

CN

General

~1983

America Water Works Service  
Company, Inc. Eastern Division  
Engineer's Report Accompanying  
Application for Division(s)  
Monmouth Consolidated Water Company

pgs = 20

Notes: D-2 ID 10/4/84 [signature]

DF-26 3/16/1985 [signature]

Report Author: William H. Pearce

CN 000 019 E

## American Water Works Service Company, Inc.

An American Water Works System Company

500 Grove Street  
Haddon Heights, NJ 08035

(609) 547-3211



Eastern Division

ENGINEER'S REPORTACCOMPANYING APPLICATION FOR DIVERSION(S)MONMOUTH CONSOLIDATED WATER COMPANY

1. 1 MGD at Jumping Brook Plant
2. 2 MGD at Glendola Reservoir
3. 3 MGD at Swimming River Plant

A. GENERAL

The Monmouth Consolidated Water Company supplies potable water for general use to an extensive service area of Monmouth County, New Jersey. The territory served covers about 120 square miles of area. The system spans approximately fifteen (15) miles along the Atlantic Coast, from Sandy Hook Bay to Shark River and ranges inland up to nine (9) miles. Numerous residential and commercial centers, as well as a number of popular shore resorts are served. Located within commuting distance of New York City and having excellent highway and transportation facilities, future prospects for a continued high growth rate in population appear assured.

Communities served include the Cities of Long Branch and Asbury Park; the Townships of Middletown, Neptune, Ocean and Shrewsbury plus a portion of Holmdel; the Boroughs of Bradley Beach, Deal, Eatontown, Fair Haven, Interlaken, Sea Bright, Shrewsbury, Tinton Falls, Little Silver, Monmouth Beach, Neptune City, Oceanport, Rumson, West Long Branch, part of Red Bank and the Village of Loch Arbour. The Water Company also has interconnections with the Boroughs of Allenhurst and Avon and the West Keansburg Water Company. The average population served directly during 1981 was 246,500. The number of customers served rose to 64,500, representing a six (6) percent increase during the three year period ending in 1981. All customers are metered.

The Water Company houses Administration, Distribution, and Commercial personnel at the Operations Center located in Shrewsbury on Shrewsbury Avenue. Production, operation and maintenance personnel are housed at the Swimming River Station in Colts Neck which is the control center for production operations.

*D-2  
ID  
10/1/84  
KMN*

*DT-26  
3/16/85  
805*

The average daily output delivered to the distribution system has shown an average annual increase of 0.65 MG over the 30-year period ending in 1981, reaching 28,437 MGD in 1981. The maximum day record delivery was 56.5 MG which occurred on June 28, 1976. The maximum day delivery for 1981 occurred on July 19, 1981 and was 47.138 MG.

Over 90 percent of the water supply of the Monmouth Consolidated Water Company is obtained from three (3) surface sources, Swimming River, Shark River and Jumping Brook, with the balance derived from existing wells.

#### B. EXISTING FACILITIES

##### 1. Sources of Supply - Surface

Swimming River Reservoir, the principal surface source, is an on-stream reservoir developed on the Swimming River which is a tributary of the Navesink River. This reservoir has a storage capacity of 2.6 billion gallons with a contributing watershed area of about 48 square miles. The earth and concrete dam was originally constructed in 1901 and raised to 35' in elevation in 1962, thus increasing the reservoir capacity from 290 million gallons to its present capacity. Raw water is withdrawn from a multi-level concrete intake structure and delivered by pumping to the Swimming River filter plant located adjacent to the reservoir in Colts Neck Township.

The Glendola Reservoir in Wall Township, having a capacity of 1.0 billion gallons, is operated as an offstream storage facility to provide storage for flows which are pumped from the Shark River and Jumping Brook both of which have a combined drainage area of 16 square miles. A 36-inch transmission main, about one (1) mile long, connects this reservoir with the Jumping Brook treatment plant. A low diversion dam and concrete intake structure on Shark River, midway between the storage and treatment plant, deliver pumped water into this raw water transmission main. Water from the two wells, Number 4 and 6, and wastewater treatment facilities at Jumping Brook Station can also be pumped to Glendola Reservoir when the treatment plant is not operating.

##### 2. Source of Supply - Wells

Source of supply from ground water is currently located at the company's Jumping Brook Station and at the Ocean Grove Station, both of which are located in Neptune Township.

The well at Ocean Grove pumps directly into the distribution system with the only chemical treatment being chlorination. The two Jumping Brook Wells, (No. 4 and No. 6), drilled to the Raritan Formation, are pumped via two pumps of one MGD and two MGD, respectively, to the

Jumping Brook Treatment Plant, or, when the plant is not in operation, to the Glendola Reservoir. The one MGD unit pumps to the reservoir via transfer pump No. 9; the two MGD unit pumps to the reservoir directly.

Because Raritan formation water has an iron content of approximately ten to fifteen milligrams per liter, water from these two wells is diluted with surface water before it is treated at the plant to minimize treatment problems.

3. Treatment  
Clearwater Storage  
Pumping Units

The Swimming River and Jumping Brook Stations provide filtration treatment and clearwater storage. The Newman Springs Station provides clearwater storage and pumping. Ocean Grove Station is an unmanned facility providing only chlorination to the water pumped from its well. Clearwater storage is no longer available at this station.

The principal treatment facility, Swimming River Plant, which also contains the system Control Center, is located in Colts Neck, adjacent to the Swimming River Reservoir. Constructed in 1972 and expanded in 1981, the treatment facility has a continuous rated capacity of 36 MGD and a maximum day capacity of 42 MGD. The raw water receives chemical application and is conveyed to six purification units which provide flocculation, clarification and filtration. Space is available for two additional units.

Water is delivered by gravity from the purification units to a 1.5 MG clear well located beneath the control building. From this clear well, water may be transferred by gravity through a 36-inch transmission main to the Newman Springs storage and distribution pumping facility; or directly to the Middletown Service District distribution system by three pumps with a combined rated capacity of 12 MGD, or directly to the Main Service District distribution system by three pumps with a combined rated capacity of 21 MGD.

