

DRAFT

ENGINEER'S REPORT

**PUBLIC WATER EXTENSION
TO SERVE
THE PROPOSED**

COLONIE COUNTRY CLUB ESTATES

**TOWN OF NEW SCOTLAND
ALBANY COUNTY, NEW YORK**

February 26, 2008

Prepared by:



**Hershberg & Hershberg
Consulting Engineers
18 Locust Street
Albany, NY 12203
(518) 459-3096**

INTRODUCTION:

Hershberg & Hershberg, Consulting Engineers and Land Surveyors, were retained by Amedore Homes, Inc., applicant for the proposed ***Colonie Country Club Estates***, as consultants on site planning and design. The applicant for approval of this project is Amedore Homes, Inc. having its office at 1900 Western Avenue, Albany, NY 12203 and a local phone number of (518) 456-1010. The constructed water main will be dedicated to the Town of New Scotland which will operate this water main. Water will be supplied through a Water Purchase Agreement between the Town of New Scotland and the Village of Voorheesville (see Appendix 1). This requires an extension utilizing quantities deemed available as per WSA #9159 (see Appendix 2) and WSA #10494 (see Appendix 3). The limit of the proposed extension is shown on a Water Extension Map (see Appendix 4) and is described in a Water Extension Legal Description (see Appendix 5)

DESCRIPTION OF EXISTING SITE:

PARCEL AREA

The site is currently vacant. The site is located on 141 Maple Road (Route 85A) in the Town of New Scotland across from Douglas Lane. A portion was occupied by a former gravel bank which has become forested with secondary growth of trees, saplings and shrubs. The balance of the site is forested with a stand of primarily hardwoods with a few coniferous trees. The site has frontage on Route 85A at two points. The site consists of 48.17 acres (portion of Tax Map No. 73.0-4-27, lands N/F of Colonie



Country Club, Inc.) The site is bounded by Colonie Country Club to the east, by agricultural use to south and by residential use to the west and to the north. This parcel includes the entrance roadway to Colonie Country Club. A Site Location Map superimposed over the Voorheesville, N.Y. Quadrangle Map is included as Appendix 6.

WATERCOURSES AND WETLANDS

There are no protected watercourse areas or wetlands which impact the site.

FLOOD PLAIN

The site to be developed lies entirely within Zone C (Area of Minimal Flooding).

EXISTING USAGE AND VEGETATION

The site is unimproved and consists mainly of secondary deciduous forest and brush lands. The overstory includes oaks, maples, birch and poplar with sizes from 8" to 18". The understory includes saplings of the same species. A number of areas contain smaller diameter trees and ground cover vegetation.



EXISTING SOILS

The existing soils are loamy sand and gravel. The Albany County Soil Survey indicates the following soils within the limits of the project:

Chenango gravelly silt loam (Hydrologic Class A)

Riverbed fine sandy loam (Hydrologic Class B)

Gravel quarry

DESCRIPTION OF PROPOSED DEVELOPMENT:

The Applicant proposes the following:

- Install a new town road (Road A) from New Salem to a cul-de-sac at the end of this road. Road approximately 2,800 feet long.
- Install a new town road (Road B) from Route 85A Across from Douglas Lane to an intersection with Road A. Road approximately 2,531 feet long.
- Develop the land into +/-35 lots plus two areas to be dedicated as Storm Water Management Areas.
- Install a new public water main to serve these dwellings requiring approximately 5,460 lineal feet of new 8-inch water main and dedicate this to the Town of New Scotland once completed, inspected and accepted.



- Install a new public storm sewer system to serve these dwellings. This will consist of new collection storm sewer with catch basins and structures and Stormwater Pollution Prevention (SWPP). This will be dedicated to the Town of New Scotland once completed, inspected and accepted.

EXISTING CONDITIONS

There is currently no public water service to this site. Currently the nearest water service is available through an extension from the Village of Voorheesville water system. The nearest point of connection is along Route 85A at its intersection with Scotch Pine Drive.

