APPENDIX A

SEQRA Documentation

PLANNING BOARD RESOLUTION
KURY HOMES DEIS COMPLETION & PUBLIC HEARING DATE
PASSED MARCH 22, 2006

WHEREAS, on January 25, 2006, the Planning Board of the Town of Clarkstown found the Draft Environmental Impact Statement (DEIS) for the Kury Homes Subdivision complete for public review provided revisions were made to the document as per comments made by Jose Simoes, Town Planner, and Robert Geneslaw, Planning Consultant, in memos dated January 18, 2006 and January 19, 2006, respectively, and photographs and photosimulations showing potential visual impact be added to the document, and

WHEREAS, the Planning Department received the revised pages of the Kury Homes DEIS, along with additional photographs and photosimulations on March 6, 2006, which were reviewed by Town Planner Simoes and found to substantially address the typographical errors and omissions raised in the aforementioned memos, and

WHEREAS, substantive issues that were raised in Town Planner Simoes' memo of January 18, 2006, along with comments made by Planning Board members and the public, will still need to be addressed by the applicant during the public comment period, and

WHEREAS, according to Environmental Conservation Law §8-0109, effective February 26, 2006, EISs must be posted on a publicly available Internet website.

NOW THEREFORE BE IT RESOLVED, that the Planning Board of the Town of Clarkstown hereby accepts the Kury Homes DEIS as complete provided that by April 1, 2006:

1. Revised pages and additional photographs and photosimulations are incorporated into the document, and
2. Table 2-1 on page 2-5 is modified to include notes that correspond with the asterisks in the table and that the table is described by a narrative; and

NOW THEREFORE BE IT FURTHER RESOLVED, that a Public Hearing concerning this action be tentatively set on May 10, 2006, provided that by April 1, 2006 copies of the document are distributed and a notice of completion filed, as per 6NYCRR Part 617.12, and a PDF of the document on a CD and proof of delivery of the documents to interested and involved agencies are received by the Planning Department.

NOW THEREFORE BE IT FURTHER RESOLVED, comments will be received and considered by the Planning Board for at least ten days after the close of said Public Hearing, with the additional public comment period to be established by the Planning Board at the close of the Public Hearing.

0579

TOWN OF CLARKSTOWN
PLANNING BOARD
10 MAPLE AVENUE
NEW CITY, NEW YORK 10956-5099
(845) 639-2070
FAX: (845) 639-2071

RICHARD J. PARIS, CHAIRMAN
RUDOLPH J. YACYSHYN, VICE CHAIRMAN
HAROLD J. SCHWEITZER
JOHN J. CAIN
GILBERT J. HEIM
NORMA G. TULLO
CATHERINE M. NOWICKI
WILLIAM L. NEST
VICE-CHAIRMAN EMERITUS

FAX TRANSMISSION COVER SHEET

DATE: 9/9/03

TO: Bonnie Franson

ATTENTION:

FAX NO: 265-4418

FROM: R. Geus Law

REFERENCE: Kay Homes - Draft Scoping - Outline

TOTAL NUMBER OF PAGES INCLUDING THIS PAGE: 8

IF THERE ARE ANY PROBLEMS WITH THE TRANSMISSION OR RECEIPT OF THIS FAX, PLEASE CALL (845) 639-2070.

ADDITIONAL MESSAGE:

Accepted by PB 12/4/02

DRAFT SCOPING OUTLINE - KURY HOMES SUBDIVISION

Mountainview Avenue, West Nyack, Town of Clarkstown, Rockland County, NY

November 13, 2002
Revised 12/4/02

INTRODUCTION

The following scoping outline is based on a review of the potential environmental impacts of the proposed residential subdivision. This scoping outline is being prepared by the project sponsor according to requirements of 6 NYCRR Part 617 of the New York State Environmental Conservation Law, section 617.8, Scoping. Based on the outcome of a public scoping meeting, the Town of Clarkstown Planning Board, the Lead Agency, will prepare a final written scope to guide the project sponsor in the preparation of a Draft Environmental Impact Statement (DEIS). A DEIS is required as a result of the Positive Declaration adopted by the Town of Clarkstown Planning Board under the State Environmental Quality Review Act with respect to the action requested by the project sponsor.

Description of the Proposed Action:

This project is the proposed subdivision development of Tax Lot Section 59.20, Block 1, Parcels 3, 4 and 5 as depicted on the Town of Clarkstown Tax Map. The subdivision site consists of 10.3± acres in Zone R-22 with access to Mountainview Avenue. The property is surrounded by multiple use and several zones which are designated as R-22, R-160, PO, MF-1 and MF-3. Currently three (3) dwellings and several multiple use buildings are on site. The proposed single family development adjoins several multi-family neighborhoods and a business.

The potential significant adverse environmental impacts were identified by the Lead Agency and as a result of consultation with the consultants of the Planning Board:

A. **Impact on Land**

Construction on slopes over 15%.

Construction where the depth to bedrock is within 3 feet of the surface.

Construction duration of greater than 1 year.

B. **Impact on Water**

Utilization of existing wetland areas for stormwater detention, increasing surface area by more than 10%.

RECEIVED
DEC - 4 2002
TOWN PLANNING DEPT

Use of wetland areas for stormwater management may alter the wetland characteristics and result in damage to the existing wetland.

Because the project will disturb over 5 acres of land, a discharge permit will be required.

The soil conditions on the site indicate that serious groundwater bleed-outs can be expected to occur as a result of the proposed development.

Substantial erosion may occur due to clearing and grading of the site, as the proposed plan indicates disturbance to the majority of the parcel.

C. **Impact on Air**

Potential for severe dust generation during construction, exacerbated if the recent summertime droughts recur.

D. **Impact on Plants and Animals**

The alteration to the project site will displace much of the resident wildlife population.

The use of this parcel as a wildlife travelway (a connection from the top of the ridge to and across Mountainview Avenue to the west facing slope) will be severely reduced or eliminated.

E. **Impact on Aesthetic Resources**

Severe alteration of the existing grades to accommodate the new construction to a much greater degree than is evident at the surrounding homes.

Removal of existing trees will eliminate the view of the wooded areas on the slope, and may be visible from some distance.

F. **Noise and Odor Impacts**

Possibility of blasting exists, with sensitive facilities in the general area.

Odors and noise will be generated by construction equipment which will be required in the development of this site.

G. **Impact on Growth and Character of Community or Neighborhood**

Change in density of land use, increase in dwelling units on the site.

Demand for additional school, police and other emergency services.

KURY HOMES SUBDIVISION

Town of Clarkstown
Rockland County, New York

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Atzl, Scatassa & Zigler, P.C.
XXX 2002

TABLE OF CONTENTS

PAGE

I. INTRODUCTION/EXECUTIVE SUMMARY ..... I-

A. Action Overview ..... I-
B. Summary of Significant Impacts and Proposed Mitigation Measures ..... I-
C. Summary of Alternatives ..... I-
D. Listing of Permits and Approvals Required ..... I-
E. List of involved and interested agencies for DEIS distribution ..... I-

II. DESCRIPTION OF PROPOSED ACTION ..... II-

A. Regional and Town Location ..... II-
B. Description of Proposed Action ..... II-
C. Description of Existing Site Conditions ..... II-

III. EXISTING ENVIRONMENTAL CONDITIONS, ANTICIPATED IMPACTS AND MITIGATION ..... III-

A. Geologic Resources ..... III-
1. Soils ..... III-
a. Existing Conditions ..... III-
b. Potential Impacts ..... III-
c. Proposed Mitigation ..... III-
2. Topography and Slopes ..... III-
a. Existing Conditions ..... III-
b. Anticipated Impacts ..... III-
Use of Blasting
c. Proposed Mitigation ..... III-
B. Water Resources ..... III-
1. Surface and Groundwater ..... III-
a. Existing Conditions ..... III-
b. Anticipated Impacts ..... III-
Use of Blasting
c. Proposed Mitigation ..... III-
2. Wetlands and Waterbodies ..... III-
a. Existing Conditions ..... III-
b. Anticipated Impacts ..... III-
c. Proposed Mitigation ..... III-
C. Biological Resources ..... III-
1. Vegetation ..... III-
a. Existing Conditions ..... III-
b. Potential Impacts ..... III-
c. Proposed Mitigation ..... III-

2. Wildlife ..... III-
   a. Existing Conditions ..... III-
   b. Potential Impacts ..... III-
   c. Proposed Mitigation ..... III-

D. Aesthetic (Visual) Resources ..... III-
(include grading and removal of scenic vegetation)
1. Existing Conditions ..... III-
2. Potential Impacts ..... III-
   Photo Study – As-Built Condition
   Wide area review, include adjacent development which may become visible as a result of this development
3. Proposed Mitigation ..... III-

