	332	560	69
407	0.572	- -	8	57	613	90	191	112	281	388	38	527	605	15	651	710	9
399	0.681	- -	6	40	567	65	142	118	210	296	41	398	468	18	495	551	11
398	0.772	- -	2	18	800	19	49	158	58	85	47	108	117	8	134	131	-2
396	1.384	- -	1	6	500	6	20	233	17	39	129	34	58	71	43	66	53

Table I-4 (continued)

Unnamed Tributary No. 1a to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
404	0.049	- -	3	9	200	18	27	50	47	53	13	83	80	-4	101	92	-9
402	0.701	- -	2	3	50	6	7	17	12	13	8	18	19	6	21	22	5
400	0.966	- -	9	10	11	18	19	6	29	31	7	40	44	10	45	49	9
401	1.113	- -	2	3	50	15	18	20	47	49	4	90	90	0	113	113	0

Unnamed Tributary No. 1b to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
392	0.080	- -	4	22	450	49	95	94	162	218	35	307	367	20	379	441	16
390	0.613	- -	4	22	450	50	94	88	167	219	31	320	370	16	397	446	12

Unnamed Tributary No. 1c to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
389	0.025	- -	2	14	600	26	60	131	92	146	59	192	254	32	248	311	25
388	1.037	- -	3	11	267	15	36	140	39	71	82	73	109	49	90	128	42

Table I-4 (continued)

Unnamed Tributary No. 1e to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
380	1.300	- -	7	25	257	52	77	48	142	150	6	249	231	-7	302	270	-11
374	1.939	- -	5	12	140	23	32	39	57	60	5	99	91	-8	120	107	-11
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Unnamed Tributary No. 1f to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
378	0.081	- -	3	4	33	24	25	4	64	64	0	112	111	-1	136	134	-1

Unnamed Tributary No. 2 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
368	1.063	- -	4	19	375	17	44	159	47	76	62	91	110	21	116	126	9
366	1.600	- -	1	4	300	5	12	140	13	26	100	27	44	63	34	53	56

Unnamed Tributary No. 2a to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
364	0.060	- -	<0.5	3	- -	2	6	200	5	9	80	9	13	44	10	14	40

Table I-4 (continued)

Unnamed Tributary No. 7 to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
340	0.598	- -	12	49	308	89	132	48	236	241	2	403	356	-12	482	411	-15
338	0.831	- -	7	38	443	66	101	53	177	185	5	297	272	-8	351	314	-11

Pleasant Prairie Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
302	0.110	- -	9	71	689	72	173	140	197	287	46	344	393	14	414	439	6

Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	19	36	89	155	178	15	418	434	4	723	745	3	869	902	4
206	1.338	0.3 mile downstream of 144th Avenue	15	25	67	114	128	12	333	349	5	630	666	6	788	843	7
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	12	19	58	100	111	11	323	333	3	655	672	3	839	867	3
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	72	73	1	262	267	2	574	586	2	758	773	2

Table I-4 (continued)

Unnamed Tributary No. 1 to Center Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
212	0.041	- -	2	11	450	35	49	40	127	121	-5	257	214	-17	325	264	-19
210	0.888	- -	1	14	1300	19	41	116	78	84	8	165	134	-19	212	159	-25

Unnamed Tributary No. 4 to Center Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
200	0.071	- -	1	11	1,000	16	30	88	58	57	-2	116	85	-27	146	98	-33
198	0.471	- -	1	8	700	12	21	75	40	39	-3	79	56	-29	100	65	-35

Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	61	71	16	296	311	5	660	677	3	1,040	1,070	3	1,220	1,260	3
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	57	67	18	310	327	5	716	731	2	1,150	1,160	1	1,340	1,350	1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	33	37	12	203	207	2	483	488	1	779	792	2	914	935	2
113	4.649	60th Street (CTH K)	29	29	0	169	170	1	425	429	1	725	734	1	873	884	1
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	148	149	1	388	392	1	683	690	1	831	840	1
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	148	149	1	437	442	1	836	847	1	1,050	1,060	1
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	128	129	1	381	386	1	726	739	2	909	927	2

Table I-4 (continued)

Unnamed Tributary No. 6 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
110	0.590	- -	8	8	0	41	42	2	99	100	1	164	163	-1	194	193	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	3	4	33	14	14	0	34	33	-3	63	58	-8	78	71	-9
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	24	34	42	118	130	10	277	279	1	456	447	-2	543	528	-3
132	0.600	160 feet downstream of 216th Avenue	17	23	35	62	67	8	124	125	1	189	186	-2	219	214	-2
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	17	26	53	51	60	18	97	103	6	147	146	-1	171	166	-3
126	2.214	0.2 mile downstream of Hooker Lake outlet	4	6	50	14	16	14	29	32	10	46	50	9	55	58	5
124	2.370	Hooker Lake outlet	4	6	50	13	15	15	28	30	7	44	46	5	52	54	4

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
142	0.100	- -	8	12	50	56	62	11	151	153	1	269	264	-2	329	319	-3
140	1.167	- -	2	5	150	17	20	18	44	46	5	77	76	-1	93	91	-2

Table I-4 (continued)

Unnamed Tributary No. 2 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
118	0.019	- -	10	14	40	27	34	26	55	58	5	86	81	-6	102	92	-10
116	0.765	Paddock Lake outlet	6	7	17	12	13	8	17	19	12	23	25	9	25	27	8

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
130	0.000	- -	7	9	29	17	20	18	31	33	6	47	47	0	54	53	-2
128	0.896	Montgomery Lake outlet	8	9	13	14	15	7	20	21	5	25	26	4	27	28	4

Unnamed Tributary No. 1 to Hooker Lake																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
122	0.000	- -	2	9	350	29	37	28	99	91	-8	192	160	-17	241	196	-19
120	0.835	CTH AH	1	1	0	12	13	8	43	43	0	86	84	-2	109	106	-3

Table I-4 (continued)

Kilbourn Road Ditch

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
294	0.154	- -	59	159	169	301	449	49	721	858	19	1,210	1,300	7	1,450	1,520	5
291	1.022	0.3 mile downstream of 75th Street (STH 50)	57	155	172	299	443	48	720	849	18	1,210	1,290	7	1,450	1,500	3
286	1.315	75th Street (STH 50)	55	140	155	286	418	46	690	816	18	1,160	1,250	8	1,400	1,450	4
281	2.803	60th Street (CTH K)	49	106	116	264	341	29	650	703	8	1,110	1,120	1	1,340	1,330	-1
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	44	92	109	215	288	34	554	610	10	1,000	1,000	0	1,250	1,210	-3
270	4.920	38th Street (CTH N)	43	89	107	223	291	30	592	634	7	1,100	1,060	-4	1,370	1,290	-6
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	36	79	119	171	223	30	432	452	5	779	726	-7	964	866	-10
256	7.491	0.5 mile downstream of 12th Street (CTH E)	33	74	124	146	200	37	366	396	8	661	628	-5	819	746	-9
250	8.009	12th Street (CTH E)	32	73	128	137	191	39	344	375	9	622	592	-5	772	702	-9
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	20	63	215	76	148	95	187	268	43	339	400	18	422	463	10
226	11.717	0.2 mile downstream of Braun Road	14	50	257	50	123	146	119	218	83	211	319	51	262	366	40
222	12.355	Private drive 0.4 mile upstream of Braun Road	16	45	181	50	99	98	112	162	45	192	224	17	236	252	7

Unnamed Tributary No. 1 to Kilbourn Road Ditch

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
292	0.083	- -	2	4	100	10	13	30	25	27	8	45	44	-2	55	52	-5

Table I-4 (continued)

Unnamed Tributary No. 5 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
278	0.049	- -	5	7	40	25	28	12	65	69	6	130	124	-5	160	154	-4
276	0.841	- -	0	0	0	5	5	0	25	24	-4	60	59	-2	80	81	1

Unnamed Tributary No. 8 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
268	0.113	- -	9	15	67	75	88	17	280	283	1	645	611	-5	875	812	-7
266	0.750	- -	8	8	0	80	80	0	310	313	1	745	749	1	1020	1030	1

Unnamed Tributary No. 13 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
258	0.055	- -	2	3	50	20	20	0	70	72	3	165	164	-1	220	221	0

Unnamed Tributary No. 18 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
230	0.085	- -	5	21	320	40	71	78	145	160	10	325	276	-15	435	337	-23

Table I-4 (continued)

Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
332	0.402	0.4 mile upstream confluence with the Des Plaines River	26	47	81	78	98	26	137	144	5	191	183	-4	215	198	-8
330	0.813	0.3 mile downstream of 88th Avenue (CTH H)	29	47	62	71	82	15	106	107	1	131	124	-5	141	130	-8
324	1.716	0.6 mile upstream of 88th Avenue (CTH H)	20	32	60	40	49	23	55	59	7	66	65	-2	70	67	-4
325	2.350	UP Railroad	22	39	77	43	54	26	59	64	8	71	71	0	75	74	-1
312	2.550	0.1 mile downstream of Green Bay Road (STH 31)	41	42	2	72	78	8	108	121	12	143	166	16	159	186	17
306	3.863	Private drive 0.6 mile downstream of 93rd Street	1	3	200	5	10	100	16	22	38	31	37	19	39	45	15

Unnamed Tributary No. 2 to Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
322	0.010	- -	2	6	200	7	13	86	14	20	43	21	24	14	25	26	4

Unnamed Tributary No. 3 to Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
320	0.028	- -	6	21	250	17	27	59	26	33	27	33	37	12	35	39	11

Table I-4 (continued)

Unnamed Tributary No. 5 to Jerome Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
310	0.080	- -	0	6	300	8	16	100	27	31	15	54	47	-13	67	55	-18

Dutch Gap Canal																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	49	53	8	197	205	4	421	430	2	665	673	1	782	788	1
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	29	32	10	108	111	3	210	212	1	309	309	0	353	352	0
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	26	29	12	84	87	4	161	163	1	238	239	0	274	274	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	46	2	91	91	0	138	139	1	160	161	1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	22	5	39	40	3	56	57	2	64	65	2

Mud Lake Outlet																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	18	22	22	54	58	7	90	91	1	117	117	0	128	127	-1
446	0.840	0.2 mile upstream of USH 45	19	29	53	52	55	6	77	75	-3	92	89	-3	98	94	-4

Table I-4 (continued)

Unnamed Tributary No. 3 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
432	0.076	- -	8	8	0	28	28	0	62	63	2	106	107	1	129	130	1
424	0.569	- -	2	2	0	10	11	10	28	28	0	50	51	2	62	62	0

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *The areas tributary to the following streams would either not have urban development under planned land use conditions, or would have no significant new urban development between 1990 and the attainment of planned land use conditions:*

- *Unnamed Tributary No. 9 to Brighton Creek*
- *Unnamed Tributary No. 15 to Kilbourn Road Ditch*
- *Unnamed Tributary No. 4 to Dutch Gap Canal*

Therefore, those streams are not included in this table.

[c] *Unnamed Tributary Nos. 5 and 5b to the Des Plaines River are not included in this table because their tributary area has become essentially fully developed since 1990 and because the streams flow into an existing detention basin which controls peak rates of runoff as specified under the overall stormwater management plan prepared for the Lakeview Corporate Park in the Village of Pleasant Prairie.*

Source: SEWRPC.

Table I-5

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS

SCENARIO 3
COMPARISON OF PLANNED LAND USE CONDITIONS WITH AND WITHOUT A STORMWATER DETENTION POLICY DESIGNED TO CONTROL THE POST-DEVELOPMENT TWO- AND 100-YEAR STORM PEAK FLOWS BASED ON CONTINUOUS SIMULATION TO ESTABLISH RELEASE RATES[a,b,c]

Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	57	55	-4	192	190	-1	420	416	-1	702	690	-2	847	830	-2
62	16.140	370 feet upstream of CTH N	46	44	-4	163	159	-2	379	368	-3	665	642	-3	818	788	-4
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	59	50	-15	237	216	-9	609	569	-7	1,150	1,080	-6	1,460	1,370	-6
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	58	48	-17	229	206	-10	586	544	-7	1,100	1,030	-6	1,390	1,310	-6
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	59	46	-22	233	203	-13	585	535	-9	1,080	1,010	-6	1,360	1,280	-6
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	58	43	-26	223	189	-15	552	495	-10	1,010	936	-7	1,260	1,180	-6
29	20.163	Private drive	76	39	-49	228	156	-32	470	377	-20	758	668	-12	905	824	-9
16	20.594	0.6 mile downstream of County Line Road	21	14	-33	73	58	-21	158	138	-13	261	243	-7	313	299	-4
8	21.196	County Line Road	9	6	-33	41	31	-24	112	94	-16	218	191	-12	279	248	-11
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	15	0	62	62	0	155	155	0	216	216	0

Unnamed Tributary No. 37 to the Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
12	0.045	- -	16	8	-50	44	24	-45	93	52	-44	157	88	-44	190	107	-44

Table I-5 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
6	0.004	- -	9	5	-44	29	17	-41	66	39	-41	118	69	-42	146	85	-42
4	0.673	- -	13	6	-54	34	15	-56	71	28	-61	117	43	-63	142	50	-65

Union Grove Industrial Tributary																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	57	24	-58	163	97	-40	339	239	-29	557	434	-22	671	540	-20
27	1.245	- -	75	27	-64	208	97	-53	430	236	-45	709	433	-39	856	544	-36
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	73	25	-66	186	70	-62	359	149	-58	562	248	-56	665	301	-55

Fonk's Tributary																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
20	0.027	- -	6	4	-33	36	30	-17	117	102	-13	255	230	-10	340	309	-9

Table I-5 (continued)

Lower Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
384	0.000	Wisconsin-Illinois state line	218	220	1	855	868	2	1,620	1,640	1	2,290	2,300	0	2,570	2,580	0
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	222	223	0	869	883	2	1,670	1,690	1	2,380	2,400	1	2,690	2,700	0
358	2.267	0.7 mile downstream of STH 165	225	221	-2	872	882	1	1,690	1,710	1	2,450	2,460	0	2,780	2,780	0
304	3.213	0.3 mile upstream of STH 165	196	199	2	796	804	1	1,600	1,600	0	2,360	2,370	0	2,700	2,700	0
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	209	197	-6	787	783	-1	1,590	1,570	-1	2,410	2,350	-2	2,790	2,690	-4
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	127	126	-1	553	553	0	1,120	1,120	0	1,650	1,650	0	1,880	1,880	0
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	126	125	-1	533	531	0	1,090	1,090	0	1,640	1,630	-1	1,890	1,880	-1
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	126	125	-1	528	526	0	1,090	1,080	-1	1,640	1,630	-1	1,890	1,880	-1
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	123	122	-1	503	502	0	1,050	1,040	-1	1,610	1,600	-1	1,870	1,850	-1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	121	119	-2	492	491	0	1,040	1,040	0	1,620	1,610	-1	1,900	1,880	-1
156	12.600	0.4 mile downstream of 75th Street (STH 50)	120	118	-2	478	476	0	1,020	1,020	0	1,610	1,600	-1	1,890	1,870	-1
154	13.569	0.5 mile upstream of 75th Street (STH 50)	119	117	-2	478	476	0	1,030	1,020	-1	1,640	1,620	-1	1,930	1,900	-2
152	14.140	50 feet upstream of 60th Street (CTH K)	118	116	-2	478	475	-1	1,030	1,,020	-1	1,640	1,620	-1	1,930	1,900	-2

Unnamed Tributary No. 1 to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
408	0.000	- -	31	28	-10	110	93	-15	270	207	-23	500	356	-29	629	435	-31
407	0.572	- -	73	40	-45	228	145	-36	458	301	-34	716	471	-34	842	552	-34
399	0.681	- -	48	27	-44	166	108	-35	351	233	-34	563	369	-34	668	435	-35
398	0.772	- -	25	11	-56	63	34	-46	110	60	-45	158	82	-48	180	92	-49
396	1.384	- -	8	5	-38	27	14	-48	56	26	-54	89	37	-58	105	42	-60

Table I-5 (continued)

Unnamed Tributary No. 1a to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
404	0.049	- -	11	7	-36	33	22	-33	66	43	-35	102	65	-36	120	76	-37
402	0.701	- -	3	3	0	7	7	0	13	13	0	19	19	0	22	22	0
400	0.966	- -	10	10	0	19	19	0	31	31	0	44	44	0	49	49	0
401	1.113	- -	3	3	0	18	18	0	49	49	0	90	90	0	113	113	0

Unnamed Tributary No. 1b to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
392	0.080	- -	25	18	-28	106	78	-26	249	180	-28	425	301	-29	515	362	-30
390	0.613	- -	25	17	-32	109	77	-29	256	181	-29	436	307	-30	528	370	-30

Unnamed Tributary No. 1c to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
389	0.025	- -	19	10	-47	81	46	-43	197	116	-41	346	209	-40	425	259	-39
388	1.037	- -	7	8	14	25	25	0	54	49	-9	89	75	-16	108	87	-19

Unnamed Tributary No. 1e to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
380	1.300	- -	46	14	-70	120	58	-52	218	126	-42	319	200	-37	366	235	-36
374	1.939	- -	21	7	-67	55	24	-56	93	49	-47	129	76	-41	144	90	-38
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Table I-5 (continued)

Unnamed Tributary No. 1f to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
378	0.081	- -	5	4	-20	26	24	-8	65	63	-3	112	109	-3	135	132	-2

Unnamed Tributary No. 2 to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
368	1.063	- -	31	11	-65	79	26	-67	149	46	-69	229	66	-71	268	76	-72
366	1.600	- -	4	3	-25	17	8	-53	43	16	-63	78	25	-68	98	29	-70

Unnamed Tributary No. 2a to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
364	0.060	- -	4	2	-50	10	4	-60	21	5	-76	35	7	-80	42	8	-81

Unnamed Tributary No. 7 to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
340	0.598	- -	88	27	-69	221	97	-56	400	197	-51	591	303	-49	682	353	-48
338	0.831	- -	68	22	-68	162	75	-54	275	152	-45	384	235	-39	434	275	-37

Table I-5 (continued)

Pleasant Prairie Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
302	0.110	- -	112	42	-63	245	117	-52	385	213	-45	509	308	-39	562	352	-37

Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	38	33	-13	189	168	-11	459	418	-9	780	727	-7	941	884	-6
206	1.338	0.3 mile downstream of 144th Avenue	26	24	-8	128	126	-2	346	347	0	656	661	1	828	835	1
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	20	18	-10	110	110	0	326	331	2	654	667	2	844	859	2
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	73	73	0	267	267	0	586	586	0	773	773	0

Unnamed Tributary No. 1 to Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
212	0.041	- -	14	9	-36	65	40	-38	168	100	-40	308	179	-42	383	222	-42
210	0.888	- -	18	10	-44	63	27	-57	140	51	-64	238	75	-68	289	87	-70

Unnamed Tributary No. 4 to Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
200	0.071	- -	14	8	-43	43	20	-53	88	35	-60	142	48	-66	169	54	-68
198	0.471	- -	12	6	-50	34	14	-59	67	23	-66	105	31	-70	124	35	-72

Table I-5 (continued)

Unnamed Tributary No. 5 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
202	0.000	- -	10	5	-50	31	20	-35	69	46	-33	118	77	-35	144	93	-35
201	0.689	156th Avenue (CTH MB)	1	1	0	11	11	0	30	30	0	50	50	0	59	59	0

Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	70	71	1	309	309	0	676	672	-1	1,070	1,060	-1	1,250	1,240	-1
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	65	66	2	328	323	-2	736	719	-2	1,170	1,140	-3	1,370	1,330	-3
114	3.165	0.5 mile downstream of 60th Street (CTH K)	41	36	-12	213	204	-4	496	481	-3	808	783	-3	956	925	-3
113	4.649	60th Street (CTH K)	29	28	-3	170	170	0	429	429	0	735	733	0	885	882	0
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	149	149	0	392	392	0	690	690	0	840	840	0
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	149	149	0	442	442	0	847	847	0	1,060	1,060	0
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	129	129	0	386	386	0	739	739	0	927	927	0

Unnamed Tributary No. 6 to Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
110	0.590	- -	9	7	-22	43	42	-2	100	99	-1	163	163	0	193	193	0
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	8	4	-50	21	13	-38	41	32	-22	65	56	-14	78	69	-12
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Table I-5 (continued)

Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	34	33	-3	133	126	-5	286	272	-5	455	436	-4	537	517	-4
132	0.600	160 feet downstream of 216th Avenue	23	23	0	68	66	-3	128	123	-4	189	183	-3	218	211	-3
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	30	24	-20	66	56	-15	111	96	-14	155	137	-12	176	157	-11
126	2.214	0.2 mile downstream of Hooker Lake outlet	6	6	0	16	16	0	31	32	3	49	49	0	58	57	-2
124	2.370	Hooker Lake outlet	5	6	20	15	15	0	30	30	0	46	45	-2	54	53	-2

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
142	0.100	- -	14	11	-21	64	59	-8	155	148	-5	266	256	-4	323	311	-4
140	1.167	- -	5	5	0	20	20	0	46	45	-2	77	74	-4	92	88	-4

Unnamed Tributary No. 2 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
118	0.019	- -	18	13	-28	41	30	-27	69	52	-25	97	74	-24	110	84	-24
116	0.765	Paddock Lake outlet	7	7	0	13	13	0	19	19	0	25	25	0	27	27	0

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
130	0.000	- -	9	9	0	20	19	-5	34	32	-6	48	45	-6	55	51	-7
128	0.896	Montgomery Lake outlet	9	9	0	15	15	0	21	21	0	26	26	0	28	28	0

Table I-5 (continued)

Unnamed Tributary No. 1 to Hooker Lake

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
122	0.000	- -	13	6	-54	46	32	-30	104	82	-21	180	148	-18	220	183	-17
120	0.835	CTH AH	1	1	0	14	12	-14	45	42	-7	88	83	-6	110	104	-5

Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
294	0.154	- -	175	128	-27	478	393	-18	910	772	-15	1,390	1,180	-15	1,620	1,380	-15
291	1.022	0.3 mile downstream of 75th Street (STH 50)	177	122	-31	484	384	-21	919	761	-17	1,390	1,170	-16	1,620	1,360	-16
286	1.315	75th Street (STH 50)	160	111	-31	454	362	-20	872	731	-16	1,330	1,140	-14	1,550	1,330	-14
281	2.803	60th Street (CTH K)	113	87	-23	364	305	-16	743	656	-12	1,170	1,070	-9	1,380	1,280	-7
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	94	74	-21	294	256	-13	626	572	-9	1,030	970	-6	1,240	1,180	-5
270	4.920	38th Street (CTH N)	90	68	-24	297	257	-13	656	599	-9	1,110	1,040	-6	1,350	1,270	-6
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	88	55	-38	237	196	-17	471	438	-7	748	739	-1	890	895	1
256	7.491	0.5 mile downstream of 12th Street (CTH E)	85	52	-39	217	172	-21	420	376	-10	659	627	-5	780	757	-3
250	8.009	12th Street (CTH E)	83	50	-40	211	163	-23	406	353	-13	634	588	-7	749	710	-5
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	74	40	-46	172	109	-37	311	213	-32	465	333	-28	541	392	-28
226	11.717	0.2 mile downstream of Braun Road	73	27	-63	181	79	-56	346	152	-56	541	234	-57	639	273	-57
222	12.355	Private drive 0.4 mile upstream of Braun Road	69	26	-62	162	61	-62	289	104	-64	428	146	-66	495	165	-67

Unnamed Tributary No. 1 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
292	0.083	- -	4	3	-25	14	11	-21	29	24	-17	48	40	-17	57	48	-16

Table I-5 (continued)

Unnamed Tributary No. 2 to Kilbourn Road Ditch																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
892	0.000	- -	14	9	-36	41	24	-41	85	46	-46	137	72	-47	163	85	-48

Unnamed Tributary No. 5 to Kilbourn Road Ditch																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
278	0.049	- -	9	6	-33	32	26	-19	73	66	-10	125	122	-2	153	153	0
276	0.841	- -	0	0	0	5	5	0	24	24	0	59	59	0	81	81	0

Unnamed Tributary No. 8 to Kilbourn Road Ditch																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
268	0.113	- -	21	11	-48	99	78	-21	288	271	-6	590	609	3	770	819	6
266	0.750	- -	8	8	0	80	80	0	313	313	0	749	749	0	1,030	1,030	0

Unnamed Tributary No. 13 to Kilbourn Road Ditch																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
258	0.055	- -	3	3	0	21	20	-5	74	72	-3	165	164	-1	221	222	0

Table I-5 (continued)

Unnamed Tributary No. 18 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
230	0.085	- -	35	11	-69	108	49	-55	242	130	-46	421	247	-41	518	314	-39

Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
332	0.402	0.4 mile upstream confluence with the Des Plaines River	48	41	-15	104	88	-15	158	132	-16	202	168	-17	220	183	-17
330	0.813	0.3 mile downstream of 88th Avenue (CTH H)	53	41	-23	87	75	-14	110	100	-9	125	118	-6	131	125	-5
324	1.716	0.6 mile upstream of 88th Avenue (CTH H)	29	31	7	47	49	4	58	59	2	64	65	2	66	67	2
325	2.350	UP Railroad	37	35	-5	52	52	0	62	63	2	70	71	1	72	73	1
312	2.550	0.1 mile downstream of Green Bay Road (STH 31)	52	44	-15	96	72	-25	149	103	-31	202	131	-35	226	144	-36
306	3.863	Private drive 0.6 mile downstream of 93rd Street	3	3	0	12	8	-33	27	16	-41	49	25	-49	60	30	-50

Unnamed Tributary No. 2 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
322	0.010	- -	7	5	-29	14	12	-14	20	18	-10	25	23	-8	27	25	-7

Unnamed Tributary No. 3 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
320	0.028	- -	23	16	-30	29	23	-21	35	29	-17	39	33	-15	41	34	-17

Table I-5 (continued)

Unnamed Tributary No. 4 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
316	0.017	- -	38	23	-39	104	63	-39	168	111	-34	219	158	-28	240	179	-25
314	0.950	- -	47	22	-53	130	60	-54	256	109	-57	403	159	-61	476	183	-62

Unnamed Tributary No. 5 to Jerome Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
310	0.080	- -	8	4	-50	25	12	-52	52	22	-58	84	32	-62	100	37	-63

Dutch Gap Canal

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	53	52	-2	205	204	0	431	430	0	673	672	0	787	787	0
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	31	32	3	110	110	0	212	211	0	308	307	0	351	350	0
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	29	29	0	87	87	0	162	163	1	238	239	0	273	274	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	46	2	91	91	0	138	139	1	160	161	1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	21	0	40	40	0	57	57	0	64	64	0

Table I-5 (continued)

Mud Lake Outlet																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	22	22	0	57	58	2	90	91	1	116	116	0	126	126	0
446	0.840	0.2 mile upstream of USH 45	29	28	-3	55	55	0	75	75	0	89	89	0	94	94	0

Unnamed Tributary No. 3 to Dutch Gap Canal																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference	Without Detention	With Detention	Percent Difference
432	0.076	- -	8	8	0	28	28	0	63	63	0	106	107	1	129	129	0
424	0.569	- -	3	2	-33	12	11	-8	29	27	-7	51	49	-4	62	60	-3

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *The areas tributary to the following streams would either not have urban development under planned land use conditions, or would have no significant new urban development between 1990 and the attainment of planned land use conditions:*

- *Unnamed Tributary No. 9 to Brighton Creek*
- *Unnamed Tributary No. 15 to Kilbourn Road Ditch*
- *Unnamed Tributary No. 4 to Dutch Gap Canal*

Therefore, those streams are not included in this table.

[c] *Unnamed Tributary Nos. 5 and 5b to the Des Plaines River are not included in this table because their tributary area has become essentially fully developed since 1990 and because the streams flow into an existing detention basin which controls peak rates of runoff as specified under the overall stormwater management plan prepared for the Lakeview Corporate Park in the Village of Pleasant Prairie.*

Source: SEWRPC.