DESIGN PRESSURES & FIRE FLOWS

The Applicant will conduct a pressure and fire flow test on the existing water main at the intersection of Route 85A and Scotch Pine Drive. Based upon the results of this test, and based upon a review with William Smith, Village of Voorheesville Superintendent of Public Works, a decision will be made upon the adequacy of the system without a booster pump to provide both potable water and fire protection.

The goal would be to provide a flow which meets the Insurance Service Organization (ISO) residential standard. Hydrant spacing is set so that every portion of the proposed dwellings are within 500 feet of a hydrant. This meets the Insurance Service Organization (ISO) residential standard.



PROJECTED WATER DEMAND

The estimated average daily potable water requirement for this subdivision is computed as 540 GPD per dwelling for the 35 units or 18,900 GPD or 1,725,000 gallons in a quarter of a year. This is computed based upon the Expected Hydraulic Loading Rates contained in New York State Department of Environmental Conservation publication, *Design Standards for Wastewater Treatment Works, Intermediate Sized Sewerage Facilities*, which has been increased to accommodate expected amenities such as hot tubs, cabanas, swimming pools, etc.. Maximum daily flow is anticipated to be 200% of average daily flow or 37,000 GPD. Peak Hourly Flow is assumed to be 400% of the average daily flow or 3,084 GPH.

Permitted under WSA Permit #10494 is a flow of 600 GPM or 864,000 GPD. Current average daily demand figures have been provided by William Smith, Village of Voorheesville Superintendent of Public Works, as 383,000 GPD. The addition of an average daily flow of 18,900 GPD will increase the average daily demand to 401,900 GPD.

COST OF PUBLIC WATER EXTENSION

An engineer's estimate of the cost of construction of the extension of the public water system to serve this subdivision has been prepared and the cost is estimated at \$480,665 (see Appendix 7). The Applicant will be responsible for the full cost of this extension.



ENGINEER'S CONCLUSION

A determination of available water supply will be made after review with William Smith, the Village of Voorheesville Superintendent of Public Works. The system described in this report will be necessary to provide a public water extension which is capable of serving the area of the Colonie Country Club Estates.

Prepared by:



Daniel R. Hershberg, P.E. & L.S.
Hershberg & Hershberg
Consulting Engineers

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APPENDIX 1

Water Purchase Agreement between the Town of New Scotland and the Village of Voorheesville

**WATER PURCHASE AGREEMENT
BETWEEN TOWN OF NEW SCOTLAND AND VILLAGE OF VOORHEESVILLE**

THIS AGREEMENT, made the 25 day of June, 2007, between the Town of New Scotland, Albany County, N.Y., located in said Town, hereinafter referred to as "New Scotland", and the Village of Voorheesville, Albany County, N.Y., hereinafter referred to as "Voorheesville".

WHEREAS, Voorheesville currently owns, operates and maintains a municipal water system, said system having a source of supply being recognized as NYSDEC Permit # 4-0134-00144/00002 (WSA # 0100203), said district currently permitted to produce 600 gallons per minute (840,000 gallons of water per day), said district consuming an average daily demand of 400,000 gallons, and

NOW, THEREFORE, it is agreed as follows:

1. The purpose of this Agreement for New Scotland to secure a permanent connection to and source of supply from the Village water system,

2. Voorheesville shall sell and deliver to New Scotland and New Scotland shall purchase and receive from Voorheesville an amount of water which shall not exceed 1,825,000 gallons of water in any quarter of the calendar year excepting fire or emergency needs, unless Voorheesville shall agree in writing to increase such quarterly amount. New Scotland shall not accumulate credit should a lesser amount be used in any quarter of the calendar year. All water provided to New Scotland, including any amount in excess of 1,825,000 gallons per quarter, shall be billed to New Scotland at the rate set forth in paragraph 5 hereof.