E. Construction Related Impacts
1. Air Quality ..... III-
   a. Existing Conditions ..... III-
   b. Potential Impacts ..... III-
   c. Proposed Mitigation ..... III-
2. Noise ..... III-
   a. Existing Conditions ..... III-
   b. Potential Impacts ..... III-
   c. Proposed Mitigation ..... III-
3. Odors ..... III-
   a. Existing Conditions ..... III-
   b. Potential Impacts ..... III-
   c. Proposed Mitigation ..... III-
4. Construction Traffic ..... III-
   a. Existing Conditions ..... III-
   b. Potential Impacts ..... III-
   c. Proposed Mitigation ..... III-

F. Community Facilities and Services ..... III-
1. Police, Fire and Emergency Services ..... III-
   a. Existing Conditions ..... III-
   b. Anticipated Impacts ..... III-
   c. Proposed Mitigation ..... III-
2. Parks, Recreation, Library and Cultural Facilities ..... III-
   (including Long Path, Public Open Space)
   Potential for new connections from long path to other parcels thru this development.
   a. Existing Conditions ..... III-
   b. Anticipated Impacts ..... III-
   c. Proposed Mitigation ..... III-
3. Schools ..... III-
   a. Existing Conditions ..... III-
   b. Anticipated Impacts ..... III-
   c. Proposed Mitigation ..... III-

G. Utilities ..... III-

1. Water Supply ..... III-
a. Existing Conditions ..... III-
Reported Low Pressure Conditions in the Area.
b. Potential Impacts ..... III-
c. Proposed Mitigation ..... III-
2. Electric, Gas and Oil ..... III-
a. Existing Conditions ..... III-
b. Anticipated Impacts ..... III-
c. Proposed Mitigation ..... III-
3. Communications ..... III-
a. Existing Conditions ..... III-
b. Anticipated Impacts ..... III-
c. Proposed Mitigation ..... III-
4. Solid Waste Management ..... III-
a. Existing Conditions ..... III-
b. Anticipated Impacts ..... III-
c. Proposed Mitigation ..... III-
H. Historic and Archeological Resources ..... III-
1. Existing Conditions ..... III-
2. Anticipated Impacts ..... III-
3. Proposed Mitigation ..... III-

IV. ALTERNATIVES TO THE PROPOSED PROJECT ..... IV-

1. No Action ..... IV-
2. Alternative Subdivision Plan ..... IV-
Alternative Standard Layout .....
Average Density Layout .....

V. ADVERSE IMPACTS THAT CANNOT BE AVOIDED ..... V-

VI. IRREVERSIBLE AND IRRETRIEVABLE RESOURCES ..... VI-

VII. USE AND CONSERVATION OF ENERGY ..... VII-

VIII. GROWTH INDUCING ASPECTS ..... VIII-

IX. APPENDIX ..... IX-

A. All SEQR documentation, including a copy of the Environmental Assessment Form (EAF), the Positive Declaration and the DEIS Scope. ..... IX-
B. Copies of all official correspondence related to issues discussed in the DEIS ..... IX-
C. Copies of all technical studies, in their entirety, including the following:. IX-
1. Stormwater Management. ..... IX-
2. Soils Investigations ..... IX-
3. Wildlife Survey ..... IX-

2/60

RESOLUTION ADOPTING A DETERMINATION OF SIGNIFICANCE
UNDER THE PROVISIONS OF 6 NYCRR PART 617
STATE ENVIRONMENTAL QUALITY REVIEW (SEQR) FOR

KURY HOMES SUBDIVISION – SD 59.20-01-03, 04 05

WHEREAS, a Short Environmental Assessment Form (EAF) was received August 3, 2001 by the Department of Environmental Control, acting as technical Staff to the Planning Board, for subdivision of property, and

WHEREAS, said EAF was distributed to 12 potential interested or involved agencies by letter dated August 9, 2001, and

WHEREAS, no involved agency objected to the Planning Board being Lead Agency for coordinated review under the provisions of 6 NYCRR Part 617, whereby the Planning Board is therefore Lead Agency, and,

WHEREAS, the Board requested and received a Full EAF Part 1 for the proposed action, and staff for the Board has prepared a draft EAF Part 2, and

WHEREAS, the Board has reviewed the proposed action, the EAF Parts 1 and 2, and identified potential large adverse environmental impacts due to the proposed action as follows:

IMPACT ON LAND

Construction on slopes over 15%.

Construction where the depth to bedrock is within 3 feet of the surface.

Construction duration of greater than 1 year.

IMPACT ON WATER

Utilization of existing wetland areas for stormwater detention, increasing surface area by more than 10%.

Use of wetland areas for stormwater management may alter the wetland characteristics and result in damage to the existing wetland.

Because the project will disturb over 5 acres of land, a discharge permit will be required.

The soil conditions on the site indicate that serious groundwater bleed-outs can be expected to occur as a result of the proposed development.

Substantial erosion may occur due to clearing and grading of the site, as the proposed plan indicates disturbance to the majority of the parcel.

IMPACT ON AIR

Potential for severe dust generation during construction, exacerbated if the recent summertime droughts recur.

IMPACT ON PLANTS AND ANIMALS

The alteration to the project site will displace much of the resident wildlife population.

The use of this parcel as a wildlife travelway (a connection from the top of the ridge to and across Mountainview Ave to the west facing slope) will be severely reduced or eliminated.

IMPACT ON AESTHETIC RESOURCES

Severe alteration of the existing grades to accommodate the new construction to a much greater degree than is evident at the surrounding homes.

Removal of existing trees will eliminate the view of the wooded areas on the slope, and may be visible from some distance.

NOISE AND ODOR IMPACTS

Possibility of blasting exists, with developed facilities in the general area.

Odors and noise will be generated by construction equipment which will be required in the development of this site.

IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD

Change in density of land use, increase in dwelling units on the site.

Demand for additional school, police and other emergency services.

WHEREAS, at Public Hearing held on February 6, 2001 the application was reviewed and comment was offered to identify any potential adverse environmental impacts,

NOW THEREFORE BE IT RESOLVED that the Planning Board, based on review of proposed action, and the mitigation of the potential adverse environmental impact thereof, makes a determination that the proposed action may have an adverse environmental impact, and that an Environmental Impact Statement shall be prepared.

AND BE IT FURTHER RESOLVED that scoping will be conducted, and draft scope submitted by the applicant will be circulated to all interested agencies to which the EAF has been circulated, and further will be available for public review at the Town of Clarkstown Planning Department office.

Dated: February 6, 2002

DEPARTMENT OF ENVIRONMENTAL CONTROL

10 MAPLE AVENUE, NEW CITY, NEW YORK 10956

DENNIS M. LETSON, P.E.
FIRST DEPUTY DIRECTOR

K. LUKE KALARICKAL, P.E., L.S.
DIRECTOR

GERALD F. BRICKWOOD
DEPUTY DIRECTOR

August 9, 2001

Kury Homes, Inc.
493 South Main Street
New City, New York 10956

Re: Kury Homes - 59.20-1-3, 4 & 5 (135 D 15.2, 16.1 and 16

Dear Applicant:

This is to inform you that we have received the short Environmental Assessment Form and under the provisions of Title 6 NYCRR Section 617.6, the Clarkstown Planning Board has agreed to coordinate the review of the involved agencies. As staff for the Planning Board, we have completed initial review of this EAF, and our review indicates the following:

Action Type: Unlisted
Potential Involved/Interested Agencies:

Clarkstown Planning Board	Subdivision Approval
Clarkstown Planning Consultant	
Clarkstown Building Dept.	Zoning Compliance
Clarkstown Dept. of Environmental Control	
Clarkstown Highway Dept.	
Town Attorney	
Architecture and Landscape Commission	
Traffic Advisory Board	
R. C. Planning Board	239 Referral
R. C. S. D. # 1	
R. C. Health Dept.	Realty Subdivision
U.S. Army Corps. Of Engineers	Federal Wetlands
Atzl, Scatassa & Zigler, P.C.	

k: dept515 docs seqr\2570-i.doc

If within 30 calendar days from the date of this letter, no involved agency submits a written objection to the Clarkstown Planning Board being lead agency, the Planning Board will be the lead agency and will carry out the provisions of the State Environmental Quality Review Act.

Comment on the proposed action is requested, and may be made through this office or directly to the Planning Board.