Upon completion of the expansion of the Swimming River facility, the original 12 MGD treatment facility at Newman Springs Station was converted to storage and distribution pumping facilities which are used in conjunction with, and controlled from, the Swimming River Station. The 36-inch main, which formerly carried raw water from the Swimming River to treatment at Newman Springs, has been cleaned and relined and now delivers treated water by gravity from the Swimming River Station to three clearwater basins with a combined capacity of 4.125 MG and a 1.0 MG clearwater stand-pipe at Newman Springs.

Water is pumped at Newman Springs by six high-lift distribution pumps into the Middletown and Main Service District distribution grids. Three of the pumps, with a combined rated capacity of 14 MGD, feed the Middletown District, and three, with a combined rated capacity of 18 MGD, feed the Main District. A standby generator provides the power for running any three of the six pumps during power outages.

Wastewater at the treatment plant consists primarily of sludge from the clarification process and wash water from the periodic cleansing of the filters. Waste solids are discharged from the sludge hopper of each purification unit through a gravity drain to either of two sludge drying ponds, one of 0.69 MG capacity and the other of 0.65 MG capacity. The wash water is settled in two 140,000 gallon clarifier tanks from which the sludge is pumped to the drying ponds. Supernatant from these ponds and the clarifier tanks is recycled through the treatment plant. Periodically, sludge is removed from the drying ponds and is taken away by private carters.

#### Jumping Brook Station

The treatment facility at Jumping Brook Station has two purification units providing flocculation, clarification and filtration. These units have a total continuous rated capacity of 10 MGD and a maximum day capacity of 15 MGD. There is space for two additional units. Following treatment water flows by gravity into a 530,000 gallon clear well beneath the station from which it is pumped into the Main Service District distribution system by four high-lift pumps with a total rated capacity of 22.5 MGD. A standby diesel-powered pump of 3 MGD capacity provides power-outage capability.

Sludge and wash water are withdrawn to a 300,000 gallon clarifier. The settled sludge is then diverted to a masonry lagoon with a 0.7 MG capacity from which supernatant can be recycled. The clarifier supernatant is recycled through the treatment plant. In the event that wastewater flow exceeds the capacity of the clarifier, the excess is diverted directly to the holding lagoon. Periodically, sludge is removed from the lagoon and is taken away by private carters.

#### Ocean Grove Station

Raw water from the Mt. Laurel Formation well at the Ocean Grove Station requires no treatment other than chlorination. Following chlorination by means of a single unit, water is delivered directly into the Main Service District by two high-lift pumps with rated capacities of 2 MGD and 1.5 MGD, respectively.

System Clearwater Storage

Clearwater Basins

<u>Station/ Location</u>	<u>Construction Year</u>	<u>Year Built</u>	<u>Capacity in MGD</u>	
1. Newman Springs	Conc.	1982	3.000	
2. " "	Conc.	1980	0.125	
3. " "	Conc.	1951	1.000	
4. " "	Steel (SP)	1955	1.000	
5. Jumping Brook	Conc.	1962	0.530	
6. Swimming River	Conc.	1972	<u>1.500</u>	
				Sub Total = 7.160 MG

Distribution Storage

7. Water Witch	Steel	1982	0.300	
8. Middletown Twp.	"	1951	1.170	
9. Sunset Ave.	"	1967	5.100	
10. Navesink	"	1968	1.400	
11. Rumson	"	1968	2.350	
12. West Park	"	1968	0.500	
13. Red Hill	"	1968	0.750	
14. Middletown- Lincroft	"	1968	1.400	
15. Holmdel	"	1970	<u>0.500</u>	
				Sub Total = 13.47 MG
				Grand Total = <u>20.63</u> MG

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C. PROPOSED ADDITIONAL SOURCE OF SUPPLY

Monmouth Consolidated Water Company, the largest single water purveyor in this region, is surrounded by several weak and, in some circumstances, poor water supply systems. Though the company's intent is not to construct facilities to back up other systems, the fact remains that a failure of one of these adjoining systems would impact on Monmouth Consolidated Water Company and its supply requirements.

To meet the increasing demand of the Monmouth Consolidated Water Company System (see enclosed graph, Exhibit A, Dry Season Demand vs. Yield vs. Average Day Demand 1980 to 1998). The company is seeking an increase (see Exhibit F) in the amount of 6.00 MGD, spread over three of the company's facilities. The first location and subsequent diversion increase is an increase of one (1) MGD for the two existing Jumping Brook Wells numbered 4 and 6, which constitutes an increase in diversion from 2.0 MGD to 3.0 MGD.

The second location and proposed request is for a 2.0 MGD Raritan Formation well to be located on water company property at the Glendola Reservoir site. This diversion to be pumped directly into the reservoir will receive treatment (along with the Jumping Brook well diversions) at the Jumping Brook Plant.

The third location and proposed request is for two 1.5 MGD Raritan formation wells to be located on water company property at the Swimming River Plant. These two wells will pump directly to existing raw water mains which flow between the reservoir intake structure and the treatment plant.

This application for additional source of supply is considered to be "justified by public necessity" as indicated on the enclosed Exhibit A. As shown on the graph, an additional diversion in the amount of 6.00 MGD will meet the 1983 projected dry season demand of the customers of Monmouth Consolidated Water Company. Even with a proposed total diversion of 40.9 MGD (34.9 MGD existing plus the 6.0 MGD being sought under this application) the projected deficit between yield (total diversion) and dry season demand, increases from 0.9 MGD in 1984 to 4.10 MGD in 1988. If the Manasquan project is on line in 1988, however, no deficit would exist for at least the next ten years beyond 1988.