Table I-6

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS

SCENARIO 3

COMPARISON OF 1990 LAND USE CONDITIONS AND PLANNED LAND USE WITH A STORMWATER DETENTION POLICY DESIGNED TO CONTROL THE POST-DEVELOPMENT TWO- AND 100-YEAR STORM PEAK FLOWS BASED ON CONTINUOUS SIMULATION TO ESTABLISH RELEASE RATES[a,b,c]

Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	45	55	22	183	190	4	413	416	1	687	690	0	825	830	1
62	16.140	370 feet upstream of CTH N	35	44	26	150	159	6	366	368	1	646	642	-1	794	788	-1
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	38	50	32	202	216	7	576	569	-1	1,130	1,080	-4	1,450	1,370	-6
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	36	48	33	192	206	7	551	544	-1	1,090	1,030	-6	1,400	1,310	-6
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	34	46	35	188	203	8	545	535	-2	1,080	1,010	-6	1,390	1,280	-8
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	32	43	34	174	189	9	506	495	-2	1,010	936	-7	1,300	1,180	-9
29	20.163	Private drive	27	39	44	141	156	11	395	377	-5	768	668	-13	977	824	-16
16	20.594	0.6 mile downstream of County Line Road	9	14	56	51	58	14	145	138	-5	278	243	-13	351	299	-15
8	21.196	County Line Road	4	6	50	29	31	7	100	94	-6	219	191	-13	291	248	-15
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	15	0	62	62	0	155	155	0	216	216	0

Unnamed Tributary No. 37 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
12	0.045	- -	5	8	60	20	24	20	60	52	-13	125	88	-30	165	107	-35

Table I-6 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
6	0.004	- -	2	5	150	14	17	21	45	39	-13	100	69	-31	130	85	-35
4	0.673	- -	3	6	100	13	15	15	35	28	-20	75	43	-43	100	50	-50

Union Grove Industrial Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	17	24	41	88	97	10	256	239	-7	515	434	-16	667	540	-19
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	17	25	47	66	70	6	172	149	-13	334	248	-26	428	301	-30

Fonk's Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
20	0.027	- -	3	4	33	28	30	7	108	102	-6	254	230	-9	347	309	-11

Table I-6 (continued)

Lower Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
384	0.000	Wisconsin-Illinois state line	171	220	29	797	868	9	1,570	1,640	4	2,240	2,300	3	2,520	2,580	2
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	172	223	30	808	883	9	1,610	1,690	5	2,330	2,400	3	2,620	2,700	3
358	2.267	0.7 mile downstream of STH 165	169	221	31	807	882	9	1,630	1,710	5	2,380	2,460	3	2,690	2,780	3
304	3.213	0.3 mile upstream of STH 165	158	199	26	744	804	8	1,530	1,600	5	2,270	2,370	4	2,590	2,700	4
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	151	197	30	718	783	9	1,520	1,570	3	2,300	2,350	2	2,650	2,690	2
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	118	126	7	537	553	3	1,100	1,120	2	1,630	1,650	1	1,870	1,880	1
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	116	125	8	519	531	2	1,080	1,090	1	1,630	1,630	0	1,880	1,880	0
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	116	125	8	514	526	2	1,080	1,080	0	1,630	1,630	0	1,880	1,880	0
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	110	122	11	491	502	2	1,040	1,040	0	1,590	1,600	1	1,840	1,850	1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	106	119	12	480	491	2	1,030	1,040	1	1,600	1,610	1	1,860	1,880	1
156	12.600	0.4 mile downstream of 75th Street (STH 50)	102	118	16	465	476	2	1,010	1,020	1	1,590	1,600	1	1,850	1,870	1
154	13.569	0.5 mile upstream of 75th Street (STH 50)	101	117	16	464	476	3	1,020	1,020	0	1,610	1,620	1	1,880	1,900	1
152	14.140	50 feet upstream of 60th Street (CTH K)	101	116	15	464	475	2	1,020	1,020	0	1,610	1,620	1	1,880	1,900	1

Unnamed Tributary No. 1 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
408	0.000	- -	11	28	155	55	93	69	145	207	43	267	356	33	332	435	31
407	0.572	- -	8	40	400	90	145	61	281	301	7	527	471	-11	651	552	-15
399	0.681	- -	6	27	350	65	108	66	210	233	11	398	369	-7	495	435	-12
398	0.772	- -	2	11	450	19	34	79	58	60	3	108	82	-24	134	92	-31
396	1.384	- -	1	5	400	6	14	133	17	26	53	34	37	9	43	42	-2

Table I-6 (continued)

Unnamed Tributary No. 1a to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
404	0.049	- -	3	7	133	18	22	22	47	43	-9	83	65	-22	101	76	-25
402	0.701	- -	2	3	50	6	7	17	12	13	8	18	19	6	21	22	5
400	0.966	- -	9	10	11	18	19	6	29	31	7	40	44	10	45	49	9
401	1.113	- -	2	3	50	15	18	20	47	49	4	90	90	0	113	113	0

Unnamed Tributary No. 1b to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
392	0.080	- -	4	18	350	49	78	59	162	180	11	307	301	-2	379	362	-4
390	0.613	- -	4	17	325	50	77	54	167	181	8	320	307	-4	397	370	-7

Unnamed Tributary No. 1c to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
389	0.025	- -	2	10	400	26	46	77	92	116	26	192	209	9	248	259	4
388	1.037	- -	3	8	167	15	25	67	39	49	26	73	75	3	90	87	-3

Table I-6 (continued)

Unnamed Tributary No. 1e to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
380	1.300	- -	7	14	100	52	58	12	142	126	-11	249	200	-20	302	235	-22
374	1.939	- -	5	7	40	23	24	4	57	49	-14	99	76	-23	120	90	-25
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Unnamed Tributary No. 1f to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
378	0.081	- -	3	4	33	24	24	0	64	63	-2	112	109	-3	136	132	-3

Unnamed Tributary No. 2 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
368	1.063	- -	4	11	175	17	26	53	47	46	-2	91	66	-27	116	76	-34
366	1.600	- -	1	3	200	5	8	60	13	16	23	27	25	-7	34	29	-15

Unnamed Tributary No. 2a to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
364	0.060	- -	<0.5	2	- -	2	4	100	5	5	0	9	7	-22	10	8	-20

Table I-6 (continued)

Unnamed Tributary No. 7 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
340	0.598	- -	12	27	125	89	97	9	236	197	-17	403	303	-25	482	353	-27
338	0.831	- -	7	22	214	66	75	14	177	152	-14	297	235	-21	351	275	-22

Pleasant Prairie Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
302	0.110	- -	9	42	367	72	117	63	197	213	8	344	308	-10	414	352	-15

Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	19	33	74	155	168	8	418	418	0	723	727	1	869	884	2
206	1.338	0.3 mile downstream of 144th Avenue	15	24	60	114	126	11	333	347	4	630	661	5	788	835	6
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	12	18	50	100	110	10	323	331	2	655	667	2	839	859	2
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	72	73	1	262	267	2	574	586	2	758	773	2

Table I-6 (continued)

Unnamed Tributary No. 1 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
212	0.041	- -	2	9	350	35	40	14	127	100	-21	257	179	-30	325	222	-32
210	0.888	- -	1	10	900	19	27	42	78	51	-35	165	75	-55	212	87	-59

Unnamed Tributary No. 4 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
200	0.071	- -	1	8	700	16	20	25	58	35	-40	116	48	-59	146	54	-63
198	0.471	- -	1	6	500	12	14	17	40	23	-43	79	31	-61	100	35	-65

Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	61	71	16	296	309	4	660	672	2	1,040	1,060	2	1,220	1,240	2
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	57	66	16	310	323	4	716	719	0	1,150	1,140	-1	1,340	1,330	-1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	33	36	9	203	204	0	483	481	0	779	783	1	914	925	1
113	4.649	60th Street (CTH K)	29	28	-3	169	170	1	425	429	1	725	733	1	873	882	1
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	148	149	1	388	392	1	683	690	1	831	840	1
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	148	149	1	437	442	1	836	847	1	1,050	1,060	1
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	128	129	1	381	386	1	726	739	2	909	927	2

Table I-6 (continued)

Unnamed Tributary No. 6 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
110	0.590	- -	8	7	-13	41	42	2	99	99	0	164	163	-1	194	193	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	3	4	33	14	13	-7	34	32	-6	63	56	-11	78	69	-12
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	24	33	38	118	1`26	7	277	272	-2	456	436	-4	543	517	-5
132	0.600	160 feet downstream of 216th Avenue	17	23	35	62	66	6	124	123	-1	189	183	-3	219	211	-4
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	17	24	41	51	56	10	97	96	-1	147	137	-7	171	157	-8
126	2.214	0.2 mile downstream of Hooker Lake outlet	4	6	50	14	16	14	29	32	10	46	49	7	55	57	4
124	2.370	Hooker Lake outlet	4	6	50	13	15	15	28	30	7	44	45	2	52	53	2

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
142	0.100	- -	8	11	38	56	59	5	151	148	-2	269	256	-5	329	311	-5
140	1.167	- -	2	5	150	17	20	18	44	45	2	77	74	-4	93	88	-5

Table I-6 (continued)

Unnamed Tributary No. 2 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
118	0.019	- -	10	13	30	27	30	11	55	52	-5	86	74	-14	102	84	-18
116	0.765	Paddock Lake outlet	6	7	17	12	13	8	17	19	12	23	25	9	25	27	8

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
130	0.000	- -	7	9	29	17	19	12	31	32	3	47	45	-4	54	51	-6
128	0.896	Montgomery Lake outlet	8	9	13	14	15	7	20	21	5	25	26	4	27	28	4

Unnamed Tributary No. 1 to Hooker Lake																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
122	0.000	- -	2	6	200	29	32	10	99	82	-17	192	148	-23	241	183	-24
120	0.835	CTH AH	1	1	0	12	12	0	43	42	-2	86	83	-3	109	104	-5

Table I-6 (continued)

Kilbourn Road Ditch

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
294	0.154	- -	59	128	117	301	393	31	721	772	7	1,210	1,180	-2	1,450	1,380	-5
291	1.022	0.3 mile downstream of 75th Street (STH 50)	57	122	114	299	384	28	720	761	6	1,210	1,170	-3	1,450	1,360	-6
286	1.315	75th Street (STH 50)	55	111	102	286	362	27	690	731	6	1,160	1,140	-2	1,400	1,330	-5
281	2.803	60th Street (CTH K)	49	87	78	264	305	16	650	656	1	1,110	1,070	-4	1,340	1,280	-4
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	44	74	68	215	256	19	554	572	3	1,000	970	-3	1,250	1,180	-6
270	4.920	38th Street (CTH N)	43	68	58	223	257	15	592	599	1	1,100	1,040	-5	1,370	1,270	-7
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	36	55	53	171	196	15	432	438	1	779	739	-5	964	895	-7
256	7.491	0.5 mile downstream of 12th Street (CTH E)	33	52	58	146	172	18	366	376	3	661	627	-5	819	757	-8
250	8.009	12th Street (CTH E)	32	50	56	137	163	19	344	353	3	622	588	-5	772	710	-8
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	20	40	100	76	109	43	187	213	14	339	333	-2	422	392	-7
226	11.717	0.2 mile downstream of Braun Road	14	27	93	50	79	58	119	152	28	211	234	11	262	273	4
222	12.355	Private drive 0.4 mile upstream of Braun Road	16	26	63	50	61	22	112	104	-7	192	146	-24	236	165	-30

Unnamed Tributary No. 1 to Kilbourn Road Ditch

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
292	0.083	- -	2	3	50	10	11	10	25	24	-4	45	40	-11	55	48	-13

Table I-6 (continued)

Unnamed Tributary No. 5 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
278	0.049	- -	5	6	20	25	26	4	65	66	2	130	122	-6	160	153	-4
276	0.841	- -	0	0	0	5	5	0	25	24	-4	60	59	-2	80	81	1

Unnamed Tributary No. 8 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
268	0.113	- -	9	11	22	75	78	4	280	271	-3	645	609	-6	875	819	-6
266	0.750	- -	8	8	0	80	80	0	310	313	1	745	749	1	1,020	1,030	1

Unnamed Tributary No. 13 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
258	0.055	- -	2	3	50	20	20	0	70	72	3	165	164	-1	220	222	1

Unnamed Tributary No. 18 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
230	0.085	- -	5	11	120	40	49	23	145	130	-10	325	247	-24	435	314	-28

Table I-6 (continued)

Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
332	0.402	0.4 mile upstream confluence with the Des Plaines River	26	41	58	78	88	13	137	132	-4	191	168	-12	215	183	-15
330	0.813	0.3 mile downstream of 88th Avenue (CTH H)	29	41	41	71	75	6	106	100	-6	131	118	-10	141	125	-11
324	1.716	0.6 mile upstream of 88th Avenue (CTH H)	20	31	55	40	49	23	55	59	7	66	65	-2	70	67	-4
325	2.350	UP Railroad	22	35	59	43	52	21	59	63	7	71	71	0	75	73	-3
312	2.550	0.1 mile downstream of Green Bay Road (STH 31)	41	44	7	72	72	0	108	103	-5	143	131	-8	159	144	-9
306	3.863	Private drive 0.6 mile downstream of 93rd Street	1	3	200	5	8	60	16	16	0	31	25	-19	39	30	-23

Unnamed Tributary No. 2 to Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
322	0.010	- -	2	5	150	7	12	71	14	18	29	21	23	10	25	25	0

Unnamed Tributary No. 3 to Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
320	0.028	- -	6	16	167	17	23	35	26	29	12	33	33	0	35	34	-3

Table I-6 (continued)

Unnamed Tributary No. 5 to Jerome Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
310	0.080	- -	0	4	400	8	12	50	27	22	-19	54	32	-41	67	37	-45

Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	49	52	6	197	204	4	421	430	2	665	672	1	782	787	1
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	29	32	10	108	110	2	210	211	0	309	307	-1	353	350	-1
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	26	29	12	84	87	4	161	163	1	238	239	0	274	274	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	46	2	91	91	0	138	139	1	160	161	1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	21	0	39	40	3	56	57	2	64	64	0

Mud Lake Outlet																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	18	22	22	54	58	7	90	91	1	117	116	-1	128	126	-2
446	0.840	0.2 mile upstream of USH 45	19	28	47	52	55	6	77	75	-3	92	89	-3	98	94	-4

Table I-6 (continued)

Unnamed Tributary No. 3 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference	1990 Land Use	With Detention (planned land use)	Percent Difference
432	0.076	- -	8	8	0	28	28	0	62	63	2	106	107	1	129	129	0
424	0.569	- -	2	2	0	10	11	10	28	27	-4	50	49	-2	62	60	-3

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *The areas tributary to the following streams would either not have urban development under planned land use conditions, or would have no significant new urban development between 1990 and the attainment of planned land use conditions:*

- *Unnamed Tributary No. 9 to Brighton Creek*
- *Unnamed Tributary No. 15 to Kilbourn Road Ditch*
- *Unnamed Tributary No. 4 to Dutch Gap Canal*

Therefore, those streams are not included in this table.

[c] *Unnamed Tributary Nos. 5 and 5b to the Des Plaines River are not included in this table because their tributary area has become essentially fully developed since 1990 and because the streams flow into an existing detention basin which controls peak rates of runoff as specified under the overall stormwater management plan prepared for the Lakeview Corporate Park in the Village of Pleasant Prairie.*

Source: SEWRPC.

Appendix J

HYDROLOGIC ANALYSIS OF PRAIRIE OR WETLAND RESTORATION ALTERNATIVES WITHIN THE DES PLAINES RIVER WATERSHED

The procedure developed by the Commission staff for the hydrologic analysis of prairie or wetland restoration alternatives involved the following main steps:

- Identification and quantification of potential wetland or prairie restoration areas.
- Synthesis of appropriate restoration scenarios.
- Modification of the USEPA HSPF continuous simulation model to represent the wetland or prairie restoration scenarios.

Each of these steps is described below.

IDENTIFICATION AND QUANTIFICATION OF POTENTIAL WETLAND OR PRAIRIE RESTORATION AREAS

Because the soil, hydrologic, and vegetative characteristics of wetlands and prairies differ, the procedure described below was developed to identify candidate areas suitable for wetland restoration and other areas suitable for prairie restoration. At the systems planning level, this process was designed to identify broad areas within the Des Plaines River watershed that should be capable of supporting wetland or prairie conditions. Agricultural and selected other open space lands are the prime candidates for wetland or prairie restoration because such lands are in rural, open space uses and because there are Federal and State programs available to support conversion of certain agricultural lands to wetlands or prairies. Identified existing natural areas and critical species habitats were excluded from the candidate restoration areas. The procedures also gave due consideration to preservation of existing wetland areas.

The Commission staff identified soil mapping units that are characteristic of wetland or prairie pre-settlement vegetation types.[1] Utilizing those data, the Commission geographic information system was used to map and quantify the potential wetland and prairie restoration areas that would be expected to be in agricultural or selected other open space uses under planned land use conditions.[2] Those areas were further categorized as being in or out of the 100-year recurrence interval floodplain. It was determined that potential wetland restoration areas covered

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[1] *See SEWRPC Planning Report No. 8,* Soils of Southeastern Wisconsin, *June 1966.*

[2] *Those lands identified as potential wetland restoration areas were further evaluated to determine which lands have soils that are suitable for restoration based on having crop yields that make restoration economically feasible, assuming the availability of Federal incentive programs for conversion of land to wetlands. It was found that economic viability would not be a limitation because soils where wetland restoration would be economically feasible are prevalent in the watershed.*

14.7 square miles, or 11 percent of the watershed,[3] and potential prairie restoration areas covered an additional 29.9 square miles, or 22 percent of the watershed. Thus, potential wetland and prairie restoration sites comprise about one-third of the watershed area. Those areas are shown on Map J-1.

SYNTHESIS OF APPROPRIATE RESTORATION SCENARIOS

The following three restoration scenarios were developed:

- Restoration of all potential wetland areas.
- Restoration of all potential prairie areas.
- Restoration of 10 percent of all potential prairie areas.[4]

The scenarios calling for restoration of all potential areas in each category were developed to enable quantification of the maximum hydrologic effect due to restoration. The 10 percent prairie restoration scenario was considered to represent a reasonable restoration goal considering landowner willingness to convert land and the available Federal and State funding for the Conservation Reserve and Conservation Reserve Enhancement Programs (CREP).[5] The analysis recognized that a combination of these scenarios could be developed for incorporation into a recommended plan.

MODIFICATION OF THE USEPA HSPF CONTINUOUS SIMULATION MODEL TO REPRESENT WETLAND OR PRAIRIE RESTORATION SCENARIOS

An extensive literature search was performed to locate hydrologic parameters that are characteristic of wetlands and prairies (see the list of references at the end of this appendix). Chapter VIII of this report includes a table listing 30 parameters required by the HSPF model. Based on the experience of the Commission staff in using that model, the key parameters related to wetland or prairie restoration were identified. Values of those parameters that are considered to be representative of wetland or prairie conditions were generally selected based on information obtained from the literature search (Idso, 1981; Dolan, et.al., 1984; Mitsch, et.al., 1988; Skaggs, et.al., 1994; Brye, et.al., 2000; Lee, et.al., 2000; Murkin, et.al., 2000; North Carolina State University, 2001).

As described in Chapter VIII, “Water Resource Simulation Model,” the calibrated model computes runoff from the following four land segments that are representative of conditions in the watershed:

- Impervious areas
- General pervious areas (All pervious land areas that are not included in the other three land segment categories. This includes undrained cropland.)

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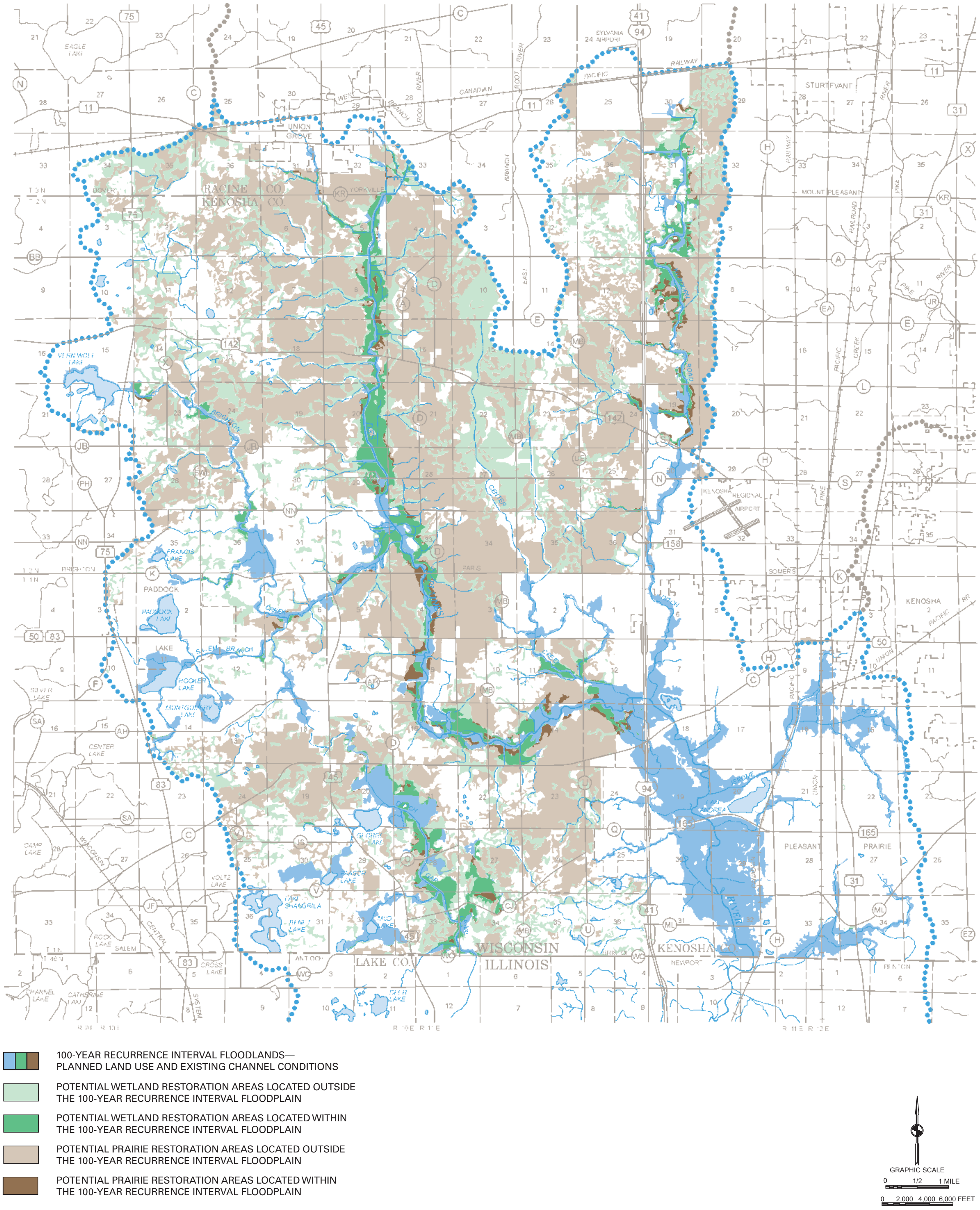
[3] *The procedure for identification of potential wetland restoration sites is generally consistent with the procedure to identify potential wetland mitigation sites as set forth in a March 23, 1992 SEWRPC Staff Memorandum to the Wisconsin Department of Transportation.*

[4] *Under the recommended floodland and stormwater management plan the potential prairie restoration area was expanded to 20 percent of all potential prairies areas.*

[5] *The ability to restore prairie conditions may be limited by the fact that certain practices funded under the CREP, including establishment of permanent native grasses, are only available in designated grassland areas. Kenosha and Racine Counties do not include any of those areas. However, the USDA Grassland Reserve Program, which was initiated on June 30, 2003, may offer opportunities for establishment of grasslands in certain areas for which prairie restoration is recommended under this plan.*

Map J-1

POTENTIAL WETLAND AND PRAIRIE RESTORATION AREAS IN THE DES PLAINES RIVER WATERSHED UNDER PLANNED LAND USE CONDITIONS



Source: SEWRPC.

- Woodlands
- Drained cropland

The model was modified to represent restored wetlands or prairies by adding a land segment for those categories and reducing the land areas assigned to the general pervious or drained cropland categories by the land area assigned to the restored wetland or prairie land segment type. The potential wetland restoration areas would be located on land designated as both “drained cropland” and “general pervious” in the calibrated hydrologic model. The potential prairie restoration areas would only be located on land designated as “general pervious” in the model.

The pervious area parameters selected for modification to represent restored wetland conditions include:

- INFILT: Nominal infiltration rate
- UZSN: Nominal transient groundwater storage in the upper soil zones. Varies by month.
- LZSN: Nominal transient groundwater storage in the lower soil zones. (Only adjusted for restored wetlands on previously drained cropland.)
- NSUR: Manning roughness coefficient for overland flow
- LZETP: Decimal fraction of segment with shallow groundwater subject to direct evapotranspiration. Varies by month.
- AGWRC: Groundwater recession rate
- CEPSC: Maximum interception storage. Varies by month.

The pervious area parameters selected for modification to represent restored prairie conditions include INFILT (nominal infiltration rate), NSUR, LZETP, CEPSC, and LZSN.

Restoration would involve conversion of land from general pervious or drained agricultural land to wetland or prairie. Since general pervious and drained agricultural lands were explicitly represented in the baseline HSPF model, and since the baseline model parameters were calibrated, hydrologic parameter adjustments to represent wetland or prairie conditions were made to represent a relative change from general pervious or drained agricultural conditions. A comparison of the calibrated model parameters with the adjusted model parameters for the wetland and prairie restoration scenarios is set forth in Table J-1.

The 1.01- through 100-year flood flows computed for all studied streams under the wetland scenario and under the two prairie scenarios are compared to the calibrated model flows under both 1990 and planned land use conditions in Tables J-2 through J-7.

Table J-1

COMPARISON OF HSPF PARAMETERS: CALIBRATED MODEL, WETLAND RESTORATION MODEL, AND PRAIRIE RESTORATION MODEL

Parameter	Definition or Meaning	Unit	Calibrated Model Value(s)		Wetland Restoration Area[a]	Prairie Restoration Area[b]
			Drained Cropland	General Pervious		
LZSN	Nominal transient groundwater storage in the lower soil zones	Inches	7.0	5.0	5.0	5.5
INFILT	Nominal infiltration rate	Inches per hour	0.16	0.03	0.03	0.09
AGWRC	Groundwater recession rate	None	0.90	0.96	0.96	0.96
CEPSC	Maximum interception storage (varies by month)	Inches	0.02 to 0.25	0.05 to 0.25	0.1 to 0.5	0.1 to 0.5
UZSN	Nominal transient groundwater storage in the upper soils zones (varies by month)	Inches	0.9 to 1.7	0.7 to 1.3	1.6 to 2.2	0.7 to 1.3[c]
NSUR	Manning roughness coefficient for overland flow	None	0.2	0.3	0.3	0.2
LZETP	Decimal fraction of segment with shallow groundwater subject to direct evapotranspiration (varies by month)	None	0.01-0.80	0.01-0.7	0.01-0.91 Increase general pervious values by 30 percent from April through November	0.01-0.80

[a] *Approximately two-thirds of the wetland restoration area would be located on land designated as "drained cropland" in the calibrated model and one-third on land designated as "general pervious."*

[b] *All of the prairie restoration area would be located on land designated as "general pervious" in the calibrated model.*

[c] *Unchanged from calibrated model.*

Source: SEWRPC.

Table J-2

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS COMPARISON OF 1990 LAND USE CONDITIONS AND PLANNED LAND USE WITH WETLAND RESTORATION ON ALL CANDIDATE SITES[a,b]

Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	45	55	22	183	185	1	413	407	-1	687	680	-1	825	822	0
62	16.140	370 feet upstream of CTH N	35	44	26	150	155	3	366	364	-1	646	644	0	794	796	0
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	38	58	53	202	231	14	576	594	3	1,130	1,120	-1	1,450	1,420	-2
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	36	57	58	192	224	17	551	572	4	1,090	1,070	-2	1,400	1,360	-3
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	34	58	71	188	228	21	545	572	5	1,080	1,060	-2	1,390	1,330	-4
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	32	57	78	174	220	26	506	542	7	1,010	987	-2	1,300	1,230	-5
29	20.163	Private drive	27	76	181	141	226	60	395	461	17	768	741	-4	977	883	-10
16	20.594	0.6 mile downstream of County Line Road	9	21	133	51	71	39	145	154	6	278	253	-9	351	303	-14
8	21.196	County Line Road	4	9	125	29	40	38	100	106	6	219	203	-7	291	259	-11
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	14	-7	62	59	-5	155	146	-6	216	202	-6

Unnamed Tributary No. 37 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
12	0.045	- -	5	16	220	20	44	120	60	93	55	125	156	25	165	190	15

Table J-2 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
6	0.004	- -	2	9	350	14	28	100	45	64	42	100	114	14	130	141	8
4	0.673	- -	3	13	333	13	34	162	35	71	103	75	117	56	100	142	42

Union Grove Industrial Tributary																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	17	57	235	88	162	162	256	336	31	515	550	7	667	662	-1
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	17	73	329	66	186	182	172	358	108	334	561	68	428	664	55

Fonk's Tributary																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
20	0.027	- -	3	6	100	28	35	25	108	115	6	254	250	-2	347	333	-4

Table J-2 (continued)

			Lower Des Plaines River														
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
384	0.000	Wisconsin-Illinois state line	171	215	46	797	838	12	1,570	1,590	3	2,240	2,250	-1	2,520	2,530	-2
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	172	219	53	808	852	12	1,610	1,630	2	2,330	2,340	-1	2,620	2,650	-1
358	2.267	0.7 mile downstream of STH 165	169	222	57	807	855	12	1,630	1,660	2	2,380	2,410	-1	2,690	2,740	-1
304	3.213	0.3 mile upstream of STH 165	158	192	48	744	778	11	1,530	1,560	2	2,270	2,320	-1	2,590	2,660	-1
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	151	206	66	718	771	14	1,520	1,560	3	2,300	2,380	0	2,650	2,750	0
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	118	122	3	537	539	0	1,100	1,100	-1	1,630	1,620	-1	1,870	1,850	-1
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	116	123	6	519	521	0	1,080	1,070	-1	1,630	1,620	-1	1,880	1,860	-1
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	116	123	6	514	516	0	1,080	1,070	-1	1,630	1,610	-1	1,880	1,860	-1
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	110	120	9	491	493	0	1,040	1,030	-1	1,590	1,580	-1	1,840	1,830	-1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	106	118	11	480	482	0	1,030	1,020	-1	1,600	1,600	0	1,860	1,860	0
156	12.600	0.4 mile downstream of 75th Street (STH 50)	102	117	15	465	468	1	1,010	1,000	-1	1,590	1,580	-1	1,850	1,860	1
154	13.569	0.5 mile upstream of 75th Street (STH 50)	101	116	15	464	468	1	1,020	1,010	-1	1,610	1,610	0	1,880	1,900	1
152	14.140	50 feet upstream of 60th Street (CTH K)	101	115	14	464	469	1	1,020	1,010	-1	1,610	1,610	0	1,880	1,900	1

			Unnamed Tributary No. 1e to the Des Plaines River														
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
380	1.300	- -	7	46	557	52	120	131	142	217	53	249	318	28	302	365	21
374	1.939	- -	5	21	320	23	54	135	57	93	63	99	129	30	120	144	20
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Table J-2 (continued)

Unnamed Tributary No. 1f to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
378	0.081	- -	3	5	67	24	26	8	64	65	2	112	111	-1	136	134	-1

Unnamed Tributary No. 7 to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
340	0.598	- -	12	88	633	89	221	148	236	400	69	403	591	47	482	682	41
338	0.831	- -	7	68	871	66	162	145	177	274	55	297	384	29	351	434	24

Center Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	19	37	95	155	183	18	418	443	6	723	752	4	869	906	4
206	1.338	0.3 mile downstream of 144th Avenue	15	25	67	114	122	7	333	327	-2	630	617	-2	788	777	-1
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	12	19	58	100	104	4	323	304	-6	655	609	-7	839	786	-6
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	6	-14	72	65	-10	262	241	-8	574	531	-7	758	702	-7

Table J-2 (continued)

Unnamed Tributary No. 1 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
212	0.041	- -	2	14	600	35	65	86	127	167	31	257	306	19	325	381	17
210	0.888	- -	1	18	1700	19	63	232	78	140	79	165	238	44	212	289	36

Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	61	69	13	296	306	3	660	671	2	1,040	1,060	2	1,220	1,250	2
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	57	65	14	310	326	5	716	732	2	1,150	1,160	1	1,340	1,360	1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	33	41	24	203	211	4	483	492	2	,779	804	3	914	952	4
113	4.649	60th Street (CTH K)	29	29	0	169	168	-1	425	425	0	725	731	1	873	882	1
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	148	147	-1	388	388	0	683	686	0	831	836	1
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	148	147	-1	437	439	0	836	843	1	1,050	1,060	1
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	16	-6	128	128	0	381	384	1	726	736	1	909	924	2

Unnamed Tributary No. 9 to Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
84	10.189	- -	5	5	0	44	44	0	127	127	0	231	232	0	283	284	0
82	11.315	Vern Wolf Lake outlet	1	1	0	6	6	0	12	11	-8	16	16	0	18	17	-6

Table J-2 (continued)

Unnamed Tributary No. 6 to Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
110	0.590	- -	8	8	0	41	43	5	99	100	1	164	162	-1	194	192	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	3	8	167	14	21	50	34	41	21	63	65	3	78	78	0
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	24	34	42	118	133	13	277	285	3	456	454	0	543	536	-1
132	0.600	160 feet downstream of 216th Avenue	17	23	35	62	68	10	124	128	3	189	189	0	219	217	-1
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	17	30	76	51	66	29	97	111	14	147	155	5	171	176	3
126	2.214	0.2 mile downstream of Hooker Lake outlet	4	6	50	14	16	14	29	31	7	46	49	7	55	58	5
124	2.370	Hooker Lake outlet	4	5	25	13	15	15	28	30	7	42	46	10	52	54	4

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
142	0.100	- -	8	14	75	56	64	14	151	155	3	269	266	-1	329	323	-2
140	1.167	- -	2	5	150	17	20	18	44	46	5	77	76	-1	93	91	-2

Table J-2 (continued)

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
130	0.000	- -	7	9	29	17	20	18	31	34	10	47	48	2	54	55	2
128	0.896	Montgomery Lake outlet	8	9	13	14	15	7	20	21	5	25	26	4	27	28	4

Unnamed Tributary No. 1 to Hooker Lake																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
122	0.000	- -	2	13	550	29	46	59	99	104	5	192	179	-7	241	219	-9
120	0.835	CTH AH	1	1	0	12	14	17	43	44	2	86	87	1	109	110	1

Table J-2 (continued)

Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
294	0.154	- -	59	175	197	301	476	58	721	904	25	1,210	1,380	14	1,450	1,600	10
291	1.022	0.3 mile downstream of 75th Street (STH 50)	57	176	209	299	482	61	720	913	27	1,210	1,380	14	1,450	1,610	11
286	1.315	75th Street (STH 50)	55	159	189	286	452	58	690	866	26	1,160	1,320	14	1,400	1,530	9
281	2.803	60th Street (CTH K)	49	112	129	264	360	36	650	736	13	1,110	1,160	5	1,340	1,370	2
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	44	92	109	215	291	35	554	619	12	1,000	1,020	2	1,250	1,230	-2
270	4.920	38th Street (CTH N)	43	89	107	223	294	32	592	649	10	1,100	1,100	0	1,370	1,330	-3
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	36	87	142	171	235	37	432	465	8	779	738	-5	964	877	-9
256	7.491	0.5 mile downstream of 12th Street (CTH E)	33	84	155	146	214	47	366	414	13	661	647	-2	819	765	-7
250	8.009	12th Street (CTH E)	32	82	156	137	208	52	344	399	16	622	623	0	772	735	-5
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	20	73	265	76	170	124	187	307	64	339	458	35	422	532	26
226	11.717	0.2 mile downstream of Braun Road	14	73	421	50	181	262	119	344	189	211	536	154	262	633	142
222	12.355	Private drive 0.4 mile upstream of Braun Road	16	69	331	50	162	224	112	289	158	192	428	123	236	495	110

Unnamed Tributary No. 5 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
278	0.049	- -	5	9	80	25	32	28	65	72	11	130	124	-5	160	152	-5
276	0.841	- -	0	0	0	5	5	0	25	24	-4	60	58	-3	80	80	0

Table J-2 (continued)

Unnamed Tributary No. 8 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
268	0.113	- -	9	21	133	75	98	31	280	285	2	645	581	-10	875	757	-13
266	0.750	- -	8	8	0	80	79	-1	310	311	0	745	742	0	1020	1020	0

Unnamed Tributary No. 13 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
258	0.055	- -	2	3	50	20	21	5	70	73	4	165	164	-1	220	219	0

Unnamed Tributary No. 15 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
240	0.080	- -	4	4	0	25	25	0	79	77	-3	166	160	-4	219	210	-4
238	0.433	Private drive	4	4	0	24	24	0	79	77	-3	171	165	-4	226	218	-4

Unnamed Tributary No. 18 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
230	0.085	- -	5	35	600	40	108	170	145	241	66	325	418	29	435	514	18

Table J-2 (continued)

Dutch Gap Canal

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	49	52	6	197	203	3	421	428	2	665	670	1	782	785	0
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	29	31	7	108	109	1	210	210	0	309	307	-1	353	350	-1
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	26	28	8	84	85	1	161	160	-1	238	237	0	274	272	-1
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	12	8	45	44	-2	91	90	-1	138	137	-1	160	159	-1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	6	-14	21	21	0	39	39	0	56	56	0	64	64	0

Mud Lake Outlet

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	18	22	22	54	57	6	90	90	0	117	115	-2	128	125	-2
446	0.840	0.2 mile upstream of USH 45	19	29	53	52	55	6	77	75	-3	92	89	-3	98	94	-4

Unnamed Tributary No. 3 to Dutch Gap Canal

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
432	0.076	- -	8	8	0	28	28	0	62	62	0	106	105	-1	129	128	-1
424	0.569	- -	2	3	50	10	12	20	28	29	4	50	50	0	62	62	0

Table J-2 (continued)

Unnamed Tributary No. 4 to Dutch Gap Canal																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference	1990 Land Use	Wetland Restoration (planned land use)	Percent Difference
428	0.026	- -	4	4	0	15	15	0	35	35	0	62	62	0	77	77	0

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *Based on the criteria that were applied to identify candidate sites for wetland restoration, no restoration sites were identified in the areas tributary to Unnamed Tributary Nos. 1, 1a, 1b, 1c, 2, 2a, 5, and 5b to the Des Plaines River; the Pleasant Prairie Tributary; Unnamed Tributary No. 4 to Center Creek; Unnamed Tributary No. 2 to the Salem Branch of Brighton Creek; Unnamed Tributary No. 1 to Kilbourn Road Ditch; Jerome Creek; and Unnamed Tributary Nos. 2, 3, 4, and 5 to Jerome Creek. Therefore, those streams are not included in this table.*

Source: SEWRPC.