Very truly yours,

Dennis M. Letson, P. E.
Staff for the Clarkstown Planning Board
DML:cob
attach.

k:\dept515\docs\seqr\2570-i.doc

RECEIVED

AUG 03 2001

ENVIRONMENTAL CONTROL
TOWN OF CLARKSTOWN

TOWN OF CLARKSTOWN
DEPARTMENT OF ENVIRONMENTAL CONTROL

10 MAPLE AVENUE
NEW CITY, NY 10956
(914) 639-2111

State Environmental Quality Review

SHORT ENVIRONMENTAL ASSESSMENT FORM
For UNLISTED ACTIONS Only

PART 1 - PROJECT INFORMATION (To be completed by Applicant or Project sponsor)

1. APPLICANT/~~OWNER~~ NAME, ADDRESS, TEL. NO.:
Kury Homes, Inc. 638-1000
493 South Main St.
New City, N.Y. 10956

PROJECT NAME: Kury Homes

3. TAX MAP ID #: 59.20-1-3, 4 & 5

4. PRECISE LOCATION: (Street address and road intersections, prominent landmarks, etc., or provide map)
Eastside Mountainview Ave, 150± north of Forest Ridge Rd. West Nyack

5. PROPOSED ACTION IS: ☒ New ☐ Expansion ☐ Modification/alteration

6. DESCRIBE PROJECT BRIEFLY:
Proposed 14 lot subdivision - R22 zoned property

7. AMOUNT OF LAND AFFECTED:
Initially 10.29 acres Ultimately 10.29 acres

8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS?
☒ Yes ☐ No - If No, describe briefly

9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT?
☒ Residential ☐ Industrial ☒ Commercial ☐ Agricultural ☐ Park/Forest/Open space ☐ Other
Describe:

10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)?
☒ Yes ☐ No - If yes, list agency(s) name and permit/approvals
see no. 13 below

11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL?
☐ Yes ☒ No - If yes, list agency(s) name and permit/approval

12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION?
☐ Yes ☒ No - If yes, list permit/approval

13. INTERESTED/INVOLVED AGENCIES

__ Town Board	__ Historical Review Board	__ NYS Dept. of Transportation
__ Zoning Board of Appeals	X Traffic Advisory Board	__ NYS Dept. of Environmental Conservation
X Planning Board	X Rockland Co. Planning Board	__ NYS Thruway Authority
X Planning Consultant	__ Rockland Co. Highway Dept.	__ Palisades Interstate Park Commission
X Building Department	X Rockland Co. Sewer Dist. #1	X US Army Corps of Engineers
X Dept. of Environmental Control	__ Rockland Co. Drainage Agency	X Other (Indicate) town attny.
X Highway Department	X Rockland Co. Health Dept.	
X Architecture & Landscape Comm.		

I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE

~~Applicant~~/Sponsor name: Atzl, Scatassa & Zigler P.C. Date: 8-2-01

Signature: [signature] Title: Project Planner

APPENDIX B

Correspondence

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT, CORPS OF ENGINEERS
JACOB K. JAVITS FEDERAL BUILDING
NEW YORK, N.Y. 10278-0090

June 29, 2001

REPLY TO
ATTENTION OF:
Eastern Permits Section

SUBJECT: Application Number 2001-00713-YR by Kury Homes, Inc.

Kury Homes, Inc.
c/o Robert G. Torgersen
Landscape Architecture and
Environmental Services
Three Main Drive
Nanuet, New York 10954

Gentlemen:

On May 16, 2001, the New York District of the U. S. Army Corps of Engineers received a request for a Department of the Army jurisdictional determination for your project. The site consists of approximately 10.30 acres in the Hudson River Basin, Town of Clarkstown, Rockland County, New York. The proposed project would involve the construction of residential housing.

A site inspection was conducted by representatives of this office on June 5, 2001, in which it was agreed that changes would be made to the delineation and that the modified delineation would be submitted to this office. On June 21, 2001, this office received the modified delineation.

Based on the material submitted and the observations of the representatives of this office during the site visit, this site has been determined to contain jurisdictional waters of the United States based on: the presence of wetlands determined by the occurrence of hydrophytic vegetation, hydric soils and wetland hydrology according to criteria established in the 1987 "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 and the presence of a defined water body (e.g. stream channel, lake, pond, river, etc.) which is part of a surface tributary system of an interstate waterway.

It has also been determined that the delineation of wetlands on the drawing titled "Wetlands Location", prepared by Atzl, Scatassa and Zigler, dated March 7, 2001, and last revised April 24, 2001, is accurate. This drawing indicates that there is one principal wetland area and several streams on the project site. The wetland and streams are located on the west side of the site and are approximately 0.589 acre within the project boundary.

This determination regarding the delineation shall be considered valid for a period of five years from the date of this letter. Enclosed is a Notification of Administrative Appeal Options which provides information on your acceptance of this approved jurisdictional determination.

It is strongly recommended that the development of the site be carried out in such a manner as to avoid as much as possible the discharge of dredged or fill material into the delineated waters of the United States. If the activities proposed for the site involve such discharges, authorization from this office may be necessary prior to the initiation of the proposed work. The extent of such discharge of fill will determine the level of authorization that would be required.

If any questions should arise concerning this matter, please contact Craig Spitz, of my staff, at (212) 264-3912.

Sincerely,

James W. Haggerty
Chief, Eastern Permits Section

Enclosure

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

March 27, 2002

David M. Zigler, P.L.S.
Artzl, Scatassa & Zigler, Land Surveyors, P.C.
234 North Main Street
New City, New York 10956

Dear Mr. Zigler:

Re: SEQRA
Kury Homes
Clarkstown, Rockland County
02PR1271

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP) concerning your project's potential impact/effect upon historic and/or prehistoric cultural resources. Our staff has reviewed the documentation that you provided on your project. Preliminary comments and/or requests for additional information are noted on separate enclosures accompanying this letter. A determination of impact/effect will be provided only after ALL documentation requirements noted on any enclosures have been met. Any questions concerning our preliminary comments and/or requests for additional information should be directed to the appropriate staff person identified on each enclosure.

In cases where a state agency is involved in this undertaking, it is appropriate for that agency to determine whether consultation should take place with OPRHP under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. In addition, if there is any federal agency involvement, Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties" 36 CFR 800 requires that agency to initiate consultation with the State Historic Preservation Officer (SHPO).

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director

RLP:bsd
Enclosure(s)

An Equal Opportunity/Affirmative Action Agency
printed on recycled paper

ARCHEOLOGY COMMENTS

02PR1271

Based on reported resources, there is an archeological site in or adjacent to your project area. Therefore the Office of Parks, Recreation and Historic Preservation (OPRHP) recommends that a Phase 1 archeological survey is warranted for all portions of the project to involve ground disturbance, unless substantial prior ground disturbance can be documented. If you consider the project area to be disturbed, documentation of the disturbance will need to be reviewed by OPRHP. Examples of disturbance include mining activities and multiple episodes of building construction and demolition.

A Phase 1 survey is designed to determine the presence or absence of archeological sites or other cultural resources in the project's area of potential effect. The Phase 1 survey is divided into two progressive units of study including a Phase 1A sensitivity assessment and initial project area field inspection, and a Phase 1B subsurface testing program for the project area. The OPRHP can provide standards for conducting cultural resource investigations upon request. Cultural resource surveys and survey reports that meet these standards will be accepted and approved by the OPRHP.

Our office does not conduct cultural resources surveys. A 36 CFR 61 qualified archeologist should be retained to conduct the Phase 1 survey. Many archeological consulting firms advertise their availability in the yellow pages. The services of qualified archeologists can also be obtained by contacting local, regional, or statewide professional archeological organizations. Phase 1 surveys can be expected to vary in cost per mile of right-of-way or by the number of acres impacted. We encourage you to contact a number of consulting firms and compare examples of each firm's work to obtain the best product.

Documentation of ground disturbance should include a description of the disturbance with confirming evidence. Confirmation can include current photographs and/or older photographs of the project area which illustrate the disturbance (approximately keyed to a project area map), past maps or site plans that accurately record previous disturbances, or current soil borings that verify past disruptions to the land. Agricultural activity is not considered to be substantial ground disturbance and many sites have been identified in previously cultivated land.

If you have any questions concerning archeology, please call Mike Schifferli at (518) 237-8643 ext. 3281.

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 3
21 South Putt Corners Road, New Paltz, New York 12561-1696
Phone: (845) 256-3054 • **FAX:** (845) 255-3042
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

Date: July 7, 2003

Atyl Scatassa & Zigler, P.C.
234 North Main Street
New City, NY 10956

RE: Kury Homes

Location: T/ Clarkstown, Rockland County

Dear Mr. Zigler:

Based upon your inquiry of July 2, 2003 (fax):

☐ The stream(s)/pond(s) you indicated currently has/have a classification of:

Name	Class	Waters Index Number
	" "	
	" "	

therefore:
☐ a Protection of Waters permit is required (☐ application form enclosed)
☐ a Protection of Waters permit is not required
to physically disturb the bed or banks of this/these stream(s)/pond(s).

If a permit is not required, please note, however, you are still responsible for ensuring that work shall not contravene the water quality standards of the stream. Care shall be taken to stabilize the disturbed areas promptly after construction, and all necessary precautions shall be taken to prevent contamination of the stream by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project.

☑ There are no streams/ponds that appear on our regulatory maps at the location/project site you identified. Therefore, if there is a stream or pond outlet present at the site with year-round flow, it assumes the classification of the watercourse into which it feeds, H-21 Nyack Brook, Class "SC", and a Protection of Waters permit is/is not required. If there is a stream or pond outlet present at the site that runs intermittently (seasonally), it is not protected, and a Protection of Waters permit is not required (see above paragraph).

☐ Your project/site is near or in Freshwater Wetland _____, Class _____. Be aware that a Freshwater Wetlands permit is required for any physical disturbance within these boundaries or within the 100 foot adjacent area. To have the boundary delineated, please read the attached notice.

