REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
ORANGE COUNTY, NEW YORK

Prepared for

Orange County Water Authority

June 1994

Tectonic Engineering Consultants, PC
Highland Mills, New York

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REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
ORANGE COUNTY, NEW YORK

INTRODUCTION

The Town of Wawayanda hereinafter referred to as Town, has no municipal water system or publicly owned water supply. There are several private community water supplies developed, or proposed for development with the Town.

Robinn Meadows Water Company

The water supply for the Robinn Meadows Water Company includes four wells drilled in 1968 and a fifth well drilled in 1991 to replace an original 1968 well which was abandoned. The water supplies are developed within the on-site bedrock aquifer.

Well Supply In Service

Wells 2, 3, 4 & 5 are currently in service and active. Well 2 (Groundwater Inventory Map ["GIM"], Well WW-2) has a reported yield of 39 gpm (0.072 mgd). Well 3 (GIM, Well WW-3) has a reported yield of 20 gpm (0.029 mgd); Well 4 (GIM, Well WW-4) has a reported yield of 45 gpm (0.037 mgd); and Well 5 (GIM, Well WW-5) has a reported yield of 30 gpm (0.043 mgd). Well data are presented on Tables 1 and 2A (LBG, 1992). The total safe yield of the four existing wells is 134 gpm (0.193 mgd). Operations report indicate an average daily use of 26,400 gallons and a maximum daily use of 63,800 gallons.

Well Supply Not in Service

Well 1 (GIM, Well WW-1) has been abandoned (LBG, 1992).

Ridgebury Lake Acres Water District

The Ridgebury Lake Acres subdivision is serviced by this private water district. In 1993 the population served was 88±. There are two wells in service. These wells are near Ridgebury Lake; however, there is no indication of a significant hydraulic connection with the lake (DeRose, 1993). Operations reports indicate an average daily demand of 23,000 gallons and a daily maximum demand of 45,000 gallons.

Well Supply In Service

There are two wells in service. Wells 1 & 2 (GIM, Wells WW-6 & WW-7) are bedrock wells with reported yields of 50 gpm (0.072 mgd) and 40 gpm (0.057 mgd), respectively. According to the systems operator, both wells are pumped simultaneously to meet the district's demands. Data are presented on Tables 1 and 2B.

PROPOSED COMMUNITY WATER-SUPPLY SYSTEMS

Hampton Village

The Hampton Village Planned Development is a proposed 550 unit subdivision. This is a two phased development project; 260 unit townhouses are proposed for Phase I, and an additional 290 units are proposed for Phase II. A central water system to be owned and operated by the home owner's association is proposed.

Five test wells completed in the bedrock aquifer have been evaluated for ground-water supplies in the Hampton Village Planned Development. The stabilized pumping rates of the five wells are summarized below:

Well TW-1 (GIM, Well WW-8):
48 gpm (0.069 mgd)

Well TW-2 (GIM, Well WW-9):
7.5 gpm (0.011 mgd)

Well TW-3 (GIM, Well WW-10):
57 gpm (0.082 mgd)

Well TW-5 (GIM, Well WW-11):
7 gpm (0.010 mgd)

Well TW-6 (GIM, Well WW-12):
8 gpm (0.012 mgd)

A pump study investigation performed by Leggette, Brashears & Graham, Inc. indicates the primary well (TW-3) and secondary wells (TW-1, TW-2, TW-5 and TW-6) well sources should not be pumped simultaneously (LBG, 1989). Data are presented on Tables 1 and 2C.

It is recommended that the primary well (TW-3) capable of safely pumping 57 gpm be used as the full time supply well for Phase I of the project. At a projected average daily demand of 63,375 gallons per

day for Phase I, the primary well would have to pump 44 gpm for 24 hours per day to meet projected demands. Additional well capacity will need to be developed for Phase II of the project. Wells #1, 2, 5 and 6 will serve as backup supply wells with a combined yield of 70.5 gpm.

Woods at Stonehedge

The Woods at Stonehedge is proposed as a multiphased project. There are 49 townhouse units planned for Phase I. There were five existing wells within the project site that were developed by a previous owner of the property. Pump tests conducted in 1989 on the existing wells gave indication of their output capabilities.