The 1980 per capita use of residential customers is 69 GPD. A large proportion of these customers, all fully metered and a majority provided with sanitary sewage collection to regional wastewater plants, live in large single family homes. The per capita use include irrigation as well as sanitary requirements. The state average is 65 GPD for all customers.

The company intends to intensify its unaccounted for water location efforts. Exhibit D details the change in this figure

over the last five years. In 1983, a leak detection program utilizing sonic equipment with computer enhancement will be added to our operations.

Customer awareness of the need to not waste water, but to conserve it, will be intensely sought over the next several years. Even with the proposed increase in groundwater use, conservation must be employed throughout the system.

Conservation will help maintain some reliability of supply even with the growing gap in yield projected on schedule "A". The deficit is projected in 1988 to be about 10.0 MGD.

No conservation program, except in an emergency, can be expected to generate substantial reductions in customer use over anything less than several years. The financial impact on customers and the company cannot be tolerated in a very short period of time in any event.

A reduction in use per capita of 10% by 1988 would change that deficit to about 8 MGD. This is still 3 MGD more than the projected allocation requested in this application of 40.9 MGD. As stated earlier, Monmouth Consolidated Water Company is the only regional water purveyor. Its reliability and security of supply is a major priority to the region's health and economy. The necessity of approval of the requested 6.0 MGD increase in diversion rights is very clear.

The proposed diversion from the Raritan aquifer will not adversely affect any public water supply in the region. The use of the wells will be only in dry seasons when the surface supplies are insufficient to meet the demand. Exhibit E delineates all the recorded wells within a five mile radius of the proposed three diversion locations. Exhibit G lists the owners of these wells. Three municipal systems derive water from the Raritan aquifer. Red Bank is the only system whose sole source, with the exception of an interconnection for emergencies with Monmouth Consolidated Water Company, is the Raritan. The other public supplies derive their water from the Englishtown and other aquifers.

No substantial impact on Red Bank's wells is anticipated from proposed Swimming River wells number one and two. These wells will only be used in very dry years when the yield of the surface source is insufficient to meet the needs of the system.

The Raritan aquifer static level at Jumping Brook observation well #5 was 37 feet in 1956 and 70 feet in 1982. This decline over 26 years is due to increased use of this aquifer in lieu of the seriously over used Englishtown\* and Kirkwood aquifers.

The use of the Raritan for public water supply is the least adverse supply development possible until new surface supplies at the Manasquan basin are made available to the region. The

\*Ocean Grove Well #20 1947 static 65'  
1978 static 141'



other aquifers are much more seriously affected by communities with no access to surface sources for conjunctive use of the ground and surface waters and no treatment or operational capability for iron bearing waters of the Raritan formation.

The proposed total diversion (see Exhibit F) of 8.0 MGD from the Raritan formation will be from three locations covering 157 square miles. With a yield of 0.5 MGD per square mile, the formation should not be adversely affected for public water supply needs. There are no Raritan wells within one mile of any of the three locations which are used for public water supply.

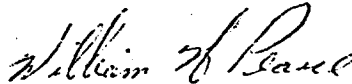
The recommended scheme of conjunctive use of surface and ground water is the method of operation utilized by Monmouth Consolidated Water Company in the past as well as the present. Since the use of this requested diversion would, generally, if not totally, be used for dry season and drought yield requirements, it is felt that this proposed diversion meets the intent of Water Supply Master Plan, the future Manasquan Reservoir of the New Jersey Water Supply Authority, as well as the needs of the company's customers. With dry season pumpage and continued conjunctive use operation, it is felt that there would be no significant impact on the aquifer of adjoining systems.

Timely review of this application is sought by the company. The company faces a tight schedule of finances, an Economic Development Authority financing program, a Board of Public Utilities application for revenue increases to support this construction and the necessity to have these wells operational by June of 1983. The opportunity to both meet customer needs and have the financial resources to drill these wells is now, and may not be available next year or the year after.

Early approval of this Diversion Application is essential for Monmouth Consolidated Water Company to provide safe and adequate service to its customers in Monmouth County.

Prepared by: Paul H. Delany, PE & LS  
Director of Engineering  
American Water Works Service Company, Inc.  
Eastern Division

Reviewed by: William H. Pearce, PE  
Manager of Operations  
American Water Works Service Company, Inc.  
Eastern Division



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William H. Pearce, PE  
License #24839