☑ Your project/site is not within a New York State protected Freshwater Wetland. However, please contact your town officials and the United States Army Corps of Engineers in New York City, telephone (212) 264-6731 (Westchester/Rockland Counties), or (212) 264-0185 (other counties), for any permitting they might require.

- OVER PLEASE -

Nyack Quad / Rockland

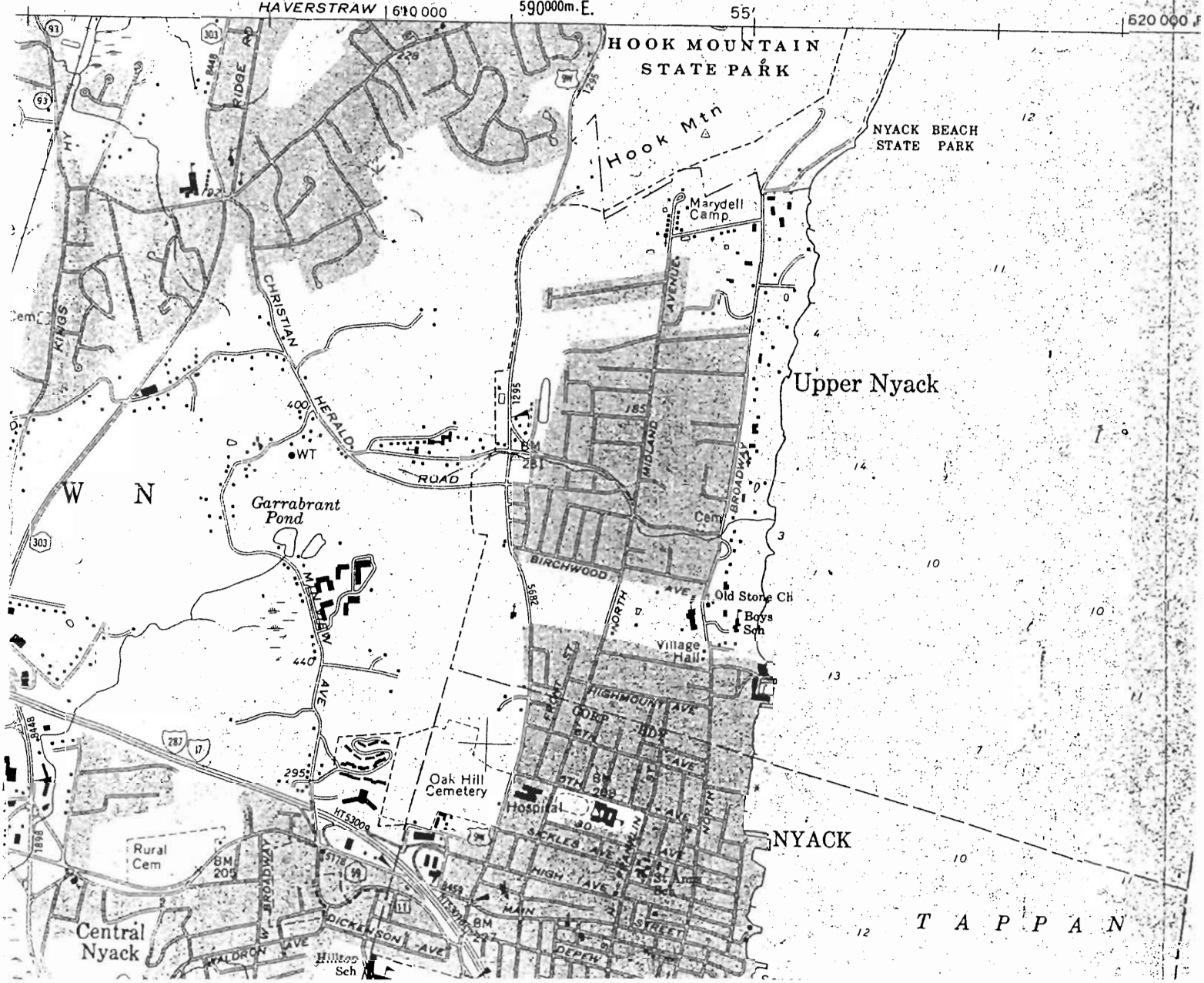
FINAL FRESHWATER WETLANDS MAP

Nyack Quad, Rockland COUNTY

Prepared pursuant to Article 24 of the
Environmental Conservation Law
NYS Department of Environmental Conservation

FILED DATE: 1/28/87
(LAST REVISED: _____)

APPROXIMATE SCALE: 1 INCH EQUALS 2000 FEET
(All Wetland Boundaries Are Approximate)



TOWN OF CLARKSTOWN POLICE DEPARTMENT

20 MAPLE AVENUE, NEW CITY, NEW YORK 10956-5047

TEL (845) 639-5800 FAX (845) 639-5919

039

AC-file

William T. Sherwood
CHIEF OF POLICE

Vincent White
CAPTAIN

Thomas M. Purtill
CAPTAIN

October 31, 2003

Ann Cutignola
Associate Planner
10 North Street
Cold Spring, N.Y. 10516

Re: **Proposed Kury Homes – Price Subdivision, Mountainview Ave.**
Town of Clarkstown, Rockland County, N.Y.

Dear Ann Cutignola,

As per your request, this letter provides information regarding the effect of the proposed Kury Homes site on the ability of our Police Department to provide protective services to this new property. Some basic information about our community includes:

The Town of Clarkstown is located within the "New York Consolidated Metropolitan Statistical Area" in Rockland County, N.Y. It is situated on the west bank of the Hudson River, in the center of Rockland County. Its geographical center is 33 miles north of the business district in New York City. Within 10 miles lies the Hudson River Valley to the North, Westchester County and Connecticut to the East, northern New Jersey to the South and Orange County to the West. Rockland County is easily accessible by major roadways including the New York State Thruway (Interstate 287/87), Palisades Interstate Parkway, Garden State Parkway, and Routes 9W, 17, and 202. The international airports of Kennedy, Newark, LaGuardia, and Stewart are all within a one-hour drive.

The Town of Clarkstown is approximately 40 square miles, and serves as the County seat. The Town is comprised of the following Hamlets; Bardonia, Central Nyack, Congers, Nanuet, New City (largest Hamlet in New York), Rockland Lake, Valley Cottage, West Nyack, and we also provide coverage to portions of the Villages of Nyack and Spring Valley. According to the 2000 census, there are 82,082 residents in the Town of Clarkstown. Approximately 20% of our residents commute to New York City. The Town also supports several commuter lots that are utilized by residents from outside the Town for their commute to New York City.

We are home to two of the largest shopping malls in the state. The Palisades Center Mall located in West Nyack attracts approximately 50,000 patrons on an average day. The Town of Clarkstown is committed to the safety of not only its residents but to all those who enter the Town for business or recreation.

As of this writing our Police Department handles approximately 55,000 calls for service per year. The Department is comprised of 169 Police Officers and 25 civilian employees. At any one time we may have between 15 and 40 on duty Police Personnel. Our typical response time to a site in the Mountainview Ave. area is approximately 4 minutes. The Clarkstown Police Department is approximately 7 miles from the proposed Kury Homes site. We are a very progressive Police Department and are proud of our record of professional service to our Community. We are presently upgrading many of our department's services such as communications and computer software systems along with the expansion of our Police Department headquarters facility to better serve our administrative needs.

The results of the Ninth Annual Safest City and Safest Metropolitan Areas that were published on November 26, 2002 showed that the Town of Clarkstown was ranked as the eighth safest community in our nation and the fifth safest community of our size. The Police Department, the Police Commission, the Town Supervisor, the Town Board and other elected officials are committed to providing our citizens with the professional service they have come to expect and are entitled to. The addition of the Kury Homes site to our community would not hinder our ability to provide these new residents with our professional standard of police services.

Sincerely,

William T. Sherwood
Chief of Police

1610

United Water

United Water New York
360 West Nyack Road
West Nyack, NY 10994
telephone 914 623 1500
facsimile 914 620 3311
mail replies to: 15 Emerald Street
Hackensack, NJ 07601-6102

July 19, 1996

Mr. Theodore Atzl
Atzl, Scatassa & Zigler P.C.
234 North Main Street
New City, NY 10956

Subject: Water Supply to "Mountain Brook Estates"
Mountainview Avenue south of Sierra Vista Rd.
Valley Cottage/Clarkstown

Dear Mr. Atzl:

We have reviewed your "Site Development Plan" last revised January 18, 1996 for the subject project, consisting of 47 townhouse units. The proposed water system is based on the following:

A. Hydraulic Conditions - The water main into this cul-de-sac would be extended as an 8" pipe. This would be fed from the 12" main we have in Mountainview Avenue. This area is served by our 250,000 gallon Valley Cottage elevated tank, located about 2,800 feet to the north on Mountainview Avenue. The tank has an overflow elevation of 630' U.S.G.S. The elevations of the proposed townhouses range between 414' and 490', which will result in pressures at the dwellings ranging between 55 and 90 psi.