3. If Voorheesville shall impose water conservation measures upon Voorheesville users, New Scotland shall impose similar water conservation measures immediately upon its users equal to or exceeding those imposed by Voorheesville. In the event of an emergency because of watermain breakdown, Voorheesville may totally suspend delivery until repairs are effected, without penalty, until such emergency is corrected.

4. New Scotland shall, at no expense to the Village of Voorheesville; procure, furnish, install, supply and maintain all facilities, rights-of-way and easements necessary for receiving, applying and utilizing the water delivered hereunder. The location, installation and design of the interconnections and pipes shall be approved by Voorheesville, who shall be

permitted to inspect interconnections and require periodic verification of water meter accuracy from New Scotland. The water meter shall be of a type approved by Voorheesville and installed at New Scotland's expense. In accordance with the New York State Sanitary Code, the entry point for water purchased from Voorheesville shall be at its point of removal from Voorheesville's supply conduit. New Scotland shall assume responsibility for monitoring and reporting entry point turbidity data and shall satisfy all other reporting or notification requirements of said code or other applicable law.

5. New Scotland agrees to pay Voorheesville for the actual amount of water consumed at a rate equal to two times the rate charged to the in-district, residential customer. Any increase or decrease in the cost of water shall be effective between the parties hereto as soon as such change is effective to Voorheesville customers.

6. New Scotland shall pay Voorheesville annually, payable within 60 days of billing date.

7. New Scotland agrees to pay Voorheesville a one-time connection fee, in the amount of \$1,500.00 dollars for each residential lot within the subdivision. Said fee shall be paid by New Scotland to Voorheesville prior to connection to the Voorheesville Water System.

8. New Scotland agrees not to resell or permit any water furnished hereunder to be used to supply any other user outside the limits of the proposed Water District without the consent of Voorheesville in writing.

9. Voorheesville shall not be responsible for damages from any failure to supply water or for interruption of the supply. New Scotland agrees to save and hold harmless Voorheesville from all damages of any nature occasioned or caused by making the water connections herein referred to or caused by the furnishing of water hereunder and shall also keep and save Voorheesville harmless from all damage of every kind, nature or description which may arise as a result of the making of this Agreement.

10. The Planning Board of the Town of New Scotland shall condition approval of the subdivision upon there being a 50-foot no-cut buffer zone between properties on the westerly side of the subdivision bordering properties in the Village located on Scotch Pine Drive and Locust Drive, with attachment of the following verbiage on the final plat:

"THE AREA SHOWN ON THE FINAL PLAT AS "NATURAL AREA" IS REGULATED BY THE FOLLOWING CONDITIONS:

1. THE INTENT OF THE NATURAL BUFFER AREA IS TO FACILITATE A VISUAL SCREENING. VEGETATION, INCLUDING TREES AND SHRUBS, LOCATED WITHIN THE NATURAL AREA SHALL NOT BE CUT UNLESS SUPPORTING EVIDENCE CAN BE DOCUMENTED THAT REMOVAL IS

NECESSARY TO PROTECT LIFE OR PROPERTY.