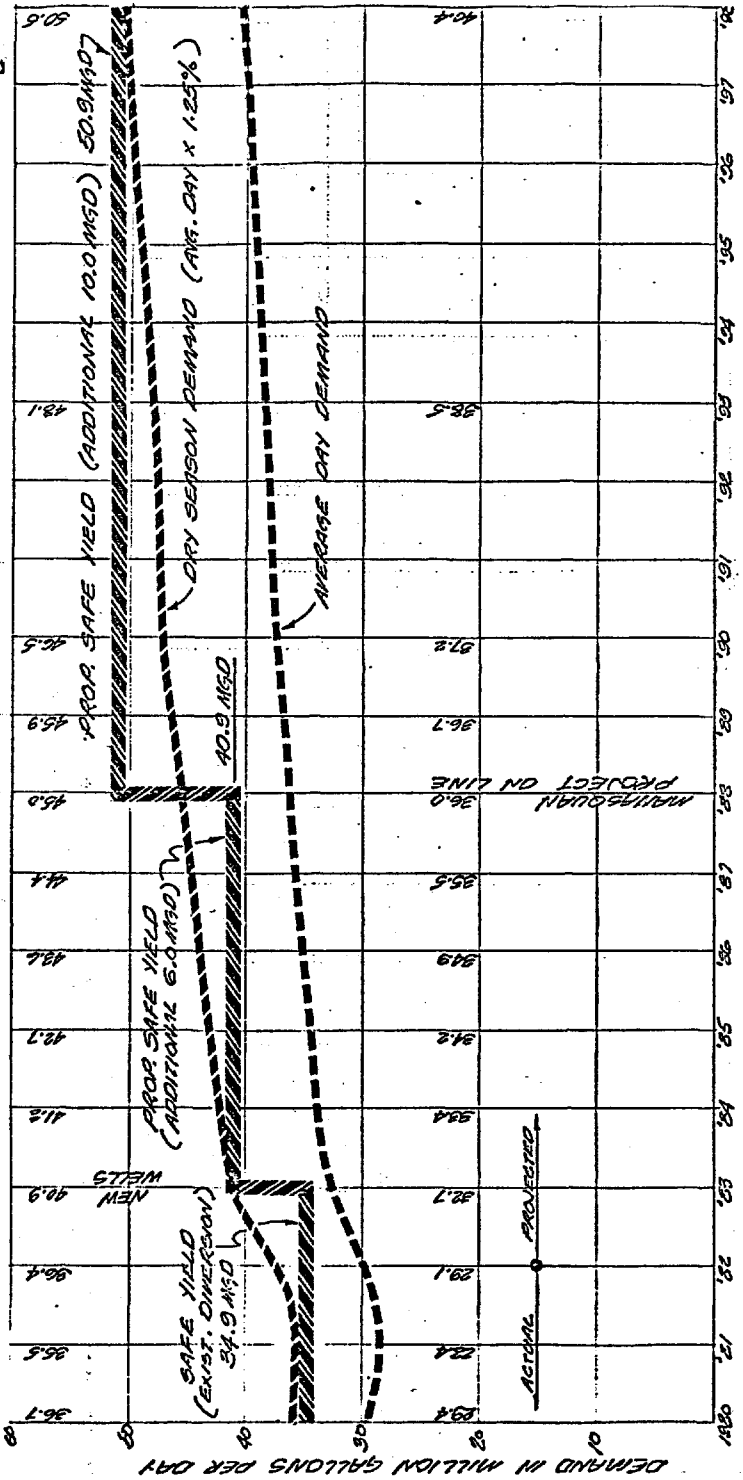
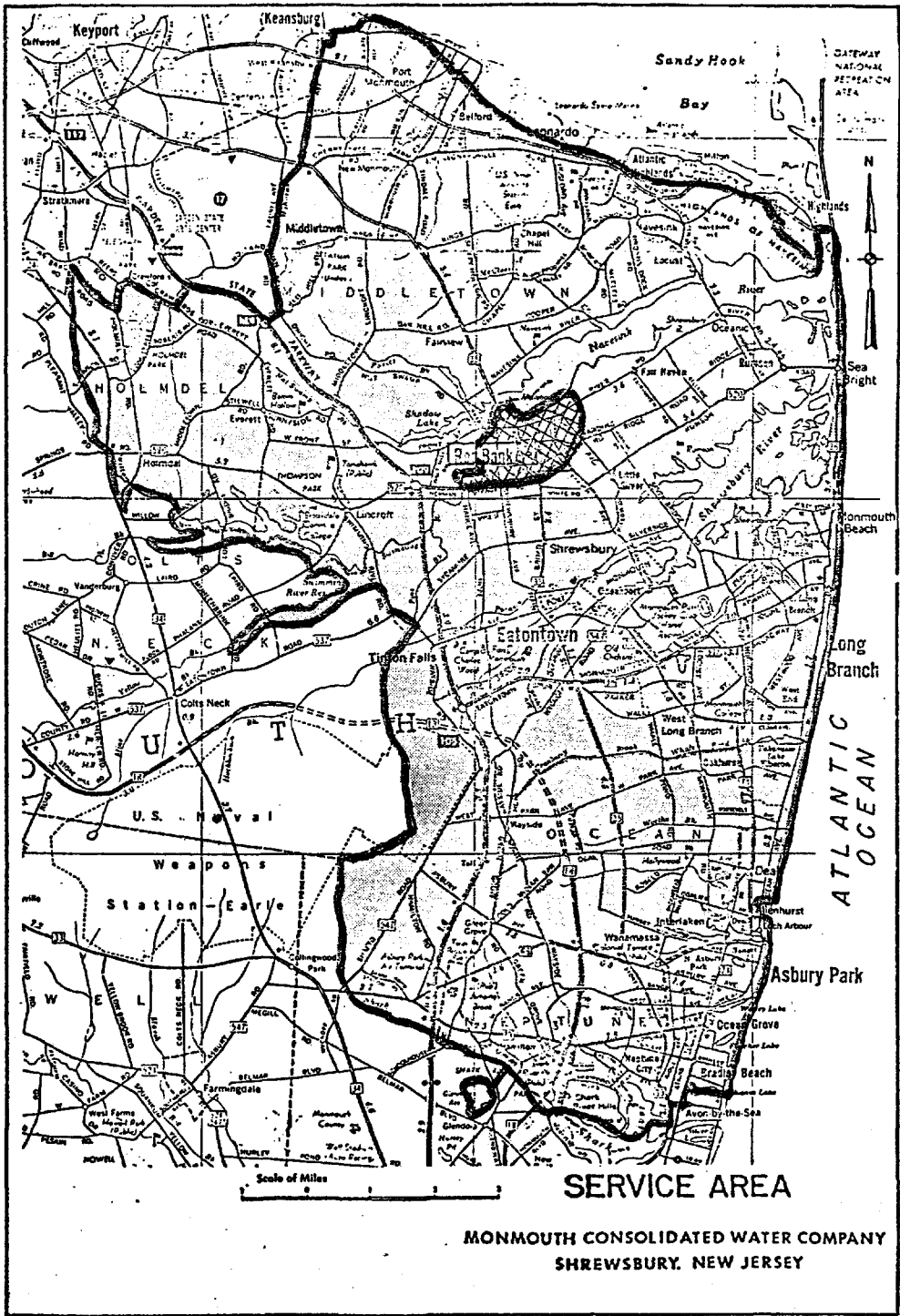


EXHIBIT 'A'

AMERICAN WATER WORKS SERVICE COMPANY, INC.  
 HADDON HEIGHTS, N. J.