The extension of our main into the project site to supply these dwellings will not have an adverse impact on the system pressures being supplied to the condominium associations situated on Sierra Vista Road to the north or other customers in the area.

B. Extension Agreement - The mains needed to serve this project shall be extended in accordance with the terms and conditions of this Company's standard agreement for extension.

C. Water Service - Service will be provided in accordance with the terms and conditions set forth in this Company's filed Tariff, as amended or modified from time to time.

Please advise if you need any additional information.

Very truly yours,

Philip Federico

Philip Federico
Manager - Facilities
Extension and Planning

PF:rlj

ANNE
265-4418

cc: Ms. Judith Hunderfund - Rockland County Health Dept.
Mr. John Ramundo - UWNY

United Water ®

United Water New York
360 West Nyack Road
West Nyack, NY 10994
telephone 845 623 1500
facsimile 845 620 3347

July 3, 2003

Mr. David Zigler
Atzl, Scatassa & Zigler
234 N Main St
New City, NY 10956

Re: Invest. No. 12158
Unknown Street off Mountainview Avenue
Valley Cottage, NY

Dear Mr. Zigler:

Thank you for your correspondence in which you make inquiry concerning the proposed service lines and meters to supply the premise listed above.

A field survey will be made in connection with this matter, and following receipt of a report from our Engineering Department, we will be corresponding with you in approximately three to four weeks.

A backflow prevention device must be installed on: all services considered "non-residential", services with dual sources of water (i.e., wells and tanks) and any service with chemical additives. If you have any questions, please contact Joseph Dolinsky at 845-623-1500 Ext. 2230.

Enclosed please find "A Guide To Obtaining Water Service From United Water New York".

Also enclosed are guidelines explaining Standard Terms and Conditions for water service.

United Water New York is now requiring hydrant locations on all approved plot plans. Please provide as soon as possible.

When making inquiries in reference to this job, please refer to the above-mentioned Investigation Number.

Very truly yours,

Mary Ellen Ferrara

Mary Ellen Ferrara
New Business Department
Encls.

TOWN OF CLARKSTOWN
PARKS BOARD AND RECREATION COMMISSION
Administration Building-Zukor Park
31 Zukor Road
New City, New York 10956-4301
(845) 639-6200 Fax # (845) 639-6215

Charles F. Connington, CPRP
Supt. of Recreation and Parks

October 31, 2003

Ms. Ann Cutignola,
Associate Planner
Tim Miller Associates, Inc.
10 North Street
Cold Spring, New York 10516

Dear Ms. Cutignola:

In accordance with your letter of October 22nd regarding proposed residential subdivision, I have enclosed for your information our 2002 Annual Report and our Fall/Winter and Spring/Summer brochures.

In reference to your question regarding future population and its impact on our department, a town of 82,000, the town can easily absorb another 51 residents into our parks and recreation system and we look forward to their participation.

Arlene Miller, of the Rockland County Planning Department would be able to answer your question with regards to the Long Trail as she would have the most up to date information. If you have any other questions, please do not hesitate to contact me.

Very truly yours,

Charles F. Connington, CPRP
Supt. of Recreation and Parks

CFC:eg
Enc.

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925
Website: www.dec.state.ny.

AM ✓
BF - ✓
B. Price - ✓
file ✓

0399

Erin M. Crotty
Commissioner

October 6, 2003

Andrew Mavian
Tim Miller Associates, Inc
10 North Street
Cold Spring, NY 10516

Dear Mr. Mavian:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the Environmental Assessment for the proposed 10-acre Residential Development - "Price Subdivision" on Mountainview Road, site as indicated on the map you provided, located in the Town of Clarkstown, Rockland County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. The information contained in this report is considered sensitive and may not be released to the public without permission from the New York Natural Heritage Program.

The presence of rare species may result in this project requiring additional permits, permit conditions, or review. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Betty A. Ketcham, Information Services
NY Natural Heritage Program

Encs.
cc: Reg. 3, Wildlife Mgr.

USERS GUIDE TO NY NATURAL HERITAGE DATA

NATURAL HERITAGE PROGRAM: The Natural Heritage Program is an ongoing, systematic, scientific inventory whose goal is to compile and maintain data on the rare plants and animals native to New York State, and significant ecological communities. The data provided in the report facilitate sound planning, conservation, and natural resource management and help to conserve the plants, animals and ecological communities that represent New York's natural heritage.

DATA SENSITIVITY: The data provided in the report are ecologically sensitive and should be treated in a sensitive manner. The report is for your in-house use and should not be released, distributed or incorporated in a public document without prior permission from the Natural Heritage Program.

NATURAL HERITAGE REPORTS (may contain any of the following types of data):

COUNTY NAME: County where the occurrence of a rare species or significant ecological community is located.
TOWN NAME: Town where the occurrence of a rare species or significant ecological community is located.
USGS 7 ½' TOPOGRAPHIC MAP: Name of 7.5 minute US Geological Survey (USGS) quadrangle map (scale 1:24,000).

SIZE (acres): Approximate acres occupied by the rare species or significant ecological community at this location. A blank indicates unknown size.
SCIENTIFIC NAME: Scientific name of the occurrence of a rare species or significant ecological community.
COMMON NAME: Common name of the occurrence of a rare species or significant ecological community.
ELEMENT TYPE: Type of element (i.e. plant, animal, significant ecological community, other, etc.)

LAST SEEN: Year rare species or significant ecological community last observed extant at this location.

EO RANK: Comparative evaluation summarizing the quality, condition, viability and defensibility of this occurrence. Use with LAST SEEN.
A-E = Extant: A=excellent, B=good, C=marginal, D=poor, E=extant but with insufficient data to assign a rank of A - D.
F = Failed to find. Did not locate species, but habitat is still there and further field work is justified.
H = Historical. Historical occurrence without any recent field information.
X = Extirpated. Field/other data indicates element/habitat is destroyed and the element no longer exists at this location.
? = Unknown.
Blank = Not assigned.

NEW YORK STATE STATUS (animals): Categories of Endangered and Threatened species are defined in New York State Environmental Conservation Law section 11-0535. Endangered, Threatened, and Special Concern species are listed in regulation 6NYCRR 182.5.
E = Endangered Species: any species which meet one of the following criteria:
1) Any native species in imminent danger of extirpation or extinction in New York.
2) Any species listed as endangered by the United States Department of the Interior, as enumerated in the Code of Federal Regulations 50 CFR 17.11.
T = Threatened Species: any species which meet one of the following criteria:
1) Any native species likely to become an endangered species within the foreseeable future in NY.
2) Any species listed as threatened by the U.S. Department of the Interior, as enumerated in the Code of the Federal Regulations 50 CFR 17.11.
SC = Special Concern Species: those species which are not yet recognized as endangered or threatened, but for which documented concern exists for their continued welfare in New York. Unlike the first two categories, species of special concern receive no additional legal protection under Environmental Conservation Law section 11-0535 (Endangered and Threatened Species).
P = Protected Wildlife (defined in Environmental Conservation Law section 11-0103): wild game, protected wild birds, and endangered species of wildlife.
U = Unprotected (defined in Environmental Conservation Law section 11-0103): the species may be taken at any time without limit; however a license to take may be required.
G = Game (defined in Environmental Conservation Law section 11-0103): any of a variety of big game or small game species as stated in the Environmental Conservation Law; many normally have an open season for at least part of the year, and are protected at other times.

NEW YORK STATE STATUS (plants): The following categories are defined in regulation 6NYCRR part 193.3 and apply to NYS Environmental Conservation Law section 9-1503.
E = Endangered Species: listed species are those with:
1) 5 or fewer extant sites, or
2) fewer than 1,000 individuals, or
3) restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or
4) species listed as endangered by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.
T = Threatened: listed species are those with:
1) 6 to fewer than 20 extant sites, or
2) 1,000 to fewer than 3,000 individuals, or
3) restricted to not less than 4 or more than 7 U.S.G.S. 7 and ½ minute topographical maps, or
4) listed as threatened by U.S. Department of Interior, as enumerated in Code of Federal Regulations 50 CFR 17.11.
R = Rare: listed species have:
1) 20 to 35 extant sites, or
2) 3,000 to 5,000 individuals statewide.

continued on next page

V = Exploitably vulnerable: listed species are likely to become threatened in the near future throughout all or a significant portion of their range within the state if causal factors continue unchecked.
U = Unprotected; no state status.

NEW YORK STATE STATUS (communities): At this time there are no categories defined for communities.

FEDERAL STATUS (plants and animals): The categories of federal status are defined by the United States Department of the Interior as part of the 1974 Endangered Species Act (see Code of Federal Regulations 50 CFR 17). The species listed under this law are enumerated in the Federal Register vol. 50, no. 188, pp. 39526 - 39527.