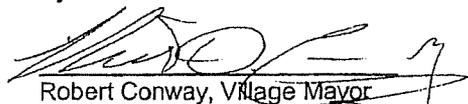
2. EVIDENCE SUPPORTING THE NEED TO REMOVE OR ALTER VEGETATION SHALL BE SUBMITTED TO THE HOMEOWNER'S ASSOCIATION BY A QUALIFIED ARBORIST. SAID DOCUMENTATION SHALL BE KEPT ON FILE WITH THE HOA FOR A PERIOD OF 5 YEARS AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE TOWN, ITS AGENTS OR ASSIGNS UPON REQUEST.
3. THE GEOMETRIC CENTER OF THE STEM SHALL BE USED TO DETERMINE IF THE SPECIMEN IS LOCATED WITHIN THE NATURAL AREA. LIMBS EXTENDING OUTSIDE THE NATURAL AREA LIMITS MAY BE TRIMMED.
4. INFECTED OR DEAD VEGETATION MAY BE REMOVED OR ALTERED WITH PROPER DOCUMENTATION.
5. VOLUNTARY REMOVAL OF SELECT VEGETATION MAY BE PERMITTED WITH WRITTEN CONSENT OF ALL ADJACENT PROPERTY OWNERS WITHIN 200 FEET OF THE SUBJECT SPECIMENS. WRITTEN CONSENT SHALL BE KEPT ON FILE WITH THE HOA FOR A PERIOD OF 5 YEARS AND SHALL BE MADE AVAILABLE FOR INSPECTION BY THE TOWN, ITS AGENTS OR ASSIGNS UPON REQUEST.
6. ENFORMCEMENT OF THE NATURAL AREA CONDITIONS ARE SUBJECT TO ANY HOMEOWNER ASSOCIATION BILAWS AND MUNICIPAL ENFORCEMENT OF THE TOWN ZONING LAW. "

Said language will be included in the bylaws of the proposed Homeowner's Association.

11. This Agreement shall remain in full force and effect until terminated by either party on five (5) years written notice to the other; provided, however, that it may not be terminated for at least ten (10) years from the initial adoption hereof. Notwithstanding the foregoing, this Agreement may be terminated at any time by the mutual consent in writing by both parties.

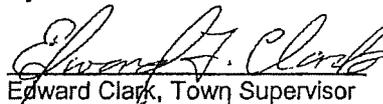
12. This Agreement shall not be assigned without prior written consent of Voorheesville.

By: VILLAGE OF VOORHEESVILLE


Robert Conway, Village Mayor

Date: 6/23/07

By: TOWN OF NEW SCOTLAND


Edward Clark, Town Supervisor

Date: 6/26/07

APPENDIX 2

WSA Permit #9159

DEC PERMIT NUMBER
4-0134-00033/00001-0

FACILITY/PROGRAM NUMBER(S)
WSA #9159

Filed Date: 9/12/94
Application



PERMIT

Under the Environmental Conservation Law (ECL)

EFFECTIVE DATE
March 24, 1995

EXPIRATION DATE(S)
None

TYPE OF PERMIT (Check All Appropriate Boxes)

NEW RENEWAL MODIFICATION PERMIT TO CONSTRUCT PERMIT TO OPERATE

ARTICLE 15, TITLE 5: PROTECTION OF WATER

ARTICLE 15, TITLE 15: WATER SUPPLY

ARTICLE 15, TITLE 15: WATER TRANSPORT

ARTICLE 15, TITLE 15: LONG ISLAND WELLS

ARTICLE 15, TITLE 27: WILD, SCENIC & RECREATIONAL RIVERS

6NYCRR 608: WATER QUALITY CERTIFICATION

ARTICLE 17, TITLES 7, 8: SPDES

ARTICLE 19: AIR POLLUTION CONTROL

ARTICLE 23, TITLE 27: MINED LAND RECLAMATION

ARTICLE 24: FRESHWATER WETLANDS

ARTICLE 25: TIDAL WETLANDS

ARTICLE 27, TITLE 7: 6NYCRR 360: SOLID WASTE MANAGEMENT

ARTICLE 27, TITLE 9; 6NYCRR 373: HAZARDOUS WASTE MGMT.

ARTICLE 34: COASTAL EROSION MANAGEMENT

ARTICLE 36: FLOODPLAIN MANAGEMENT

ARTICLES 1, 3, 17, 19, 27, 37; 6NYCRR 380: RADIATION CONTROL

ARTICLE 27, TITLE 3, 6NYCRR 364: WASTE TRANSPORTER

OTHER:

PERMIT ISSUED TO
Village of Voorheesville

TELEPHONE NUMBER
(518) 765-4512

ADDRESS OF PERMITTEE
P. O. Box 367 Voorheesville, NY 12185

CONTACT PERSON FOR PERMITTED WORK
William Hotelling, Superintendent of Public Works