**MONMOUTH CONSOLIDATED WATER COMPANY**  
**SHREWSBURY, NEW JERSEY**

*EXHIBIT "B"*

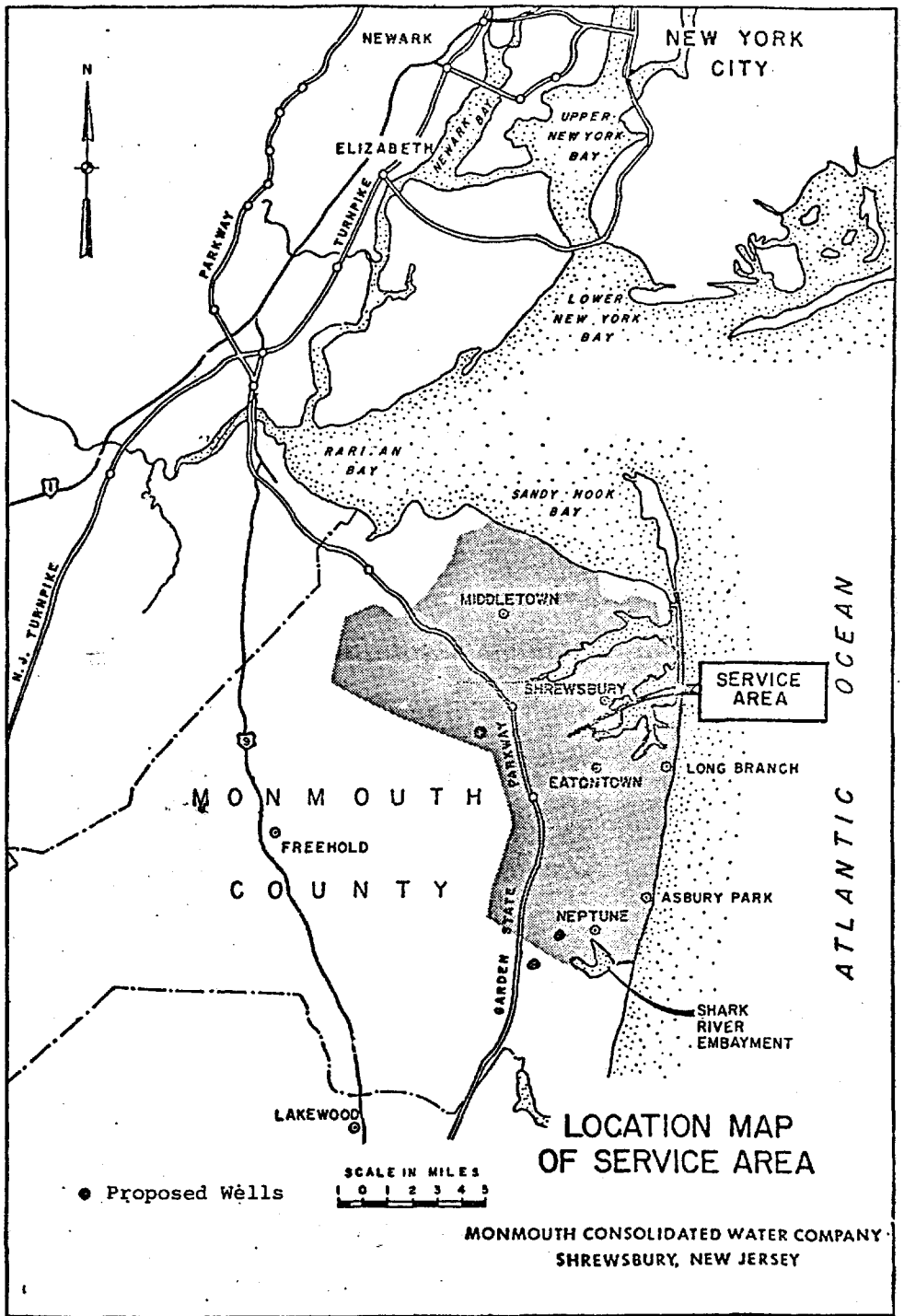


EXHIBIT "C"