(blank) = No Federal Endangered Species Act status.
LE = The element is formally listed as endangered.
LT = The element is formally listed as threatened.
E/SA = The element is treated as endangered because of similarity of appearance to other endangered species or subspecies.
PE = The element is proposed as endangered.
PT = The element is proposed as threatened.
C= The element is a candidate for listing.
(LE) = If the element is a full species, all subspecies or varieties are listed as endangered; if the element is a subspecies, the full species is listed as endangered.
(LE-LT) = The species is formally listed as endangered in part of its range, and as threatened in the other part; or, one or more subspecies or varieties is listed as endangered, and the others are listed as threatened.
(LT-C) = The species is formally listed as threatened in part of its range, and as a candidate for listing in the other part; or, one or more subspecies or varieties is listed as threatened, and the others are candidates for listing.
(LT-(T/SA)) = One or more subspecies or populations of the species is formally listed as threatened, and the others are treated as threatened because of similarity of appearance to the listed threatened subspecies or populations.
(PS) = Partial status: the species is listed in parts of its range and not in others; or, one or more subspecies or varieties is listed, while the others are not listed.

GLOBAL AND STATE RANKS (animals, plants, ecological communities and others): Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Infraspecific taxa are also assigned a taxon rank to reflect the infraspecific taxon's rank throughout the world. ? = Indicates a question exists about the rank. Range ranks, e.g. S1S2, indicate not enough information is available to distinguish between two ranks.

GLOBAL RANK:
G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.
G2 = Imperiled globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.
G3 = Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g. a physiographic region), or vulnerable to extinction throughout its range because of other factors.
G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
GH = Historically known, with the expectation that it might be rediscovered.
GX = Species believed to be extinct.

STATE RANK:
S1 = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
S2 = Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
S3 = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
S4 = Apparently secure in New York State.
S5 = Demonstrably secure in New York State.
SH = Historically known from New York State, but not seen in the past 15 years.
SX = Apparently extirpated from New York State.
SZ = Present in New York State only as a transient migrant.

SxB and SxN, where Sx is one of the codes above, are used for migratory animals, and refer to the rarity within New York State of the breeding (B) populations and the non-breeding populations (N), respectively, of the species.

TAXON (T) RANK: The T-ranks (T1 - T5) are defined the same way as the Global ranks (G1 - G5), but the T-rank refers only to the rarity of the subspecific taxon.
T1 through T5 = See Global Rank definitions above.
Q = Indicates a question exists whether or not the taxon is a good taxonomic entity.

OFFICE USE: Information for use by the Natural Heritage Program.

c:\datareq\system\userguid.new

Natural Heritage Report on Rare Species and Ecological Communities

Prepared 4 October 2003 by NY Natural Heritage Program, NYS DEC, Albany, New York

'his report contains SENSITIVE information that should be treated in a sensitive manner -- Please see cover letter. Refer to the Users' Guide for explanations of codes, ranks, and fields.
Ve do not always provide maps of locations of species most vulnerable to disturbance, nor of some records whose locations and/or extents are not precisely known or are too large to display.

County * Town Scientifc Name, COMMON NAME, & Group Name	NY Legal Status, Heritage Ranks, & Federal Status	EO Rank & Last Seen	Detailed Location	General Habitat and Quality	Office Use
ROCKLAND					
* CLARKSTOWN, HAVERSTRAW, ORANGETOWN, RAMAPO					
Carex abscondita THICKET SEDGE Vascular Plant	THREATENED G4G5 S2	H 1891-06-06	PALISADES Palisades near powder house.	4107318 NYACK	0
Triphora trianthophora NODDING POGONIA Vascular Plant	ENDANGERED G3G4 S1S2	F 1871-08-13	PALISADES Palisades.	4107318 NYACK The directions are vague and only a small sub-area was searched. Continue to search the area.	0

2 Records Processed

TOWN OF CLARKSTOWN
Department of Planning

JOSE C. SIMOES, Town Planner
ROBERT GENESLAW, Planning Consultant
10 Maple Avenue
New City, New York 10956-5099
(845) 639-2070 (phone)
(845) 639-2071 (fax)
planning@town.clarkstown.ny.us

TOWN OF CLARKSTOWN
Planning Board

SHIRLEY J. THORMANN, Chairwoman
RUDOLPH J. YACYSHYN, Vice Chairman
GILBERT J. HEIM, Member
MARVIN S. BAUM, Member
GEORGE A. HOEHMANN, Member
RICHARD C. SHOBERG, Member
ROBERT D. JACKSON, Member

March 15, 2006

Ann Cutignola
Transportation Planner
Tim Miller Associates, Inc.
10 North Street
Cold Spring, New York 10516

Re: Revised DEIS for Kury Homes, Mountainview Avenue

Dear Ms. Cutignola,

I received the revised pages of the Kury Homes DEIS on March 6, 2006. I have compared them to the comments made in my memo dated January 18, 2006 and Mr. Geneslaw's memo dated January 19, 2006. For the most part, changes have made to the document to address typographical errors and omissions. Substantive issues that were raised in my memo, along with comments made by Planning Board members and the public, can be addressed by the applicant during the public comment period.

The only outstanding comments are minor typographical errors having to do with references to figures:

1. In my memo, Comment 2 indicated that text on page 1-3 seemed to refer to the wrong figure (3.1-4). A revised page 1-3 was not provided with your recent submission.
2. All of the additional visual resource figures are discussed in the document, except for Figure 3.4-4, which shows a photosimulation of View 2.
3. Figure numbers have been changed, but the text has not been edited to reflect these changes. On page 3.4-5, Figure 3.4-8 refers to the key map for sight line profiles and Figure 3.4-9 refers to sight line profiles. Those figures have been renumbered 3.4-21 and 3.4-22, respectively.

I trust that these minor changes can be made without any further review by this office, and copies of the complete bound document provided for distribution under SEQRA. Please be aware that according to Environmental Conservation Law §8-0109, effective February 26, 2006, EISs must be posted on a publicly available Internet website. The Town will post the Kury Homes DEIS on our website. We will provide you with a URL that should be added to the EIS on the front cover and the inside cover page.

I will be scheduling this matter for the Planning Board's consideration at their meeting of March 22, 2006, and recommending that a Public Hearing be tentatively set for May 10, 2006, provided that by April 1, 2006 copies of the document are distributed and a notice of completion filed, as per 6NYCRR Part 617.12 (b), and a PDF of the document on a CD and proof of delivery of the documents to interested and involved agencies are received by this office. Otherwise, the Public Hearing will be scheduled at a later date.

Thank you for your consideration in this matter.

Sincerely,

Jose Simoes
Town Planner

C: Planning Board
Dennis Letson, Deputy Director of Environmental Control
Charlie Maneri, Building Plans Examiner
Daniel Kraushaar, Deputy Town Attorney
Robert Geneslaw, Planning Consultant

JOSE C. SIMOES, Town Planner
ROBERT GENESLAW, Planning Consultant
10 Maple Avenue
New City, New York 10956-5099
(845) 639-2070 (phone)
(845) 639-2071 (fax)
planning@town.clarkstown.ny.us

0099
AC
BF

TOWN OF CLARKSTOW
Planning Boa

SHIRLEY J. THORMANN, Chairwoma
RUDOLPH J. YACYSHYN, Vice Chairma
GILBERT J. HEIM, Membe
MARVIN S. BAUM, Membe
GEORGE A. HOEHMANN, Membe
RICHARD C. SHOBERG, Membe
ROBERT D. JACKSON, Membe

FAX TRANSMISSION COVER SHEET

DATE: 1/23/06

TO: Ann Catiguala

~~ATTENTION:~~ Tim Miller Associates

FAX NO: 265-4418

FROM: J Simoes

REFERENCE: Kaly Homes / DEIS

TOTAL NUMBER OF PAGES INCLUDING THIS PAGE: 3

IF THERE ARE ANY PROBLEMS WITH THE TRANSMISSION OR RECEIPT OF THIS FAX, PLEASE CALL (845) 639-2070.