Table J-3

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS COMPARISON OF PLANNED LAND USE CONDITIONS WITH AND WITHOUT WETLAND RESTORATION ON ALL CANDIDATE SITES[a,b]

Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	57	55	-4	192	185	-4	420	407	-3	702	680	-3	847	822	-3
62	16.140	370 feet upstream of CTH N	46	44	-4	163	155	-5	379	364	-4	665	644	-3	818	796	-3
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	59	58	-2	237	231	-3	609	594	-2	1,150	1,120	-3	1,460	1,420	-3
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	58	57	-2	229	224	-2	586	572	-2	1,100	1,070	-3	1,390	1,360	-2
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	59	58	-2	233	228	-2	585	572	-2	1,080	1,060	-2	1,360	1,330	-2
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	58	57	-2	223	220	-1	552	542	-2	1,010	987	-2	1,260	1,230	-2
29	20.163	Private drive	76	76	0	228	226	-1	470	461	-2	758	741	-2	905	883	-2
16	20.594	0.6 mile downstream of County Line Road	21	21	0	73	71	-3	158	154	-3	261	253	-3	313	303	-3
8	21.196	County Line Road	9	9	0	41	40	-2	112	106	-5	218	203	-7	279	259	-7
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	14	-7	62	59	-5	155	146	-6	216	202	-6

Unnamed Tributary No. 37 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
12	0.045	- -	16	16	0	44	44	0	93	93	0	157	156	-1	190	190	0

Table J-3 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
6	0.004	- -	9	9	0	29	28	-3	66	64	-3	118	114	-3	146	141	-3
4	0.673	- -	13	13	0	34	34	0	71	71	0	117	117	0	142	142	0

Union Grove Industrial Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	57	57	0	163	162	-1	339	336	-1	557	550	-1	671	662	-1
27	1.245	26 feet downstream of Schroeder Road (Hwy KR)	75	76	1	208	207	0	430	428	0	709	705	-1	856	850	-1
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	73	73	0	186	186	0	359	358	0	562	561	0	665	664	0

Fonk's Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
20	0.027	- -	6	6	0	36	35	-3	117	115	-2	255	250	-2	340	333	-2

Table J-3 (continued)

Lower Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
384	0.000	Wisconsin-Illinois state line	218	215	-1	855	838	-2	1,620	1,590	-2	2,290	2,250	-2	2,570	2,530	-2
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	222	219	-1	869	852	-2	1,670	1,630	-2	2,380	2,340	-2	2,690	2,650	-1
358	2.267	0.7 mile downstream of STH 165	225	222	-1	872	855	-2	1,690	1,660	-2	2,450	2,410	-2	2,780	2,740	-1
304	3.213	0.3 mile upstream of STH 165	196	192	-2	796	778	-2	1,600	1,560	-2	2,360	2,320	-2	2,700	2,660	-1
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	209	206	-1	787	771	-2	1,590	1,560	-2	2,410	2,380	-2	2,790	2,750	-1
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	127	122	-4	553	539	-2	1,120	1,100	-2	1,650	1,620	-1	1,880	1,850	-2
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	126	123	-2	533	521	-2	1,090	1,070	-2	1,640	1,620	-2	1,890	1,860	-2
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	126	123	-2	528	516	-2	1,090	1,070	-2	1,640	1,610	-1	1,890	1,860	-2
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	123	120	-2	503	493	-2	1,050	1,030	-2	1,610	1,580	-2	1,870	1,830	-2
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	121	118	-2	492	482	-2	1,040	1,020	-2	1,620	1,600	-1	1,900	1,860	-2
156	12.600	0.4 mile downstream of 75th Street (STH 50)	120	117	-3	478	468	-2	1,020	1,000	-2	1,610	1,580	-2	1,890	1,860	-2
154	13.569	0.5 mile upstream of 75th Street (STH 50)	119	116	-3	478	468	-2	1,030	1,010	-2	1,640	1,610	-2	1,930	1,900	-2
152	14.140	50 feet upstream of 60th Street (CTH K)	118	115	-3	478	469	-2	1,030	1,010	-2	1,640	1,610	-2	1,930	1,900	-2

Unnamed Tributary No. 1e to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
380	1.300	- -	46	46	0	120	120	0	218	217	0	319	318	0	366	365	0
374	1.939	- -	21	21	0	55	54	-2	93	93	0	129	129	0	144	144	0
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	3

Table J-3 (continued)

Unnamed Tributary No. 1f to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
378	0.081	- -	5	5	0	26	26	0	65	65	0	112	111	-1	135	1334	-1

Unnamed Tributary No. 7 to the Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
340	0.598	- -	88	88	0	221	221	0	400	400	0	591	591	0	682	682	0
338	0.831	- -	68	68	0	162	162	0	275	274	0	384	384	0	434	434	0

Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	38	37	-3	189	183	-3	459	443	-3	780	752	-4	941	906	-4
206	1.338	0.3 mile downstream of 144th Avenue	26	25	-4	128	122	-5	346	327	-5	656	617	-6	828	777	-6
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	20	19	-5	110	104	-5	326	304	-7	654	609	-7	844	786	-7
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	6	-14	73	65	-11	267	241	-10	586	531	-9	773	702	-9

Table J-3 (continued)

Unnamed Tributary No. 1 to Center Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
212	0.041	- -	14	14	0	65	65	0	168	167	-1	308	306	-1	383	381	-1
210	0.888	- -	18	18	0	63	63	0	140	140	0	238	238	0	289	289	0

Unnamed Tributary No. 5 to Center Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
202	0.000	- -	10	10	0	31	31	0	69	67	-3	118	113	-4	144	137	-5
201	0.689	156th Avenue (CTH MB)	1	1	0	11	11	0	30	30	0	50	50	0	59	58	-2

Brighton Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	70	69	-1	309	306	-1	676	671	-1	1,070	1,060	-1	1,250	1,250	0
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	65	65	0	328	326	-1	736	732	-1	1,170	1,160	-1	1,370	1,360	-1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	41	41	0	213	211	-1	496	492	-1	806	804	0	956	952	0
113	4.649	60th Street (CTH K)	29	29	0	170	168	-1	429	425	-1	735	731	-1	885	882	0
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	23	0	149	147	-1	392	388	-1	690	686	-1	840	836	0
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	149	147	-1	442	439	-1	847	843	0	1,060	1,060	0
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	16	-6	129	128	-1	386	384	-1	739	736	0	927	924	0

Table J-3 (continued)

Unnamed Tributary No. 9 to Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
84	10.189	- -	5	5	0	44	44	0	128	127	-1	233	232	0	286	284	-1
82	11.315	Vern Wolf Lake outlet	1	1	0	6	6	0	12	11	0	16	16	0	18	17	0

Unnamed Tributary No. 6 to Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
110	0.590	- -	9	8	-11	43	43	0	100	100	0	163	162	-1	193	192	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	8	8	0	21	21	0	41	41	0	65	65	0	78	78	0
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	34	34	0	133	133	0	286	285	0	455	454	0	537	536	0
132	0.600	160 feet downstream of 216th Avenue	23	23	0	68	68	0	128	128	0	189	189	0	218	217	0
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	30	30	0	66	66	0	111	111	0	155	155	0	176	176	0
126	2.214	0.2 mile downstream of Hooker Lake outlet	6	6	0	16	16	0	31	31	0	49	49	0	58	58	0
124	2.370	Hooker Lake outlet	5	5	0	15	15	0	30	30	0	46	46	0	54	54	0

Table J-3 (continued)

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
142	0.100	- -	14	14	0	64	64	0	155	155	0	266	266	0	323	323	0
140	1.167	- -	5	5	0	20	20	0	46	46	0	77	76	-1	92	91	-1

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
130	0.000	- -	9	9	0	20	20	0	34	34	0	48	48	0	55	55	0
128	0.896	Montgomery Lake outlet	9	9	0	15	15	0	20	21	5	26	26	0	28	28	0

Unnamed Tributary No. 1 to Hooker Lake																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
122	0.000	- -	13	13	0	46	46	0	104	104	0	180	179	-1	220	219	0
120	0.835	CTH AH	1	1	0	14	14	0	45	44	-2	88	87	-1	110	110	0

Table J-3 (continued)

Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years) 1.01 Without Wetland Restoration	1.01 Wetland Restoration	1.01 Percent Difference	2 Without Wetland Restoration	2 Wetland Restoration	2 Percent Difference	10 Without Wetland Restoration	10 Wetland Restoration	10 Percent Difference	50 Without Wetland Restoration	50 Wetland Restoration	50 Percent Difference	100 Without Wetland Restoration	100 Wetland Restoration	100 Percent Difference
294	0.154	- -	175	175	0	478	476	0	910	904	-1	1,390	1,380	-1	1,620	1,600	-1
291	1.022	0.3 mile downstream of 75th Street (STH 50)	177	176	-1	484	482	0	919	913	-1	1,390	1,380	-1	1,620	1,610	-1
286	1.315	75th Street (STH 50)	160	159	-1	454	452	0	872	866	-1	1,330	1,320	-1	1,550	1,530	-1
281	2.803	60th Street (CTH K)	113	112	-1	364	360	-1	743	736	-1	1,170	1,160	-1	1,380	1,370	-1
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	94	92	-2	294	291	-1	626	619	-1	1,030	1,020	-1	1,240	1,230	-1
270	4.920	38th Street (CTH N)	90	89	-1	297	294	-1	656	649	-1	1,110	1,100	-1	1,370	1,330	-3
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	88	87	-1	237	235	-1	471	465	-1	748	738	-1	964	877	-1
256	7.491	0.5 mile downstream of 12th Street (CTH E)	85	84	-1	217	214	-1	420	414	-1	659	647	-2	819	765	-7
250	8.009	12th Street (CTH E)	83	82	-1	211	208	-1	406	399	-2	634	623	-2	772	735	-5
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	74	73	-1	172	170	-1	311	307	-1	465	458	-2	541	532	-2
226	11.717	0.2 mile downstream of Braun Road	73	73	0	181	181	0	346	344	-1	541	536	-1	639	633	-1
222	12.355	Private drive 0.4 mile upstream of Braun Road	69	69	0	162	162	0	289	289	0	428	428	0	495	495	0

Unnamed Tributary No. 5 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years) 1.01 Without Wetland Restoration	1.01 Wetland Restoration	1.01 Percent Difference	2 Without Wetland Restoration	2 Wetland Restoration	2 Percent Difference	10 Without Wetland Restoration	10 Wetland Restoration	10 Percent Difference	50 Without Wetland Restoration	50 Wetland Restoration	50 Percent Difference	100 Without Wetland Restoration	100 Wetland Restoration	100 Percent Difference
278	0.049	- -	9	9	0	32	32	0	73	72	-1	125	124	-1	153	152	-1
276	0.841	- -	0	0	0	5	5	0	24	24	0	59	58	-2	81	80	-1

Table J-3 (continued)

Unnamed Tributary No. 8 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
268	0.113	- -	21	21	0	99	98	-1	288	285	-1	590	581	-2	590	757	-2
266	0.750	- -	8	8	0	80	79	-1	313	311	-1	749	742	-1	1,030	1,020	-1

Unnamed Tributary No. 13 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
258	0.055	- -	3	3	0	21	21	0	74	73	-1	165	164	-1	221	219	-1

Unnamed Tributary No. 15 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
240	0.080	- -	4	4	0	26	25	-4	79	77	-3	166	160	-4	217	210	-3
238	0.433	Private drive	4	4	0	25	24	-4	80	77	-4	171	165	-4	226	218	-4

Unnamed Tributary No. 18 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
230	0.085	- -	35	35	0	108	108	0	242	241	0	421	418	-1	518	514	-1

Table J-3 (continued)

Dutch Gap Canal																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	53	52	-2	205	203	-1	431	428	-1	673	670	0	787	785	0
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	31	31	0	110	109	-1	212	210	-1	308	307	0	351	350	0
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	29	28	-3	87	85	-2	162	160	-1	238	237	0	273	272	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	12	-8	45	44	-2	91	90	-1	138	137	-1	160	159	-1
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	6	-14	21	21	0	40	39	-3	57	56	-2	64	64	0

Mud Lake Outlet																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	22	22	0	57	57	0	90	90	0	116	115	-1	126	125	-1
446	0.840	0.2 mile upstream of USH 45	29	29	0	55	55	0	75	75	0	89	89	0	94	94	0

Unnamed Tributary No. 3 to Dutch Gap Canal																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
432	0.076	- -	8	8	0	28	28	0	62	62	0	106	105	-1	129	128	-1
424	0.569	- -	3	3	0	12	12	0	29	29	0	51	50	-2	62	62	-0

Table J-3 (continued)

Unnamed Tributary No. 4 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference	Without Wetland Restoration	Wetland Restoration	Percent Difference
428	0.026	- -	4	4	0	15	15	0	35	35	0	62	62	0	77	77	0

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *Based on the criteria that were applied to identify candidate sites for wetland restoration, no restoration sites were identified in the areas tributary to Unnamed Tributary Nos. 1, 1a, 1b, 1c, 2, 2a, 5, and 5b to the Des Plaines River; the Pleasant Prairie Tributary; Unnamed Tributary No. 4 to Center Creek; Unnamed Tributary No. 2 to the Salem Branch of Brighton Creek; Unnamed Tributary No. 1 to Kilbourn Road Ditch; Jerome Creek; and Unnamed Tributary Nos. 2, 3, 4, and 5 to Jerome Creek. Therefore, those streams are not included in this table.*

Source: SEWRPC.

Table J-4

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS

COMPARISON OF 1990 LAND USE CONDITIONS AND PLANNED LAND USE WITH PRAIRIE RESTORATION ON ALL CANDIDATE SITES[a,b]

Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	45	51	13	183	166	-9	413	355	-14	687	585	-15	825	702	-15
62	16.140	370 feet upstream of CTH N	35	43	23	150	136	-9	366	305	-17	646	527	-18	794	646	-19
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	38	58	53	202	195	-3	576	468	-19	1130	853	-25	1,450	1,070	-26
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	36	56	56	192	189	-2	551	449	-19	1,090	815	-25	1,400	1,020	-27
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	34	58	71	188	193	3	545	452	-17	1,080	811	-25	1,390	1,010	-27
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	32	58	81	174	188	8	506	430	-15	1,010	754	-25	1,300	931	-28
29	20.163	Private drive	27	76	181	141	208	48	395	410	4	768	644	-16	977	762	-22
16	20.594	0.6 mile downstream of County Line Road	9	21	133	51	64	25	145	135	-7	278	219	-21	351	262	-25
8	21.196	County Line Road	4	9	125	29	37	28	100	94	-6	219	179	-18	291	227	-22
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	11	-27	62	45	-27	155	115	-26	216	161	-25

Unnamed Tributary No. 37 to the Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
12	0.045	- -	5	16	220	20	42	110	60	87	45	125	143	14	165	173	5

Table J-4 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
6	0.004	- -	2	9	350	14	27	93	45	61	36	100	107	7	130	132	2
4	0.673	- -	3	13	333	13	34	162	35	71	103	75	117	56	100	142	42

Union Grove Industrial Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	17	57	235	88	153	74	256	305	19	515	489	-5	667	583	-13
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	17	73	329	66	186	182	172	357	108	334	560	68	428	662	55

Fonk's Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
20	0.027	- -	3	6	100	28	29	4	108	90	-17	254	191	-25	347	253	-27

Table J-4 (continued)

Lower Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
384	0.000	Wisconsin-Illinois state line	171	209	22	797	801	1	1,570	1,510	-4	2,240	2,130	-5	2,520	2,390	-5
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	172	213	24	808	813	1	1,610	1,550	-4	2,330	2,210	-5	2,620	2,490	-5
358	2.267	0.7 mile downstream of STH 165	169	216	28	807	814	1	1,630	1,560	-4	2,380	2,260	-5	2,690	2,560	-5
304	3.213	0.3 mile upstream of STH 165	158	186	18	744	736	-1	1,530	1,460	-5	2,270	2,160	-5	2,590	2,470	-5
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	151	201	33	718	726	1	1,520	1,450	-5	2,300	2,180	-5	2,650	2,520	-5
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	118	115	-3	537	510	-5	1,100	1,030	-6	1,630	1,520	-7	1,870	1,730	-7
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	116	116	0	519	490	-6	1,080	1,000	-7	1,630	1,500	-8	1,880	1,720	-9
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	116	116	0	514	486	-5	1,080	995	-8	1,630	1,490	-9	1,880	1,720	-9
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	110	114	4	491	464	-5	1,040	957	-8	1,590	1,450	-9	1,840	1,680	-9
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	106	112	6	480	452	-6	1,030	946	-8	1,600	1,460	-9	1,860	1,700	-9
156	12.600	0.4 mile downstream of 75th Street (STH 50)	102	109	7	465	438	-6	1,010	925	-8	1,590	1,440	-9	1,850	1,680	-9
154	13.569	0.5 mile upstream of 75th Street (STH 50)	101	109	8	464	437	-6	1,020	930	-9	1,610	1,460	-9	1,880	1,710	-9
152	14.140	50 feet upstream of 60th Street (CTH K)	101	108	7	464	438	-6	1,020	931	-9	1,610	1,460	-9	1,880	1,710	-9

Unnamed Tributary No. 1e to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
380	1.300	- -	7	46	557	52	120	131	142	216	52	249	317	27	302	364	21
374	1.939	- -	5	21	320	23	54	135	57	91	60	99	127	28	120	142	18
372	2.567	- -	1	1	0	7	7	0	17	16	-6	27	26	-4	32	31	-3

Table J-4 (continued)

Unnamed Tributary No. 1f to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
378	0.081	- -	3	5	67	24	26	8	64	65	2	112	111	-1	136	134	-1

Unnamed Tributary No. 2 to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
368	1.063	- -	4	30	650	17	78	359	47	148	215	91	227	149	116	266	129
366	1.600	- -	1	4	300	5	16	220	13	40	208	27	73	170	34	91	168

Unnamed Tributary No. 7 to the Des Plaines River																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
340	0.598	- -	12	86	617	89	215	142	236	389	65	403	574	42	482	663	38
338	0.831	- -	7	67	857	66	153	132	177	257	45	297	357	20	351	403	15

Table J-4 (continued)

Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	19	37	95	155	166	7	418	394	-6	723	667	-8	869	805	-7
206	1.338	0.3 mile downstream of 144th Avenue	15	25	67	114	109	-4	333	281	-16	630	525	-17	788	660	-16
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	12	20	67	100	93	-7	323	260	-20	655	515	-21	839	662	-21
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	6	-14	72	57	-21	262	199	-24	574	428	-25	758	561	-26

Unnamed Tributary No. 1 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
212	0.041	- -	2	14	600	35	59	69	127	149	17	257	269	5	325	335	3
210	0.888	- -	1	18	1700	19	63	232	78	140	79	165	238	44	212	289	36

Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	61	68	11	296	292	-1	660	634	-4	1,040	1,000	-4	1,220	1,180	-3
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	57	64	12	310	310	0	716	692	-3	1,150	1,100	-4	1,340	1,290	-4
114	3.165	0.5 mile downstream of 60th Street (CTH K)	33	41	24	203	199	-2	483	457	-5	779	744	-4	914	881	-4
113	4.649	60th Street (CTH K)	29	28	-3	169	157	-7	425	386	-9	725	656	-10	873	788	-10
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	21	-9	148	135	-9	388	350	-10	683	610	-11	831	739	-11
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	19	-5	148	130	-12	437	377	-14	836	714	-15	1,050	893	-15
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	16	-6	128	115	-10	381	386	1	726	639	-12	909	801	-12

Table J-4 (continued)

Unnamed Tributary No. 9 to Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
84	10.189	- -	5	5	0	44	41	-7	127	119	-6	231	218	-6	283	268	-5
82	11.315	Vern Wolf Lake outlet	1	1	0	6	6	0	12	12	0	16	16	0	18	18	0

Unnamed Tributary No. 6 to Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
110	0.590	- -	8	9	13	41	43	5	99	100	1	164	162	-1	194	192	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	95	-1
106	2.152	60th Street (CTH K)	3	8	167	14	21	50	34	41	21	63	65	3	78	78	0
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	9	-10

Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	24	34	42	118	129	9	277	276	0	456	439	-4	543	518	-5
132	0.600	160 feet downstream of 216th Avenue	17	23	35	62	68	10	124	127	2	189	188	-1	219	217	-1
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	17	30	76	51	66	29	97	111	14	147	155	5	171	176	3
126	2.214	0.2 mile downstream of Hooker Lake outlet	4	6	50	14	16	14	29	31	7	46	49	7	55	58	5
124	2.370	Hooker Lake outlet	4	5	25	13	15	15	28	30	7	44	46	5	52	54	4

Table J-4 (continued)

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
142	0.100	- -	8	14	75	56	61	9	151	147	-3	269	252	-6	329	307	-7
140	1.167	- -	2	5	150	17	19	12	44	42	-5	77	69	-10	93	83	-11

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
130	0.000	- -	7	9	29	17	20	18	31	34	10	47	48	2	54	55	2
128	0.896	Montgomery Lake outlet	8	9	13	14	15	7	20	20	0	25	25	0	27	27	0

Unnamed Tributary No. 1 to Hooker Lake

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
122	0.000	- -	2	13	550	29	44	52	99	101	2	192	173	-10	241	212	-12
120	0.835	CTH AH	1	1	0	12	13	8	43	42	-2	86	84	-2	109	106	-3

Table J-4 (continued)

Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
294	0.154	- -	59	178	202	301	448	49	721	831	15	1,210	1,260	4	1,450	1,460	1
291	1.022	0.3 mile downstream of 75th Street (STH 50)	57	179	214	299	454	52	720	842	17	1,210	1,270	5	1,450	1,480	2
286	1.315	75th Street (STH 50)	55	164	198	286	422	48	690	788	14	1,160	1,190	3	1,400	1,340	-4
281	2.803	60th Street (CTH K)	49	110	124	264	320	21	650	632	-3	1,110	983	-11	1,340	1,160	-13
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	44	92	109	215	262	22	554	530	-4	1,000	852	-15	1,250	1,020	-18
270	4.920	38th Street (CTH N)	43	90	109	223	258	16	592	536	-9	1,100	879	-20	1,370	1,060	-23
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	36	87	142	171	216	26	432	412	-5	779	639	-18	964	754	-22
256	7.491	0.5 mile downstream of 12th Street (CTH E)	33	84	155	146	202	38	366	378	3	661	581	-12	819	683	-17
250	8.009	12th Street (CTH E)	32	82	156	137	197	44	344	367	7	622	563	-9	772	661	-14
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	20	74	270	76	164	116	187	288	54	339	424	25	422	489	16
226	11.717	0.2 mile downstream of Braun Road	14	73	421	50	175	250	119	323	171	327	492	50	262	575	119
222	12.355	Private drive 0.4 mile upstream of Braun Road	16	69	331	50	161	222	112	288	157	228	425	86	236	491	108

Unnamed Tributary No. 5 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
278	0.049	- -	5	9	80	25	28	12	65	58	-11	130	97	-25	160	149	-7
276	0.841	- -	0	0	0	5	4	-20	25	19	-24	60	47	-22	80	80	0

Table J-4 (continued)

Unnamed Tributary No. 8 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
268	0.113	- -	9	21	133	75	78	4	280	199	-29	645	378	-41	875	482	-45
266	0.750	- -	8	8	0	80	53	-34	310	195	-37	745	464	-38	1,020	641	-37

Unnamed Tributary No. 13 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
258	0.055	- -	2	3	50	20	17	-15	70	54	-23	165	119	-28	220	160	-27

Unnamed Tributary No. 15 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
240	0.080	- -	4	4	0	25	23	-8	79	69	-13	166	142	-14	219	184	-16
238	0.433	Private drive	4	4	0	24	22	-8	79	68	-14	171	144	-16	226	190	-16

Unnamed Tributary No. 18 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
230	0.085	- -	5	35	600	40	105	163	145	232	60	325	398	22	435	488	12

Table J-4 (continued)

Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	49	52	6	197	196	-1	421	412	-2	665	645	-3	782	757	-3
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	29	30	3	108	106	-2	210	203	-3	309	297	-4	353	338	-4
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	26	28	8	84	84	0	161	158	-2	238	232	-3	274	266	-3
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	11	-15	45	43	-4	91	89	-2	138	135	-2	160	157	-2
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	5	-29	21	19	-10	39	37	-5	56	52	-7	64	59	-8

Mud Lake Outlet																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	18	22	22	54	57	6	90	90	0	117	114	-3	128	124	-3
446	0.840	0.2 mile upstream of USH 45	19	29	53	52	55	6	77	75	-3	92	88	-4	98	94	-4

Unnamed Tributary No. 3 to Dutch Gap Ca+nal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
432	0.076	- -	8	8	0	28	27	-4	62	59	-5	106	98	-8	119	135	13
424	0.569	- -	2	3	50	10	11	10	28	27	-4	50	47	-6	58	68	17

Table J-4 (continued)

Unnamed Tributary No. 4 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	Prairie Restoration (planned land use)	Percent Difference
428	0.026	- -	4	4	0	15	14	-7	35	33	-6	62	59	-5	77	73	-5

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *Based on the criteria that were applied to identify candidate sites for prairie restoration, no restoration sites were identified in the areas tributary to Unnamed Tributary Nos. 1, 1a, 1b, 1c, 2a, 5, and 5b to the Des Plaines River; the Pleasant Prairie Tributary; Unnamed Tributary No. 4 to Center Creek; Unnamed Tributary No. 2 to the Salem Branch of Brighton Creek; Unnamed Tributary No. 1 to Kilbourn Road Ditch; Jerome Creek; and Unnamed Tributary Nos. 2, 3, 4, and 5 to Jerome Creek. Therefore, those streams are not included in this table.*

Source: SEWRPC.