MONMOUTH CONSOLIDATED WATER COMPANY

Comparison System Delivery - Water Sales

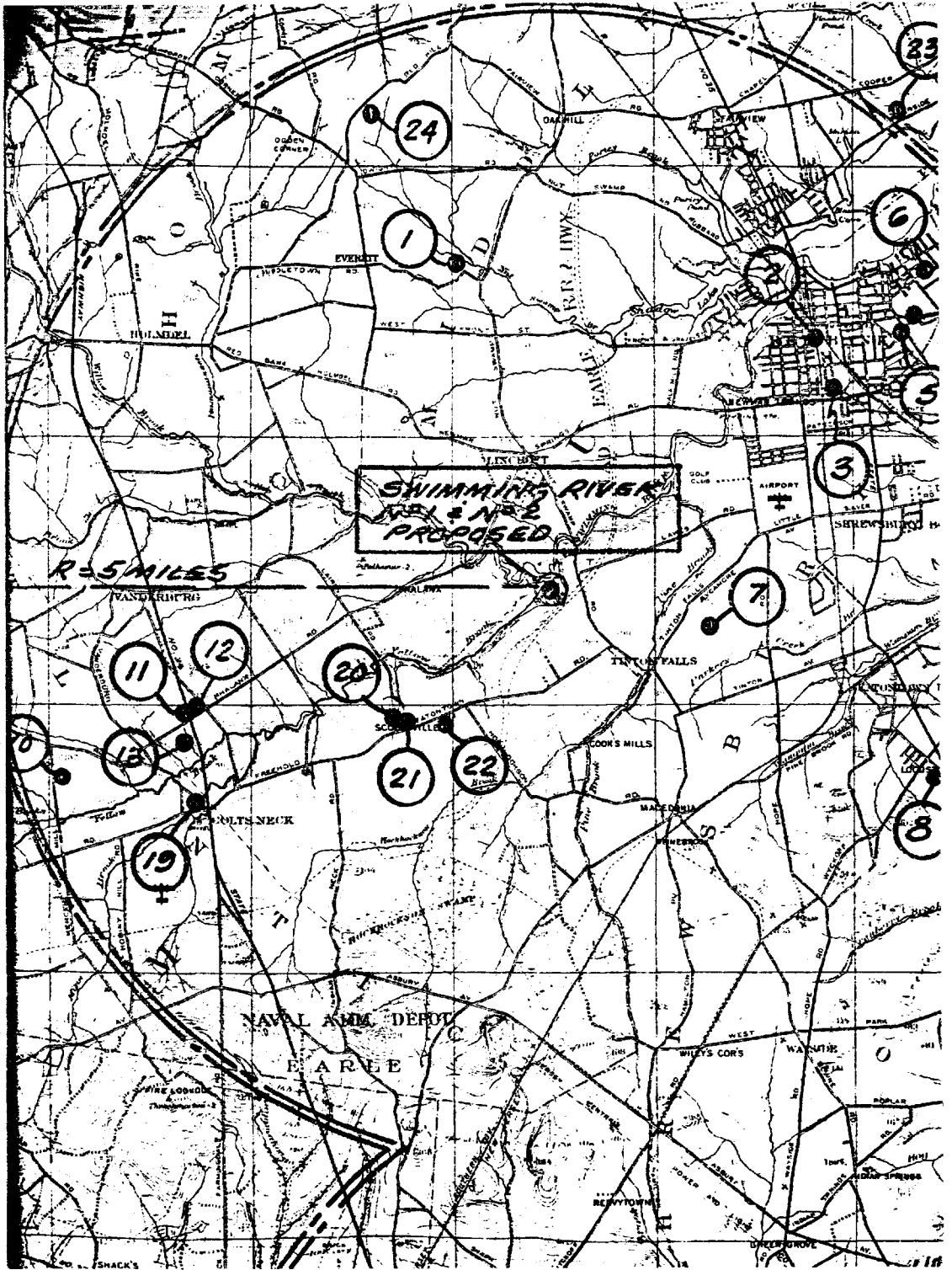
1977 thru 1981 Actual

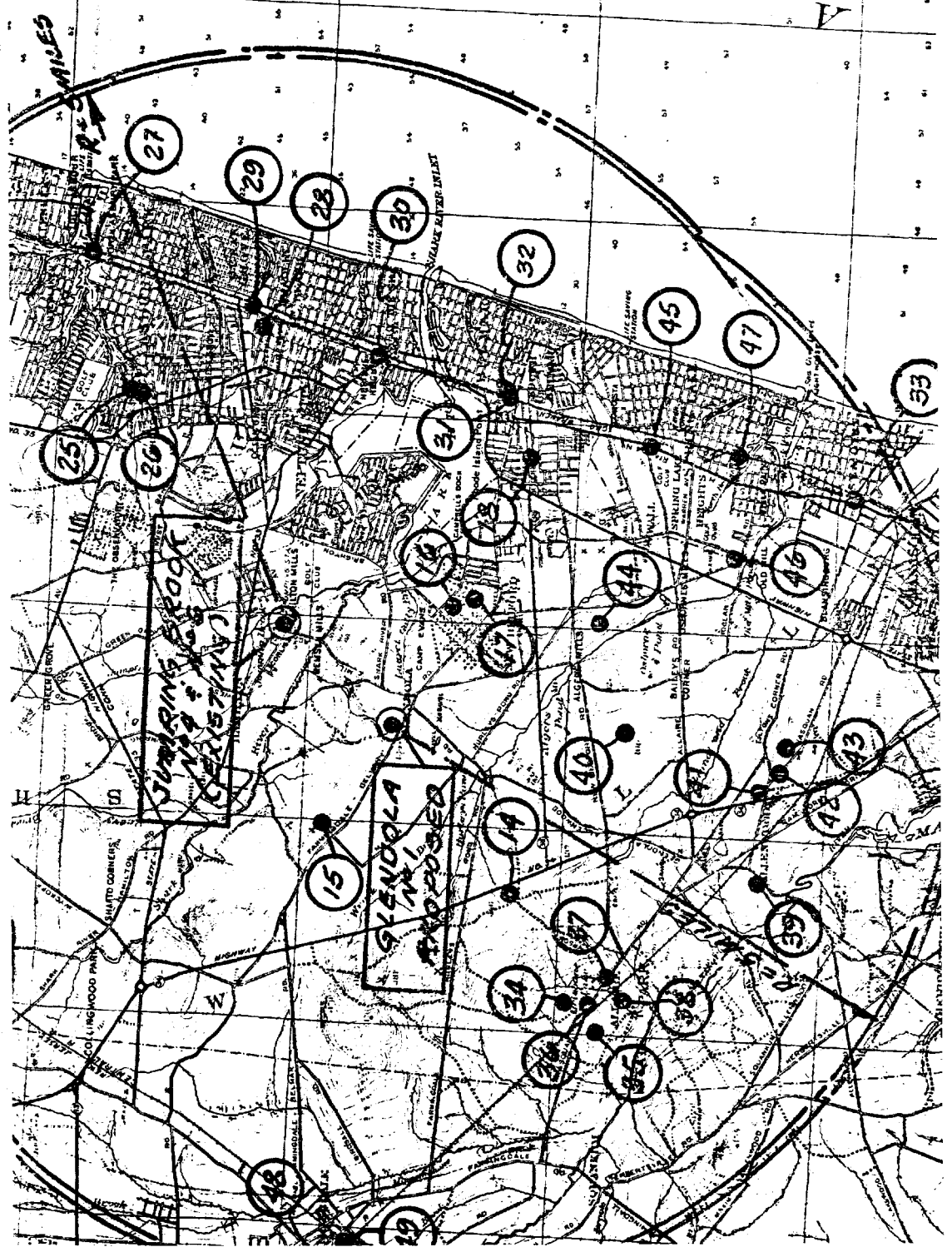
1982 10 mo. actual plus 2 mo. budget

1983 BUDGET

1977 - Water Sales	=	8,923,405	=	81.9%
Non-Revenue Usage	=	141,095	=	1.2%
Unaccounted for	=	1,854,436	=	16.9%
Total System Delivery	=	10,918,936	=	100%
1978 - Water Sales	=	8,502,068	=	83%
Non-Revenue Usage	=	105,986	=	1.0%
Unaccounted for	=	1,641,713	=	16.0%
Total System Delivery	=	10,249,767	=	100%
1979 - Water Sales	=	8,302,537	=	83.3%
Non-Revenue Usage	=	103,767	=	1.0%
Unaccounted for	=	1,571,371	=	15.7%
Total System Delivery	=	9,977,675	=	100%
1980 - Water Sales	=	8,958,531	=	83.5%
Non Revenue Usage	=	107,954	=	1.0%
Unaccounted for	=	1,662,957	=	15.5%
Total System Delivery	=	10,729,442	=	100%
1981 - Water Sales	=	8,727,414	=	84.2%
Non Revenue Usage	=	299,338	=	2.8%
Unaccounted for	=	1,352,934	=	13.0%
Total System Delivery	=	10,379,686	=	100%
1982 - 10 mo. actual plus 2 mo. budget				
Water Sales	=	8,577,130	=	80.1%
Non Revenue Usage	=	378,502	=	3.5%
Unaccounted for	=	1,747,953	=	16.4%
Total System	=	10,703,585	=	100.0%
1983 - Budget				
Water Sales	=	8,603,396	=	82.0%
Non Revenue Usage	=	346,504	=	3.3%
Unaccounted for	=	1,542,046	=	14.7%
Total System Delivery	=	10,491,946	=	100.0%

EXHIBIT "D"





MONMOUTH CONSOLIDATED WATER COMPANY

SUMMARY

EXISTING AND PROPOSED GROUNDWATER DIVERSION

EXISTING  
DIVERSION

Jumping Brook #4  
Jumping Brook #6

2.00 MGD

Ocean Grove #21

1.20 MG

PROPOSED  
DIVERSION  
INCREASE

Jumping Brook #4  
Jumping Brook #6

1.00 MGD

Swimming River #1  
Swimming River #2  
Glendola #1

1.50 MG  
1.50 MG  
2.00 MG

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TOTAL

3.00 MGD

6.20 MG

GRAND TOTAL

9.20 MG



EXHIBIT "G" 10P

NON-RESIDENTIAL GROUNDWATER DIVERSIONS WITHIN 5 MILE RADIUS OF SWIMMING RIVER

GLENDOLA AND JUMPING BROOK (FROM NJDEP-DWR WELL RECORDS)

	<u>Name</u>	<u>NJDEP-DWR Map Number</u>	<u>DWR Permit Number</u>	<u>Date Drilled</u>	<u>Depth</u>	<u>Formation</u>	<u>Yield</u>	<u>Well Driller</u>	<u>Public=X Private=O</u>