ADDITIONAL MESSAGE:

TOWN OF CLARKSTOWN
Department of Planning

JOSE C. SIMOES, Town Planner
ROBERT GENESLAW, Planning Consultant
10 Maple Avenue
New City, New York 10956-5099
(845) 639-2070 (phone)
(845) 639-2071 (fax)
planning@town.clarkstown.ny.us

TOWN OF CLARKSTOWN
Planning Board

SHIRLEY J. THORMANN, Chairwoman
RUDOLPH J. YACYSHYN, Vice Chairman
GILBERT J. HEIM, Member
MARVIN S. BAUM, Member
GEORGE A. HOEHMANN, Member
RICHARD C. SHOBERG, Member
ROBERT D. JACKSON, Member

MEMO TO: Clarkstown Planning Board

FROM: Jose Simoes, Town Planner

SUBJECT: **KURY HOMES DEIS (59.20-1-3, 4 & 5) DATED DECEMBER 15, 2005**

DATE: January 18, 2006

I offer the following minor comments on the Kury Homes DEIS, most of which are typographical:

1. The page numbering on the Table of Contents seems to be incorrect. This may be due to "struck through" items that will eventually be deleted. The Table of Contents should be checked before the final printing.
2. Page 1-3, third paragraph under the heading *Potential Impacts*, third sentence seems to refer to the wrong figure (3.1-4). Figure 3.1-3, shows that "the bulk of the earth cuts would be located in the area of the access road's intersection..."
3. The one time fee-in-lieu of recreational land has been established at $7,250 per building lot.
4. Page 1-15, under the *Listing of Permits and Approvals Required*, the Clarkstown Department of Environmental Control issues sewer permits not the Clarkstown Highway Superintendent.
5. Page, 1-16, the *List of Involved and Interested Agencies for DEIS Distribution* should include the Rockland County Drainage Agency and the Clarkstown Town Board.
6. On page 2-1, under the heading *Regional and Town Location*, Clarkstown adjoins the Town of Haverstraw to the north, not Stony Point.
7. Page 3.1-6, third paragraph, last sentence is unfinished. It reads, "67,100 cubic yards of cut and 45,400 cubic yards of fill, resulting in."
8. Starting on page 3.2-3, parts of the *Future Drainage Conditions* section seems to describe mitigation measures.
9. Figure 3.4-8 shows a sight line profile labeled B' to B'. It should be B to B'.
10. On Page 3.6-1, the last sentence refers to the Congers Ambulance Corp, which is actually the Congers/Valley Cottage Ambulance Corp.
11. While the Town Of Clarkstown may met the National Parks and Recreation Association standards of 5 to 8 acres of parkland per 1,000 persons, a recent study of the Town's parkland found the need for more local, small-scale parks.
12. Section 278 of the New York State Town Law now refers to "Average Density Subdivisions" as "Cluster Developmments."

- continued -

Other more substantive issues with the Kury Homes DEIS include:

1. The one time fee-in-lieu of recreational land would ordinarily apply to additional residential dwelling lots over and above the dwelling lots that currently exist on the site. However, in this situation, the applicant voluntarily demolished the residences that existed on the site. It would seem that the fee-in-lieu of recreational land should be paid for all twelve of the new residences being proposed, not just nine.
2. It is difficult to determine the actual visual impact from the profiles provided. Based on the sight line profiles, it would seem that there is a very thin tree line screening the development from Mountainview Condominiums, especially given that the subject property line is just eight feet from the curbing within the development. The Planning Board may consider requesting photosimulations from various locations.
3. Noise levels at the site property lines are projected to range between 65 dBA and 90 dBA. What is the anticipated duration of construction noise and how much greater than ambient noise levels will it be?
4. Under the *Potential Impacts of Construction Traffic* section on page 3.5-8, the last sentence reads, "It may be expected that trucks will also be exporting excess cuts from the construction site." Under *Potential Impacts of Construction Related Effects on Air Quality*, page 3.5-4, it states that it is anticipated that 1,008 truck loads of material will be transported from the site, two truck loads per day over an 18 month period or six trucks per day over a six month period. What time frame can be expected to occur and what will be the impact on traffic in the area?
5. The alternatives section has been substantially modified to reflect that cluster developments are permitted by the Code of the Town of Clarkstown. The Planning Board should consider that according to Town Law Section 278, "the purpose of a cluster development shall be to enable and encourage flexibility of design and development of land in such a manner as to preserve the natural and scenic qualities of open lands."

   A "Standard Alternate Layout" has been provided which varies the front yards of the 12 residential lots and requires 12 variances from the Zoning Board of Appeals. Such an action may result in a precedent for altering front yards throughout the Town. This layout could be considered as a cluster subdivision if the Board were to determine that the standard layout conformed to the requirements of the Zoning Ordinance and that the "Standard Alternate Layout" configuration protected open space and unique environmental features on the site. However the impacts of this layout are similar to those of the proposed action.

   The previously submitted Average Density Layout, for a 35-unit townhouse development has been eliminated. The new Average Density Layout, while eliminating a cul-de-sac, proposes three flag lots and protects only a small amount of open space.

   As I stated previously, a more practical alternative should be studied. This site is between two existing mullti-family developments and has wetlands and steep slopes. A clustered town house development of 12 could protect the environmental features of the site and also be in keeping with the adjacent multifamily developments. A 12-unit townhouse would be permitted, of course, only if the standard 12-lot subdivision was first found by the Board to conform to the requirements of the Zoning Ordinance. Such a cluster development would be similar to the 7-unit townhouse complex the Board recently approved north of this site on Mountainview Avenue, known as Mountainview North and South.

Robert Geneslaw Co.

PLANNING AND DEVELOPMENT CONSULTANTS

Robert Geneslaw, AICP

Two Executive Boulevard
Suite 401
Suffern, NY 10901
845/368-1785
FAX 845/368-1572

MEMORANDUM

TO: CLARKSTOWN PLANNING BOARD

FROM: ROBERT GENESLAW, AICP
FRED W. DONEIT

SUBJECT: KURY HOMES SUBDIVISION COMPLETENESS REVIEW OF DEIS – SECOND ROUND

DATE: JANUARY 19, 2006

CC: DENNIS LETSON, P.E., VILLAGE ENGINEER
JOE SIMOES, TOWN PLANNER

****

The applicant has submitted a revised DEIS dated December 15, 2005 in response to our prior completion memorandum dated May 4, 2005, and comments of other staff and those of Board members.

We have compared the applicant's latest submission with our previous comments. Based on our review of the revised DEIS, it is our view that the document is substantially complete and ready for public comment. A couple minor comments raised in our May 4th, 2005 memo were not addressed in the revised document. Each is set forth below.

- Section 1.2.6. Summary of Significant Impacts and Proposed Mitigation. It would be helpful to indicate which library(s) serve the area of the Town in which the subject property is located.

- Section 2.4. Structures and Site Improvements. It would be helpful to provide a more detailed discussion of applicable lot area deductions including wetlands, flood plains, utility easements, rock outcrops, and steep slopes. How much area was deducted and how does this affect the applicant's proposal.

Drw m
un 173,112
< 20,000 #

We anticipate that the Department of Environmental Control and Town Planner will report independently to the Planning Board.

Once the Planning Board accepts the DEIS as complete, copies will be distributed to involved and interested agencies and will be made available in the Planning Department and the local library.

TOWN OF CLARKSTOWN
Department of Planning

JOSE C. SIMOES, Town Planner
ROBERT GENESLAW, Planning Consultant
10 Maple Avenue
New City, New York 10956-5099
(845) 639-2070 (phone)
(845) 639-2071 (fax)
planning@town.clarkstown.ny.us

TOWN OF CLARKSTOWN
Planning Board

SHIRLEY J. THORMANN, Chairwoman
RUDOLPH J. YACYSHYN, Vice Chairman
GILBERT J. HEIM, Member
MARVIN S. BAUM, Member
GEORGE A. HOEHMANN, Member
RICHARD C. SHOBERG, Member
ROBERT D. JACKSON, Member

MEMO TO: Clarkstown Planning Board

FROM: Jose Simoes, Town Planner

SUBJECT: **KURY HOMES DEIS (59.20-1-3, 4 & 5)**

DATE: May 4, 2005

I offer the following minor comments on the Kury Homes DEIS:

3.1-2, 1-7
2-2, 3.3-5
4-2

1. Several sections in the document indicate that approximately 0.1 acres of ACOE-regulated wetlands would be disturbed, and that this is less than one-tenth of an acre and subject to a Nationwide Permit No. 39. This seems contradictory and could simply be stated: "Less than one-tenth of an acre of ACOE-regulated wetlands would be disturbed and is subject to a Nationwide Permit No. 39.

1-8

2. References to the Shade Tree Commission should be changed to the Architecture and Landscape Commission.

3.5-

3. The number of trucks that will be needed to export excess fill should be provided, along with any other vehicles to assess traffic impact.

3.5-5

4. The number and type of equipment and vehicles necessary for construction should be provided and factored into estimating air emissions and noise.

1-12, 3.6-

5. The one time "recreation fee" of $31,500 is subject to change. The Town will be passing new Money-in-Lieu of Land fees.

1-15

6. List of agencies from which permits and approvals are required should include the Rockland County Drainage Agency, which must sign all subdivision plats.

2-4 3.2-5

7. Them maintenance and ownership of dry swales on Lot 12 should be discussed. A maintenance plan will be needed for the infiltration basin to be dedicated to the Town.

moved to
3.6-5

8. Table 3.3-1 (Parkland in Clarkstown) and the discussion of the Long Path in Section 3.3 Biological Resources would be more appropriate in Section 3.6.2 Parks & Recreation Facilities.

Removed

9. There are two 2 duplicate misplaced pages in the document: TOC-1 is found after page 3.4-1 and the Title page after Figure 3.4-1.

3.6-5
10/31/02 Letter

10. While the Town Of Clarkstown may met the National Parks and Recreation Association standards of 5 to 8 acres of parkland per 1,000 persons, a recent study of the Town's parkland found the need for more local, small-scale parks.