Table J-5

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS COMPARISON OF PLANNED LAND USE CONDITIONS WITH AND WITHOUT PRAIRIE RESTORATION ON ALL CANDIDATE SITES[a,b]

Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	57	51	-11	192	166	-14	420	355	-15	702	585	-17	847	702	-17
62	16.140	370 feet upstream of CTH N	46	43	-7	163	136	-17	379	305	-20	665	527	-21	818	646	-21
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	59	58	-2	237	195	-18	609	468	-23	1,150	853	-26	1,460	1,070	-27
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	58	56	-3	229	189	-17	586	449	-23	1,100	815	-26	1,390	1,020	-27
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	59	58	-2	233	193	-17	585	452	-23	1,080	811	-25	1,360	1,010	-26
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	58	58	0	223	188	-16	552	430	-22	1,010	754	-25	1,260	931	-26
29	20.163	Private drive	76	76	0	228	208	-9	470	410	-13	758	644	-15	905	762	-16
16	20.594	0.6 mile downstream of County Line Road	21	21	0	73	64	-12	158	135	-15	261	219	-16	313	262	-16
8	21.196	County Line Road	9	9	0	41	37	-10	112	94	-16	218	179	-18	279	227	-19
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	11	-27	62	45	-27	155	115	-26	216	161	-25

Unnamed Tributary No. 37 to the Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
12	0.045	- -	16	16	0	44	42	-5	93	87	-6	157	143	-9	190	173	-9

Table J-5 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
6	0.004	- -	9	9	0	29	27	-7	66	61	-8	118	107	-9	146	132	-10
4	0.673	- -	13	13	0	34	34	0	71	71	0	117	117	0	142	142	0

Union Grove Industrial Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	57	57	0	163	153	-6	339	305	-10	557	489	-12	671	583	-13
27	1.245	26 feet downstream of Schroeder Road (Hwy KR)	75	76	1	208	203	-2	430	414	-4	709	675	-5	856	812	-5
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	73	73	0	186	186	0	359	357	-1	562	560	0	665	662	0

Fonk's Tributary																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
20	0.027	- -	6	6	0	36	29	-19	117	90	-23	255	191	-25	340	253	-26

Table J-5 (continued)

Lower Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
384	0.000	Wisconsin-Illinois state line	218	209	-4	855	801	-6	1,620	1,510	-7	2,290	2,130	-7	2,570	2,390	-7
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	222	213	-4	869	813	-6	1,670	1,550	-7	2,380	2,210	-7	2,690	2,490	-7
358	2.267	0.7 mile downstream of STH 165	225	216	-4	872	814	-7	1,690	1,560	-8	2,450	2,260	-8	2,780	2,560	-8
304	3.213	0.3 mile upstream of STH 165	196	186	-5	796	736	-8	1,600	1,460	-9	2,360	2,160	-8	2,700	2,470	-9
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	209	201	-4	787	726	-8	1,590	1,450	-9	2,410	2,180	-10	2,790	2,520	-10
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	127	115	-9	553	510	-8	1,120	1,030	-8	1,650	1,520	-8	1,880	1,730	-8
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	126	116	-8	533	490	-8	1,090	1,000	-8	1,640	1,500	-9	1,890	1,720	-9
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	126	116	-8	528	486	-8	1,090	995	-9	1,640	1,490	-9	1,890	1,720	-9
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	123	114	-7	503	464	-8	1,050	957	-9	1,610	1,450	-10	1,870	1,680	-10
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	121	112	-7	492	452	-8	1,040	946	-9	1,620	1,460	-10	1,900	1,700	-11
156	12.600	0.4 mile downstream of 75th Street (STH 50)	120	109	-9	478	438	-8	1,020	925	-9	1,610	1,440	-11	1,890	1,680	-11
154	13.569	0.5 mile upstream of 75th Street (STH 50)	119	109	-8	478	437	-9	1,030	930	-10	1,640	1,460	-11	1,930	1,710	-11
152	14.140	50 feet upstream of 60th Street (CTH K)	118	108	-8	478	438	-8	1,030	931	-10	1,640	1,460	-11	1,930	1,710	-11

Unnamed Tributary No. 1e to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
380	1.300	- -	46	46	0	120	120	0	218	216	-1	319	317	-1	366	364	-1
374	1.939	- -	21	21	0	55	54	-2	93	91	-2	129	127	-2	144	142	-1
372	2.567	- -	1	1	0	7	7	0	17	16	-6	27	26	-4	32	31	-3

Table J-5 (continued)

Unnamed Tributary No. 1f to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
378	0.081	- -	5	5	0	26	26	0	65	65	0	112	111	-1	135	134	-1

Unnamed Tributary No. 2 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
368	1.063	- -	31	30	-3	79	78	-1	149	148	-1	229	227	-1	268	266	-1
366	1.600	- -	4	4	0	17	16	-6	43	40	-7	78	73	-6	98	91	-7

Unnamed Tributary No. 7 to the Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
340	0.598	- -	88	86	-2	221	215	-3	400	389	-3	591	574	-3	682	663	-3
338	0.831	- -	68	67	-1	162	153	-6	275	257	-7	384	357	-7	434	403	-7

Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	38	37	-3	189	166	-12	459	394	-14	780	667	-14	941	805	-14
206	1.338	0.3 mile downstream of 144th Avenue	26	25	-4	128	109	-15	346	281	-19	656	525	-20	828	660	-20
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	20	20	0	110	93	-15	326	260	-20	654	515	-21	844	662	-22
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	6	-14	73	57	-22	267	199	-25	586	428	-27	773	561	-27

Table J-5 (continued)

Unnamed Tributary No. 1 to Center Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
212	0.041	- -	14	14	0	65	59	-9	168	149	-11	308	269	-13	383	335	-13
210	0.888	- -	18	18	0	63	63	0	140	140	0	238	238	0	289	289	0

Unnamed Tributary No. 5 to Center Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
202	0.000	- -	10	9	-10	31	29	-6	69	63	-9	118	106	-10	144	130	-10
201	0.689	156th Avenue (CTH MB)	1	1	0	11	6	-45	30	20	-33	50	38	-24	59	48	-19

Brighton Creek																	
HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	70	68	-3	309	292	-6	676	634	-6	1,070	1,000	-7	1,250	1,180	-6
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	65	64	-2	328	310	-5	736	692	-6	1,170	1,100	-6	1,370	1,290	-6
114	3.165	0.5 mile downstream of 60th Street (CTH K)	41	41	0	213	199	-7	496	457	-8	808	744	-8	956	881	-8
113	4.649	60th Street (CTH K)	29	28	-3	170	157	-8	429	386	-10	735	656	-11	885	788	-11
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	21	-9	149	135	-9	392	350	-11	690	610	-12	840	739	-12
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	19	-5	149	130	-13	442	377	-15	847	714	-16	1,060	893	-16
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	16	-6	129	115	-11	386	386	0	739	639	-14	927	801	-14

Table J-5 (continued)

Unnamed Tributary No. 9 to Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
84	10.189	- -	5	5	0	44	41	-7	128	119	-7	233	218	-6	286	268	-6
82	11.315	Vern Wolf Lake outlet	1	1	0	6	6	0	12	12	0	16	16	0	18	18	0

Unnamed Tributary No. 6 to Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
110	0.590	- -	9	9	0	43	43	0	100	100	0	163	162	-1	193	192	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	95	-1
106	2.152	60th Street (CTH K)	8	8	0	21	21	0	41	41	0	65	65	0	78	78	0
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	9	-10

Salem Branch of Brighton Creek

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	34	34	0	133	129	-3	286	276	-3	455	439	-4	537	518	-4
132	0.600	160 feet downstream of 216th Avenue	23	23	0	68	68	0	128	127	-1	189	188	-1	218	217	0
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	30	30	0	66	66	0	111	111	0	155	155	0	176	176	0
126	2.214	0.2 mile downstream of Hooker Lake outlet	6	6	0	16	16	0	31	31	0	49	49	0	58	58	0
124	2.370	Hooker Lake outlet	5	5	0	15	15	0	30	30	0	46	46	0	54	54	0

Table J-5 (continued)

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
142	0.100	- -	14	14	0	64	61	-5	155	147	-5	266	252	-5	323	307	-5
140	1.167	- -	5	5	0	20	19	-5	46	42	-9	77	69	-10	92	83	-10

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
130	0.000	- -	9	9	0	20	20	0	34	34	0	48	48	0	55	55	0
128	0.896	Montgomery Lake outlet	9	9	0	15	15	0	21	20	-5	26	25	-4	28	27	-4

Unnamed Tributary No. 1 to Hooker Lake

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
122	0.000	- -	13	13	0	46	44	-4	104	101	-3	180	173	-4	220	212	-4
120	0.835	CTH AH	1	1	0	14	13	-7	45	42	-7	88	84	-5	110	106	-4

Table J-5 (continued)

Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
294	0.154	- -	175	178	2	478	448	-6	910	831	-9	1,390	1,260	-9	1,620	1,460	-10
291	1.022	0.3 mile downstream of 75th Street (STH 50)	177	179	1	484	454	-6	919	842	-8	1,390	1,270	-9	1,620	1,480	-9
286	1.315	75th Street (STH 50)	160	164	3	454	422	-7	872	788	-10	1,330	1,190	-11	1,550	1,390	-10
281	2.803	60th Street (CTH K)	113	110	-3	364	320	-12	743	632	-15	1,170	983	-16	1,380	1,160	-16
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	94	92	-2	294	262	-11	626	530	-15	1,030	852	-17	1,240	1,020	-18
270	4.920	38th Street (CTH N)	90	90	0	297	258	-13	656	536	-18	1,110	879	-21	1,350	1,060	-21
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	88	87	-1	237	216	-9	471	412	-13	748	639	-15	890	754	-15
256	7.491	0.5 mile downstream of 12th Street (CTH E)	85	84	-1	217	202	-7	420	378	-10	659	581	-12	780	683	-12
250	8.009	12th Street (CTH E)	83	82	-1	211	197	-7	406	367	-10	634	563	-11	749	661	-12
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	74	74	0	172	164	-5	311	288	-7	465	424	-9	541	489	-10
226	11.717	0.2 mile downstream of Braun Road	73	73	0	181	175	-3	346	323	-7	541	492	-9	639	575	-10
222	12.355	Private drive 0.4 mile upstream of Braun Road	69	69	0	162	161	-1	289	289	0	428	425	-1	495	491	-1

Unnamed Tributary No. 5 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
278	0.049	- -	9	9	0	32	28	-13	73	58	-21	125	97	-22	153	117	-24
276	0.841	- -	0	0	0	5	4	-20	24	19	-21	59	47	-20	81	64	-21

Unnamed Tributary No. 8 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
268	0.113	- -	21	21	0	99	78	-21	288	199	-31	590	378	-36	770	482	-37
266	0.750	- -	8	8	0	80	53	-34	313	195	-38	749	464	-38	1,030	641	-38

Table J-5 (continued)

Unnamed Tributary No. 13 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
258	0.055	- -	3	3	0	21	17	-19	74	54	-27	165	119	-28	221	160	-28

Unnamed Tributary No. 15 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
240	0.080	- -	4	4	0	26	23	-12	79	69	-13	166	142	-14	217	184	-15
238	0.433	Private drive	4	4	0	25	22	-12	80	68	-15	171	144	-16	226	190	-16

Unnamed Tributary No. 18 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
230	0.085	- -	35	35	0	108	105	-3	242	232	-4	421	398	-5	518	488	-6

Table J-5 (continued)

Dutch Gap Canal

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	53	52	-2	205	196	-4	431	412	-4	673	645	-4	787	757	-4
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	31	30	-3	110	106	-4	212	203	-4	308	297	-4	351	338	-4
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	29	28	-3	87	84	-3	162	158	-2	238	232	-3	273	266	-3
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	11	-15	45	43	-4	91	89	-2	138	135	-2	160	157	-2
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	5	-29	21	19	-10	40	37	-8	57	52	-9	64	59	-8

Mud Lake Outlet

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	22	22	0	57	57	0	90	89	-1	116	114	-2	126	124	-2
446	0.840	0.2 mile upstream of USH 45	29	29	0	55	55	0	75	74	-1	89	88	-1	94	94	0

Unnamed Tributary No. 3 to Dutch Gap Canal

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
432	0.076	- -	8	8	0	28	27	-4	63	59	-6	106	98	-8	129	119	-8
424	0.569	- -	3	3	0	12	11	-8	29	27	-7	51	47	-8	62	58	-6

Table J-5 (continued)

Unnamed Tributary No. 4 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference	Without Prairie Restoration	Prairie Restoration	Percent Difference
428	0.026	- -	4	4	0	15	14	-7	35	33	-6	62	59	-5	77	73	-5

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *Based on the criteria that were applied to identify candidate sites for prairie restoration, no restoration sites were identified in the areas tributary to Unnamed Tributary Nos. 1, 1a, 1b, 1c, 2a, 5, and 5b to the Des Plaines River; the Pleasant Prairie Tributary; Unnamed Tributary No. 4 to Center Creek; Unnamed Tributary No. 2 to the Salem Branch of Brighton Creek; Unnamed Tributary No. 1 to Kilbourn Road Ditch; Jerome Creek; and Unnamed Tributary Nos. 2, 3, 4, and 5 to Jerome Creek. Therefore, those streams are not included in this table.*

Source: SEWRPC.

Table J-6

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS COMPARISON OF 1990 LAND USE CONDITIONS AND PLANNED LAND USE WITH PRAIRIE RESTORATION ON 10 PERCENT OF CANDIDATE SITES[a,b]

Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	45	56	24	183	189	3	413	413	0	687	689	0	825	831	1
62	16.140	370 feet upstream of CTH N	35	45	29	150	159	6	366	369	1	646	649	0	794	800	1
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	38	59	55	202	233	15	576	595	3	1,130	1,120	-1	1,450	1,420	-2
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	36	58	61	192	225	17	551	572	4	1,090	1,070	-2	1,400	1,350	-4
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	34	58	71	188	228	21	545	571	5	1,080	1,050	-3	1,390	1,320	-5
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	32	58	81	174	220	26	506	539	7	1,010	982	-3	1,300	1,230	-5
29	20.163	Private drive	27	76	181	141	226	60	395	464	17	768	746	-3	977	890	-9
16	20.594	0.6 mile downstream of County Line Road	9	21	133	15	72	380	145	156	8	278	257	-8	351	309	-12
8	21.196	County Line Road	4	9	125	29	41	41	100	111	11	219	216	-1	291	276	-5
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	14	-7	62	61	-2	155	151	-3	216	210	-3

Unnamed Tributary No. 37 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
12	0.045	- -	5	16	220	20	44	120	60	92	53	125	155	24	165	189	15

Table J-6 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
6	0.004	- -	2	9	350	14	29	107	45	66	47	100	118	18	130	147	13
4	0.673	- -	3	13	333	13	35	169	35	72	106	75	120	60	100	145	45

Union Grove Industrial Tributary

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	17	57	235	88	162	84	256	335	31	515	550	7	667	662	-1
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	17	73	329	66	186	182	172	358	108	334	561	68	428	664	55

Fonk's Tributary

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
20	0.027	- -	3	6	100	28	35	25	108	114	6	254	249	-2	347	331	-5

Table J-6 (continued)

Lower Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
384	0.000	Wisconsin-Illinois state line	171	217	27	797	850	7	1,570	1,610	3	2,240	2,270	1	2,520	2,550	1
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	172	221	28	808	864	7	1,610	1,650	2	2,330	2,370	2	2,620	2,670	2
358	2.267	0.7 mile downstream of STH 165	169	225	33	807	867	7	1,630	1,680	3	2,380	2,430	2	2,690	2,760	3
304	3.213	0.3 mile upstream of STH 165	158	195	23	744	790	6	1,530	1,580	3	2,270	2,340	3	2,590	2,680	3
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	151	209	38	718	781	9	1,520	1,580	4	2,300	2,390	4	2,650	2,760	4
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	118	126	7	537	549	2	1,100	1,110	1	1,630	1,640	1	1,870	1,870	0
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	116	126	9	519	529	2	1,080	1,080	0	1,630	1,630	0	1,880	1,870	-1
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	116	126	9	514	524	2	1,080	1,080	0	1,630	1,630	0	1,880	1,870	-1
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	110	123	12	491	500	2	1,040	1,040	0	1,590	1,590	0	1,840	1,850	1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	106	120	13	480	489	2	1,030	1,030	0	1,600	1,610	1	1,860	1,880	1
156	12.600	0.4 mile downstream of 75th Street (STH 50)	102	119	17	465	474	2	1,010	1,010	0	1,590	1,590	0	1,850	1,870	1
154	13.569	0.5 mile upstream of 75th Street (STH 50)	101	118	17	464	474	2	1,020	1,020	0	1,610	1,620	1	1,880	1,900	1
152	14.140	50 feet upstream of 60th Street (CTH K)	101	118	17	464	474	2	1,020	1,020	0	1,610	1,620	1	1,880	1,900	1

Unnamed Tributary No. 1e to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
380	1.300	- -	7	46	557	52	120	131	142	218	54	249	318	28	302	366	21
374	1.939	- -	5	21	320	23	54	135	57	93	63	99	128	29	120	144	20
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Table J-6 (continued)

Unnamed Tributary No. 1f to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
378	0.081	- -	3	5	67	24	26	8	64	65	2	112	112	0	136	135	-1

Unnamed Tributary No. 2 to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
368	1.063	- -	4	30	650	17	79	365	47	149	217	91	228	151	116	268	131
366	1.600	- -	1	4	300	5	17	240	13	43	231	27	78	189	34	97	185

Unnamed Tributary No. 7 to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
340	0.598	- -	12	88	633	89	220	147	236	399	69	403	589	46	482	680	41
338	0.831	- -	7	68	871	66	161	144	177	273	54	297	381	28	351	430	23

Table J-6 (continued)

Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	19	37	95	155	187	21	418	452	8	723	769	6	869	927	7
206	1.338	0.3 mile downstream of 144th Avenue	15	26	73	114	126	11	333	339	2	630	643	2	788	811	3
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	12	20	67	100	109	9	323	319	-1	655	640	-2	839	826	-2
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	72	71	-1	262	260	-1	574	570	-1	758	752	-1

Unnamed Tributary No. 1 to Center Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
212	0.041	- -	2	14	600	35	64	83	127	166	31	257	304	18	325	378	16
210	0.888	- -	1	18	1700	19	63	232	78	140	79	165	238	44	212	289	36

Table J-6 (continued)

Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	61	70	15	296	308	4	660	672	2	1,040	1,060	2	1,220	1,250	2
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	57	66	16	310	327	5	716	732	2	1,150	1,160	1	1,340	1,360	1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	33	41	24	203	212	4	483	493	2	779	802	3	914	949	4
113	4.649	60th Street (CTH K)	29	29	0	169	170	1	425	425	0	725	728	0	873	878	1
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	24	4	148	148	0	388	388	0	683	683	0	831	831	0
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	148	148	0	437	436	0	836	835	0	1,050	1,050	0
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	128	128	0	381	382	0	726	730	1	909	915	1

Unnamed Tributary No. 9 to Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
84	10.189	- -	5	5	0	44	44	0	127	127	0	231	231	0	283	283	0
82	11.315	Vern Wolf Lake outlet	1	1	0	6	6	0	12	12	0	16	16	0	18	18	0

Table J-6 (continued)

Unnamed Tributary No. 6 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
110	0.590	- -	8	9	13	41	43	5	99	100	1	164	163	-1	194	193	-1
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	3	8	167	14	21	50	34	41	21	63	65	3	78	78	0
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	24	34	42	118	133	13	277	285	3	456	454	0	543	535	-1
132	0.600	160 feet downstream of 216th Avenue	17	23	35	62	68	10	124	128	3	189	189	0	219	217	-1
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	17	30	76	51	66	29	97	111	14	147	155	5	171	176	3
126	2.214	0.2 mile downstream of Hooker Lake outlet	4	6	50	14	16	14	29	31	7	46	49	7	55	58	5
124	2.370	Hooker Lake outlet	4	5	25	13	15	15	28	30	7	44	46	5	52	54	4

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
142	0.100	- -	8	14	75	56	64	14	151	154	2	269	265	-1	329	322	-2
140	1.167	- -	2	5	150	17	20	18	44	46	5	77	76	-1	93	91	-2

Table J-6 (continued)

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
130	0.000	- -	7	9	29	17	20	18	31	34	10	47	48	2	54	55	2
128	0.896	Montgomery Lake outlet	8	9	13	14	15	7	20	20	0	25	26	4	27	28	4

Unnamed Tributary No. 1 to Hooker Lake																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
122	0.000	- -	2	13	550	29	46	59	99	104	5	192	179	-7	241	219	-9
120	0.835	CTH AH	1	1	0	12	14	17	43	44	2	86	87	1	109	110	1

Table J-6 (continued)

Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
294	0.154	- -	59	175	197	301	475	58	721	902	25	1,210	1,370	13	1,450	1,600	10
291	1.022	0.3 mile downstream of 75th Street (STH 50)	57	177	211	299	481	61	720	911	27	1,210	1,380	14	1,450	1,610	11
286	1.315	75th Street (STH 50)	55	160	191	286	451	58	690	863	25	1,160	1,310	13	1,400	1,530	9
281	2.803	60th Street (CTH K)	49	113	131	264	359	36	650	731	12	1,110	1,150	4	1,340	1,360	1
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	44	94	114	215	291	35	554	615	11	1,000	1,010	1	1,250	1,210	-3
270	4.920	38th Street (CTH N)	43	90	109	223	293	31	592	643	9	1,100	1,080	-2	1,370	1,310	-4
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	36	88	144	171	235	37	432	464	7	779	736	-6	964	875	-9
256	7.491	0.5 mile downstream of 12th Street (CTH E)	33	84	155	146	216	48	366	416	14	661	651	-2	819	770	-6
250	8.009	12th Street (CTH E)	32	83	159	137	209	53	344	402	17	622	627	1	772	740	-4
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	20	74	270	76	171	125	187	309	65	339	461	36	422	536	27
226	11.717	0.2 mile downstream of Braun Road	14	73	421	50	180	260	119	344	189	211	536	154	262	633	142
222	12.355	Private drive 0.4 mile upstream of Braun Road	16	69	331	50	162	224	112	289	158	192	428	123	236	495	110

Unnamed Tributary No. 5 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
278	0.049	- -	5	9	80	25	32	28	65	71	9	130	122	-6	160	149	-7
276	0.841	- -	0	0	0	5	5	0	25	23	-8	60	58	-3	80	80	0

Table J-6 (continued)

Unnamed Tributary No. 8 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
268	0.113	- -	9	21	133	75	97	29	280	279	0	645	567	-12	875	739	-16
266	0.750	- -	8	8	0	80	77	-4	310	301	-3	745	720	-3	1,020	988	-3

Unnamed Tributary No. 13 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
258	0.055	- -	2	3	50	20	21	5	70	72	3	165	160	-3	220	215	-2

Unnamed Tributary No. 15 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
240	0.080	- -	4	4	0	25	26	4	79	78	-1	166	163	-2	219	214	-2
238	0.433	Private drive	4	4	0	24	24	0	79	78	-1	171	168	-2	226	222	-2

Table J-6 (continued)

Unnamed Tributary No. 18 to Kilbourn Road Ditch

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
230	0.085	- -	5	35	600	40	108	170	145	241	66	325	418	29	435	515	18

Dutch Gap Canal

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	49	52	6	197	204	4	421	429	2	665	670	1	782	784	0
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	29	31	7	108	110	2	210	211	0	309	307	-1	353	350	-1
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	26	29	12	84	86	2	161	161	0	238	237	0	274	272	-1
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	45	0	91	91	0	138	138	0	160	160	0
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	21	0	39	39	0	56	56	0	64	64	0

Mud Lake Outlet

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	18	22	22	54	57	6	90	90	0	117	116	-1	128	126	-2
446	0.840	0.2 mile upstream of USH 45	19	29	53	52	55	6	77	75	-3	92	89	-3	98	94	-4

Table J-6 (continued)

Unnamed Tributary No. 3 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
432	0.076	- -	8	8	0	28	28	0	62	62	0	106	106	0	129	128	-1
424	0.569	- -	2	3	50	10	12	20	28	29	4	50	50	0	62	62	0

Unnamed Tributary No. 4 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference	1990 Land Use	10 Percent Prairie Restoration (planned land use)	Percent Difference
428	0.026	- -	4	4	0	15	15	0	35	35	0	62	62	0	77	77	0

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *Based on the criteria that were applied to identify candidate sites for prairie restoration, no restoration sites were identified in the areas tributary to Unnamed Tributary Nos. 1, 1a, 1b, 1c, 2a, 5, and 5b to the Des Plaines River; the Pleasant Prairie Tributary; Unnamed Tributary No. 4 to Center Creek; Unnamed Tributary No. 2 to the Salem Branch of Brighton Creek; Unnamed Tributary No. 1 to Kilbourn Road Ditch; Jerome Creek; and Unnamed Tributary Nos. 2, 3, 4, and 5 to Jerome Creek. Therefore, those streams are not included in this table.*

Source: SEWRPC.

Table J-7

FLOOD DISCHARGES FOR THE DES PLAINES RIVER WATERSHED—EXISTING CHANNEL CONDITIONS COMPARISON OF PLANNED LAND USE CONDITIONS WITH AND WITHOUT PRAIRIE RESTORATION ON 10 PERCENT OF CANDIDATE SITES[a,b]

Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
68	14.810	0.7 mile upstream of 60th Street (CTH K)	57	56	-2	192	189	-2	420	413	-2	702	689	-2	847	831	-2
62	16.140	370 feet upstream of CTH N	46	45	-2	163	159	-2	379	369	-3	665	649	-2	818	800	-2
58	17.571	0.7 mile downstream of Burlington Road (STH 142)	59	59	0	237	233	-2	609	595	-2	1,150	1,120	-3	1,460	1,420	-3
54	18.110	0.2 mile downstream of Burlington Road (STH 142)	58	58	0	229	225	-2	586	572	-2	1,100	1,070	-3	1,390	1,350	-3
50	18.916	0.6 mile upstream of Burlington Road (STH 142)	59	58	-2	233	228	-2	585	571	-2	1,080	1,050	-3	1,360	1,320	-3
44	19.350	1.1 miles upstream of Burlington Road (STH 142)	58	58	0	223	220	-1	552	539	-2	1,010	982	-3	1,260	1,230	-2
29	20.163	Private drive	76	76	0	228	226	-1	470	464	-1	758	746	-2	905	890	-2
16	20.594	0.6 mile downstream of County Line Road	21	21	0	73	72	-1	158	156	-1	261	257	-2	313	309	-1
8	21.196	County Line Road	9	9	0	41	41	0	112	111	-1	219	216	-1	279	276	-1
2	21.791	0.6 mile upstream of County Line Road	1	1	0	15	1 4	-7	62	61	-2	155	151	-3	216	210	-3

Unnamed Tributary No. 37 to the Upper Des Plaines River																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
12	0.045	- -	16	16	0	44	44	0	93	92	-1	157	155	-1	190	189	-1

Table J-7 (continued)

Unnamed Tributary No. 38 to the Upper Des Plaines River

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
6	0.004	- -	9	9	0	29	29	0	66	66	0	118	118	0	146	147	1
4	0.673	- -	13	13	0	34	35	3	71	72	1	117	120	3	142	145	2

Union Grove Industrial Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
28	0.008	40 feet upstream confluence with the Des Plaines River	57	57	0	163	162	-1	339	335	-1	557	550	-1	671	662	-1
27	1.245	26 feet downstream of Schroeder Road (Hwy KR)	75	75	0	208	207	0	430	428	0	709	706	0	856	852	0
26	1.524	0.3 mile upstream of Schroeder Road (Hwy KR)	73	73	0	186	186	0	359	358	0	562	561	0	665	664	0

Fonk's Tributary

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
20	0.027	- -	6	6	0	36	35	-3	117	114	-3	255	249	-2	340	331	-3

Table J-7 (continued)

			Lower Des Plaines River														
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
384	0.000	Wisconsin-Illinois state line	218	217	0	855	850	-1	1,620	1,610	-1	2,290	2,270	-1	2,570	2,550	-1
362	1.323	0.6 mile upstream of 122nd Street (CTH ML)	222	221	0	869	864	-1	1,670	1,650	-1	2,380	2,370	0	2,690	2,670	-1
358	2.267	0.7 mile downstream of STH 165	225	225	0	872	867	-1	1,690	1,680	-1	2,450	2,430	-1	2,780	2,760	-1
304	3.213	0.3 mile upstream of STH 165	196	195	-1	796	790	-1	1,600	1,580	-1	2,360	2,340	-1	2,700	2,680	-1
298	4.659	1.0 mile downstream of Wilmot Road (CTH C)	209	209	0	787	781	-1	1,590	1,580	-1	2,410	2,390	-1	2,790	2,760	-1
216	6.297	210 feet downstream of 120th Avenue (East Frontage Road)	127	126	-1	553	549	-1	1,120	1,110	-1	1,650	1,640	-1	1,880	1,870	-1
172	7.261	0.9 mile upstream of 120th Avenue (West Frontage Road)	126	126	0	533	529	-1	1,090	1,080	-1	1,640	1,630	-1	1,890	1,870	-1
170	8.491	1.3 miles downstream of 160th Avenue (CTH MB)	126	126	0	528	524	-1	1,090	1,080	-1	1,640	1,630	-1	1,890	1,870	-1
166	9.627	0.2 mile downstream of 160th Avenue (CTH MB)	123	123	0	503	500	-1	1,050	1,040	-1	1,610	1,590	-1	1,870	1,850	-1
162	11.334	1.5 miles upstream of 160th Avenue (CTH MB)	121	120	-1	492	489	-1	1,040	1,030	-1	1,620	1,610	-1	1,900	1,880	-1
156	12.600	0.4 mile downstream of 75th Street (STH 50)	120	119	-1	478	474	-1	1,020	1,010	-1	1,610	1,590	-1	1,890	1,870	-1
154	13.569	0.5 mile upstream of 75th Street (STH 50)	119	118	-1	478	474	-1	1,030	1,020	-1	1,640	1,620	-1	1,930	1,900	-2
152	14.140	50 feet upstream of 60th Street (CTH K)	118	118	0	478	474	-1	1,030	1,020	-1	1,640	1,620	-1	1,930	1,900	-2

			Unnamed Tributary No. 1e to the Des Plaines River														
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
380	1.300	- -	46	46	0	120	120	0	218	218	0	319	318	0	366	366	0
374	1.939	- -	21	21	0	55	54	-2	93	93	0	129	128	-1	144	144	0
372	2.567	- -	1	1	0	7	7	0	17	17	0	27	27	0	32	32	0

Table J-7 (continued)

Unnamed Tributary No. 1f to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
378	0.081	- -	5	5	0	26	26	0	65	65	0	112	112	0	135	135	0

Unnamed Tributary No. 2 to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
368	1.063	- -	31	30	-3	79	79	0	149	149	0	229	228	0	268	268	0
366	1.600	- -	4	4	0	17	17	0	43	43	0	78	78	0	98	97	-1

Unnamed Tributary No. 7 to the Des Plaines River

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
340	0.598	- -	88	88	0	221	220	0	400	399	0	591	589	0	682	680	0
338	0.831	- -	68	68	0	162	161	-1	275	273	-1	384	381	-1	434	430	-1

Table J-7 (continued)

Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
214	0.202	1,070 feet upstream confluence with the Des Plaines River	38	37	-3	189	187	-1	459	452	-2	780	769	-1	941	927	-1
206	1.338	0.3 mile downstream of 144th Avenue	26	26	0	128	126	-2	346	339	-2	656	643	-2	828	811	-2
204	2.360	Private drive 0.1 mile upstream of 75th Street (STH 50)	20	20	0	110	109	-1	326	319	-2	654	640	-2	844	826	-2
192	3.642	0.1 mile downstream of 60th Street (CTH K)	7	7	0	73	71	-3	267	260	-3	586	570	-3	773	752	-3

Unnamed Tributary No. 1 to Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
212	0.041	- -	14	14	0	65	64	-2	168	166	-1	308	304	-1	383	378	-1
210	0.888	- -	18	18	0	63	63	0	140	140	0	238	238	0	289	289	0

Unnamed Tributary No. 5 to Center Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
202	0.000	- -	10	10	0	31	31	0	69	69	0	118	117	-1	144	143	-1
201	0.689	156th Avenue (CTH MB)	1	1	0	11	10	-9	30	29	-3	50	49	-2	59	57	-3

Table J-7 (continued)

Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
148	0.306	1,620 feet upstream confluence with the Des Plaines River	70	70	0	309	308	0	676	672	-1	1,070	1,060	-1	1,250	1,250	0
146	1.350	0.5 mile downstream of Bristol Road (USH 45)	65	66	2	328	327	0	736	732	-1	1,170	1,160	-1	1,370	1,360	-1
114	3.165	0.5 mile downstream of 60th Street (CTH K)	41	41	0	213	212	0	496	493	-1	808	802	-1	956	949	-1
113	4.649	60th Street (CTH K)	29	29	0	170	170	0	429	425	-1	735	728	-1	885	878	-1
112	5.100	0.5 mile upstream of 60th Street (CTH K)	23	24	4	149	148	-1	392	388	-1	690	683	-1	840	831	-1
96	6.031	0.2 mile downstream of 45th Street (CTH NN)	20	20	0	149	148	-1	442	436	-1	847	835	-1	1,060	1,050	-1
90	7.631	0.2 mile downstream of 31st Street (CTH JB)	17	17	0	129	128	-1	386	382	-1	739	730	-1	927	915	-1