The stabilized pumping rates of the five wells located within the project site are summarized below:

Well DPW-1 (GIM, Well WW-15):
58.9 gpm (0.085 mgd)

Well TW-1 (GIM, Well WW-16):
6.9 gpm (0.010 mgd)

Well MPW-1 (GIM, Well WW-13):
63 gpm (0.091 mgd)

Well EW-1 (GIM, Well WW-14):
3.3 gpm (0.005 mgd)

Well MTW-1 (GIM, Well WW-17):
22 gpm (0.032 mgd)

The total yield capacity of all five wells is 154 gpm (0.222 mgd). Well data are presented on Tables 1 and 2D (Silvers, 1991).

Based on design criteria contained in the project EIS, the projected average daily demand (yield capacity) is 139 gpm (0.2 mgd) based on a 24 hour per day pumping cycle and an on-site storage tank.

WATER SUPPLY DEMAND

Robinn Meadows Water Company

The present water supply meets the average daily demand of 18.75 gpm (0.027 mgd) (million gallons per day) and maximum daily demand of 35.4 gpm (0.064 mgd) (peak summer water demand) with all four bedrock wells in service.

The maximum yield capacity of the four existing wells total 100 gpm (0.072 mgd based on information from the system operator. To satisfy the NYSDOH guidelines, the Robinn Meadows Subdivision would require a water supply capable of delivering about 37.5 gpm (0.054 mgd) with the best well out of service. With well 4 (best well) out of service, the combined safe yield of well 2, 3, and 5 should equal or exceed 89 gpm (0.128 mgd). The present supply wells are adequate to meet maximum demand. Data are presented on Table 3.

Ridgebury Lake Acres Water District

The present supply meets the average daily demand of 15.9 gpm (0.023 mgd) and maximum daily demand of 31.25 gpm (0.045 mgd) (peak summer water demand). To satisfy the NYSDOH guidelines Ridgebury Lake Acres must provide 31.9 gpm (0.046 mgd). Based on operation reports and operator information, both wells in the system can be pumped simultaneously at 90% of permitted yield without significant well interference.

The maximum yield capacity for the system is 81 gpm (0.048 mgd). This is adequate to satisfy NYSDOH guidelines. Data are presented on Table 3.

Hampton Village Planned Development

The average daily water demand anticipated for development is 43 gpm (0.064 mgd) for Phase I and 49 gpm (0.070 mgd) for Phase II. The estimated maximum demand is 65.2 gpm (0.094 mgd) for Phase I and 72.9 gpm (0.105 mgd) for Phase II (LBG, 1989).

To satisfy the NYSDOH guidelines Hampton Village must provide 87.5 gpm (0.126 mgd) for Phase I and 97.2 gpm (0.140 mgd) at full build out for twice the daily demand.

With the primary well source (Well TW-3) out of service, the maximum combined yield capacity of the secondary well source (TW-1, TW-2, TW-5 and TW-6) is 70.5 gpm (0.101 mgd). This supply is 0.004 mgd too small to satisfy the NYSDOH guidelines for Phase I development and 0.039 mgd too small for full scale development. On-site storage facilities are planned to provide additional short term capacities. Additional water supply may eventually be needed. Data is summarized in Table 3.

Woods at Stonehedge

The average daily demand anticipated for Phase I development is 11 gpm (0.016 mgd) and the average daily demand anticipated through Phase IV development is 139 gpm (0.2 mgd) (Silvers, 1991). The estimated maximum demand is 16.6 gpm (0.024 mgd) for Phase I and 202 gpm (0.291 mgd) through Phase IV development.

The present supply is adequate to meet the average daily demand through full build out of the development (Phase IV). However, sufficient supply may not be available to meet maximum demands.

To satisfy the NYSDOH guidelines Woods at Stonehedge must provide 22.2 gpm (0.032 mgd) for Phase I and 269 gpm (0.388 mgd) for full build out. With Well MPW-1 (best well) out of service, the combined safe yield of the secondary wells should equal or exceed 91.1 gpm (0.131 mgd). The present supply sources are adequate to meet maximum demand for Phase I however, additional water supply sources must be developed for additional phases of development. Data is summarized in Table 3.

Projected Water Demands

Table 4 indicates that the existing and proposed Robinn Meadows and Ridgebury Lake Acres water districts and the proposed Woods at Stonehedge and Hampton Village water districts have an estimated maximum yield capacity of about 0.425 mgd. It is anticipated that Robinn Meadows will expand from its present 105 3-bedroom units to 120 3-bedroom units over the period covered in this study. Also, the Woods At Stonehedge will not be able to meet its future water demands without the proposed supply being expanded.