TELEPHONE NUMBER
(518) 765-4512

NAME AND ADDRESS OF PROJECT/FACILITY

LOCATION OF PROJECT/FACILITY
North of Grove Street approximately 500 feet west of Voorheesville Avenue

COUNTY Albany	TOWN/CITY/VILLAGE Voorheesville	WATERCOURSE/WETLAND NO.	NYM COORDINATES E: N:
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DESCRIPTION OF AUTHORIZED ACTIVITY:

To reinstate the use of existing well No. 3 at 400 gallons per minute (gpm) and to increase the pumping capacity of existing well No. 4. The total allowable take from any combination of the 3 existing wells (well No. 1 has been abandoned) (see Special Condition #1) is limited to 600 gpm.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified (see page 2) and any Special Conditions included as part of this permit.

DEPUTY PERMIT ADMINISTRATOR
John H. Feltman

ADDRESS
NYS DEC, Region 4 Headquarters
1150 North Westcott Road, Schenectady, NY 12306

AUTHORIZED SIGNATURE

DATE
3/22/95

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APPENDIX 3

WSA Permit #10494

08/21/03 THU 15:54 TAX 518 357 2503

NYSDEC REG. 4 ADMIN.

003

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DPC PERMIT NUMBER
4-0134-00144/00001

FACILITY/PROGRAM NUMBER(S)
WSA # 10494

Filed Date: 4/18/2003

8th Application



PERMIT

Under the Environmental Conservation Law (ECL)

EFFECTIVE DATE
August 22, 2003

EXPIRATION DATE(S)
None

TYPE OF PERMIT (Check all Applicable Boxes)

NEW RENEWAL MODIFICATION PERMIT TO CONSTRUCT PERMIT TO OPERATE

<input type="checkbox"/>	ARTICLE 15, TITLE 5: PROTECTION OF WATER	<input type="checkbox"/>	ARTICLE 17, TITLES 7, 8: SPDES	<input type="checkbox"/>	ARTICLE 27, TITLE 6: GNYCRR 373: HAZARDOUS WASTE MGMT
<input checked="" type="checkbox"/>	ARTICLE 15, TITLE 19: WATER SUPPLY	<input type="checkbox"/>	ARTICLE 19: AIR POLLUTION CONTROL	<input type="checkbox"/>	ARTICLE 34: COASTAL EROSION MANAGEMENT
<input type="checkbox"/>	ARTICLE 15, TITLE 18: WATER TRANSPORT	<input type="checkbox"/>	ARTICLE 23, TITLE 27: MINED LAND RECLAMATION	<input type="checkbox"/>	ARTICLE 36: FLOODPLAIN MANAGEMENT
<input type="checkbox"/>	ARTICLE 15, TITLE 18: LONG ISLAND WELLS	<input type="checkbox"/>	ARTICLE 24: FRESHWATER WETLANDS	<input type="checkbox"/>	ARTICLES 1, 3, 17, 19, 27, 37: GNYCRR 360: RADIATION CONTROL
<input type="checkbox"/>	ARTICLE 15, TITLE 27: WILD, SCENIC & RECREATIONAL RIVERS	<input type="checkbox"/>	ARTICLE 25: TIDAL WETLANDS	<input type="checkbox"/>	ARTICLE 27, TITLE 3: GNYCRR 364: WASTE TRANSPORTER
<input type="checkbox"/>	GNYCRR 60B: WATER QUALITY CERTIFICATION	<input type="checkbox"/>	ARTICLE 27, TITLE 7: GNYCRR 360: SOLID WASTE MANAGEMENT	<input type="checkbox"/>	OTHER:

PERMIT ISSUED TO
Village of Voorheesville, attn: Mayor Stevens

TELEPHONE NUMBER
518-768-2892

ADDRESS OF PERMITTEE
PO Box 387, 29 Voorheesville Ave, Voorheesville, NY 12186

CONTACT PERSON FOR PERMITTED WORK
Francois Vedier, Lamont Engineers, PO Box 610, Cobleskill, NY 12043

