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MEMORANDUM FOR THE RECORD

BY: Dennis R. Dunn, Senior Sanitary Engineer, Technical Services Branch

DATE: October 5, 1982

RE: New Bedford Sewer Study - PCB Results

Background

10 days June 13-25

During the weeks of June 14 through June 25, 1982 an intensive sewer sampling program was conducted in New Bedford, Massachusetts. The survey was designed to identify all sources of polychlorinated biphenyls (PCB's) to the municipal wastewater treatment facility or to eliminate those areas within the city which were not yet investigated. Grab samples were collected at eighteen locations every three hours for 2, 5-day periods yielding forty samples per composite. Additional composites were collected at both the New Bedford WWTP and Fairhaven WWTP during the same period. These samples were collected with ISCO Automatic samplers equipped with Teflon tubing and glass carboys. All samples were acidified with sulfuric acid to preserve oil and grease before being composited.

Analyses were performed by Versar, Inc. under contract to U.S. EPA.

Results

Small levels of PCB's were found to exist at station 4 in the New Bedford Industrial Park at the north end of the city with aroclor 1248 being the only blend recorded. This aroclor was also found at stations 5, 6, 8, and 14 which receive diluted wastewater from the industrial park via the Church Street collector and the main interceptor. Samples collected near the municipal landfill and below Aerovox and Acushnet capacitors were free of PCB's except for a small trace of aroclor 1248 (1 ppb) found at station 2 the second week. The area around Cornell Dubilier was not as fortunate. PCB's were found in concentrations ranging from twenty-three(23) parts per billion to one hundred and twenty (120) ppb (aroclor 1242 and 1254) at stations 15, 16, and 16A which are located directly in front of the building on East Rodney French Boulevard near the seawall. These concentrations are then heavily diluted before reaching the municipal treatment facility due to an open tide gate at station 16A. At low tide all wastewater flows east to the outer harbor. During high tide the entire sewer line floods and appears to dilute PCB's which are sent to the wastewater treatment plant. Evidence is found in the concentrations recorded at the plant which range from five to ten parts per billion and at the Cove Road pump house (station 12, 5 ppb both weeks, aroclor 1242 and 1254) which receives the Cornell Dubilier flows.

Additional samples showed small levels of aroclor 1254 at station 17 (source unknown) and no trace of PCB's at the Fairhaven WWTP.

As the data clearly indicate the only area of major concern in the New Bedford sewer system is the area around Cornell Dubilier.

DD/dg

NEW BEDFORD SEWER SYSTEM

PCB's

STATION NUMBER	SAMPLE NUMBER	DATE	CONCENTRATION PARTS/BILLION	AROCLOR	COMMENTS
1	90718	6/14-19/82	<1	--	water
	90798	6/20-25/82	<1	--	water
2	90719	6/14-19/82	<1	--	water Below Sewage
	90799	6/20-25/82	1	1248	water
3	90720	6/14-19/82	<1	--	water above Sewage
	90800	6/20-25/82	<1	--	water
4	90721	6/14-19/82	2	1248	water
	90801	6/20-25/82	4	1248	water
5	90722	6/14-19/82	2	1248	water
	90802	6/20-25/82	3	1248	water
6	90723	6/14-19/82	1	1248	water
	90803	6/20-25/82	3	1248	water
7	90724	6/14-19/82	<1	--	water
	90804	6/20-25/82	<1	--	water
8	90725	6/14-19/82	1	1248	water
	90805	6/20-25/82	3	1248	water
9	90726	6/14-19/82	<1	--	water
	90806	6/20-25/82	<1	--	water
10	90727	6/14-19/82	<1	--	water
	90807	6/20-25/82	<1	--	water
11	90728	6/14-19/82	<1	--	water
	90808	6/20-25/82	<1	--	water
12	90729	6/14-19/82	5	1242+1254	water
	90809	6/20-25/82	5	1242+1254	water
13	90730	6/14-19/82	<1	--	water
	90810	6/20-25/82	<1	--	water
14	90731	6/14-19/82	<1	--	water
	90811	6/20-25/82	2	1248	water
15	90732 (238A-1)	6/14-19/82	23	1242+1254	water
	90812	6/20-25/82	67	1242+1254	water
16	90733 (238A-2)	6/14-19/82	99	1242+1254	water
	90813	6/20-25/82	120	1242+1254	water - in front of CDE
16A	90734 (238A-3)	6/14-19/82	85	1242+1254	water
	90814(238A-7)	6/20-25/82	71	1242+1254	water
17	90735(238A-4)	6/14-19/82	2	1254	water
	90815(238A-8)	6/20-25/82	3	1254	water