The projected maximum water demand for these four water districts to the year 2020 is estimated at 0.431 mgd. Therefore, there will likely be a water supply shortage estimated to be about 0.006 mgd.

INVENTORY OF GROUND-WATER CONTAMINATION PROBLEMS

Existing Ground-Water Contamination Problems

Tectonic Engineering Consultants, P.C. reviewed the following sources to determine if any environmental incidents reported for areas around the well sites have affected the quality of the water supply systems:

- The New York State Department of Environmental Conservation (NYSDEC) inactive hazardous waste sites.
- The New York State Spill Prevention and Response (SPILLS)
- The Resource Conservation and Recovery Information System (RCRA) report containing information pertaining to facilities that generate, dispose or handle hazardous waste.
- Solid Waste Facilities, a listing of permitted solid waste facilities currently operating.

This information was provided by Lawler, Matusky and Skelly Engineers (LMS, 1993) and gathered from a Freedom of Information Law (FOIL) request from the New York State Department of Environmental Protection.

To date, there is one active spill in the town requiring ground-water treatment. The site is BI-RITE on Route 6 in Slate Hill. The remediation system is a 2 pump recovery system through an air stripper. The treated water is discharged to a storm sewer. The Department of Environmental Conservation is involved with the pump and treat recovery system (NYSDEC FOIL). The Hampton Village test wells showed trace levels of toluene. Levels were well below The New York State Department of Environmental Conservation guidelines (LBG, 1989).

Potential Ground-Water Contamination Problems

Information about potential ground-water contamination sites was obtained from:

- FOIL request to NYSDEC (LMS, 1993); and
- Land use data from the Orange County, New York Real Property Tax Assessment data base (Space Track, 1993).

Tectonic reviewed the same documents listed in the previous section in an effort to determine the potential effect of facilities or incidents listed on public water supplies. There does not appear to be any major threat to public water supplies from those incidents reported to date. There is no indication of the nature of the spills or conditions of the property associated with the spills in this report. As mentioned, the Bi-Rite facility in Slate Hill is remediating the ground-water as a result of a spill.

Orange County Landfill

The Orange County Landfill site is located south

of Route 17M in the Town of Goshen on the border with the Town of Wawayanda along the Wallkill River (LMS, 1993).

Town Salt Storage

There are two covered pole buildings for the Town salt storage. This facility is at the Town Department of Public Works garage on Ridgebury Road.

Merion Bluegrass Sod Farm

This is a registered inactive hazardous waste site (NYSDEC FOIL). There is no specific information in the FOIL report on this site. This site is located on Turtle Bay Road.

Balchem Plant

This is a registered inactive hazardous waste site (NYSDEC FOIL). There is no specific information on this site. This facility is on Route 284, off of Route 6 in Slate Hill.

Skinner Track Dumpsite

This is a registered inactive hazardous waste site (NYSDEC FOIL). Mr. James Lawler, the Town Building Inspector was not aware of a dump site, and no additional information was available. This site is on Skinner Track.

Bi-Rite

This is a registered inactive hazardous waste site (NYSDEC FOIL). This facility is a gas station. According to Mr. Lawler several years ago in-ground gasoline tanks were removed. Soils removed were used as fill in a residential lot. These soils had a tainted odor. According to the FOIL report the DEC is involved with a ground-water remediation project at this site. This facility is located on Dolsontown Road off Route 17M (Lawler, 1993).

MGB Sod Farm

This is a permitted solid waste facility (NYSDEC FOIL). This site is located on Onion Avenue and Lower Road. There is no specific information in the FOIL Report on this site.

Roy Lord Septage Lagoon

This is a permitted solid waste facility (NYSDEC FOIL). There is no specific information in the FOIL Report on this site. Mr. Lawler was not familiar with this site, and the location is not known.

Forino Farms

This is a permitted solid waste facility (NYSDEC FOIL). According to Mr. Lawler this is a 260 acre cattle farm located on Carpenter Road, off Lower Road. There was no specific information in the FOIL Report on this site.

Guidone/Carter Road

This is a permitted solid waste facility (NYSDEC FOIL). According to Mr. Lawler the property owner was allowing illegal dumping on this property. This action was ended 5-7 years ago under action by the DEC. There is no specific information in the FOIL Report on this site.