TELEPHONE NUMBER
518-234-4028

NAME AND ADDRESS OF PROJECT/FACILITY
Permissive Service Area outside the village

LOCATION OF PROJECT/FACILITY
various locations surrounding the village

COUNTY Albany	TOWN New Scotland	WATERCOURSE/WETLAND NO.	NYSM COORDINATES E: N:
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DESCRIPTION OF AUTHORIZED ACTIVITY

Provide a supply of water to an existing previously unpermitted Permissive Service Area, and provide water to 16 additional parcels to be added to the Permissive Service Area. The maximum increase in water taking is 672 gpm with a total taking of 489,729 gpm. Project also involves construction of a new 500,000 gallon concrete water storage tank, and replacement of 8,000 LF of 4" and 2" cast iron water mains with 8600 LF of 10" DIP to provide storage redundancy and improved fire flows.

Total allowable take from any combination of the 3 wells (Wells 2, 3, and 4) remains limited to 600 gpm

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified (see page 2) and any Special Conditions included as part of this permit.

DEPUTY PERMIT ADMINISTRATOR
Michael T. Higgins

ADDRESS
NYS DEC, Region 4 Headquarters
1150 North Westcott Road, Schenectady, NY 12306

AUTHORIZED SIGNATURE
[Signature]

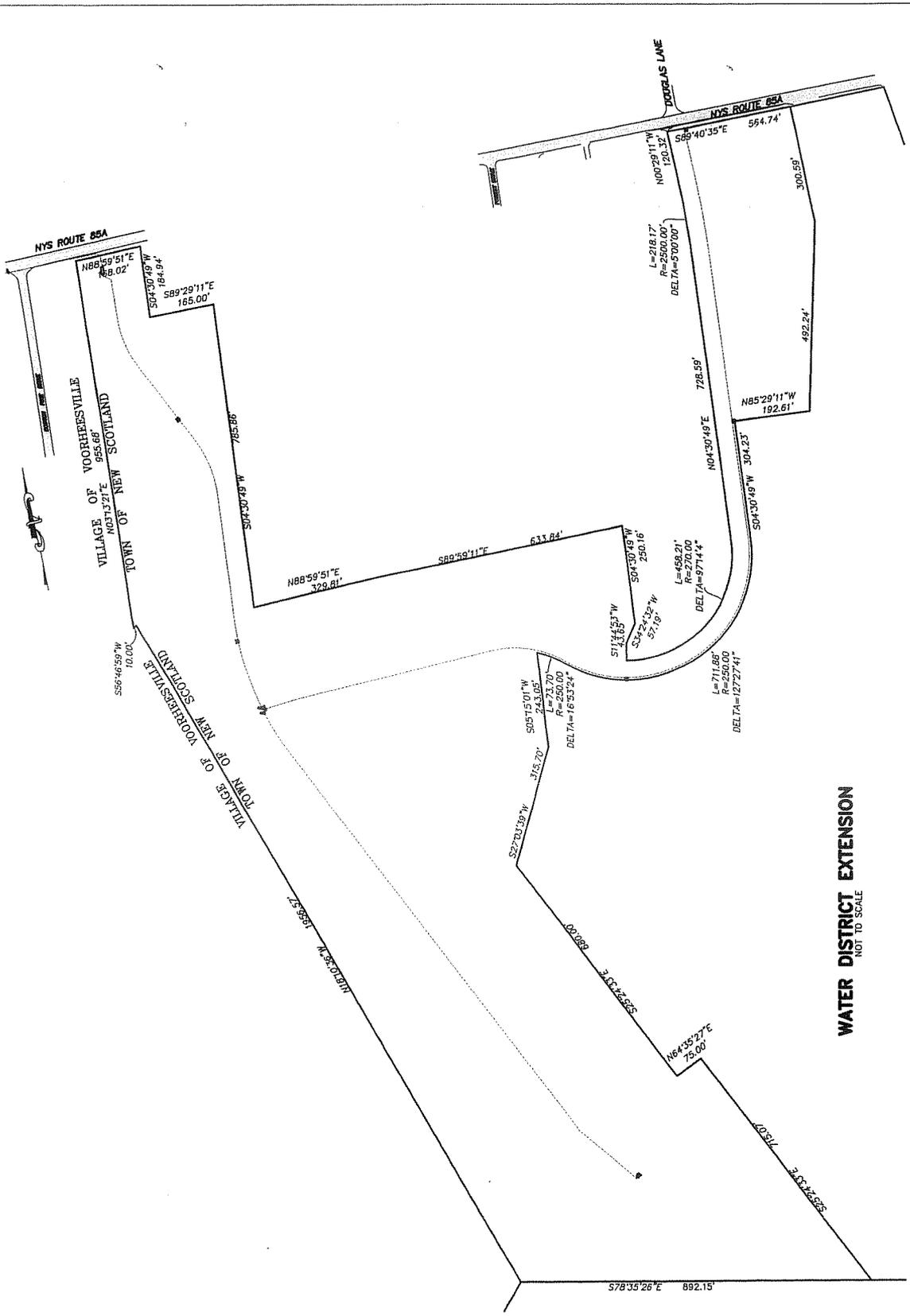
DATE
8/21/03

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PERM-10

APPENDIX 4

Water Extension Map



WATER DISTRICT EXTENSION
 NOT TO SCALE

APPENDIX 5

Water Extension Legal Description

LEGAL DESCRIPTION