Unnamed Tributary No. 9 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
84	10.189	- -	5	5	0	44	44	0	128	127	-1	233	231	-1	286	283	-1
82	11.315	Vern Wolf Lake outlet	1	1	0	6	6	0	12	12	0	16	16	0	18	18	0

Unnamed Tributary No. 6 to Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
110	0.590	- -	9	9	0	43	43	0	100	100	0	163	163	0	193	193	0
108	1.674	- -	5	5	0	18	18	0	42	42	0	76	76	0	96	96	0
106	2.152	60th Street (CTH K)	8	8	0	21	21	0	41	41	0	65	65	0	78	78	0
104	2.330	League Lake outlet	1	1	0	2	2	0	5	5	0	8	8	0	10	10	0

Table J-7 (continued)

Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
144	0.077	4110 feet upstream confluence with the Des Plaines River	34	34	0	133	133	0	286	285	0	456	454	0	537	535	0
132	0.600	160 feet downstream of 216th Avenue	23	23	0	68	68	0	128	128	0	189	189	0	218	217	0
131	2.153	Reach 118, 126, and 130; 53 feet downstream of private bridge	30	30	0	66	66	0	111	111	0	155	155	0	176	176	0
126	2.214	0.2 mile downstream of Hooker Lake outlet	6	6	0	16	16	0	31	31	0	49	49	0	58	58	0
124	2.370	Hooker Lake outlet	5	5	0	15	15	0	30	30	0	46	46	0	54	54	0

Unnamed Tributary No. 1 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
142	0.100	- -	14	14	0	64	64	0	155	154	-1	266	265	0	323	322	0
140	1.167	- -	5	5	0	20	20	0	46	46	0	77	76	-1	92	91	-1

Unnamed Tributary No. 3 to Salem Branch of Brighton Creek

HSPF Model Reach No.	River Mile	Location	Recurrence Interval (years)														
			1.01			2			10			50			100		
			Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
130	0.000	- -	9	9	0	20	20	0	34	34	0	48	48	0	55	55	0
128	0.896	Montgomery Lake outlet	9	9	0	15	15	0	21	20	-5	26	26	0	28	28	0

Table J-7 (continued)

Unnamed Tributary No. 1 to Hooker Lake																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
122	0.000	- -	13	13	0	46	46	0	104	104	0	180	179	-1	220	219	0
120	0.835	CTH AH	1	1	0	14	14	0	45	44	-2	88	87	-1	110	110	0

Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
294	0.154	- -	175	175	0	478	475	-1	910	902	-1	1,390	1,370	-1	1,620	1,600	-1
291	1.022	0.3 mile downstream of 75th Street (STH 50)	177	177	0	484	481	-1	919	911	-1	1,390	1,380	-1	1,620	1,610	-1
286	1.315	75th Street (STH 50)	160	160	0	454	451	-1	872	863	-1	1,330	1,310	-2	1,550	1,530	-1
281	2.803	60th Street (CTH K)	113	113	0	364	359	-1	743	731	-2	1,170	1,150	-2	1,380	1,360	-1
274	3.910	0.5 mile upstream of 52nd Street (STH 158)	94	94	0	294	291	-1	626	615	-2	1,030	1,010	-2	1,240	1,210	-2
270	4.920	38th Street (CTH N)	90	90	0	297	293	-1	656	643	-2	1,110	1,080	-3	1,370	1,310	-4
260	6.196	0.7 mile upstream of Burlington Road (STH 142)	88	88	0	237	235	-1	471	464	-1	748	736	-2	964	875	-9
256	7.491	0.5 mile downstream of 12th Street (CTH E)	85	84	-1	217	216	0	420	416	-1	659	651	-1	819	770	-6
250	8.009	12th Street (CTH E)	83	83	0	211	209	-1	406	402	-1	634	627	-1	772	740	-4
232	10.090	0.7 mile downstream of County Line Road (CTH KR)	74	74	0	172	171	-1	311	309	-1	465	461	-1	541	536	-1
226	11.717	0.2 mile downstream of Braun Road	73	73	0	181	180	-1	346	344	-1	541	536	-1	639	633	-1
222	12.355	Private drive 0.4 mile upstream of Braun Road	69	69	0	162	162	0	289	289	0	428	428	0	495	495	0

Unnamed Tributary No. 5 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
278	0.049	- -	9	9	0	32	32	0	73	71	-3	125	122	-2	153	149	-3
276	0.841	- -	0	0	0	5	5	0	24	23	-4	59	58	-2	81	80	-1

Table J-7 (continued)

Unnamed Tributary No. 8 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
268	0.113	- -	21	21	0	99	97	-2	288	279	-3	590	567	-4	770	739	-4
266	0.750	- -	8	8	0	80	77	-4	313	301	-4	749	720	-4	1,030	988	-4

Unnamed Tributary No. 13 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
258	0.055	- -	3	3	0	21	21	0	74	72	-3	165	160	-3	221	215	-3

Unnamed Tributary No. 15 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
240	0.080	- -	4	4	0	26	26	0	79	78	-1	166	163	-2	217	214	-1
238	0.433	Private drive	4	4	0	25	24	-4	80	78	-3	171	168	-2	226	222	-2

Unnamed Tributary No. 18 to Kilbourn Road Ditch																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
230	0.085	- -	35	35	0	108	108	0	242	241	0	421	418	-1	518	515	-1

Table J-7 (continued)

Dutch Gap Canal

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
460	0.000	Wisconsin-Illinois state line/ 128th Street (CTH WG)	53	52	-2	205	204	0	431	429	0	673	670	0	787	784	0
458	0.455	0.5 mile upstream of 128th Street (CTH WG)	31	31	0	110	110	0	212	211	0	308	307	0	351	350	0
449	0.854	Reach 448 and 442; 0.2 mile downstream of 121st Street (CTH CJ)	29	29	0	87	86	-1	162	161	-1	238	237	0	273	272	0
442	1.588	0.5 mile downstream of 110th Street (CTH V)	13	13	0	45	45	0	91	91	0	138	138	0	160	160	0
434	3.452	0.6 mile downstream of 93rd Street (CTH C)	7	7	0	21	21	0	40	39	-3	57	56	-2	64	64	0

Mud Lake Outlet

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
448	0.000	Confluence with Dutch Gap Canal	22	22	0	57	57	0	90	90	0	116	116	0	126	126	0
446	0.840	0.2 mile upstream of USH 45	29	29	0	55	55	0	75	75	0	89	89	0	94	94	0

Unnamed Tributary No. 3 to Dutch Gap Canal

			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
432	0.076	- -	8	8	0	28	28	0	63	62	-2	106	106	0	129	128	-1
424	0.569	- -	3	3	0	12	12	0	29	29	0	51	50	-2	62	62	0

Table J-7 (continued)

Unnamed Tributary No. 4 to Dutch Gap Canal																	
			Recurrence Interval (years)														
			1.01			2			10			50			100		
HSPF Model Reach No.	River Mile	Location	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference	Without 10 Percent Restoration	10 Percent Prairie Restoration	Percent Difference
428	0.026	- -	4	4	0	15	15	0	35	35	0	62	62	0	77	77	0

[a] *Due to minor adjustments to the hydrologic model during the development of alternative plans, the flows in this table may not be exactly the same as those set forth at other locations in the watershed study report.*

[b] *Based on the criteria that were applied to identify candidate sites for prairie restoration, no restoration sites were identified in the areas tributary to Unnamed Tributary Nos. 1, 1a, 1b, 1c, 2a, 5, and 5b to the Des Plaines River; the Pleasant Prairie Tributary; Unnamed Tributary No. 4 to Center Creek; Unnamed Tributary No. 2 to the Salem Branch of Brighton Creek; Unnamed Tributary No. 1 to Kilbourn Road Ditch; Jerome Creek; and Unnamed Tributary Nos. 2, 3, 4, and 5 to Jerome Creek. Therefore, those streams are not included in this table.*

Source: SEWRPC.

EVALUATION OF EFFECTS ON FLOOD FLOWS[6]

Wetland Restoration

This section focuses on the flood mitigation functions of wetlands. The other functional values of wetlands, including maintenance of baseflow; filtration and storage of sediments, nutrients, or toxic substances; protection against shoreline erosion; the provision of habitat for aquatic organisms and resident and transient wildlife species; and recreational, cultural, educational, scientific, and natural aesthetic values are recognized in this plan and the preservation of existing wetlands along with the selective enhancement or restoration of wetlands, where appropriate, are recommended to promote these functional values.

The flood mitigation benefits commonly assigned to wetlands are often based on observation of the changes that have occurred in watersheds where large areas of wetlands have been drained, filled, and/or isolated from the floodplain through the construction of levees. Such activities are often accompanied by other activities such as construction of agricultural drainage features, including drain tiles and stream channel deepening and straightening, or urban development of land and the associated stormwater drainage features. In general those accompanying activities contribute significantly to increases in runoff volumes and/or flood flows. The effects of those activities combined with the loss of runoff/floodwater storage volume due to filling of wetlands, or the separation of wetlands from the floodplain with levees, have resulted in increases in flood flows and stages along stream systems. It is difficult to isolate the relative hydrologic effect of each of these activities; however, the filling of wetlands and the resulting loss of runoff and floodwater storage volume along with the additional runoff volume due to increases in the areas of impervious surfaces are significant factors causing larger flood flows and higher flood stages. Thus, preservation of runoff and floodwater storage volume is an important component of a plan to avoid increases in flood flows (Krause 1999). This hydrologic analyses conducted for this watershed study explicitly represent floodwater storage along streams, including such storage in existing and possible restored riparian wetlands. The representation of that storage assumes no large-scale alteration of topography associated with restoration of wetlands.

The literature documents the function of isolated depressional wetlands, such as prairie potholes, in storing water and reducing downstream flood flows (Novitzki, 1982; Kolva 1999). Such a conclusion is intuitive since such wetlands are functioning as natural retention areas that, depending on their size relative to their tributary areas, can store significant volumes of runoff that would otherwise reach streams. The effects of existing internally drained areas, including some wetlands, that store significant runoff volumes in the Des Plaines River watershed have been accounted for in the hydrologic model of the watershed. This plan recommends that wetlands be preserved, and that, with a few exceptions, internally drained areas outside of wetlands be preserved as runoff storage sites under planned land use conditions.

The construction of depressional wetlands that retain runoff from tributary areas has been cited (Hey and Associates, 2001; Marble, 1992) as an effective way of reducing flood flows and volumes. Such features do not rely on the wetland characteristics to reduce flood flows and volumes, but, rather, they utilize retention storage for that purpose. While such an approach is not incompatible with wetland restoration, its effectiveness is dependent on the retention of runoff, not the establishment of wetlands. This approach requires the construction of dikes or excavation to create the storage volumes for runoff. When applied in a floodplain, the construction of dikes, and the possible establishment of ponds within those dikes may actually decrease floodwater storage volumes and consequently increase flood flows. When applied outside floodplains, this method can be effective in reducing flood flows and volumes; however, to provide substantial flood control benefits during events with recurrence

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[6] *The analyses of the hydrologic effects of wetland and prairie restoration are based on relative adjustments to HSPF model parameters based on review of technical publications, including books and journals, and on limited information obtained by the Commission staff through interviews with other modelers who have attempted to model prairie or wetland conditions. The Commission staff was unable to locate specific, applicable information on HSPF parameters that have been calibrated to represent wetland or prairie conditions. That is an area where considerable research needs to be done.*

intervals up to, and including, 100 years, the retention storage volume that must be provided may be much larger than the volume necessary to establish wetland conditions.

The effects of the many other types of wetlands on flood flows are not as well documented. The very nature of many wetlands as areas where soils are frequently saturated runs counter to the idea that wetlands will function to remove significant quantities of runoff from the surface water portion of the hydrologic cycle. While infiltration rates in wetlands are enhanced due to both the hydraulic head created when surface water ponds and the increased hydraulic conductivity of saturated soils, the available water storage volume in the soil column is reduced due to saturation during the times of the year when surface water flooding conditions are most likely (Carter, 1999).[7,8] Thus, while infiltration may be possible, the ability of the soil column to store infiltrated surface water may be limited.

The USEPA HSPF continuous simulation hydrologic model represents the various components of the hydrologic cycle in considerable detail, enables seasonal variations in hydrologic parameters to be specified, and simulates seasonal variations in hydrologic conditions. Therefore, it is well-suited to the analysis of the effects of changes to factors representing different components of the cycle. The hydrologic characteristics of wetlands relative to those of agricultural land are represented in the HSPF model by the parameter values set forth in Table J-1. Those parameters recognize that wetlands can be expected to enhance 1) interception storage of precipitation (CEPSC), 2) upper zone groundwater storage (UZSN), 3) surface storage created by varying “microtopography” (UZSN), 4) resistance to overland flow (NSUR), and 5) evapotranspiration (LZETP). The parameter set also recognizes that wetlands can be expected to reduce storage in the lower soil zone (LZSN) relative to that for the drained cropland condition. That reduction is expected because the higher groundwater levels associated with wetland conditions would reduce the water storage volume in the soil column relative to the drained condition where the groundwater table is lowered.

The modeling efforts undertaken for this watershed study offer some insight into the complex issues related to the role of wetlands in the hydrologic cycle. The results set forth in Chapter XII and in Tables J-2 and J-3 indicate that the establishment of wetlands on all candidate sites in the Des Plaines River watershed (14.8 square miles, or 11 percent of the watershed area) under planned land use conditions would have the potential to reduce peak flows, relative to planned land use conditions without wetland restoration, by up to as much as 10 percent for floods with recurrence intervals ranging from 1.01 to 100 years. In most instances, the decrease in the peak flood flow ranges from 1 to 5 percent. That analysis assumes the establishment of wetland conditions without providing topographic modification, such as supplemental berms, to enhance the surface water storage capacity on the wetland sites.

The hydrologic analyses of wetlands set forth in this report were designed to directly evaluate the impacts on streamflows of conversion of land from agricultural uses to wetlands. Thus, they isolate the average effects on a watershed-wide basis of restoring wetlands on agricultural lands, and they do not introduce possible related flood mitigation enhancement features that are not an essential component of wetland restoration. Such features could

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[7] *Certain wetland soils, classified as Histosols, can provide infiltration and storage of runoff in the soil column at certain times of the year when groundwater levels are relatively low. However, as noted in Chapter V of this report, most of the large floods in the watershed have occurred from February through April due to rainfall and/or snowmelt with frozen or saturated soil conditions. At those times the runoff storage characteristics of Histosols, would be limited. Within the watershed, about 14 percent of the wetland soils are classified as Histosols, 79 percent are classified as Mollisols, and the remaining 7 percent are not assigned classifications under that system. Mollisols are mineral soils that may not exhibit storage capacities in the soil profile that are as high as those of Histosols.*

[8] *In areas that currently contain artificial drainage systems, the increases in hydraulic head due to ponding would be expected to be offset by a rise in the groundwater table due to removal of that drainage system.*

include large-scale storage feature creation or enhancement.[9] The approach used results in the most valid representation of the effects of the establishment of wetlands. If enhancement of large-scale features for the storage of runoff and floodwater were to be considered, it could be evaluated separately from the context of wetland restoration and then combined with wetland restoration, as appropriate.

Prairie Restoration

The hydrologic characteristics of prairies relative to those of agricultural land are represented in the HSPF model by the parameter values set forth in Table J-1. Those parameters recognize that prairies can be expected to enhance 1) interception storage of precipitation (CEPSC), 2) infiltration (INFILT), 3) lower zone groundwater storage (LZSN), and 4) evapotranspiration (LZETP). While wetland restoration would also be expected to enhance several of those parameters, an anticipated difference between wetland and prairie restoration is the combination of increased infiltration capability for the prairies, relative to general pervious lands, along with the potential for greater water storage capacity in the lower soil zones. That capability enables prairies to more effectively infiltrate and evapotranspire surface water. Limited lower zone storage capacity for infiltrated surface water may constrain wetlands from fully developing the potential infiltration and evapotranspiration capacities.

The potential for prairie restoration to reduce flood flows is reflected in the flow comparisons set forth in Tables J-4 through J-7. Tables J-5 and J-7 show that, in those subbasins where significant areas of agricultural land are available for prairie restoration, with maximum prairie restoration, 1.01- through 100-year flood flows would generally be reduced relative to conditions without prairie restoration (reductions of up to 45 percent, with most reductions in the 5 to 15 percent range). Maximum prairie restoration under planned land use conditions would also be expected to result in flow reductions relative to 1990 land use conditions in those locations where the potential prairie restoration areas are large enough to mitigate the effects of increased surface runoff from anticipated future urban development. With 10 percent prairie restoration, two- through 100-year flood flows in streams throughout the watershed would generally be slightly reduced (reductions of from about 1 to 3 percent) relative to conditions without prairie restoration. In some locations, 10 percent prairie restoration under planned land use conditions could actually result in flow reductions relative to 1990 land use conditions.

Relative Effects of Wetland and Prairie Restoration

Comparison of the peak flood flows set forth in Tables J-3 and J-5 gives an indication of the relative effects of prairie and wetland restoration on peak flood flows. After accounting for the fact that the potential prairie restoration sites cover a land area about twice that of the potential wetland restoration sites, it can be concluded that the continuous simulation modeling results indicate that, on a unit area basis, prairie restoration may be somewhat more effective than wetland restoration in reducing peak flood flows over the broad range of flood conditions analyzed. However, both wetland and prairie restoration are considered to be desirable in the Des Plaines River watershed based on consideration of their additional environmental and flood control features.

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[9] *The hydrologic model reflects the plan recommendation that significant existing internally drained areas in the watershed and riparian floodwater storage volumes be maintained under all floodland management alternatives. The detention storage alternative plan described in Chapter XII of this report offers insight into the possible hydrologic effects of creation of runoff storage at scattered sites throughout the watershed. Such storage could be provided with or without wetland restoration.*

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Appendix K

ECONOMIC ANALYSIS OF CONSERVATION PRACTICES

INTRODUCTION

Many economic factors affect a decision to install conservation practices on a farm. The leading factor is crop returns. This is a volatile number that can fluctuate greatly from year to year. At times when crop prices are depressed, it may be more financially advantageous to enroll marginally producing land into various agricultural programs.

Expenses associated with farming include seed, fuel, equipment, labor, fertilizer, agri-chemicals, equipment maintenance, and depreciation. A hidden cost that many agricultural producers do not take into account is the cost associated with soil erosion and the accompanying nutrient loss. Most of the nutrients, organic matter, and agri-chemicals are associated with the surface horizon of the soil. Every time topsoil is eroded, it carries away fertilizer and other soil amendments, and there is a cost associated with replacing those constituents. Additionally, as topsoil is eroded, the subsoil is more exposed, which typically reduces crop yields, primarily because of increased soil density and reduced water infiltration. According to the Conservation Technology Information Center (CTIC) at Purdue University, for agricultural purposes, the economic value of soil is based on two factors: the nutrients contained in the topsoil and the cost of a ton of soil relative to offsite problems that erosion of that soil may cause. Those problems may include reduced water quality for aquatic organisms, the cost associated with purifying water for human drinking and hygiene purposes, and increased sedimentation in lakes and streams.

ECONOMICS OF SOIL LOSS

The economic value of soil for its nutrient content has been quantified by the CTIC as having an average value of \$5.00 per ton of soil loss above that of tolerable soil loss rates (T). As an example, if a particular soil type had a T value of four tons of soil loss per acre per year, for every ton of soil lost above that amount, it would cost the producer \$5.00. As shown in Table K-1, over a 10-year period for 100 acres of land, the economic savings realized from practicing conservation tillage, would be approximately \$20,000.

Economics of Various Tillage Practices

Conservation Tillage

Conservation tillage operations involve the use of no-till agriculture, mulch tillage or minimum tillage, or a combination of other tillage practices that would leave crop residue amounts of 30 percent or more.

Economic Aspects of No-Till Farming

No-till farming requires the least time and fuel and it causes minimum wear and tear on agricultural equipment. However, it does require more reliance on herbicides to control weeds, which represents an increased expense compared to other tillage practices that accomplish significant weed control through mechanical cultivation. One of the major expenses associated with no-till farming is the purchase of the no-till drill for planting. This equipment has a cost of between \$50,000 and \$80,000 depending upon the size of the planter. For an average producer who does not farm a large amount of acreage, the expense for the equipment alone is cost-prohibitive. However, there are many producers within the watershed who farm several thousand acres of land, including both their own land and land they rent. For these kinds of operations, it is often more profitable to use no-till agriculture. This is primarily due to the savings in time, labor, and fuel that can realized from this type of agriculture. In addition, a significant indirect savings includes the soil that is retained. No-till agriculture can conserve upwards of 90 percent of the soil that would normally erode under conventional tillage operations.

Table K-1

COMPARISON OF DIFFERENT TILLAGE METHODS AND ECONOMIC VALUE OF SOIL LOSS

Parameter	Conventional	Reduced	No-Till
Soil Loss	8 tons per acre[a]	5.6 tons per acre	0.8 tons per acre
Cost per for Land with Erosion Greater than Tolerable Soil Loss of Four Tons	$ 20	$ 3.00	- -
Cost per 100 Acres	$ 2,000	$ 300.00	- -
Cost per 100 Acres over 10 Years	$20,000	$3,000.00	- -

[a] Soil loss is calculated assuming a soil type of Markham silty clay loam with 4 percent slopes and a corn-soybean rotation.

Source: Conservation Technology Information Center, U.S. Natural Resources Conservation Service, and SEWRPC.

This appendix presents an economic comparison of various tillage practices which focuses on the economic savings from soil conservation and illustrates, regardless of yield, that no-till agriculture, particularly no-till soybeans, can save approximately 10 percent in operating expenses. However, soil conservation rates are soil specific, and for every soil, the Revised Universal Soil Loss Equation (RUSLE)[1] should be applied to estimate the soil loss rate for different tillage practices.

Data presented in this appendix compares the returns for each tillage practice, for a particular yield amount for corn. However, corn has been shown in several research studies to not respond well to no-till systems, and as a result, it is less economically feasible for producers in the watershed to use no-till agriculture for corn. Corn has a low tolerance for moist and cool soil conditions that can be associated with no-till farming, and under these conditions, corn will typically have a reduced germination and growth rate. This can reduce crop yields by about 20 percent compared to reduced tillage and conventional tillage systems. For example, if a yield of 150 bushels per acre of corn could be expected by using reduced or conventional tillage systems, then no-till could result in only about 120 bushels per acre of corn. However, no-till soybeans planted into undisturbed corn stalks have shown to be an economically viable option within the Des Plaines River watershed.

Economic Aspects of Mulch Tillage Farming

Mulch tillage, with spring chisel plowing only, also saves time and fuel, although to a lesser degree than does no-till agriculture. This form of tillage does rely on mechanical cultivation of weeds, and the soil is disked up prior to planting, reducing the amount of residue on the field. Because fields are more intensively cultivated than with no-till farming, this method uses more time and fuel and causes more wear on equipment than does no-till. Likewise, mulch tillage operations do not conserve as much soil as no-till farming, but can reduce soil erosion by upwards of 60 percent, thereby still providing for a significant indirect savings in production costs when compared to conventional operations. Because the cost associated with soil loss is computed based on the soil loss rate in excess of the tolerable soil loss rate, T, and because both mulch tillage and no-till agricultural operations would generally be expected to reduce soil losses to T, or below, those two tillage methods have similar economic savings associated with soil conservation. Unlike no-till, corn planted under mulch tillage farming has been shown to respond with comparable yields to conventionally tilled systems, and would be an economically viable option.

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[1] *The Revised Universal Soil Loss Equation (RUSLE) is used to determine the average annual soil loss that occurs from a given field. The equation takes into account several factors that affect soil erosion, including rainfall, surface texture of the soil, slope length and steepness, cropping practices and rotations, and other conservation practices such as terracing or contour farming.*

Conventional Tillage

Conventional tillage with a mold board plow is the most costly form of agriculture in terms of time, fuel, and equipment wear. A typical crop sequence would be to plow in both the fall and spring, disk, plant, fertilize, cultivate, apply herbicide and pesticide, and harvest. This form of tillage also causes the most soil erosion, except on soil with very little slope. Many producers in the watershed have small operations, and cannot always afford to make the change in equipment necessary to practice conservation tillage. Omitting fall plowing whenever possible, and combining as many of the fertilization and cultivation practices as practical, would over time reduce both production costs (fuel, labor, and equipment wear) and soil erosion.

The increased returns that are illustrated in this appendix for no-tillage and reduced tillage systems result principally from the savings incurred from soil conservation. However, no-till and reduced tillage systems also produce savings in fuel, labor, and time. Additional factors that are not readily quantifiable include the costs of equipment depreciation as well as wear and tear and associated maintenance. Such costs are higher in conventionally tilled systems because of the increased use of the equipment.

Cost Effectiveness of Enrolling Land into Conservation Buffers through the Conservation Reserve Program

The unpredictability of the agricultural commodities market complicates the determination of the economical feasibility of enrolling land in the Conservation Reserve Program (CRP).[2] Although there are several practices eligible for the CRP, riparian buffers have proven to be one of the most effective means of sediment reduction. Figures K-1 through K-8 illustrate the economic break-even points for enrolling acreage in the Des Plaines River watershed into the CRP for corn and soybeans at different CRP rental rates.[3] The rental rates are dependent upon soil type, and the economic returns are based on conventionally tilled systems. Soil types that are commonly found in floodplains or alluvial areas that would be most suitable for riparian buffers typically have a higher rental associated with them, while rental rates are typically lower for areas that are on upland soils and that might be suitable for other conservation practices. Tables K-2 and K-3 present the break-even points in terms of yield production for corn and soybeans, respectively. The tables also illustrate the dependency of the break-even point on commodity pricing.

Crop commodity pricing is volatile; however, it is the primary factor that determines profitability of enrollment of lands in Federal reserve programs. When returns per bushel are very low, as they were in the fall of 1999,[4] enrolling most riparian land or land subject to concentrated flow into the CRP is economically advantageous. However, when returns are higher, as they were in the spring of 1998,[5] only marginally producing soils or those chronically subject to flooding would be financially practical to enroll in the CRP. Operating costs also tend to fluctuate, although, not as significantly as grain returns.

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[2] *See Chapter XVI for a description of the Conservation Reserve Program.*

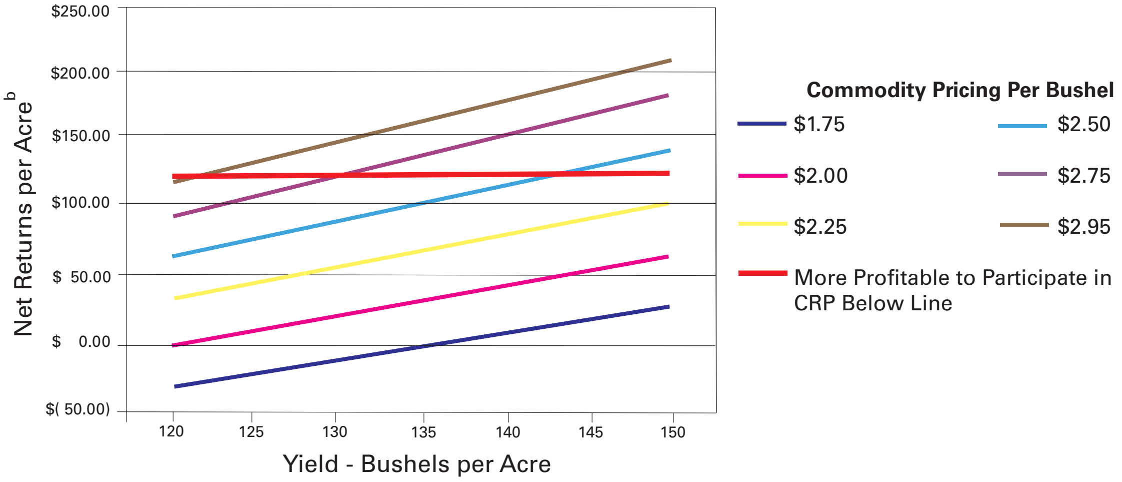
[3] *The graphs are based on data characteristic of the Des Plaines River watershed. Different results may be obtained if similar analyses were done in other areas of the State of Wisconsin or of the United States.*

[4] *Fall 1999 returns were $1.65 for a bushel of corn and $4.65 for a bushel of soybeans.*

[5] *Spring 1998 returns were $2.72 for a bushel of corn and $6.65 for a bushel of soybeans.*

Figure K-1

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR CORN BASED ON A CRP RENTAL RATE OF $121 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

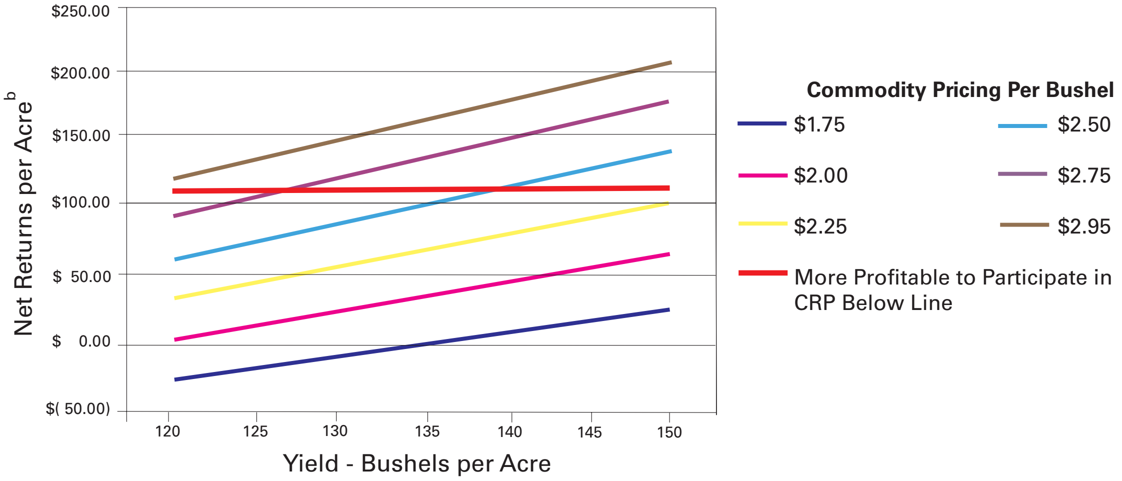
[a] *CRP rental rates are based on soil type and include a rental rate of $101 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 of $237 per acre for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Figure K-2

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR CORN BASED ON A CRP RENTAL RATE OF $110 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

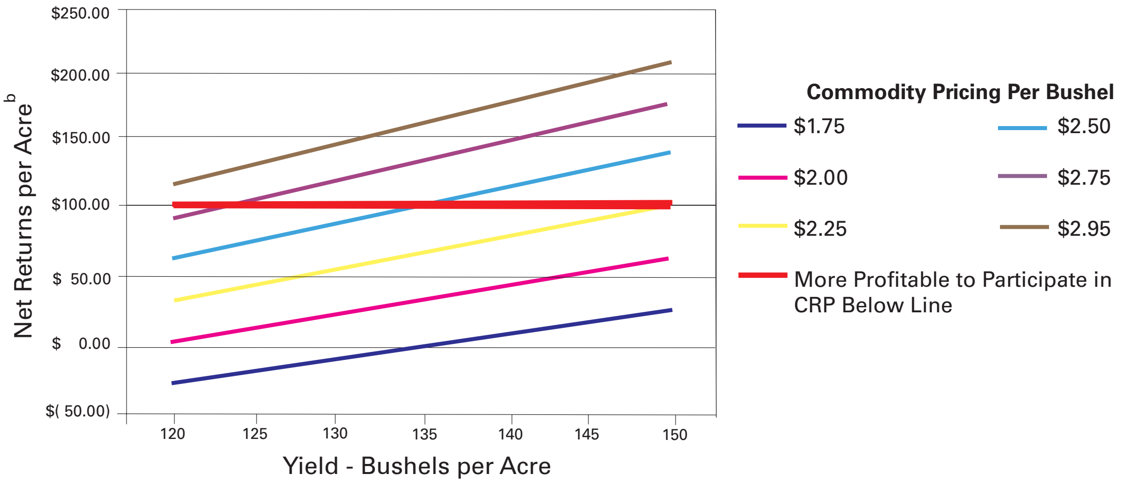
[a] *CRP rental rates are based on soil type and include a rental rate of $101 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 of $237 per acre for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Figure K-3