Each property in Orange County has a land use code number. Properties with land use code numbers associated with potential contamination of ground water were identified through analysis of the Real Property Tax Assessment data base by Space Track, Inc. The types of land uses in the potential contamination category include:

- industrial facilities;
- gas stations;
- dry cleaners, and
- auto repair facilities.

Where possible, approximate locations of these sites are shown as triangles on the GIM.

Petroleum Bulk Storage

There are fourteen registered petroleum bulk storage facilities throughout the Town of Wawayanda. A significant spill or leak at any facility may ultimately affect a down gradient water supply. Every effort should be made to maintain these facilities according to required standards. In addition, early leak detection and rapid remediation should be performed. The petroleum bulk storage facilities are presented on Table 5.

The above sites are listed as potential ground-water contamination sites. Further investigations would be required to determine if contamination exists at respective locations.

TABLE 1

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Available Well Data

Well --- Water District	Tax Map Municipality --- Section -- Block -- Lot	Map Location --- I.D. #	Well Status	Reported Yield (gpm) Original --- Present	Depth of Well (feet)	Well Diame-ter (inches)	Length of Casing (feet)	Well Screen Length (feet) --- Setting Interval (feet)	Aquifer	Date Drilled	Comments
Well 1 --- Robinn Meadows	Wawayanda 10 -- 1 -- 17.22	Wawayanda --- WW-1	Abandoned ---	NA --- 0	220	6	25	-----	Bedrock On	1966	No recharge.
Well 2 --- Robinn Meadows	Wawayanda 10 -- 1 -- 17.22	Wawayanda --- WW-2	In service --- active	50 --- 39	354	6	40.5	-----	Bedrock On	1968	
Well 3 --- Robinn Meadows	Wawayanda 10 -- 1 -- 17.22	Wawayanda --- WW-3	In service --- active	20 --- 20	600	6	40.5	-----	Bedrock On	1968	

TABLE 1
(continued)

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Available Well Data

Well --- Water District	Tax Map Municipality --- Section -- Block -- Lot	Map Location --- I.D. #	Well Status	Reported Yield (gpm) Original --- Present	Depth of Well (feet)	Well Diameter (inches)	Length of Casing (feet)	Well Screen Length (feet) --- Setting Interval (feet)	Aquifer	Date Drilled	Comments
Well 4 --- Robinn Meadows	Wawayanda 10 -- 1 -- 17.22	Wawayanda --- WW-4	In service --- active	55 --- 45	650	6	NA	-----	Bedrock On	1968	
Well 5 --- Robinn Meadows	Wawayanda 10 -- 1 -- 17.22	Wawayanda --- WW-5	In service --- active	35 --- 30	600	6	41	-----	Bedrock On	1991	
Well 1 --- Ridgebury Lake Acres	Wawayanda 30 -- 5 -- ?	Wawayanda --- WW-6	In service --- active	50 --- 50	200	6	200	-----	Bedrock On	1972	Primary source.

(continued)

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Available Well Data

Well --- Water District	Tax Map Municipality --- Section -- Block -- Lot	Map Location --- I.D. #	Well Status	Reported Yield (gpm) Original --- Present	Depth of Well (feet)	Well Diameter (inches)	Length of Casing (feet)	Well Screen Length (feet) --- Setting Interval (feet)	Aquifer	Date Drilled	Comments
Well 2 --- Ridgebury Lake Acres	Wawayanda 30 -- 1 -- ?	Wawayanda --- WW-7	In service --- standby	40 --- 40	210	6	NA	-----	Bedrock On	1972	
Well TW-1 --- Hampton Village	Wawayanda 1 -- 1 -- 5.3	Wawayanda --- WW-8	Inactive --- equipped	41 --- 48	600	8	NA	-----	Bedrock On	NA	Test well mutual interference with TW-3.
Well TW-2 --- Hampton Village	Wawayanda 1 -- 1 -- 5.3	Wawayanda --- WW-9	Inactive --- equipped	11 --- 7.5	320	8	NA	-----	Bedrock On	NA	Test well.