New Bedford Sewer System - PCB's (Continued)

STATION NUMBER	SAMPLE NUMBER	DATE	CONCENTRATION PARTS/BILLION	AROCLOR	COMMENTS
New Bedford WWTP					
Influent	90716	6/14-19/82	5	1242+1254	water
	90794 (238A-5)	6/20-25/82	7	1242+1254	water
Effluent	90717	6/14-19/82	6	1248	water
	90795 (238A-6)	6/20-25/82	10	1242+1254	water
Sludge	90793	6/21/82	<1ppm	--	sludge
Fairhaven WWTP					
Influent	90714	6/14-19/82	<1	--	water
	90796	6/20-25/82	<1	--	water
Effluent	90715	6/14-19/82	<1	--	water
	90797	6/20-25/82	<1	--	water

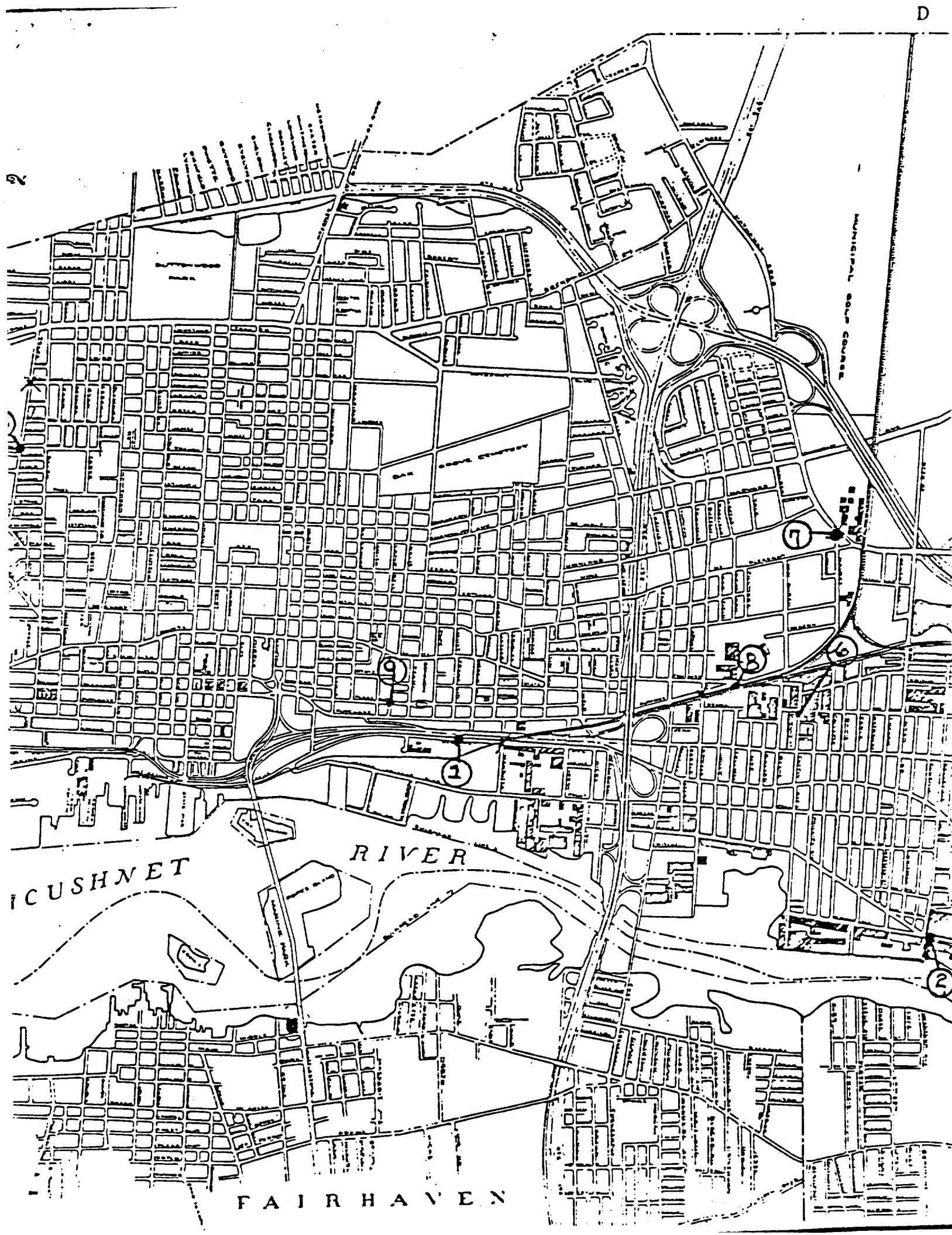
1982

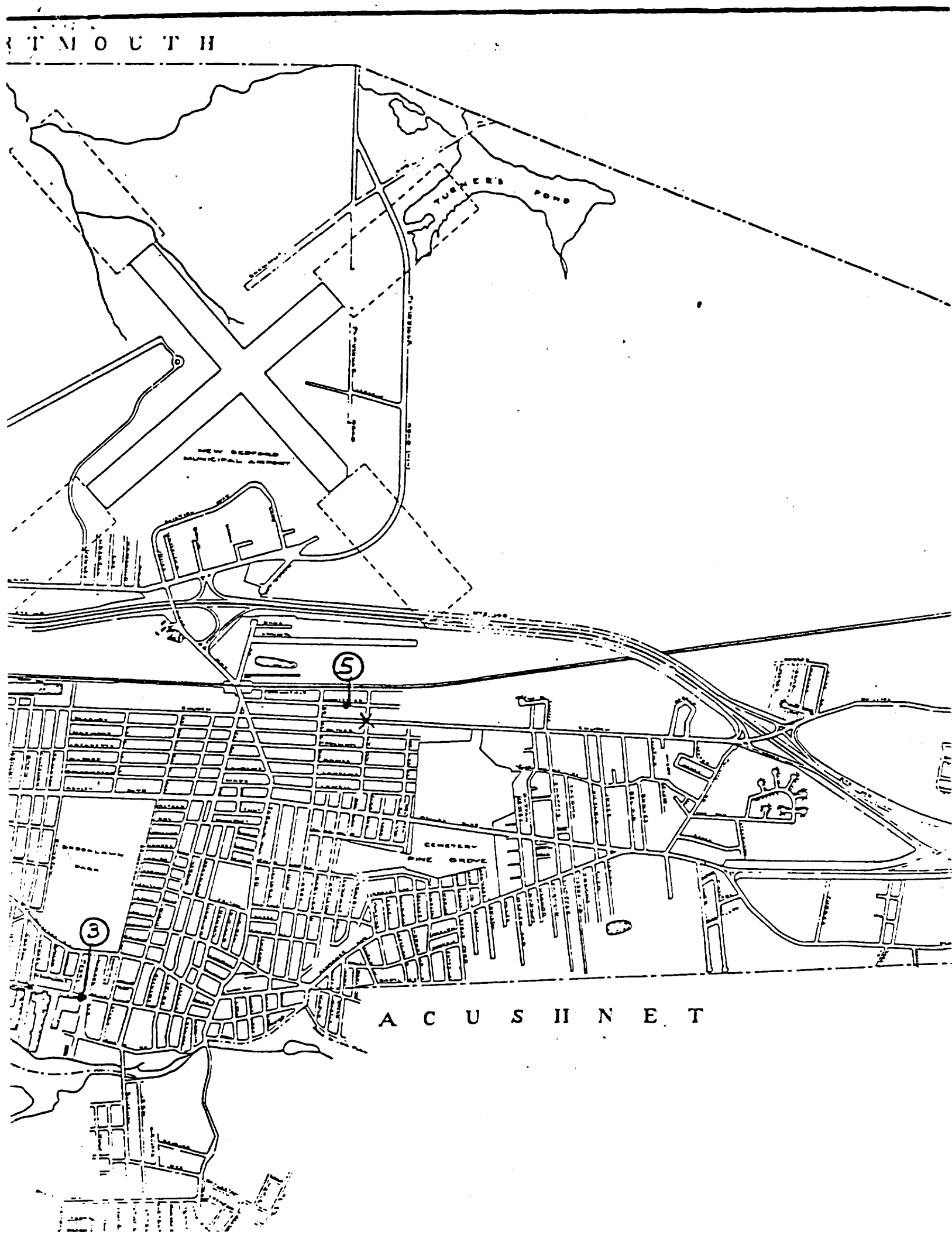
NEW BEDFORD SEWER SURVEY STATION LOCATION