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR CORN BASED ON A CRP RENTAL RATE OF \$100 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

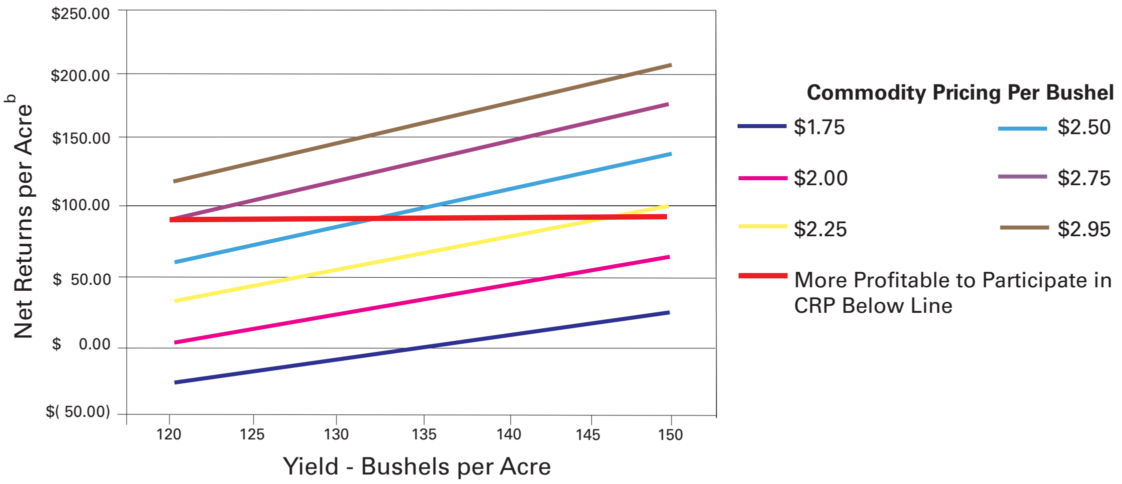
[a] *CRP rental rates are based on soil type and include a rental rate of \$84 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 of \$237 per acre for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Figure K-4

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR CORN BASED ON A CRP RENTAL RATE OF \$90 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

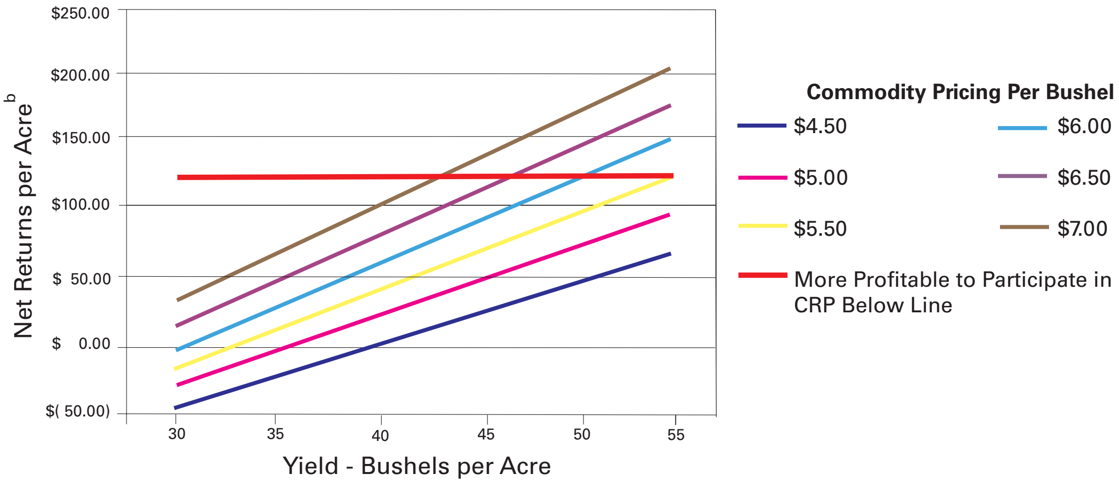
[a] *CRP rental rates are based on soil type and include a rental rate of \$75 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 of \$237 per acre for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Figure K-5

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR SOYBEANS BASED ON A CRP RENTAL RATE OF $121 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

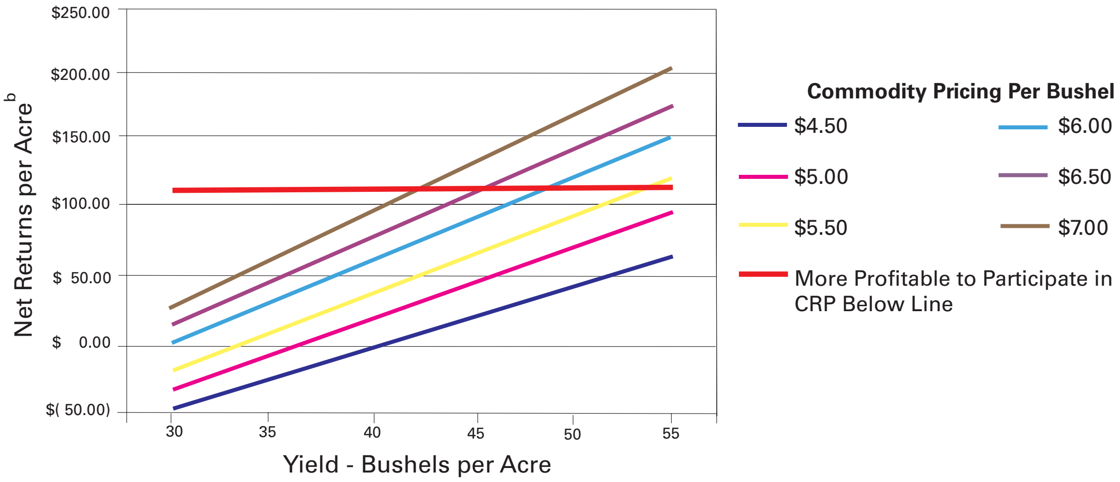
[a] *CRP rental rates are based on soil type and include a rental rate of $101 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 of $182 per acre for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter*, December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Figure K-6

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR SOYBEANS BASED ON A CRP RENTAL RATE OF $110 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

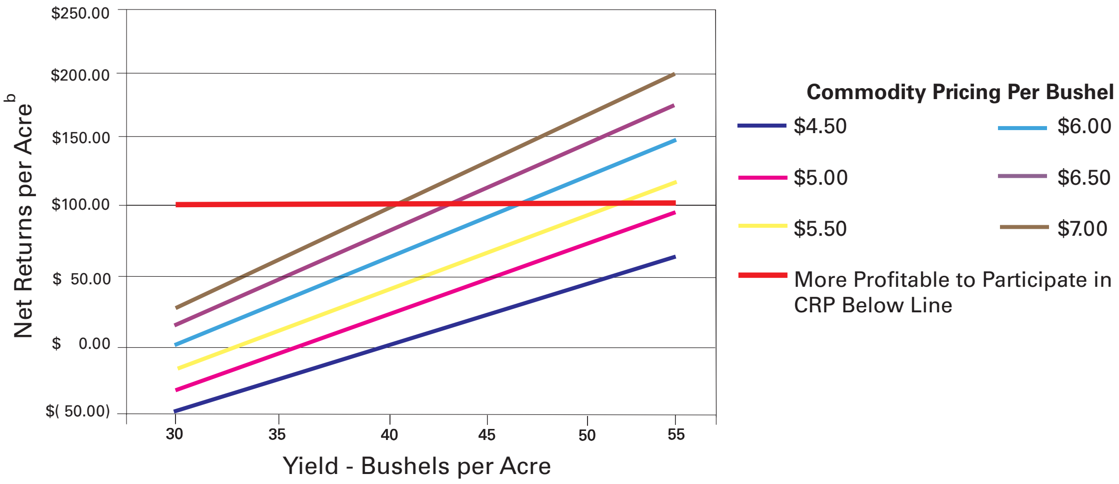
[a] *CRP rental rates are based on soil type and include a rental rate of $92 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter*, December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Figure K-7

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR SOYBEANS BASED ON A CRP RENTAL RATE OF $100 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

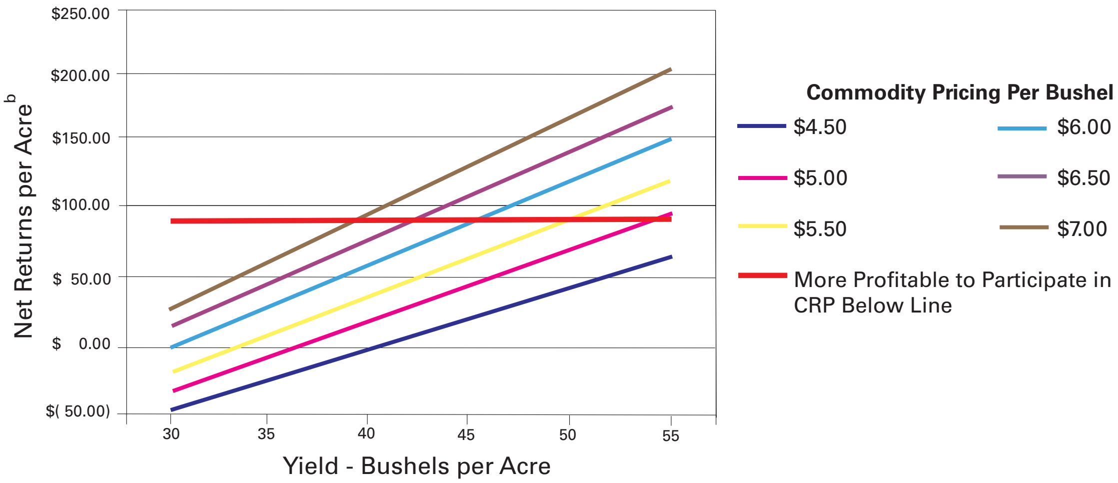
[a] *CRP rental rates are based on soil type and include a rental rate of $84 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 of $182 per acre for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Figure K-8

ECONOMICS OF ENROLLING LAND IN THE DES PLAINES RIVER WATERSHED INTO THE CONSERVATION RESERVE PROGRAM (CRP) FOR SOYBEANS BASED ON A CRP RENTAL RATE OF $90 PER ACRE[a]



NOTE: The data used to quantify the economic information is based on soils, yield, and commodity pricing characteristic of the Des Plaines River Watershed.

[a] *CRP rental rates are based on soil type and include a rental rate of $75 per acre, plus a 20 percent signing bonus.*

[b] *Net returns are calculated using a 12-year average from 1987 through 1998 of $182 per acre for production costs.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; U.S. Natural Resources Conservation Service; and SEWRPC.*

Table K-2

MINIMUM YIELDS FOR ENROLLMENT OF LAND IN THE CONSERVATION RESERVE PROGRAM: CORN

Commodity Pricing per Bushel	Bushels per Acre[a]			
	CRP Rental Rate $121 per Acre	CRP Rental Rate $110 per Acre	CRP Rental Rate $100 per Acre	CRP Rental Rate $90 per Acre
$2.95	121	118	114	111
$2.75	130	126	123	119
$2.50	143	139	135	131
$2.25	159	154	150	145

[a] *Minimum yields are calculated assuming an operating cost of $237 per acre. This cost is the average of 12 years of data from 1987 through 1998.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; and SEWRPC.*

Table K-3

MINIMUM YIELDS FOR ENROLLMENT OF LAND IN THE CONSERVATION RESERVE PROGRAM: SOYBEANS

Commodity Pricing per Bushel	Bushels per Acre[a]			
	CRP Rental Rate $121 per Acre	CRP Rental Rate $110 per Acre	CRP Rental Rate $100 per Acre	CRP Rental Rate $90 per Acre
$7.00	43	42	40	39
$6.50	47	45	43	42
$6.00	51	47	47	45
$5.50	- -[b]	53	51	49
$5.00	- -[c]	- -[c]	- -[c]	54

[a] *Minimum yields are calculated assuming an operating cost of $237 per acre. This cost is the average of 12 years of data from 1987 through 1998.*

[b] *At a CRP rental rate of $121 per acre, it becomes difficult to achieve a yield high enough at $5.50 per bushel to obtain greater profits per acre than what the CRP program can offer.*

[c] *At a CRP rental rate of $121 per acre, $110 per acre, and $100 per acre, it becomes difficult to achieve a yield high enough at $5.00 per bushel to obtain greater profits per acre than what the CRP program can offer.*

Source: University of Wisconsin-Extension, Agronomy Advice Newsletter, *December 1999; and SEWRPC.*

Appendix L

CONTENT OF A SOUND LOCAL STORMWATER MANAGEMENT PLAN

Prepared by the Southeastern Wisconsin Regional Planning Commission

Review of Basic Stormwater Management Concepts and Principles

- Stormwater Drainage vs. Flooding
  - Drainage—control of excess water on the land surface before such water enters stream channels
  - Flooding—inundation resulting from the overflow of streams and watercourses

- Stormwater Management
  - Combines stormwater drainage and control of nonpoint source pollution

- Basic Objectives of Stormwater Management
  - Address planned land use conditions based on an adopted land use plan
  - Prevent damage to inhabited buildings from major rainfall events
  - Maintain reasonably convenient access using urban transportation systems
  - Avoid undue hazards to public health and safety
  - Mitigate the effects of nonpoint source pollutants on receiving waters
  - Mitigate the effects of changes in streamflow regimes on natural stream channels and their associated ecosystems

- Minor and Major Drainage Systems
  - Minor system functions more frequently
    - ✓ Sideyard and backyard drainage swales
    - ✓ Roadside swales
    - ✓ Street curbs and gutters
    - ✓ Storm sewers
    - ✓ Detention basins
    - ✓ 10-year design storm

  - ➢ Major system functions infrequently
    - ✓ Entire street cross section
    - ✓ Interconnected swales, watercourses, and natural and man-made storage facilities
    - ✓ 100-year design storm

Contents of a Sound Stormwater Management Plan

  - ➢ Description of Planning Area
    - ✓ Define study area
    - ✓ Delineate subbasins
    - ✓ Quantify existing and planned land use
    - ✓ Identify soil types, wetlands, and surface waters
    - ✓ Describe sources of water pollution
  - ➢ Describe and assess existing water quality and biological conditions

- Objectives, Standards, and Design Criteria
  - ➢ Objectives and standards
    - ✓ Drainage
    - ✓ Nonpoint source pollution control
    - ✓ Water use
    - ✓ Land use
  - ➢ Design criteria
    - ✓ Engineering
    - ✓ Water quality
    - ✓ Safety
    - ✓ Economics

- Water Quality Analysis
  - ➢ Estimate nonpoint source pollution loadings under existing and planned land use conditions without pollution controls
  - ➢ Identify critical areas

- Hydrologic and Hydraulic Analysis (Water Quantity)
  - ➢ Estimate rates and volumes of runoff during various frequency storms occurring under existing and planned land use conditions without controls on runoff
  - ➢ Identify potential problem areas

- Develop Alternative Stormwater Management Plans
  - ➢ Stormwater quantity plans
    - ✓ Address areas of existing and planned development
    - ✓ Analyze control measures
    - ✓ Conveyance (storm sewers, swales, culverts)
    - ✓ Detention storage
    - ✓ Infiltration devices
    - ✓ Stormwater pumping
    - ✓ Combinations of the above
  - ➢ Stormwater quality plans
    - ✓ Address areas of existing and planned development
    - ✓ Source controls
    - ✓ Public information and education
    - ✓ Detention storage
    - ✓ Sweeping of streets, parking lots, and industrial storage areas
    - ✓ Catch basin cleaning
    - ✓ Filter strips
    - ✓ Infiltration devices with pretreatment
    - ✓ Multi-stage treatment tanks
    - ✓ Combinations of the above
    - ✓ Satisfy the requirements of Chapter NR 151, "Runoff Management," of the *Wisconsin Administrative Code*, for areas of new development or redevelopment
  - ➢ Evaluate alternative plans and select preliminary recommended quantity and quality plans
    - ✓ Ability to meet objectives
    - ✓ Ability to implement
    - ✓ Cost
- Recommended Stormwater Management Plan
  - ➢ Developed by integrating quantity and quality plans
  - ➢ Addresses interaction between stormwater management plan and floodland management
  - ➢ Includes detailed, systems-level capital and operation and maintenance costs
  - ➢ Existing and recommended features shown on plan maps

- Plan Implementation
    - ➢ Plan adoption
    - ➢ Develop possible apportionment of costs between private and public sectors and within public sector
    - ➢ Prioritize capital improvements
    - ➢ Identify critical implementation sequences
    - ➢ Implementation schedule
    - ➢ Funding
        - ✓ Stormwater utility
        - ✓ General obligation bonds
        - ✓ Reserve funds
        - ✓ Private developer contributions
        - ✓ State grants
        - ✓ Property tax
        - ✓ Tax incremental financing districts
- Plan Reevaluation and Updating
    - ➢ Frequency of reevaluation depends on
        - ✓ Anticipated rate of new development
        - ✓ Timetable for implementing recommendations

Appendix M

APPROACHES TO ADDRESS PROBLEMS OF AGRICULTURAL SOIL EROSION AND SEDIMENTATION IN STREAMS

AGRICULTURAL EROSION WITHIN THE DES PLAINES WATERSHED

Agricultural Erosion Control Methods

Erosion control measures that can be effectively applied to reduce erosion from agricultural land include tillage practices, planting on the contour, crop rotations, grassed waterways, and riparian buffers.

Tillage Practices

There are two primary types of tillage practices which farmers utilize throughout the watershed: conventional tillage and conservation tillage. Conventional tillage involves the use of a moldboard plow that leaves virtually no cover on the soil surface. At best, conventional tillage practices leave about 5 percent plant residue from the preceding crop. Conservation tillage, on the other hand, leaves a minimum of 30 percent cover on the soil's surface. There are also some hybrid tillage practices, which leave between 15 and 30 percent cover, and also help to reduce soil erosion to some extent. As shown in Table M-1, residue from previous crops is very effective in reducing soil erosion.

The most effective form of conservation tillage for reducing soil erosion involves the use of no-tillage agriculture. As the name implies, "no-till" does not use tillage to disturb the soil. The producer does not cultivate the field and plants right into the preceding year's crop. Using no-till agriculture, can reduce soil loss by as much as 95 percent, compared to conventional forms of tillage. In the Des Plaines watershed, the most common way of utilizing no-till is to plant soybeans directly into undisturbed corn stalks. There are, however, some disadvantages associated with no-till farming. This form of agriculture requires judicious management for effective weed and pest control. Corn yields can also be significantly depressed because the soil is slower to warm up and dry out in the spring. Corn is less tolerant of cool and moist soil conditions than are soybeans. Additionally, the seed to soil contact is not always adequate for germination due to the layer of residue covering the soil.

Aside from no-till, there are a variety of tillage practices which can help to reduce soil erosion, although not as effectively. Mulch tillage involves cultivating the soil surface with a chisel plow, which has long shanks that penetrate the surface to break up the soil, but not turn it over. One pass with the chisel plow will leave about 60 percent residue on the surface; however, other associated tillage practices which include fertilizer application and disking will further reduce the amount of crop residue. One of the most helpful practices to control soil erosion is to omit fall tillage from the schedule, and spring till only. This will leave the field undisturbed over the winter and in the early spring, providing protection from rain and snowmelt. This practice is not suitable for poorly drained floodplain soils because of problems with wetness.

A potential disadvantage of conservation tillage systems is that they have also been shown to increase water-soluble phosphorus in runoff from rain and snowmelt. In a recent study, water-soluble phosphorus was found in higher concentrations in leachate from a conservation tilled field, compared to leachate from a conventionally tilled field.[1] Presumably this was due to the higher percentage of plant residue, which contains water-soluble phosphorus.

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[1] *G.W. Rehm, G.A. Nelson, and N.C. Hansen,* Phosphorus management for contrasting tillage systems in a corn-soybean rotation., *Annual Meeting Abstracts, ASA, CSSA, SSSA, 1999, p. 317.*

Table M-1

CROP RESIDUE AMOUNTS AND THEIR EFFECT OF SOIL EROSION RATES

Crop Residue (percent)	Soil Loss Reduction (percent)[a]
10	25
20	50
30	65
40	75
50	80
60	85
70	90
80	92
90	95
100	97

[a] Relative to no residue condition.

Source: Conservation Technology Information Center and SEWRPC.

As mentioned previously in Chapter VII, soil erosion is significantly affected by the degree of land slope and soil type. Table M-2 presents data on the effects of varying degrees of slope and crop residue amounts on soil erosion rates for soils found in the watershed,. The Elliott, Markham, Morley, and Varna soil series that have slopes averaging 4 percent, comprise almost 50 percent of the watershed. These soils have considerably greater soil loss compared to Ashkum soils if conventionally tilled. For soils that have a low T value, such as the Markham, Morley, and Varna series, planting a rotation of no-till soybeans into undisturbed corn stalks can result in a 40 percent reduction in soil loss compared to farming with no conservation practices. On steeper slopes, greater than 6 percent, conservation tillage alone will not reduce soil erosion to below tolerable soil loss rates, and additional agricultural best management practices need to be utilized to meet the County and State agricultural erosion standards.

Crop Rotations

In addition to different tillage methods, certain cropping sequences can greatly help reduce soil erosion. The typical rotations that are used in the Des Plaines River watershed include corn-soybean, corn-soybean-winter wheat, and corn-oats-hay. These rotations typically follow a two-year, three-year, and six- to seven-year cycle, respectively. The hay rotation is the most effective at reducing soil erosion because it consists of one year of corn, followed by one year of small grains, and four or five years of hay. During the time that the hay is grown, the soil is left undisturbed and there is a semi-permanent vegetative cover.

Typically this rotation is used by dairy producers, although, the dairy industry is steadily declining in the Des Plaines watershed. However, the horse industry is rapidly expanding in this watershed, and hay is required in a horse’s care and maintenance. The traditional corn-soybean rotation is commonly associated with cash grain producers, which have no livestock to consider. This particular rotation when combined with conventional tillage systems conserves the least amount of soil. The inclusion of winter wheat or hay in the rotation can reduce erosion rates by approximately 25 and 85 percent, respectively, when compared to the corn-soybean rotation with conventional tillage.[2]

Contour Farming

Planting along the slope contour is also an effective method to reduce soil erosion. Just this practice alone, even with conventional tillage methods and a corn-soybean rotation, can reduce soil erosion by as much as 50 percent. Unfortunately, due to the nonuniformity of the topography in the watershed, it is not always practical to farm on the contour. Terracing is also an effective erosion control practice that is related to contour farming. However, because of the expense of installing terraces, this particular method has not been used extensively within the Des Plaines River watershed.

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[2] *Crop rotation soil loss reductions are based on individual soil type. The percentages were calculated using a Markham silty clay loam soil type with a 4 percent slope. This is a common soil type and slope percentage within the Des Plaines River watershed.*

Table M-2

SOIL LOSS RATE AS AFFECTED BY SOIL TYPE AND CROP RESIDUE PERCENTAGE IN THE DES PLAINES RIVER WATERSHED[a]

Soil Series	Map Unit	Soil Loss Rate (tons per acre per year)			
		T-Value	0/0[b] Percent Residue	30/30[c] Percent Residue	30/60[d] Percent Residue
Ashkum[e]	AtA	5	2.9	1.5	- -[f]
Elliott[g]	EtB	5	5.6	2.7	2.1
Markham[g]	MeB	3	7.0	3.7	2.9
Morley[h]	MzdC2	3	14.2	7.4	5.6
Morley[i]	MzdD2	3	37.2	20.4	16.1
Morley[j]	MzdE	3	60.0	33.0	25.8
Varna[g]	VaB	3	6.4	3.3	2.5

[a] *Soil loss rates calculated using the Revised Universal Soil Loss Equation (RUSLE).*

[b] *Residue amounts are calculated assuming a corn-soybean rotation using no conservation practices (0 percent residue for both corn and soybeans).*

[c] *Fall mulch tillage leaving 30 percent residue from each crop.*

[d] *Fall much tilled corn (30 percent residue) followed by no-till beans planted into undisturbed corn stalks (60 percent residue).*

[e] *Soil loss calculated assuming 2 percent slope and a 200-foot slope length.*

[f] *No-till conservation practices are not suitable for poorly drained soils such as the Ashkum soil series. These soils are best suited to conventional fall tillage practices with little surface residue.*

[g] *Soil loss calculated assuming 4 percent slope and a 200-foot slope length.*

[h] *Soil loss calculated assuming 8 percent slope and a 175-foot slope length.*

[i] *Soil loss calculated assuming 13 percent slope and a 150-foot slope length.*

[j] *Soil loss calculated assuming 20 percent slope and a 125-foot slope length.*

Source: SEWRPC.

Grassed Waterways and Riparian Buffers

In areas of concentrated or channelized flow within agricultural fields, grassed waterways serve as an effective means of controlling ephemeral and gully erosion. Grassed waterways should be appropriately sized to ensure that they are large enough to handle the anticipated rates and volumes of runoff. Although grassed waterways may take up acreage that could be farmed, crops planted in channelized flow areas often have significantly depressed yields.

Areas along stream corridors and lakes serve as a direct connection between the land and water. One of the most successful conservation practices for reducing sediment delivery rates is a riparian buffer.[3] Depending on soil type and land slope, buffers from 20 to 100 feet in width may effectively remove up to about 80 percent of the sediment that is delivered.

Aside from trapping sediment, riparian buffers also serve to help stabilize the streambank, and make the riparian corridor more attractive to wildlife.

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[3] *See U.S. Natural Resources Conservation Service,* Conservation Practice Standards*, "Filter Strip, Code 393," and "Riparian Forest Buffer, Code 391," January 2001.*

Table M-3

EFFECTS OF CONSERVATION PRACTICES ON SOIL AND PHOSPHORUS LOSS, DELIVERY, AND REDUCTION IN THE DES PLAINES RIVER WATERSHED

Conservation Practice	Soil Loss[a,b] (tons per acre per year)	Sediment Delivery Rate[c] (tons per acre per year)	Sediment Reduction[d] (tons per acre per year)	Sediment Reduction[d] (percent)	Phosphorus[e] Loss (pounds per acre per year)	Phosphorus Delivery Rate (pounds per acre per year)	Phosphorus Reduction (pounds per acre per year)	Phosphorus Reduction (percent)
Conventional Tillage	6.4	1.60	0.00	0	5.7	1.42	0.0	0
Conservation Tillage	2.3	0.58	1.02	64	2.0	0.50	3.7	65
Riparian Buffers with:[f]								
Conventional Tillage	6.4	1.60	1.36(0.24)[g,h]	85	5.7	1.42	1.21(0.21)[h,I]	85
Conservation Tillage	2.3	0.60	0.51(0.09)[g,h]	94	2.0	0.50	0.45(0.05)[h,i]	96

[a] *Soil loss calculated using the Revised Universal Soil Loss Equation (RUSLE).*

[b] *Soil was calculated assuming a Markham silt loam soil with a slope of 4 percent. This is a representative soil in the watershed.*

[c] *Soil and phosphorus delivery rate based on tillage practice only was calculated using 25 percent as the value for Midwestern soils, according to the Conservation Technology Information Center (CTIC), West Lafayette, Indiana.*

[d] *Sediment and phosphorus reduction calculated relative to the delivery rate for conventional tillage.*

[e] *There are approximately 890 pounds of Phosphorus (not P_2O_5) contained in the surface eight inches of soil for one acre of land.*

[f] *Riparian buffers are assumed to extend 30 to 35 feet from the ordinary high water mark.*

[g] *Sediment reduction with riparian buffers in place is calculated based on 85 percent sediment retention as documented previously.*

[h] *Parentheses indicate amount of soil and phosphorus that actually reaches the waterbody with riparian buffers in place.*

[i] *Phosphorus reduction with riparian buffers in place is calculated based on a 1:0.89 ratio of sediment to phosphorus.*

Source: SEWRPC.

Effectiveness of Various Conservation Practices

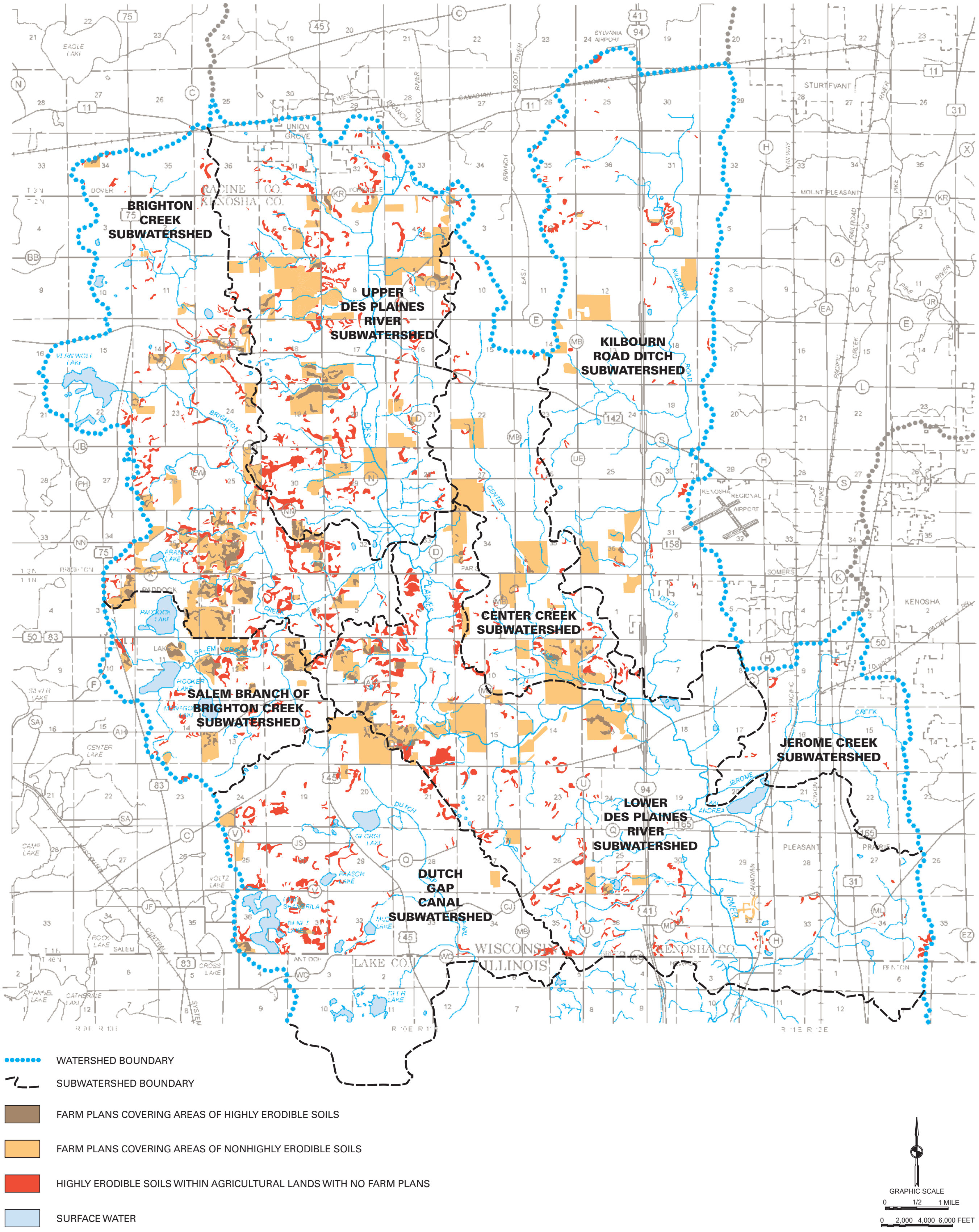
Table M-3 presents data that quantifies the effectiveness of various conservation practices, and their impact on soil erosion as well as phosphorus loss. As the table illustrates, soil and phosphorus losses can be dramatically reduced when using conservation tillage and riparian buffers. The various governmental programs from the USDA, such as the Conservation Reserve Program, and the State Land and Water Resource Management Plan program can provide funding for implementation of those practices.