1.	Bann Hollow Country Club #1	29-13-1.4.1	29-5164	1966	600'	---	810	A. C. Schultes	O
2.	Boro Red Bank Layne #4	89-13-2.6.8	29-79	1950	692'	---	1012	Layne N.Y.	X
3.	Boro Red Bank #3A	29-13-2.9.6	29-2872	1959	276'	---	500	Layne N.Y.	X
4.	Boro Red Bank #4	29-13-3.4.6	29-7941	1975	769'	Raritan	1100	A. C. Schultes	X
5.	Phalnx Dev. Corp.	29-13-3.4.9	29-9148	1977	225'	---	30	ENG Drill Co.	O
6.	Boro Red Bank #2-R	29-13-3.5.1	29-1652	1956	271'	---	554	Layne N.Y.	X
7.	J. L. Bernard #1	29-13-5.7.3	29-2035	1956	705'	Raritan	350	H. J. Stothoff	O
8.	---	29-13-9.2.7	29-2366	---	891'	Raritan	(Casings Removed)		
9.	State of N.J. D.M.V. #1	29-13-9.3.5	29-2453	1957	426'	Englishtown	140	H. J. Stothoff	O
10.	Shadow Lake Nursery #1	29-12-8.1.7	29-5647	1968	212'	Englishtown	100	W. R. Tile	X
11.	C.Flock & Son #1	29-12-8.3.1	29-3972	1963	682'	---	550	Wm. Stothoff	O

	<u>Name</u>	<u>NJDEP-DWR Map Number</u>	<u>DWR Permit Number</u>	<u>Date Drilled</u>	<u>Depth</u>	<u>Formation</u>	<u>Yield</u>	<u>Well Driller</u>	<u>Public=X Private=O</u>
12.	E. F. Grant Inc.	29-12-8.3.1	29-6403	1972	330'	---	40	Kaye	O
13.	Easton Dev. Co.	29-12-8.3.4	29-9582	--	250'	---	---	---	O
14.	Wall Twp.	29-23-7.9.4	29-5289	1969	654'	---	421	Layne N.Y.	X
15.	N.J. Hwy. Auth.	29-23-8.1.1	29-1142	1955	518'	---	135	C. W. Lavman	O
16.	Wall Twp.	29-23-9.4.4	29-2871	1960	474'	---	400	Rolon & Cook	X
17.	U.S. Army Belmar	29-23-9.4.8	---	1942	674'	---	---	Layne N.Y.	O
18.	Wall Twp. W. Belmar	29-23-9.9.5	29-2868	1960	588'	---	400	Rolon & Cook	X
19.	Atlantic Twp. School	29-12-8.6.2	29-1260	1954	280'	---	25	Greenalgh & Kaye	O
20.	Laird & Co.	29-12-9.3.1	29-8219	1976	331	Englishtown	205	A. C. Schultes	O
21.	Festoon Farm #167	29-12-9.3.2	29-8994	1978	350'	Englishtown	---	AM Drilling	O
22.	M. Rosenberg #1	29-12-9.3.3	29-2171	1957	342'	Englishtown	---	Wm. Stothoff	O
23.	Navisink Country Club #1	29-3-9.7.3	29-9335	1979	615'	---	1000	A. C. Schultes	O
24.	Geo. Harnyk #1	29-2-9.8.6	29-1538	1956	343'	Englishtown	350	Wm. Stothoff	O
25.	M.C.W.Co. Whitesville PS Asbury Park	29-24-4.1.7	29-1810	1956 (Sealed 1972)	967'	Raritan	1500	A. C. Schultes	X