STATION NO.	LOCATION
1	Manhole on Acushnet Street just south of the intersection with Wamsutta.
2	Manhole on Belleville Ave. in front of the pumping station (main interceptor below Aerovox)
3	Manhole at the intersection of Belleville Ave. and Howard Ave. (Main Interceptor above Aerovox)
4	Manhole on Duchaine Blvd. in New Bedford Industrial Park
5	Manhole on Worcester Road (Church Street collector)
6	Manhole on Coffin Ave. at intersection with Brook St. (Church St. collector below Chamberlain MFG. and above Sawyer St. collector tie in)
7	Manhole on Nauset Street at the junction of Nauset and Hathaway Road (below town landfill in Sawyer St. collector)
8	Manhole on Purchase St. at junction with County St. (main interceptor includes both Sawyer St. and Church St. collectors)
9	Manhole at intersection of Pleasant St. and Willis St. (Willis St. collector)
10	Manhole on Grape St. between West and Alec Streets (Grape St. collector, west side of New Bedford)
11	Manhole on Cove Rd. at intersection with Norwell St. (Cove Rd. collector, mostly flow from Dartmouth)
12	Manhole on Sidewalk in front of Cove Rd. pumping station (includes Cove Rd. collector and flows from Cornell Dubilier)
13	Manhole on Rivet St. between Hall and Crapo Streets (Includes Grape St. collector, Liberty St. collector, and Tripps Brook collector)
14	Manhole on Second St. at intersection with Rivet St. (main interceptor)
15	Manhole near seawall off East Rodney French Blvd. between David and Ruth Streets (below Cornell Dubilier)

STATION NO.	LOCATION
16 + 16A	Manholes near seawall off East Rodney French Blvd. directly across from Cornell Dubilier (possible CSO)
17	Manhole on east end of Rodney Street (above Cornell Dubilier)

DD/dg


MUNICIPAL GOLF COURSE
RIVER
FAIRHAVEN


T N O U T H
TURNER'S POND
NEW BEDFORD MUNICIPAL AIRPORT
5
3
PINE GROVE
A C U S H N E T

9
DUCHAINE
BLVD
FREETOWN

CITY OF
NEW BEDFORD
BRISTOL COUNTY
MASSACHUSETTS

SCALE

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PREPARED BY THE CITY PLANNING DEPARTMENT

MAY 1978