Participation in Federal and State Agricultural Programs Through Development of Farm Plans

The properties within the Des Plaines River watershed that are covered by farm plans designed to reduce soil erosion are shown on Map M-1. Each of the properties with a farm plan is enrolled in either Federal or State agricultural financial assistance programs as described in Chapter XVI. Table M-4 shows that these farm plans cover approximately 6,600 acres or about 7.4 percent of the watershed. Of those acres, approximately 5,600 acres are enrolled in a Federal program, which requires a conservation plan, and about 1,000 acres are enrolled in the State's farmland preservation program. However, only a small percentage of those farm plans apply to lands with highly erodible soil types, or with slopes greater than 6 percent. Presently, there are about 1,000 acres of highly erodible soils that have some type of Federal or State farm plan associated with them, and approximately 2,900 acres that do not.

Map M-1

RELATIONSHIP BETWEEN SOIL EROSION POTENTIAL AND COVERAGE BY FARM PLANS FOR AGRICULTURAL LANDS IN THE DES PLAINES RIVER WATERSHED



Source: SEWRPC.

Table M-4

AREAL EXTENT OF HIGHLY ERODIBLE SOILS AND LANDS WITH FARM PLANS IN THE DES PLAINES RIVER WATERSHED

Category	Area (acres)	Percent of Watershed
Farm Plans for Lands with Highly Erodible Soils	1,010	1.1
Farm Plans for Lands without Highly Erodible Soils	5,630	6.3
Highly Erodible Soils in Agricultural Use with No Farm Plan	2,860	3.2
Total	6,640	7.5

Source: U.S. Natural Resources Conservation Service, Kenosha County Department of Planning and Development, and SEWRPC.

Appendix N

RECOMMENDED LAKE MANAGEMENT MEASURES

INTRODUCTION

Lakes are unique features of the landscape, being repositories of materials transported from the land surface and conveyed by streams and rivers into their basins, as well as significant recreational, aesthetic, and environmental resources. The six major lakes of the Des Plaines River watershed are relatively unique within the Region in that they are generally headwater lakes, situated within the tributary drainage system to the main stem of the Des Plaines River. An exception is Lake Andrea, which is an isolated groundwater seepage lake. These waterbodies—Lake Andrea, Benet/Shangrila Lakes, George Lake, Hooker Lake, Paddock Lake, and Vern Wolf Lake—have been characterized in Chapter VII of this report, which sets forth data on lake water quality and nutrient loadings for each of these major lakes. While relatively few data were available, the available data indicated that these waterbodies could be considered to be meso-eutrophic to eutrophic in nature, or enriched with the plant nutrients nitrogen and phosphorus and capable of supporting abundant growths of aquatic plants and sustaining a productive fishery, albeit one likely to become increasingly dominated by pollution tolerant fishes.

Given this status, the adopted regional water quality management plan as refined by the Kenosha County land and water resource management plan recommended that nutrient loads to the lakes of the Des Plaines River watershed be minimized by application of nonpoint source pollution control measures designed to reduce pollutant loads to the lakes from rural lands by up to 75 percent, in the case of Hooker Lake, and by up to 50 percent from both urban and rural lands in the case of George Lake.[1] For this reason, implementation of the watershed management measures set forth elsewhere in this report will complement and contribute to the control of nonpoint source pollution loading to the lakes, benefiting not only the stream course itself but also the lentic waterbodies within the drainage basin. Thus, the general recommendations regarding water quality management and nonpoint source pollution control, set forth in Chapters XIII and XIV of this report are incorporated herein by reference.

The regional water quality management plan update and status report further recommended that lake specific management plans be prepared for the waterbodies within the Des Plaines River watershed.[2] These plans would present lake-specific inventory data for the direct and total drainage basins tributary to the six lakes and address both drainage basin and in-lake issues of concern. Appropriate in-lake water quality monitoring, aquatic plant surveys, and fisheries surveys would form part of these planning programs. Based upon the current knowledge of water quality conditions in these waterbodies, set forth in the regional water quality management plan update, and in summary form in Chapter VII, it is likely that the range of issues to be addressed in such local level plans would include watershed-based management measures designed to address nutrient loading from both public sewage treatment facilities and onsite sewage disposal systems, rural agricultural lands, and urban lands and construction sites; aquatic plant management; fisheries management; lake depth and sedimentation; and, in the case of impounded waterbodies, lake level management. Identification and protection of environmental corridors, including riparian wetlands, as recommended in the adopted regional land use plan, regional natural areas and

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[1] *See SEWRPC Planning Report No. 30,* A Regional Water Quality Management Plan for Southeastern Wisconsin—2000, *Volume Two,* Alternative Plans*, February 1979; SEWRPC Community Assistance Planning Report No. 255,* A Land and Water Resource Management Plan for Kenosha County: 2000-2004*, September 2000.*

[2] *SEWRPC Memorandum Report No. 93,* A Regional Water Quality Management Plan for Southeastern Wisconsin: An Update and Status Report*, March 1995.*

critical species habitat protection and management plan, and county land and water resource management plans, would also be likely issues of concern to be addressed in lake-specific management planning programs.[3]

This appendix sets forth a summary of the lake-specific plan elements applicable to the major lakes of the Des Plaines River watershed, based upon consideration of the inventory data presented in the report. While these recommendations are made for the six major lakes, similar recommendations should be considered for application to lakes of less than 50 surface acres in areal extent, such as Montgomery Lake, where such measures are deemed important for purposes of water quality protection.

RECOMMENDED LAKE MANAGEMENT MEASURES

Lake Andrea

Lake Andrea, in the Village of Pleasant Prairie in Kenosha County, is formed by groundwater inflows into a former quarry. The lands draining to the Lake, consequently, are of limited areal extent and largely enclosed within the boundary of a public park. This location provides an opportunity for the implementation of management measures to reduce nutrient inputs to the Lake through the application of appropriate landscaping and lawn care practices, including reduced use of agrochemicals used in lawn care operations within the park. Such practices would include limiting the use of fertilizers and herbicides and the use of fertilizers with no or low phosphorus content. The presence of park staff also provides the opportunity to control litter and macropollutants within the drainage area. Given that the park is within an area served by public sanitary sewerage services, the control of nonpoint source pollution from onsite sewage disposal systems is not an issue of concern, although urban runoff from land surrounding the park may be. Thus, implementation of drainage basin-scale measures to limit the inflow of runoff to the Lake from the surrounding lands remain a potential issue of concern, including measures affecting discharges from the roadways and parking areas. A 25 percent reduction in urban nonpoint-sourced nutrient loads to the Lake is recommended in the aforereferenced Kenosha County land and water resource management plan.

Benet/Shangrila Lakes (Paschen Lake)

Benet and Shangrila Lakes, in the Towns of Bristol and Salem in Kenosha County, comprise a single waterbody draining through a wetland system to the Dutch Gap Canal. The lands draining to the Lake include both urban residential and commercial lands which abut the western and eastern shores of the waterbody. This urban density development is served by a public sanitary sewerage system, as recommended in the adopted regional water quality management plan. Thus, the control of nonpoint source pollution from onsite sewage disposal systems is not an issue of concern. Urban runoff from land surrounding the Lake, however, remains a potential concern and the implementation of drainage basin-scale measures to limit the inflow of runoff to the Lake from the urbanized portion of the drainage basin is likely to benefit this waterbody. Control of aquatic plants within the Lake also remains an issue of concern. As of 1995, the Lake was included within the WDNR aquatic plant management program, with an herbicide-based control program in place, and was being monitored by a volunteer under the WDNR Self-Help Monitoring Program. A 25 percent reduction in urban nonpoint-sourced nutrient loads to the Lake is recommended in the aforereferenced county land and water resource management plan, as is a 50 percent reduction in sediment loads from rural agricultural lands to the north and east of the Lake.

George Lake

George Lake, in the Town of Bristol in Kenosha County, also drains to the Dutch Gap Canal. The lands draining to George Lake include both urban residential lands and rural agricultural lands, with residential lands comprising the major portion of the riparian lands to the Lake. The urban residential lands are currently served by public

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[3] *See SEWRPC Planning Report No. 45,* A Regional Land Use Plan for Southeastern Wisconsin: 2020*, December 1997; SEWRPC Planning Report No. 42,* A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin*, September 1997; SEWRPC Community Assistance Planning Report No. 255,* op. cit.*; and SEWRPC Community Assistance Planning Report No. 259,* A Land and Water Resource Management Plan for Racine County: 2000-2004*, September 2000.*

sanitary sewerage services. Hence, the control of nonpoint source pollution from onsite sewage disposal systems is not an issue of concern. However, control of urban-sourced nonpoint pollutants is a potential issue of concern and the implementation of drainage basin-scale measures to limit the inflow of runoff to the Lake from the urbanized portion of the drainage basin is likely to benefit this Lake. Control of aquatic plants within the Lake remains an issue of concern. As of 1995, the Lake was included within the WDNR aquatic plant management program, with an harvester-based control program in place, with some limited applications of aquatic herbicides having been undertaken in recent years by individual landowners. As of 1995, the Lake also was being monitored by a volunteer under the WDNR Self-Help Monitoring Program. Portions of the rural agricultural lands have developed and implemented integrated agricultural nutrient and pest management practices, which have reported resulted in significantly reduced agrochemical applications within the drainage area, especially that portion located to the west of the lake basin. Notwithstanding, both urban and rural nonpoint source pollution abatement measures are likely to be warranted in this drainage basin. To this end, a 25 percent reduction in urban nonpoint-sourced nutrient loads to the Lake, and a 50 percent reduction in sediment loads from rural agricultural lands, is recommended in the aforereferenced county land and water resource management plan. As of 2003, the George Lake Rehabilitation District has embarked upon a lake management planning program that would lead to the development of a comprehensive lake management plan for George Lake. In addition to aquatic plant management, control of sedimentation and lake level management are issues of concern within the George Lake community. Such issues are recommended to be addressed in a subsequent comprehensive lake management plan or in specific issue planning programs comprising components of such a plan.

Hooker Lake

Hooker Lake, in the Town of Salem and Village of Paddock Lake in Kenosha County, drains to the Salem Branch of the Brighton Creek tributary to the Des Plaines River. Hooker Lake lies within an heavily urbanized drainage area, although portions of the watershed are occupied by extensive wetlands fringing the Lake, especially to the northwest of the main lake basin. The Hooker Lake Marsh is designated as a natural area of local significance and is proposed to be acquired to the WDNR pursuant to recommendations set forth in the aforereferenced regional natural areas and critical species habitat protection and management plan. Some agricultural lands remain in the drainage basin tributary to the Lake, although these are likely to be urbanized in the foreseeable future. The urban residential and commercial lands are currently served by public sanitary sewerage services. Hence, the control of nonpoint source pollution from onsite sewage disposal systems is not an issue of concern. However, control of urban-sourced nonpoint pollutants remains a potential issue of concern and the implementation of drainage basin-scale measures to limit the inflow of runoff to the Lake from the urbanized portion of the drainage basin is likely to benefit this Lake. Control of aquatic plants within the Lake remains an issue of concern. As of 1995, the Lake was included within the WDNR aquatic plant management program, with an aquatic herbicide-based control program having been undertaken by public inland lake protection and rehabilitation district serving the Lake. As of 1995, the Lake also was being monitored by a volunteer under the WDNR Self-Help Monitoring Program. A 75 percent reduction in urban nonpoint-sourced nutrient loads to the Lake is recommended in the aforereferenced county land and water resource management plan.

Paddock Lake

Paddock Lake, in the Village of Paddock Lake in Kenosha County, drains to the Salem Branch of the Brighton Creek tributary to the Des Plaines River. Paddock Lake also lies within a heavily urbanized drainage area, with only limited areas of open lands in the form of parklands along the southern shoreline of the Lake. The urban residential and commercial lands are currently served by public sanitary sewerage services. Hence, the control of nonpoint source pollution from onsite sewage disposal systems is not an issue of concern. However, control of urban-sourced nonpoint pollutants remains a potential issue of concern and the implementation of drainage basin-scale measures to limit the inflow of runoff to the Lake from the urbanized portion of the drainage basin is likely to benefit this Lake. The public inland lake protection and rehabilitation district formed to serve the lake community has recently obtained, and, in partnership with the Village of Paddock Lake, installed a vortex separator system to address stormwater runoff-borne pollutants generated from within the STH 50 corridor which runs along the southern portion of the drainage area. Control of aquatic plants and sedimentation within the Lake remain issues of concern. As of 1995, the Lake was included within the WDNR aquatic plant management program, with a harvester-based aquatic plant management program being undertaken by public inland lake protection and rehabilitation district serving the Lake. As of 1995, the Lake also was being monitored by a volunteer under the WDNR Self-Help Monitoring Program. A 25 percent reduction in urban nonpoint-sourced nutrient loads to the Lake is recommended in the aforereferenced county land and water resource management plan.

Vern Wolf Lake

Vern Wolf Lake, formerly known as East Lake Flowage, is located within the Bong State Recreational Area in the Town of Brighton in Kenosha County and drains to the Brighton Creek tributary to the Des Plaines River. The lands draining to the Lake, consequently, are of a rural nature and largely enclosed within the boundary of the public park, although a small portion of the drainage area to the south of the main Lake basin is occupied by rural density agricultural lands. This location, with its minimal land disturbances, provides an opportunity to manage nutrient inputs to the Lake through the application of appropriate landscaping practices within the park. The presence of park staff also provides the opportunity to control litter and macropollutants within the drainage area. A 25 percent reduction in urban nonpoint-sourced nutrient loads to the Lake is recommended in the aforereferenced county land and water resource management plan. The adopted regional water quality management plan update notes fisheries management as a potential issue of concern, given the heavy recreational use pressures affecting Vern Wolf Lake. During 2002, Vern Wolf Lake was subject to a drawdown by the WDNR in an effort to consolidate flocculent sediments, and control nonnative aquatic plant growths and fishes, in the Lake.

ANCILLIARY LAKE MANAGEMENT PLAN RECOMMENDATIONS

In addition to the foregoing lake and watershed management measures set forth in the adopted management plans, and the conduct of recommended local level lake management planning programs, the county land and water resource management plans recommend that lake associations and public inland lake protection and rehabilitation districts, where they exist, continue to participate in the WDNR Self-Help Monitoring Program or an equivalent program so as to further develop the knowledge base on lake water quality. Lakes not currently participating in these programs are encouraged to do so. In addition, the lake communities, through the appropriate local authorities, whether municipal governments or lake organizations, are recommended to develop and deliver informational and educational programs involving both the community and local schools. Educational programs for schools include the Project WET, or Water Education Training for educators, and Adopt-A-Lake programs run through the University of Wisconsin-Extension. In addition, municipalities and lake organizations serving these lake communities are encouraged to make available appropriate lawn and garden care educational materials, available through the University of Wisconsin-Extension, and to hold periodic seminars and other programs for homeowners and landscape contractors, among others, to present environmentally friendly design options especially (but not exclusively) for shoreland areas. These efforts will complement other lake- and watershed-based interventions and directly contribute to the implementation of lake management measures within the Des Plaines River watershed.

Appendix O

MODEL RESOLUTION FOR ADOPTION OF THE COMPREHENSIVE PLAN FOR THE DES PLAINES RIVER WATERSHED

WHEREAS, the Southeastern Wisconsin Regional Planning Commission, which was duly created by the Governor of the State of Wisconsin in accordance with Section 66.0309(2) of the *Wisconsin Statutes* on the 8th day of August 1960, upon petition of the Counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha, has the function and duty of making and adopting a master plan for the physical development of the Region; and

WHEREAS, Kenosha and Racine Counties executed an agreement with the Regional Planning Commission on April 13, 1994, for the development of a comprehensive plan for the Des Plaines River watershed leading to recommendations for the development of water-related community facilities in the watershed, including integrated proposals for water pollution abatement, stormwater and floodland management, land and water use, and park and public open space reservation, to generally promote the orderly, environmentally sound, and economical development of the Des Plaines River watershed; and

WHEREAS, such plan has been completed and the Southeastern Wisconsin Regional Planning Commission did on the 18th day of June 2003, approve a resolution adopting the comprehensive plan for the Des Plaines River watershed and has recommended such plan to the local units of government within the watershed; and

WHEREAS, such plan contains recommendations for land use development and regulation; environmental corridor land preservation; park and outdoor recreation land acquisition and development; floodland and stormwater management; streamflow recordation; point and nonpoint source pollution abatement; and land management practices; and

WHEREAS, the aforementioned recommendations, including all studies, data, maps, figures, charts, and tables are set forth in a published report entitled SEWRPC Planning Report No. 44, *A Comprehensive Plan for the Des Plaines River Watershed*, published in June 2003; and

WHEREAS, the Commission has transmitted certified copies of its resolution adopting such comprehensive plan for the Des Plaines River watershed, together with the aforementioned SEWRPC Planning Report No. 44, to the local units of government; and

WHEREAS, the (Name of Local Governing Body) has supported and generally concurred in the watershed and other regional planning programs undertaken by the Southeastern Wisconsin Regional Planning Commission and believes that the comprehensive plan for the Des Plaines River watershed prepared by the Commission is a valuable guide to the development of not only the watershed, but the community, and that the adoption of such plan by the (Name of Local Governing Body) will assure a common understanding by the several governmental levels and agencies concerned and enable these levels and agencies of government to program the necessary areawide and local plan implementation work.

NOW, THEREFORE, BE IT RESOLVED that, pursuant to Section 66.0309(12) of the *Wisconsin Statutes*, the (Name of Local Governing Body) on the _____ day of ______, 2003, hereby adopts the comprehensive plan for the Des Plaines River watershed previously adopted by the Commission as set forth in SEWRPC Planning Report No. 44 as a guide for watershed and community development.

BE IT FURTHER HEREBY RESOLVED that the __________ clerk transmit a certified copy of this resolution to the Southeastern Wisconsin Regional Planning Commission.

____
(President, Mayor, or Chairman
of the Local Governing Body)

ATTESTATION:

____
(Clerk of Local Governing Body)

Appendix P

POTENTIAL FUNDING PROGRAMS TO IMPLEMENT PLAN RECOMMENDATIONS

Table P-1

FUNDING PROGRAM DESCRIPTIONS

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
Floodland Mitigation					
U.S. Federal Emergency Management Agency (FEMA)	Hazard Mitigation Grant Program	State agencies and participating National Flood Insurance Program (NFIP) communities	1. Floodproofing 2. Relocation 3. Elevation of structures 4. Property acquisition	75 percent Federal cost-share assistance; 12.5 percent State match and 12.5 percent local match required[a]	Within 60 days of a Presidential disaster declaration
FEMA	Flood Mitigation Assistance Program	State agencies and participating NFIP communities	1. Elevation, relocation, or demolition of insured structures 2. Acquisition 3. Dry floodproofing 4. Minor structural projects 5. Beach nourishment activities	$ 20 million available nationally;[b] 75 percent Federal cost-share assistance; 25 percent local match required; two types of grants: Planning grant and project grant[c]	- -
FEMA	Public Assistance Program	State agencies and local communities	1. Rebuilding infrastructure damaged during a flood 2. Building infrastructure for portions of a community that are to be relocated outside of floodplains 3. Limited assistance with structural elevation and relocation	75 percent Federal cost-share assistance; the State determines the local match	Within 30 days of a Presidential disaster declaration
FEMA	Pre-Disaster Mitigation Program	States and local communities	1. Acquisition and relocation of structures in flood hazard areas 2. Floodproofing 3. Minor structural projects 4. Flood control projects for critical facilities 5. Management costs 6. Informational activities 7. Plan preparation 8. Technical assistance	75 percent Federal cost-share assistance; 25 percent State or local match is required; 2002 appropriation was $250,000 per state, plus an additional amount based upon state population	- -
U.S. Army Corps of Engineers (USCOE)	Small Flood Control Projects Program	State and local units of government	1. Projects designed to reduce the impact of flood events 2. Projects must be designed and constructed by the Corps	50 to 65 percent Federal cost-share assistance above $100,000; 35 to 50 percent local match is required	None

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
Floodland Mitigation (continued)					
USCOE	Snagging and Clearing for Flood Control	State and local units of government	1. Removal of obstructions that restrict floodflows of navigable waters 2. Projects must be designed and constructed by the Corps	Project studies are in most cases at Federal expense; 65 percent Federal cost-share assistance is provided for project implementation and cannot exceed $500,000; a local match of 35 percent is required	None
USCOE	Emergency Bank Protection Program	Local communities	1. Bank protection of highways, highway bridges, essential public works, churches, hospitals, schools, and other nonprofit public services from flood induced erosion	Federal share cannot exceed $500,000 for a given project; cost-share program with local match expected	- -
USCOE	Water Resources Development and Flood Control Acts	Local governments	1. Water resources planning assistance 2. Emergency streambank and shoreline protection	50 percent for studies and 65 percent for project implementation of Federal cost-share assistance; 35 to 50 percent local match is required	None
USCOE	Flood Hazard Mitigation and Riverine Ecosystem Restoration Program	Local governments	1. Flood hazard mitigation to include relocation of threatened structures 2. Riverine ecosystem restoration such as conservation or restoration of natural floodwater storage areas 3. Planning activities to determine responses to future flood situations 4. Project areas must be in a floodplain	50 percent for studies and 65 percent for project implementation of Federal cost-share assistance; 35 to 50 percent local match is required	Undetermined
U.S. Department of Agriculture (USDA)	Watershed Protection and Flood Prevention Program	State and local units of government	1. Watershed protection 2. Flood prevention measures 3. Projects are intended to be larger scale 4. Watersheds can be no larger than 250,000 acres	$99.4 million available nationally[b]; technical assistance and cost-sharing are provided; up to 100 percent Federal cost-share assistance for flood control prevention; typical project range is $3.5 to $5.0 million in Federal financial assistance	Ongoing

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
			Floodland Mitigation (continued)		
U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS)	Emergency Watershed Protection Program	Individual landowners provided they have a local sponsor such as a local unit of government	1. Sale of agricultural floodprone lands to NRCS for floodplain easements 2. Land must have a history of repeated flooding (at least twice in the past 10 years) 3. Landowner retains most of the rights as before the sale 4. NRCS has authority to restore the floodplain function and value	The USDA pays the landowner one of three options: a geographic rate, a value based on the assessment of the land in agricultural production, or an offer made by the landowner; 75 percent Federal cost-share assistance; 25 percent local match is required[d]	Variable
NRCS	Emergency Conservation Program	Individual landowners	1. Regrading and shaping farmland 2. Restoring conservation structures 3. Redistribution of eroded soil 4. Debris removal 5. Projects must be in response to natural disaster	Up to 64 percent Federal cost-share assistance; the remaining percentage is the landowner's responsibility	After a designated State or Presidential disaster declaration
U.S. Department of Housing and Urban Development	Community Development Block Grant Program	Local governments	1. Emergency response activities related to flood events 2. Long-term needs related to flooding issues	75 to 100 percent Federal cost-share assistance; 0 to 25 percent local match may be required	After a Presidential disaster declaration
U.S. Small Business Administration	Disaster Loan Program	Homeowners, renters, and businesses	1. Property repair 2. Property replacement 3. Meeting building code requirements 4. Involuntary relocations out of a special flood hazard area	Low interest loans	After a Presidential disaster declaration
Wisconsin Department of Natural Resources (WDNR)	Municipal Flood Control Grants Chapter NR 199 of the *Wisconsin Administrative Code*	Cities, villages, towns, metropolitan sewerage districts	1. Acquisition and removal of structures 2. Flood proofing and elevation of structures 3. Riparian restoration projects 4. Acquisition of vacant land or purchase of easements 5. Construction of stormwater and groundwater facilities related to flood control and riparian restoration projects 6. Flood mapping	70 percent State cost-share assistance; 30 percent local match	July 15
			Wildlife and Fish Habitat		
U.S. Fish and Wildlife Service (FWS)	Wildlife Conservation and Appreciation Program	State fish and wildlife agencies, private organizations and local communities must work through their State agency	1. Problem identification 2. Species and habitat conservation 3. Public enjoyment of fish and wildlife 4. Species monitoring 5. Identification of significant habitats	$768,000 available nationally[b]	September 1

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
			Wildlife and Fish Habitat (continued)		
FWS	Partners for Fish and Wildlife Habitat Restoration Program	Private landowners for a 10-year contract	1. Restoration of degraded wetlands, native grasslands, stream and riparian corridors, and other habitat areas	Full cost-share and technical assistance; individual projects cannot exceed $25,000	Continuous
FWS[e]	Partnership for Wildlife	Nonprofit organizations, State and local agencies, and individuals	1. Preservation of nongame fish and wildlife species 2. Management of nongame fish and wildlife species 3. Habitat restoration projects	$768,000 available nationally[b] Must be matched equally from outside sources	September 1
FWS	North American Wetlands Conservation Fund	State and public agencies	1. Property acquisition for the protection of wetlands that migratory birds, fish and wildlife are dependant on 2. Wetland restoration and protection projects 3. Habitat restoration projects	50 percent Federal cost-share assistance; 50 percent local match is required	Variable
FWS	Landowner Incentive Program	States, tribal government, U.S. Territories	1. Habitat protection and restoration to protect Federally listed, proposed candidates, or other at-risk species on private land	Estimated $50 million nationwide for fiscal year 2003	December
NRCS	Wildlife Habitat Incentives Program	Individual landowners for a 10-year contract	1. Instream structures for fish 2. Prairie restoration 3. Wetland scrapes 4. Wildlife travel lanes	Cost-share of up to 75 percent of installation	Continuous
NRCS	Wetland Reserve Program	Individual landowners for a 10-year agreement, or a 30-year or permanent easement	1. Wetland restoration of lands in current agricultural production	75 to 100 percent cost-share depending on option chosen and technical assistance. Also between 75 to 100 percent of the cost of the land assessment taken out of production in a one time payment for the 30-year and permanent easement options only	Continuous
USDA	Watershed Protection and Flood Prevention Program	State and local governments	1. Fish and wildlife habitat enhancement projects 2. Wetland restoration	Cost-share and technical assistance	Ongoing

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
		Wildlife and Fish Habitat (continued)			
USCOE	Aquatic Ecosystem Restoration	State and local governments	1. Restoration of degraded aquatic ecosystems to a more natural condition	65 percent Federal cost-share assistance; local match of 35 percent is required; maximum Federal share is $5,000,000 per project; 100 percent of maintenance, replacement, and rehabilitation costs must be provided locally with non-Federal funds	None
U.S. Environmental Protection Agency (USEPA)[f]	Five-Star Restoration Program	Public or private organizations that engage in community-based restoration projects	1. Wetland restoration projects 2. Riparian restoration projects 3. Projects must be part of a larger watershed and be community based 4. Projects must also have at least five contributing partners	$500,000 available nationally[b]; project award ranges between $5,000 and $20,000 at the local level; average award is around $10,000; technical assistance is also provided	March 2
WDNR[g]	Stewardship Incentives Program	Individual landowners	1. Reforestation 2. Forest improvement 3. Tree planting 4. Forest management plan development 5. Wildlife and fisheries habitat improvement to include travel corridors, nest boxes and platforms, in-stream habitat enhancements, etc.	65 percent Federal cost-share assistance; 35 percent cost-share from individual; $5,000 maximum per project[h]	Ongoing
National Audubon Society, Upper Mississippi River Campaign	Stewardship Program	Local communities and nonprofit organizations	1. Wetland restoration	$5,000 for individual projects	August
National Fish and Wildlife Foundation	Challenge Grant	Federal, State, and local governments, educational institutions, and nonprofit organizations	1. Habitat protection and restoration on private lands 2. Sustainable communities through conservation 3. Conservation education	Average funding level is between $25,000 and $75,000 per project; projects must have a match of at least 50 percent from non-Federal funding sources	Project pre-proposal: June 1 and October 15; full project proposal: July 15 and December 1
		Water Quality			
Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP)	Land and Water Resource Management Program	Individual landowners	1. Grassed waterways 2. Manure storage systems 3. Grade stabilization structure 4. Nutrient and pest management plans 5. Conservation tillage	50 to 70 percent State cost-share assistance; 30 to 50 percent individual cost-share is required; in the case of financial hardship, up to 90 percent cost-share assistance can be obtained from the State	December 31

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
			Water Quality (continued)		
DATCP	Farmland Preservation Program	Individual landowners for a period of 10 years	1. Best management practices that will lower the soil erosion rate to the tolerable soil loss rate or below	Tax incentives on an annual basis	None
WDNR	Lake Planning Grant Program, Chapter NR 190 of the *Wisconsin Administrative Code*	Local units of governments, lake districts, and nonprofit conservation organizations	1. Gathering and analyzing water quality information 2. Land use planning within lake watersheds 3. Gathering and compiling demographic information pertinent to individual lakes 4. Developing lake management plans	Up to 75 percent State cost-share assistance, not to exceed $10,000; 25 percent local match is required; lakes are eligible for more than one grant, however, the total amount of State dollars cannot exceed $100,000	February 1 and August 1
WDNR	Lake Protection Grant Program, Chapter NR 191 of the *Wisconsin Administrative Code*	Local units of government, lake districts, and nonprofit conservation organizations	1. Land acquisition for easement establishment 2. Wetland restoration 3. Lake restoration projects 4. Other projects involving lake improvement	75 percent State cost-share which cannot exceed $200,000; 25 percent local match is required	May 1
WDNR	Stewardship Grant Program, Chapter NR 47 of the *Wisconsin Administrative Code*	Local government and nonprofit conservation organizations	1. Streambank protection projects 2. Land acquisition of stream corridors for water quality improvement	50 percent State cost-share assistance; 50 percent local match is required	May 1
WDNR	Urban Rivers Grant Program	Local units of government	1. Land acquisition to preserve open areas in urban environments adjacent to streams and rivers	50 percent State cost-share assistance; 50 percent local match is required	May 1
WDNR	Urban Nonpoint Source and Stormwater Grants Program. Funding is through Chapter NR 155 of the *Wisconsin Administrative Code*	Local units of government	1. Planning 2. Educational and information activities 3. Ordinance development and enforcement 4. Training 5. Storm water detention ponds 6. Streambank and shoreline stabilization	70 percent State cost-share assistance for projects not involving construction, requiring a 30 percent local match; 50 percent State cost-share assistance for projects involving construction, requiring a 50 percent local match	May 1
WDNR	Targeted Runoff Management Grants, Chapter 120 of the *Wisconsin Administrative Code*; in the future, specific rural nonpoint source abatement measures will be funded under proposed Chapter NR 151 of the *Wisconsin Administrative Code*	Local units of government	1. Complying with nonpoint source performance standards 2. Improving 303(d) waters 3. Protecting outstanding water resources 4. Compliance with a notice of discharge for an animal feeding operation 5. Addressing a water quality concern of national or statewide importance, such as the Upper Mississippi River concerns	70 percent State cost-share assistance; 30 percent local match is required. Rural projects cannot exceed $30,000 in funding and urban projects cannot exceed $150,000	May 1