**WILL BE PROVIDED AFTER REVIEW BY TOWN OF NEW
SCOTLAND AND VILLAGE OF VOORHEESVILLE OFFICIALS**

APPENDIX 6

Site Location Map

APPENDIX 7

Preliminary Cost Estimate

Colonie Country Club Estates Subdivision Water Extension - Preliminary Estimate

Qty	Description	Unit	Unit Price	Cost
1,350	Bedding, crushed stone 3/4" to 1/2"	C.Y.	\$27.00	\$36,450
3,240	Compaction, walk behind, vibrating pl 18" wide, 12" lifts, 3 passes	C.Y.	\$1.15	\$3,726
3,240	Excavate trench, common earth, 5'-6' deep, 1-1/2 CY hyd backhoe	C.Y.	\$2.50	\$8,100
1,890	Backfill trench, FE loader, whl mtd, 1 CY bkt, min haul	C.Y.	\$2.25	\$4,253
5,500	Piping, Ductile Iron 8", includes restoration where required	L.F.	\$39.00	\$214,500
60	Piping, Ductile Iron 6"	L.F.	\$34.00	\$2,040
1,050	Piping, Type K Copper, 3/4"	L.F.	\$11.00	\$11,550
7	Valves, 8" Cast Iron	Ea.	\$1,100.00	\$7,700
9	Valves, 6" Cast Iron	Ea.	\$900.00	\$8,100
30	Miscellaneous Fittings, tees and bends	Ea.	\$400.00	\$12,000
9	Hydrants	Ea.	\$2,200.00	\$19,800
35	Curb Stop & Box	Ea.	\$300.00	\$10,500
35	Corporation Stops	Ea.	\$150.00	\$5,250
100%	Connection to Existing Voorheesville System, Including Pavement Repair	L.S.	\$4,500.00	\$4,500
100%	Master Meter & Hot Box Installation	L.S.	\$70,000.00	\$70,000
100%	Disposal of Excess Material	L.S.	\$1,500.00	\$1,500
Sub Total Construction				\$419,969
Engineering (Construction Administration)				\$5,000
Construction Observation				\$12,000
Total Estimate				\$436,969
10% Contingencies				\$43,697
Total Cost				\$480,665