	<u>Name</u>	<u>NJDEP-DWR Map Number</u>	<u>DWR Permit Number</u>	<u>Date Drilled</u>	<u>Depth</u>	<u>Formation</u>	<u>Yield</u>	<u>Well Driller</u>	<u>Public=X Private=O</u>
26	---	29-24-4.1.7	29-968	1954	489'	Englishtown	---	A. C. Schultes	
27.	City of Asbury Park #4 (1)	29-24-4.3.1	29-3486	1963	585'	Englishtown (sealed 1982)	500	Layne N.Y.	X
28.	City of Asbury Park #3 (1)	29-24-4.8.1	29-1825	1956	1077'	(Raritan)	1023	Layne N.Y.	X
29.	City of Asbury Park #3 (1)	29-24-4.8.2	29-2660	1958	1129'	(Raritan)	1000	Layne N.Y.	X
30.	Avon by the Sea	29-24-7.1.6	29-7461	1957	1170'	(Raritan)	1100	Layne N.Y.	X
31.	Boro of Belmar #14	29-24-7.7.2	29-10462	1980	640'	---	401	Layne N.Y.	X
32.	Boro of Belmar #13	29-24-7.7.2	29-6956	1977	610'	---	305	Layne N.Y.	X
33.	Boro of Sea Girt	29-33-6.3.1	---	1949	730'	---	--	Wm. Stothoff	X
34.	Brisbane Treat- ment Center	29-33-1.1.2	29-4040	1963	425'	---	--	Greenalgh & Kaye	O
35.	State of N.J. Allaire Pk.	29-33-1.1.4	29-5218	1967	1029'	---	115 to 203	Wm. Stothoff	X O
36.	Brisbane Treat- ment Center #3	29-33-1.1.5	29-6193	1971	1033'	---	--	A. C. Schultes	O
37.	Brisbane Treat- ment Center	29-33-1.1.6	29-2013	1956	361'	---	--	Chas. Millitor	O
38.	Allaire State Park	29-33-1.1.8	29-3777	1962	600'	Englishtown	60	H. J. Stothoff	X O
39.	Wall Twp. B. of Ed.	29-33-1.9.2	29-2474	1957	665'	---	80	Wm. Stothoff	X O

(1) Now owned by Monmouth Consolidated Water Co. - No Allocation

	<u>Name</u>	<u>NJDEP-DWR Map Number</u>	<u>DWR Permit Number</u>	<u>Date Drilled</u>	<u>Depth</u>	<u>Formation</u>	<u>Yield</u>	<u>Well Driller</u>	<u>Public=X Private=O</u>
40.	Mutual Contracting	29-33-2.2.5	29-1819	1956	650'	---	75	Windler Gunther Corp.	X
41.	Wall Twp. #2	29-33-2.7.3	29-1023	1979	780'	---	360	Layne N.Y.	X
42.	Wall Twp. Allenwood "A"	29-33-2.8.4	29-2869	1959	683'	Englishtown	---	Rolon & Cook	X
43.	Wall Twp. Allenwood "B"	29-33-2.8.5	29-2870	---	653'	Englishtown	400	Rolon & Cook	X
44.	Boro of Spring Lake	29-33-3.1.1	29-4721	1965	675'	---	608	Layne N.Y.	X
45.	Boro of Spring Lake Heights #4	29-33-3.3.9	29-7506	1974	564'	Mt. Laurel/ Wenonah	564	A. C. Schultes	X
46.	Boro of Spring Lake Heights #2	29-33-3.5.7	29-5075	1966	685'	Englishtown	451	Layne N.Y.	X
47.	Boro of Sea Girt #1	29-33-3.6.8	29-4102	1963	715'	---	400	Layne N.Y.	X
48.	Boro of Farmingdale #1	29-22-8.3.5	29-4386	1964	---	---	300	Layne N.Y.	X
49.	Am. Coils Co.	29-22-8.3.9	29-2069	1956	488'	---	305	Layne N.Y.	O

Monmouth Consolidated Water Company

Existing Ground Water Supply

<u>Station</u>	<u>Well No.</u>	<u>Year Drilled (Installed)</u>	<u>Formation</u>	<u>Casing Size</u>	<u>Depth</u>	<u>Well Pump Capacity</u>	<u>Dependable Yield</u>	<u>Diversion Rights</u>	<u>1983 Current Diversion Permit No.</u>
1. Ocean Grove	21	1954	Mt. Laurel Wenoah	18"-12"-8"	433'	0.432 MGD	0.4 MGD	1.20 MGD	App. No. 5019
2. Jumping Brook	4	1952	Raritan	12"-8"	1065'	1.15 MGD	1.15 MGD	(2.00 MGD) (Combined)	App. No. 5019
3. Jumping Brook	6	(1981)	Raritan	18-12"	1080'	2.02 MGD	1.95 MGD		App. No. 5019
4. Jumping Brook	5	1956	Raritan	12-8"	1072'	<u>Observation Well Only</u>			