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
		Water Quality (continued)			
WDNR	River Protection Grant Program, Chapter NR 195 of the *Wisconsin Administrative Code*	Local units of government and nonprofit conservation organizations	1. Activities designed to develop partnerships that protect river ecosystems 2. Educational projects 3. Activities associated with river management plan development 4. Land acquisition 5. Ordinance development 6. Installation of practices to control nonpoint source pollution	75 percent State cost-share assistance; 25 percent local match is required	March 15 and September 1
WDNR[g]	Stewardship Incentives Program, Chapter NR 47 of the *Wisconsin Administrative Code*	Individual landowners	1. Stream buffers 2. Windbreaks and hedgerows	65 percent Federal cost-share assistance; 35 percent cost-share from individual; $5,000 maximum per project[h]	Ongoing
USDA	Water and Waste Disposal Systems for Rural Communities	Local units of governments, nonprofit organizations, associations, and districts	1. Installation, repair, improvement or expansion of a rural water facility 2. Installation, repair, improvement or expansion of a rural waste disposal facility 3. Collection and treatment of sanitary waste, stormwater and solid wastes	$706 million in loans, $528 million in grants, and $75 million in guaranteed loans available nationally[b]	Determined by State USDA office
U.S. Department of Agriculture, Farm Services Agency (FSA)	Conservation Reserve Program	Individual landowners in a 10- or 15-year contract	1. Riparian buffers 2. Trees 3. Windbreaks 4. Grassed waterways	50 percent Federal cost-share assistance; 50 percent local match from individual; an annual rental payment for the length of the contract is also provided	Annually or ongoing[i]
USDA FSA	Conservation Reserve Enhancement Program	Individual landowners in a 10- or 15-year contract	1. Filter strips 2. Riparian buffers 3. Grassed waterways 4. Permanent grasses (only in specially designated grassland project areas) 5. Wetland development and restoration	50 percent Federal cost-share assistance; one-time signing incentive payment (up to $150 per acre); practice incentive payment (about 40 percent of cost of establishing practice); annual rental payment; State of Wisconsin lump sum payment; Wisconsin practice incentive payment (about 20 percent of cost of establishing practice)	Ongoing

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
		Water Quality (continued)			
NRCS	Environmental Quality Incentives Program	Individual landowner in a three-year contract	1. Animal waste management practices 2. Soil erosion and sediment control practices 3. Nutrient management 4. Groundwater protection 5. Habitat improvement	Up to 75 percent Federal cost-share assistance; 25 percent local match is required	Annually[j]
USDA	Watershed Protection and Flood Prevention Program	State and local units of government	1. Watershed protection 2. Erosion and sediment control 3. Public recreation 4. Watersheds can be no larger than 250,000 acres	$99.4 million available nationally[b]; technical assistance and cost-sharing are provided at the local level; typical project range is $3.5 to $5 million in financial assistance	Ongoing
USEPA[k]	Watershed Assistance Grants	Local units of government, nonprofit conservation organizations	1. Developing watershed and river partnerships and organizations	$365,000 available nationally[b]; locally projects are funded in the following ranges: $4,000 and under, and $4,000 and over with a cap of $30,000	Variable
USEPA	Watershed Initiative Grants	Watershed organizations nominated by State Governors or Tribal leaders	1. Watershed-based projects to protect water resources 2. Training and technical assistance to local partnerships	$21 million nationwide in Fiscal Year 2003. Anticipated $0.3 to $1.3 million for each of 20 projects competitively selected nationwide. 75 percent maximum Federal cost-share assistance. Minimum 25 percent non-Federal match	November
USEPA	Pesticide Environmental Stewardship Grants	Pesticide Environmental Stewardship Program (PESP) Partners and Supports, any organization, group, or business committed to reducing the environmental risk from pesticides is eligible to join	1. Implementation of pollution control measures 2. Plan development which includes strategies to reduce pesticide risk 3. Grant applicants must be PESP partners or members	$300,000 available nationally[b]; locally grants are provided up to a maximum of $50,000	Ongoing
U.S. Geological Survey (USGS)	Upper Mississippi River System Long Term Resource Monitoring Program	State and local units of government, nonprofit organizations, and inter and intrastate agencies	1. Monitoring resources 2. Developing alternative management measures 3. Managing information with respect to those resources	Federal cost-share program with no local match required; average financial assistance has been $250,000 per project	None

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
Water Quality (continued)					
U.S. Department of Transportation (USDOT)	Transportation Enhancement Program	State and local units of government	1. Wetland preservation and restoration 2. Stormwater treatment systems to address runoff from roads and highways 3. Natural habitat restoration	80 percent Federal cost-share assistance; 20 percent local match is required	- -
Land Acquisition (Parks and Recreation)					
WDNR utilizing DOT funding	Recreational Trails Program[l]	Local units of government, Federal and State agencies, and certain incorporated organizations	1. Rehabilitation of existing trails 2. Trail maintenance 3. Trail development 4. Land acquisition for trail establishment	Cost-share of up to 80 percent of the total project cost; 20 percent of the remaining funds must come from non-Federal sources	- -
WDNR utilizing U.S. Department of Interior funding	Land and Water Conservation Fund Grants	Local units of government and State agencies, apply to the WDNR	1. State planning for the acquisition of State and local parks 2. Land acquisition for open space, estuaries, forests, and wildlife and natural resource areas 3. Facilities to enhance recreational opportunities	$40 million available nationally[b] 50 percent cost-sharing of a project. Federal funds cannot exceed 50 percent of an eligible project	May 1
WDNR	Stewardship Grant Program, Urban Green Space Program	Local units of government , lake protection and rehabilitation districts, and nonprofit conservation organizations	1. Land acquisition for greenway space in urban areas, protection of scenic or ecological features, and wildlife habitat improvement	50 percent State cost-sharing assistance; 50 percent local match is required	- -
USDOT	Transportation Enhancement Program	State and local units of government	1. Land acquisition for: scenic easements, pedestrian and bike trails, and abandoned railway corridors	50 percent Federal cost-share assistance; 50 percent local match is required	- -
Eastman Kodak	American Greenway Grants	Land trusts, local units of government, and nonprofit organizations	1. Ecological assessments 2. Mapping and surveying 3. Planning activities 4. Creative projects that work to establish greenways in communities 5. Must have matching funds from other sources 6. Must show that the project will be completed	Grants with a maximum amount of $2,500	March 1 to June 1
Educational and Other Watershed Improvement Grants					
USEPA	Sustainable Development Challenge Grants	State and local governments and nonprofit organizations	1. Partnering among community organizations that link environmental management and quality of life activities with sustainable development and revitalization	Up to 80 percent of the project cost, a 20 percent match is required[m]	Fall

Table P-1 (continued)

Administrator of Grant Program	Name of Funding Program	Eligibility	Types of Projects and Funding Eligibility Criteria	Assistance Provided	Application Deadline
Educational and Other Watershed Improvement Grants (continued)					
USEPA	Environmental Education Grants Program	Local or State education agencies, colleges, and nonprofit organizations, State environmental agencies, and noncommercial education broadcasting agencies	1. Improving environmental education teaching skills 2. Educating teachers, students, or the public about human health problems 3. Building capacity for environmental education programs 4. Education communities 5. Educating the public through print, broadcast, or other media	$2 million available nationally[b]; locally, grants are for $5,000; $5000 to $25,000; and up to $100,000	Mid-November
WDNR	Lake Protection Grant Program	Local units of government, lake districts, and nonprofit conservation organizations	1. Ordinance revision and development	75 percent cost-share which cannot exceed $200,000; $50,000 is available for ordinance revision	May 1
WDNR	Lake Classification Grant Program[n]	Counties	1. Development of a county lake classification system	$50,000 per grant	May 1

[a] *The non-Federal share is 25 percent. In Wisconsin, the State Division of Emergency Management pays 12.5 percent and the local community pays 12.5 percent.*

[b] *Available on an annual basis.*

[c] *Municipalities must have a flood mitigation plan to be eligible for a project grant.*

[d] *In kind services are allowed as a part of the local cost-share assistance.*

[e] *The Fish and Wildlife Service receives support funding from the National Fish and Wildlife Foundation and other private sources to help fund this program.*

[f] *Must apply through an intermediary organization which includes the National Association of Counties, the National Association of Service and Conservation Corps, the National Fish and Wildlife Foundation, and the Wildlife Habitat Council.*

[g] *The Wisconsin Department of Natural Resources utilizes USDA Forestry Service funding for the Stewardship Incentives Program.*

[h] *Cost-sharable practices must be part of implementation of a Forest Stewardship Plan prepared by a forester.*

[i] *Two types of sign-up are available for CRP: continuous CRP, which has no timeline and is used for small sensitive tracts of land and regular CRP, which has an annual sign up application period and is used for large tracts of land.*

[j] *EQIP provides minimal funding in Southeastern Wisconsin.*

[k] *The EPA provides grant funding to the private nonprofit organization River Network to disburse funding. Applications must be made through River Network.*

[l] *The Recreational Trails Program is a subprogram of the Transportation Enhancement Program.*

[m] *Funding for this program averaged $5 million available annually nationwide prior to FY 2000. As of 2000, this program had no funding available; however, funding could be made available again in the future.*

[n] *The Lake Classification Grant Program is a subgrant program of the Lake Protection Grant Program.*

Source: Northeastern Illinois Planning Commission, Upper Des Plaines River Phase 2 Funding Project Interim Report*, December 2000, and SEWRPC.*

Table P-2

POTENTIAL GRANT PROGRAMS TO IMPLEMENT SELECTED SPECIFIC PLAN RECOMMENDATIONS

Plan Recommendations	Grant Programs
Floodland Management	
1. Remove Sediment from Agricultural Drainageways	1. USCOE – Small Flood Control Projects 2. USDA – Watershed Protection and Flood Prevention Program
2. Floodproofing, Elevation, and Removal of Buildings	1. FEMA – Hazard Mitigation Grant Program 2. FEMA – Flood Mitigation Assistance Program 3. FEMA – Pre-Disaster Mitigation Program 4. FEMA – Public Assistance Program 5. USCOE – Flood Hazard and Riverine Ecosystem Restoration Program 6. USSBA – Disaster Loan Program 7. WDNR – Chapter NR 199 Municipal Flood Control Grants
3. Wetland Restoration	1. USDA – Emergency Watershed Protection Program 2. FWS – North American Wetlands Conservation Fund 3. FWS – Partners for Fish and Wildlife Habitat Restoration| Program 4. USDA – NRCS – Wetland Reserve Program 5. USDA – Watershed Protection and Flood Prevention Program 6. USDA-FSA – Conservation Resource Enhancement Program 7. USEPA – Five-Star Restoration Program 8. National Audubon Society – Upper Mississippi River Campaign – Stewardship Program 9. USDOT – Transportation Enhancement Program 10. WDNR – Lake Protection Grant Program 11. WDNR – Stewardship Incentives Program=
4. Prairie Restoration	1. FWS – Partners for Fish and Wildlife Habitat Restoration Program 2. FWS – Partnership for Wildlife 3. USDA-NRCS – Wildlife Habitat Incentives Program 4. USDA-FSA – Conservation Reserve Program 5. USDA-FSA – Conservation Reserve Enhancement Program 6. FWS – Landowner Incentive Program 7. National Fish and Wildlife Foundation – Challenge Grant 8. WDNR – River Protection Grant Program 9. WDNR – Stewardship Incentives Program
5. Removal of Obstructions from Streams	1. USCOE – Snagging and Clearing for Flood Control 2. USDA-NRCS – Emergency Conservation Program
Fish and Wildlife Habitat	
1. Protect Remaining Wetlands A. Establish a Setback Requirement for Wetlands	1. FWS – Partners for Fish and Wildlife Habitat Restoration Program 2. FWS – North American Wetlands Conservation Fund 3. WDNR – River Protection Grant Program
2. Restore Wetlands Adjacent to Streams and River	1. See Floodland Management Recommendation Wetland Restoration Programs 1 through 11
3. Stream and River Restoration A. Streambed Realignment B. Pool and Riffle Reestablishment	1. USCOE – Flood Hazard Mitigation and Riverine Ecosystem Restoration Program 2. USDA – Watershed Protection and Flood Prevention Program 3. NRCS – Wildlife Habitat Incentives Program 4. FWS – Partners for Fish and Wildlife Habitat Restoration Program 5. USCOE – Aquatic Ecosystem Restoration
4. Sediment Removal to Original Stream and Riverbed Bottom	1. USDA – Watershed Protection and Flood Prevention Program 2. USCOE – Aquatic Ecosystem Restoration 3. USCOE – Flood Hazard Mitigation and Riverine Ecosystem Restoration Program
5. Reestablish Instream Vegetation and Bank Cover	1. USCOE – Aquatic Ecosystem Restoration 2. WDNR – Stewardship Incentives Program 3. FWS – Partners for Fish and Wildlife Habitat Restoration Program 4. USDA – Wildlife Habitat Incentives Program 5. USEPA – Five-Star Restoration Program 6. National Fish and Wildlife Foundation – Challenge Grant Program

Table P-2 (continued)

Plan Recommendations	Grant Programs
Fish and Wildlife Habitat (continued)	
5. Reestablish Instream Vegetation and Bank Cover (continued)	7. WDNR – Stewardship Grant Program
6. Monitor Fish Populations	1. FWS – Wildlife Conservation and Appreciation Program 2. FWS – Partnership for Wildlife Program
7. Encourage Riparian Buffer Establishment Along Stream and River Corridors	1. FWS – Partners for Fish and Wildlife Habitat Restoration Program 2. USDA – NRCS – Wildlife Habitat Incentives Program 3. USDA – FSA – Continuous Conservation Reserve Program 4. WDNR – Stewardship Incentives Program 5. USEPA – Five – Star Restoration Program 6. National Fish and Wildlife Foundation – Challenge Grant Program
8. Develop a Buffer Requirement in Areas of Shoreline Redevelopment (lakes)	1. WDNR – Lake Protection Grant Program
Water Quality – Nonpoint Sources	
1. Reduce agricultural nonpoint source pollution	
A. Practice Conservation Tillage	1. USDA – NRCS – Environmental Quality Incentives Program
B. Nutrient Management to Include Soil Testing	1. DATCP – Land and Water Resource Management Program 2. USDA – NRCS – Environmental Quality Incentives Program
C. Install Grassed Waterways Where Needed	1. USDA – FSA – Continuous Conservation Reserve Program
D. Practice Integrated Pest Management	1. USEPA – Pesticide Environmental Stewardship Grants Program
E. Install Riparian Buffers/Filter Strips	1. USDA – FSA – Continuous Conservation Reserve Program
F. Install Diversions Around Barnyards	1. USDA – FSA – Continuous Conservation Reserve Program 2. USDA – NRCS – Environmental Quality Incentives Program
G. Practice More Effective Manure Management	1. USDA – NRCS – Environmental Quality Incentives Program 2. DATCP – Land and Water Resource Management Program
H. Install Fencing to Keep Horses and Cattle Out Away from Streambanks	1. WDNR – Targeted Runoff Management Grant Program
2. Reduce urban nonpoint source pollution	
A. Develop a Buffer Requirement on Urban Riparian Lands	1. WDNR – Urban Nonpoint Source and Stormwater Grants Program 2. WDNR – Stewardship Grant Program 3. WDNR – River Protection Grant Program 4. WDNR – Targeted Runoff Management Grant Program
Develop a Stormwater Management and Construction Site Ordinance	1. WDNR – Urban Nonpoint Source and Stormwater Grants Program
C. Monitor Construction Site Erosion	1. WDNR – Urban Nonpoint Source and Stormwater Grants Program
uality – Nonpoint Sources (continued)	
D. Develop and Implement Detailed Stormwater Management Plans By Subwatershed	1. WDNR – Urban Nonpoint Source and Stormwater Grants Program 2. USDOT – Transportation Enhancement Program
3. Develop a Comprehensive Set of Water Quality Data for Rivers, Tributaries, and Lakes	1. WDNR – Lake Planning Grant Program 2. WDNR – River Protection Grant Program 3. USGS – Upper Mississippi River System Long Term Resource Monitoring Program
4. Reduce Erosion from Unstable Streambanks	1. WDNR – Stewardship Grant Program 2. WDNR – Urban Nonpoint Source and Stormwater Grants Program 3. WDNR – Stewardship Incentives Program 4. WDNR – Stewardship Grant Program 5. USDA – FSA – Continuous Conservation Reserve Program 6. USDA – Watershed Protection and Flood Prevention Program 7. USCOE – Emergency Bank Protection Program 8. USCOE – Water Resources Development and Flood Control Acts

Table P-2 (continued)

Plan Recommendations	Grant Programs
Water Quality – Point Sources	
1. Identify and Secure Funding to Offset the Costs Associated with Onsite Sewage Disposal System	1. USDA – Water and Waste Disposal Systems for Rural Communities Program
Land Acquisition – Parks and Recreation	
1. Develop a Community Park in the Village of Pleasant Prairie	1. WDNR – Land and Water Conservation Fund Grants Program
2. Develop five neighborhood parks	1. WDNR – Land and Water Conservation Fund Grants Program
3. Acquire Land in Primary Environmental Corridors	1. WDNR – Stewardship Grant Program
4. Acquire Land and Develop an Areawide Recreational Trail System Adjacent to the Des Plaines River, Brighton Creek, and the Kilbourn Road Ditch	1. WDNR – Recreational Trails Program 2. USDOT – Transportation Enhancement Program 3. Eastman Kodak – American Greenway Grants Program 4. WDNR – Stewardship Program – Urban Green Space Program 5. WDNR – Land and Water Conservation Fund Grants Program
Education	
1. Provide Information to Agricultural Landowners through Short Courses and Distribution of Educational Materials on the Environmental and Economic Benefits of Nutrient Management and Soil Erosion Control	1. WDNR – River Protection Grant Program
2. Work with and Provide Information to Agricultural Supply Companies, Lawn Maintenance Companies, and Golf Course Superintendents on the State Requirements and Principals of Nutrient and Chemical Management	1. WDNR – River Protection Grant Program
3. Provide Information to Contractors and Developers on Appropriate Best Management Practices for Stormwater Management and Erosion Control	1. WDNR – Urban Nonpoint Source and Stormwater Grants Program
4. Provide Information to Riparian Property Owners and Landscape Contractors on the Effectiveness of Riparian Buffers and Design Options	1. WDNR – River Protection Grant Program
5. Promote and Help to Implement In-School Environmental and Natural Resource Educational Programs	1. USEPA – Environmental Education Grants Program
6. Provide Information to Watershed Residents on Appropriate Yard Care Management Practices	1. WDNR – River Protection Grant Program 2. WDNR – Urban Nonpoint Source and Stormwater Grants Program

NOTE: The following abbreviations were used in this table:

FSA – Farm Services Agency
FEMA – Federal Emergency Management Agency
FWS – Fish and Wildlife Service
NRCS – Natural Resources Conservation Services
USCOE – U.S. Army Corps of Engineers
USDA– U.S. Department of Agriculture
USDOT – U.S. Department of Transportation
USEPA – U.S. Environmental Protection Agency
USGS – U.S. Geological Survey
USSBA – U.S. Small Business Administration
DATCP – Department of Agriculture, Trade, and Consumer Protection
WDNR – Wisconsin Department of Natural Resources

Source: SEWRPC.

Appendix Q

PLAN IMPLEMENTATION FUNDING CONTACT INFORMATION[a]

Administrator of Grant Program	Name of Grant Program	Address	Phone Number	Internet Web Address
Floodland Management				
Federal Emergency Management Agency (FEMA)	1. Hazard Mitigation Grant Program 2. Public Assistance Program	Federal Emergency Management Agency Region V 175 W. Jackson Boulevard, 4th Floor Chicago, IL 60604	(312) 408-5548	www.fema.gov/mit/hmgp.htm
FEMA	1. Flood Mitigation Assistance Program 2. Project Impact	Headquarters: Federal Emergency Management Agency Mitigation Directorate 500 C Street, SW Washington, DC 20472	(202) 646-4621 (202) 646-3701	www.fema.gov/home/MIT/fmasst.html www.fema.gov/impact
U.S. Army Corps of Engineers (USCOE)	1. Small Flood Control Projects Program 2. Snagging and Clearing for Flood Control 3. Emergency Bank Protection Program 4. Water Resources Development and Flood Control Acts	U.S. Army Corps of Engineers 111 N. Canal Street, Suite 600 Chicago, IL 60606	(312) 353-6400	www.usace.army.mil
USCOE	1. Flood Hazard Mitigation and Riverine Ecosystem Restoration Program	U.S. Army Corps of Engineers Planning Division 20 Massachusetts Ave, NW Washington, DC 20314	(202) 761-0115	www.usace.army.mil
U.S. Department of Agriculture (USDA)	1. Watershed Protection and Flood Prevention Program	Headquarters: Department of Agriculture Natural Resources Conservation Service P.O. Box 2890 Washington, DC 20013	(202) 720-3534	www.ftw.nrcs.usda.gov/programs.html
USDA, Natural Resources Conservation Service (NRCS)	1. Emergency Watershed Protection Program	U.S. Department of Agriculture Natural Resources Conservation Service 6515 Watts Road, Suite 200 Madison, WI 53719	(608) 276-8732	www.nrcs.usda.gov
Floodland Management (continued)				
NRCS	1. Emergency Conservation Program	U.S. Department of Agriculture Natural Resources Conservation Service 826 Main Street Union Grove, WI 53182	(262) 878-1243	www.nrcs.usda.gov
U.S. Department of Housing and Urban Development	1. Community Development Block Grant Program	U.S. Department of Housing and Urban Development Office of Community Planning and Development Office of Block Grant Assistance State and Small Cities Division, Room 7184 451 7th Street, SW Washington, DC 20410	(202) 708-1322	www.hud.gov/progdesc/cdbg-st.html
U.S. Small Business Administration	1. Disaster Loan Program	U.S. Small Business Administration Disaster Loan Program One Baltimore Place, Suite 300 Atlanta, GA 30308	(404) 347-3771	www.sbaonline.sba.gov/gopher/Disaster
Wildlife and Fish Habitat				
U.S. Fish and Wildlife Service (FWS)	1. Wildlife Conservation and Appreciation Program 2. Landowner Incentive Program	Fish and Wildlife Service Department of the Interior Division of Federal Aid 4401 North Fairfax Drive, Room 400 Arlington, VA 22203	(703) 358-1852	www.fws.gov
FWS	1. Partners for Fish and Wildlife Habitat Restoration Program	Fish and Wildlife Service Department of the Interior, Division of Federal Aid 4401 North Fairfax Drive, Room 400 Arlington, VA 22203	(703) 358-2201	www.fws.gov/cep/coastweb.html
FWS	1. Partnership for Wildlife	Fish and Wildlife Service Department of the Interior 1849 C Street, NW Washington, DC 20240	(703) 358-2156	www.fa.r9.fws.gov

Appendix Q (continued)

Administrator of Grant Program	Name of Grant Program	Address	Phone Number	Internet Web Address
Wildlife and Fish Habitat (continued)				
FWS	1. North American Wetlands Conservation Fund	Fish and Wildlife Service Department of the Interior Executive Director of North American Waterfowl and Wetlands Office 4401 North Fairfax Drive, Suite 110 Arlington, VA 22203	(703) 358-1784	www.northamerican.fws.gov/nawchp.html
NRCS	1. Wildlife Habitat Incentives Program 2. Wetland Reserve Program	U.S. Department of Agriculture Natural Resources Conservation Service 826 Main Street Union Grove, WI 53182	(262) 878-1234	www.nrcs.usda.gov
USDA	1. Watershed Protection and Flood Prevention Program	Headquarters: Department of Agriculture Natural Resources Conservation Service P.O. Box 2890 Washington, DC 20013	(202) 720-3534	www.ftw.nrcs.usda.gov/programs.html
USCOE	1. Aquatic Ecosystem Restoration	U.S. Army Corps of Engineers 111 N. Canal Street, Suite 600 Chicago, IL 60606	(312) 353-6400	www.usace.army.mil
U.S. Environmental Protection Agency (USEPA)	1. Five-Star Restoration Program	U.S. Environmental Protection Agency Office of Wetlands, Oceans and Watershed (4502F) Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington, DC 20460	(202) 260-8076	www.epa.gov/owow/wetlands/restore/5star
Wisconsin Department of Natural Resources (WDNR)	1. Stewardship Incentives Program	Wisconsin Department of Natural Resources 9531 Rayne Road, Suite IV Sturtevant, WI 53177	(262) 884-2390	www.dnr.state.wi.us
National Audubon Society Upper Mississippi River Campaign	1. Stewardship Program	Upper Mississippi River Campaign National Audubon Society 26 East Exchange Street, Suite 110 St. Paul, MN 55101	(651) 290-1695	www.audubon.org/campaign/umr
National Fish and Wildlife Foundation	1 Challenge Grant	National Fish and Wildlife Foundation 1120 Connecticut Avenue, NW Washington, DC 20036	(202) 857-0166	www.nfwf.org/guideliens.htm
Water Quality				
Wisconsin Department of Agriculture Trade and Consumer Protection (DATCP)	1. Land and Water Resource Management Program 2. Farmland Preservation Program	Wisconsin Department of Agriculture, Trade and Consumer Protection Agricultural Resource Management 2811 Agriculture Drive P.O. Box 8911 Madison, WI 53708	(608) 224-4500	www.datcp.state.wi.us
WDNR	1. Lake Planning Grant Program 2. Lake Protection Grant Program	UWEX-Lakes Partnership UW-Stevens Point 1900 Franklin Street Stevens Point, WI 54481	(715) 346-2116	www.uwsp.edu/cnr/uwexlakes/grants
WDNR	1. Stewardship Grant Program 2. Urban Rivers Grant Program 3. River Protection Grant Program	Wisconsin Department of Natural Resources 2300 N. Dr. Martin Luther King Jr. Drive P.O. Box 12436 Milwaukee, WI 53212	(414) 263-8704	www.dnr.state.wi.us
WDNR	1. Targeted Runoff Management Grants 2. Urban Nonpoint Source and Storm Water Grants Program	Wisconsin Department of Natural Resources Bureau of Watershed Management P.O. Box 7921 Madison, WI 53707-7921	(608) 266-2621	www.dnr.state.wi.us
WDNR	1. Stewardship Incentives Program	Wisconsin Department of Natural Resources 9531 Rayne Road, Suite IV Sturtevant, WI 53177	(262) 884-2390	www.dnr.state.wi.us
USDA	1. Water and Waste Disposal Systems for Rural Communities	U.S. Department of Agriculture Rural Utilities Service Water and Environmental Programs Room 4050-S, Stop 1548 1400 Independence Avenue, SW Washington, DC 20250	(202) 690-2670	www.usda.gov/rus//water/programs.htm
USDA	1. Watershed Protection and Flood Prevention Program	Headquarters: Department of Agriculture Natural Resources Conservation Service P.O. Box 2890 Washington, DC 20013	(202) 720-3534	www.ftw.nrcs.usda.gov/programs.html
USDA, Farm Services Agency (FSA)	1. Conservation Reserve Program	U.S. Department of Agriculture Farm Services Agency 826 Main Street Union Grove, WI 53182	(262) 878-1234	www.fsa.usda.gov

Appendix Q (continued)

Administrator of Grant Program	Name of Grant Program	Address	Phone Number	Internet Web Address
Water Quality (continued)				
NRCS	1. Environmental Quality Incentives Program	U.S. Department of Agriculture Natural Resources Conservation Service 826 Main Street Union Grove, WI 53182	(262) 878-1234	www.nrcs.usda.gov
USEPA	1. Watershed Assistance Grants	River Network 520 SW 6th Avenue, Suite 1130 Portland, OR 97204 or U.S. Environmental Protection Agency Office of Wetlands, Oceans, and Watersheds 401 M Street, SW, 4501F Washington, DC 20460	- - (202) 260-9194	www.rivernetwork.org www.epa.gov/owow/wag.html
USEPA	1. Watershed Initiatives Grants	Robert Wayland, Director Office of Wetlands, Oceans, & Watersheds Mail Code 4501T USEPA 1200 Pennsylvania Avenue NW Washington, DC 20460 initiative.watershed@epa.gov By courier: Robert Wayland, Director Office of Wetlands, Oceans, & Watersheds USEPA Room 7130 1300 Constitution Avenue NW Washington, DC 20004	- -	www.epa.gov
USEPA	1. Pesticide Environmental Stewardship Grants	U.S. Environmental Protection Agency Office of Prevention, Pesticides, and Toxic Substances Office of Pesticides Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington, DC 20460	(703) 308-7035	www.epa.gov/oppbppd1/PESP
U.S. Geological Survey (USGS)	1. Upper Mississippi River System Long Term Resource Monitoring Program	Upper Midwest Environmental Sciences Center 2630 Fanta Reed Road LaCrosse, WI 54603	(608) 781-6221	www.emtc.nbs.gov/ltrmp.html
U.S. Department of Transportation (DOT)	1. Transportation Enhancement Program	U.S. Department of Transportation 400 Seventh Street, SW Washington, DC 20590	(202) 366-4000	www.dot.gov
Land Acquisition (Parks and Recreation)				
WDNR Utilizing DOT Funding	1. Recreational Trails Program	Wisconsin Department of Natural Resources 2300 N. Dr. Martin Luther King Jr. Drive P.O. Box 12436 Milwaukee, WI 53212	(414) 263-8704	www.dnr.state.wi.us
WDNR Utilizing U.S. Department of Interior Funding	1. Land and Water Conservation Fund Grants 2. Stewardship Grant Program	Wisconsin Department of Natural Resources 2300 N. Dr. Martin Luther King Jr. Drive P.O. Box 12436 Milwaukee, WI 53212 or U.S. Department of the Interior National Park Service, Recreation Programs 1849 C Street NW Washington, DC 20240	(414) 263-8704 (202) 565-1200	www.dnr.state.wi.us www.ncrc.nps.gov/lwcf
DOT	1. Transportation Enhancement Program	U.S. Department of Transportation 400 Seventh Street, SW Washington, DC 20590	(202) 366-4000	www.dot.gov
Eastman Kodak	1. American Greenway Grants	American Greenways The Conservation Fund 1800 North Kent Street, Suite 1120, Arlington, Virginia 22209	(703) 525-6300	www.conservationfund.org

Appendix Q (continued)

Administrator of Grant Program	Name of Grant Program	Address	Phone Number	Internet Web Address
Educational and Other Watershed Improvement Grants				
USEPA	1. Sustainable Development Challenge Grants	U.S. Environmental Protection Agency SDCG, Office of the Administrator (MC 1306) Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington, DC 20460	(202) 260-6812	www.epa.gov/ecocommunity/sdcg
USEPA	1. Environmental Education Grants Program	U.S. Environmental Protection Agency Office of Environmental Education (1704) Ariel Rios Building 1200 Pennsylvania Avenue, NW Washington, DC 20460	(202) 260-8619	www.epa.gov/enviroed/grants.html
WDNR	1. Lake Protection Grant Program 2. Lake Classification Grant Program	UWEX-Lakes Partnership UW-Stevens Point 1900 Franklin Street Stevens Point, WI 54481	(715) 346-2116	www.uwsp.edu/cnr/uwexlakes/grants

[a] *A complete listing of U.S. government assistance programs can be found at the Catalog of Federal Domestic Assistance web site: www.cfda.gov.*

Source: SEWRPC.