TABLE 1

(continued)

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Available Well Data

Well --- Water District	Tax Map Municipality --- Section -- Block -- Lot	Map Location --- I.D. #	Well Status	Reported Yield (gpm) Original --- Present	Depth of Well (feet)	Well Diame-ter (inches)	Length of Casing (feet)	Well Screen Length (feet) --- Setting Interval (feet)	Aquifer	Date Drilled	Comments
Well TW-3 --- Hampton Village	Wawayanda 1 -- 1 -- 5.3	Wawayan da --- WW-10	Inactive --- equipped	60 --- 57	600	6	NA	-----	Bedroc k On	NA	Principal source. Interferenc e with well TW-1.
Well TW-5 --- Hampton Village	Wawayanda 1 -- 1 -- 5.3	Wawayan da --- WW-11	Inactive --- equipped	15 --- 7	600	6	NA	-----	Bedroc k On	NA	
Well TW-6 --- Hampton Village	Wawayanda 1 -- 1 -- 5.3	Wawayan da --- WW-12	Inactive --- equipped	12 --- 8	600	6	NA	-----	Bedroc k On	NA	

TABLE 1
(continued)

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Available Well Data

Well --- Water District	Tax Map Municipality --- Section -- Block -- Lot	Map Location --- I.D. #	Well Status	Reported Yield (gpm) Original --- Present	Depth of Well (feet)	Well Diameter (inches)	Length of Casing (feet)	Well Screen Length (feet) --- Setting Interval (feet)	Aquifer	Date Drilled	Comments
Well MPW-1 --- Woods at Stonehedge	Wawayanda 14 -- 1 -- 28.32	Wawayanda --- WW-13	Inactive --- equipped	88 --- 63	NA	NA	NA	-----	Bedrock On	NA	Abandoned no recharge.
Well EW-1 --- Woods at Stonehedge	Wawayanda 14 -- 1 -- 28.32	Wawayanda --- WW-14	Inactive --- equipped	6.5 --- 3.3	NA	NA	NA	-----	Bedrock On	NA	
Well DPW-1 --- Woods at Stonehedge	Wawayanda 15 -- 1 -- 67.1	Wawayanda --- WW-15	Inactive --- equipped	80 --- 58.9	NA	NA	NA	-----	Bedrock On	NA	

TABLE 1
(continued)

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Available Well Data

Well ------ Water District	Tax Map Municipality ----- Section -- Block -- Lot	Map Location ------- I.D. #	Well Status	Reported Yield (gpm) Original ------ Present	Depth of Well (feet)	Well Diameter (inches)	Length of Casing (feet)	Well Screen Length (feet) ------ Setting Interval (feet)	Aquifer	Date Drilled	Comments
Well TW-1 ---------- Woods at Stonehedge	Wawayanda 15 -- 1 -- 67.1	Wawayanda -------- WW-16	Inactive -------- equipped	12 ----- 6.9	NA	NA	NA	-----	Bedrock On		
Well MTW-1 ---------- Woods at Stonehedge	Wawayanda 14 -- 1 -- 28.33	Wawayanda -------- WW-17	Inactive -------- equipped	22 ----- 22	NA	NA	NA	-----	Bedrock On		

gpm - Gallons per minute.
NA - Not available.

Well Status:

In service - active
In service - stand by

Inactive - equipped
Inactive - not equipped wwtbl1/orange

TABLE 2A

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Well Yield Capacities
Robinn Meadows Water District

Well **-----** **Water District**	**WSA No.** **-----** **Permitted Yield (gpm)**	**Average Yield Capacity (gpm)** **-----** **(gpd)**	**Maximum Yield Capacity (gpm)** **-----** **(gpd)**	**Comments**
Well 2 ---------- Robinn Meadows	5450 ------- 39	29 -------- 14,000	29 ------- 20,880	
Well 3 ---------- Robinn Meadows	5450 -------- 20	15 --------- 7,200	15 -------- 10,800	
Well 4 ---------- Robinn Meadows	5450 --------- 45	34 ---------- 16,200	34 --------- 24,480	
Well 5 ---------- Robinn Meadows	9055 --------- 30	22 ---------- 10,800	22 --------- 15,840	
TOTALS	**(Total Permitted Yield)** **134**	**(Total Yield Capacity)** **100** **---------** **48,200**	**(Total Maximum Yield Capacity)** **100** **---------** **72,000**	**System Average** **55 GPM**

gpm - Gallons per minute. WSA No. - Water Supply Application Number.
gpd - Gallons per day.

Comments:
Wells are pumped in various configurations throughout the year, resulting in equal use of all.

Wells in use are pumped at 75% of permitted yield for an average of 8 hrs/day and 12 hrs/day for maximum demand.
All wells are capable of pumping simutaneously.

Permitted yields obtained from pump test performed by LBG 6/92.

Well #1 has been abandoned.

WAWAYANDA\TABLE2\TABLE2A.RBN

TABLE 2B

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Well Yield Capacities
Ridgebury Lake Acres

Well **-----** **Water District**	**WSA No.** **-----** **Permitted Yield (gpm)**	**Average Yield Capacity (gpm)** **-----** **(gpd)**	**Maximum Yield Capacity (gpm)** **-----** **(gpd)**	**Comments**
Well 1 ---------- Ridgebury Lake Acres	6202 ------- 50	45 -------- 16,200	45 ------- 27,000	
Well 2 ---------- Ridgebury Lake Acres	6202 -------- 40	36 --------- 12,960	36 -------- 21,600	
TOTALS	**(Total Permitted Yield)** **90**	**(Total Yield Capacity)** **81** **--------** **29,160**	**(Total Maximum Yield Capacity)** **81** **-------** **48,600**	**6 hrs/day - average combined yield** **10 hrs/day - maximum yield**

gpm - Gallons per minute. WSA No. - Water Supply Application Number.
gpd - Gallons per day.

Comments:

Both pumps are operational and can be run simultaneously without significant interference according to the operator.
Pumps are typically run at 90% of permitted yield for 6 hrs. average day and 10 hrs. max. day.

TABLE 2C

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Well Yield Capacities
Hampton Village Water District

Well **-----** **Water District**	**WSA No.** **-----** **Permitted Yield (gpm)**	**Average Yield Capacity (gpm)** **-----** **(gpd)**	**Maximum Yield Capacity (gpm)** **-----** **(gpd)**	**Comments**
Well TW-1 ---------- Hampton Village	8254 ------- 48	48 --------- 69,120	48 ------- 69,120	
Well TW-2 ---------- Hampton Village	8254 -------- 7.5	7.5 --------- 10,800	7.5 -------- 10,800	
Well TW-3 ---------- Hampton Village	8254 -------- 57	57 --------- 63,400	57 -------- 82,080	Proposed primary well
Well TW-5 ---------- Hampton Village	8254 -------- 7	7 -------- 10,080	7 -------- 10,080	
Well TW-6 ---------- Hampton Village	8254 -------- 8	8 -------- 11,520	8 -------- 11,520	
TOTALS	**(Total Permitted Yield)** **127.5**	**(Total Yield Capacity)** **57** **--------** **63,400**	**(Total Maximum Yield Capacity)** **57** **----------** **82,080**	**Multi-well pumping limited due to interference**

gpm - Gallons per minute. WSA No. - Water Supply Application Number.
gpd - Gallons per day. NA - Not Available

Comments:

The Hampton Village Project is currently in a proposed status. Although a water supply application is complete there is no water being taken at this time. There are no records of actual maximum yield capacities for this reason.

Due to significant well interference, proposed permitted yield is limited to primary well (TW-3).

Average yield capacity based on Phase I design criteria discussed in project pump study.

Low yield in wells #4 & 7 were cause for abandonment.

\WAWAYAND\TABLE2\TABLE2C.HMT

TABLE 2D

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Well Yield Capacities
Woods at Stonehedge

Well **Water District**	**WSA No.** **Permitted Yield (gpm)**	**Average Yield Capacity (gpm)** **(gpd)**	**Maximum Yield Capacity (gpm)** **(gpd)**	**Comments**
Well MPW-1 Woods at Stonehedge	NA 63	63 90,762	63 90,762	
Well EW-1 Woods at Stonehedge	NA 3.27	3.3 4,752	3.3 4,752	
Well DPW-1 Woods at Stonehedge	NA 58.9	58.9 84,816	58.9 84,816	
Well TW-1 Woods at Stonehedge	NA 6.93	6.9 9,936	6.9 9,936	
Well MTW-1 Woods at Stonehedge	NA 22	22 31,680	22 31,680	
TOTALS	**(Total Permitted Yield)** **154**	**(Total Yield Capacity)** **139** **200,100**	**(Total Maximum Yield Capacity)** **154** **222,000**	**Maximum yield equal to 100% proposed permitted yield**

gpm - Gallons per minute. WSA No. - Water Supply Application Number.
gpd - Gallons per day.

Comments:

This project is still in the proposal stage. No water supply application has been filed. Proposed permitted yield values are extracted from Smiglio Environmental Consultants Pump Study contained in project EIS, as simultaneous stabilized pump rates.

Total yield capacity values extracted from the project EIS design criteria, based on a 24 hr/day. 100% pump cycle and on site storage facilities.

WAWAYANDA\TABLE2\TABLE2D.STN

TABLE 3

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Summary of Water Supply Source

The Town of Wawayanda, at present, does not own or operate any public or community water systems. Private water districts draw water from the bedrock aquifer. Those private water districts capable of yielding about 50,000 gallons per day or greater were evaluated for this study.

Existing Source

	Water District	**Ground Water (mgd)**
Current Average Daily Water Demand	Robinn Meadows Ridgebury Lake Acres	0.027 0.023
Current Maximum Daily Water Demand	Robinn Meadows Ridgebury Lake Acres	0.064 0.045
Maximum Yield Capacity	Robinn Meadows Ridgebury Lake Acres	0.072 0.049
Average Yield Capacity	Robinn Meadows Ridgebury Lake Acres	0.048 0.029
Proposed Sources (Average Day)	**Hampton Village (Phase I)** **Woods at Stonehedge**	0.064 0.200
TOTAL MAXIMUM YIELD CAPACITY (MGD) = **----------** **CURRENT MAXIMUM DAILY USE (MGD) =**		**0.121** **--------** **0.109**

mgd - Million gallons per day.

Comments:

The average daily and maximum daily water demands are from actual records provided by Orange County Health Department. Proposed sources not included in total figures.

TABLE 4

REGIONAL GROUND-WATER STUDY
TOWN OF WAWAYANDA
WAWAYANDA, NEW YORK

Project Water Demand
1993 - 2020
(mgd)

Water District	Current Maximum Yield Capacity (mgd)	Current and Proposed* Maximum Yield Capacity (mgd)	1993 Projected Water Demand --- Water-Supply Adequacy	2000 Projected Water Demand --- Water-Supply Adequacy	2010 Projected Water Demand --- Water-Supply Adequacy	2020 Projected Water Demand --- Water-Supply Adequacy
Robinn Meadows	0.072	0.072	0.027 --- +0.045**	0.027 --- +0.045**	0.029 --- +0.043**	0.031 --- +0.041**
Ridgebury Lake Acres	0.049	0.049	0.045 --- +0.004**	0.045 --- +0.004**	0.045 --- +0.004**	0.045 --- +0.004**
Hampton Village	0.000	0.082	0.000 --- 0.000**	0.064 --- +0.018***	0.064 --- +0.018***	0.064 --- +0.018***
Woods at Stonehedge	0.000	0.222	0.000 --- 0.000**	0.024 --- +0.198***	0.291 --- -0.069***	0.291 --- -0.069***
TOTAL	**0.121**	**0.425**	**0.072** --- **+0.049****	**0.16** --- **+0.265****	**0.429** --- **-0.004****	**0.431** --- **-0.006****

\+ Surplus water supply, mgd. - Water supply deficiency
* Combined yield capacity of both current and proposed water supply(s).
** Calculated by current maximum yield capacity minus projected water demands.
*** Calculated by current and proposed maximum yield capacity minus projected water demands.

COMMENTS:

! Robinn Meadows is anticipated to expand from its present 105 units to 120 units in the future.

Wawayand\table4

TABLE 5

PETROLEUM BULK STORAGE
NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Facility Name	Location	Municipality
C & L Company, Inc.	Box 251, Rte 17M	New Hampton
Joe's Greenhouse	Lower Road, Box 183	New Hampton
Johnston's Toyota, Inc.	Rte. 17M	New Hampton
Mid-Hudson Psychiatric Ctr.	P.O. Box 158	New Hampton
Pajo Enterprises	P.O. Box 150, Rte 17M	New Hampton
Pierce Well Drill Co.	R.D. Box 192	New Hampton
Warren's Turf Nursery	R.D. 1, Box 366, Lower Rd.	New Hampton
William & Jean Menner	R.D. 1, Box 43	New Hampton
American Waste Control of NY		Pine Island
DeBuck's Sod Farm	Box 142, Mission Land Rd.	Pine Island
Panco Equipment Corp.	Pine Island Turnpike	Pine Island
Ray's Service #8053	Four Corners Street	Pine Island
Ray's Service Center	Corner Pulaski Hwy & Pine Island Turnpike	Pine Island
Saint Stanislaus Church	Pulaski Hwy.	Pine Island
Warwick Valley Central Sch.	School House Rd.	Pine Island