Fig 4-1

11. Section 4.2.1 Alternative Standard Layout refers to Figure 4-1. There is no Figure 4-1 Instead there are plans labeled Average Density (Drawing No. AD-1 thru 4).

12. Section 4.2.2 Average Density Layout refers to Figure 4-2. There is no Figure 4-2 instead there are plans entitled "Zone Change Townhouse Layout" (Drawing No. A and B)

The more substantial issue with the Kury Homes DEIS is the analysis of the alternatives:

Section 4.0 revised

The document claims that there are no provisions for average density subdivisions in the Code of the Town of Clarkstown. However, this provision is permitted by Section 254-10 B of the Town Code and has been used by the Planning Board many times in the past. An "alternative standard layout" which varies the front yards of the12 residential lots is provided in the DEIS. This would qualify as a cluster subdivision if the Board were to determine that the standard layout conformed to the requirements of the Zoning Ordinance and that the "alternative standard layout" configuration protected open space and unique environmental features on the site. Table 4-1, however, shows that the impacts of this layout are similar to those of the proposed action.

Section 4.2.2 Average Density Layout, rather than analyzing an average density development, proposes a zone change to MF-1 to permit a 35-unit townhouse development. As such, the section should really be labeled "Zone Change Alternative." While this configuration reduces the total area of disturbance, it increases impervious surfaces and requires discretionary action of the Town Board.

A more practical alternative should be studied. This site is between two existing mullti-family developments and has wetlands and steep slopes. A clustered town house development of 12 could protect the environmental features of the site and also be in keeping with the adjacent multifamily developments. A 12-unit townhouse would be permitted, of course, only if the standard 12-lot subdivision was first found by the Board to conform to the requirements of the Zoning Ordinance. Such a cluster development would be similar to the 7-unit townhouse complex the Board recently approved north of this site on Mountainview Avenue, known as Mountainview North and South.

Robert Geneslaw Co.

PLANNING AND DEVELOPMENT CONSULTANTS

Robert Geneslaw, AICP

Two Executive Boulevard
Suite 401
Suffern, NY 10901
845/368-1785
FAX 845/368-1572

MEMORANDUM

TO: CLARKSTOWN PLANNING BOARD

FROM: ROBERT GENESLAW, AICP RG
SUSAN ROTH, AICP SR

DATE: MAY 04, 2005

RE: KURY HOMES SUBDIVISION COMPLETENESS REVIEW OF DEIS

CC: DENNIS LETSON, P.E.
JOE SIMOES

* * * \

Action, first paragraph under the section heading on page 2-1. The DEIS states that there is a "continued need" for high quality housing, which is probably not the case. A reference to a continued strong market would be more accurate.

4. Section 1.0 Executive Summary, 1.1 Action Overview, page 1-2, paragraph 1 and Section 2.2 Description of Proposed Action, page 2.2, fourth paragraph from top of page. What income level is generally necessary to purchase a home in this price range?

5. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 3.1.2.1 Geological Resources, discussion of cut and fill amounts starting in paragraph at the bottom of page 1-2 and continuing to the next page. The cut amount shown on this page is an estimate of the leftover material that will be removed after material is redistributed as fill. This discussion should be re-written to clarify the actual cut amounts, the fill amounts used, and whether or not construction phasing will permit the use of the excess material cut on site, instead of proving a general "to the extent possible" phrase. Both should be consistent with the discussion of cuts and fills in Section 3.1.1.2, and on Figure 3.2.1-2.

6. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.1 Geological Resources, under subheading Proposed Mitigation Measures, middle of page 1-3. Please indicate that the drainage and erosion control plan will also be reviewed and approved by the Town Department of Environmental Control and Planning Board.

7. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.2 Water Resources, top of page 1-4, paragraph 3. The DEIS states that the Army Corps of Engineer letter is dated in 2001. Please indicate in the summary that if the project has not received approval before the expiration of the letter (five years), the wetlands may have to re-delineated. Have there been any statutory changes that would affect the delineation of this wetland since the 2001 issuance of the ACOE letter?

8. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.3 Biological Resources, page 1-7, under subheading Proposed Mitigation Measures and under Section 3.3.4 Proposed Mitigation Measures on page 3.3-6. The DEIS states that the ornamentals and native landscaping will provide "wildlife value" such as food and nesting opportunities. Will the landscaping provide the same quality or a comparable quality of "wildlife value" as the existing conditions? Why would the local wildlife benefit from the removal of multi-flora rose, barberry, tree of heaven and phragmites, if the area were no longer available for habitat?

9. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.4 Aesthetic Resources, page 1-8, under subheading Proposed Mitigation Measures. Please remove the statement "will have no adverse visual impact," and reword the sentence to indicate that the proposed project is not expected to have any adverse visual impact." This statement is conclusory and not appropriate at this stage of the review. In the same paragraph, remove the reference to the Shade Tree Commission. It has been replaced by the Architecture and Landscape Commission, which has no jurisdiction over residential subdivision except for street trees, a subject normally handled by the Planning Board.

10. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.5 Construction-Related impacts., page 1-9, paragraph 4. The last phrase "however, this is not considered a significant impact" is conclusory, and should be removed.

11. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.5 Construction-Related impacts, page 1-9. The subtitle is stated "Mitigation Measures" instead of "Proposed Mitigation Measures" and the statement following this section relies primarily on meeting the NYDEC guidelines. Is the reader to assume that no further mitigation is offered, permitted or otherwise inappropriate? Although NYDEC standards are important, given the sensitive nature of the site, the Town may prefer mitigation standards that meet or exceed NYDEC regulations. This section should be written to indicate that mitigation offered is proposed and meets NYDEC regulations, instead of being so definitively stated.

12. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.5, Construction Impacts, Page 1-10, third paragraph after bullets at top of page. The statement "as this is not considered a significant impact," should be removed from the sentence that starts "No mitigation measures are proposed to control potential odors associated with the paving of the subdivision roads..." The end of the statement is conclusory.

13. Section 1.2., Summary of Significant Impacts and Proposed Mitigation, 1.2.6 Community Services and Facilities. Under Heading <u>Fire Department.</u> Is the author referring to the Central Nyack Fire Department or the Nyack Fire Department? Please clarify. Under heading <u>Ambulance and Health Services.</u> Please change name of Congers Volunteer Ambulance Corps to Congers/Valley Cottage Volunteer Ambulance Corps.

14. Section 1.2. Summary of Significant Impacts and Proposed Mitigation, 1.2.6 Community Services and Facilities, under the italicized Potential Impacts Heading. The Demographic Multipliers for the Urban Land Institute were used instead of locally generated numbers. Perhaps the population generation numbers should be based on Census Data in Clarkstown.

15. Section 1.2. Summary of Significant Impacts and Proposed Mitigation, 1.2.6 Community Services and Facilities, under the italicized Potential Impacts Heading, on starting on page 1-11. Please revise sentences to remove conclusions regarding the level of the impact. Instead, where available, please provide references from letters of the service providers (some of which are located in the appendix, indicating that the provider believes that services to the projected number of residents will be easily absorbed. Ordinarily, letters are sent to all the service providers for a DEIS of this type. Please include copies of the letters in the Appendix. Where no response has been obtained (in a reasonable period of time) please indicate in the DEIS.

16. Section 1.2. Summary of Significant Impacts and Proposed Mitigation, 1.2.6 Community Services and Facilities, under the italicized Potential Impacts Heading, under Parks and Recreation Impacts on page 1-11. The recreation fee discussed in this section of $3,500 per residential lot; is based on the current fee schedule. By the time the subdivision is approved, the rate will probably be higher, and the text should indicate that payment will be made based on the rate in effect at the time of subdivision approval.

17. Section 1.2. Summary of Significant Impacts and Proposed Mitigation, 1.2.6 Community Services and Facilities, under the italicized Potential Impacts Heading, under Libraries and Cultural facilities, on page 1-11. Mention which library serves this area.

18. Section 1.2. Summary of Significant Impacts and Proposed Mitigation, 1.2.6 Community Services and Facilities, under the italicized Potential Impacts Heading, under School Impacts, on page 1-12. The author should obtain school child generation numbers used by the school district as an estimate for number of school children. If the school district was consulted, please cite source of information. In addition, costs should be consistent with the school district analysis on this subject.

19. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.7, Utilities, page 1-12, under subheading Water Supply. The water source is not a municipal water source. Please correct.

20. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.7, Utilities, under subheading Communications, page 1-13. The statement " such that the addition of 12 single family homes would not represent a significant impact" is conclusory. Please cite references (such as letters from the providers) if this statement is to be used.

21. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.7, Utilities, under subheading Solid Waste Management, page 1-12. The statement "and is not considered a significant impact" is conclusory. Please remove from the sentence.

22. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.7, Utilities, page 1-13, under subheading Mitigation Measures, second sentence. The sentence "The project will generate tax revenues to the applicable districts to offset the minimal demand placed on community services" is a conclusory sentence. Please replace with "It is expected that the project will generate sufficient tax revenues to the applicable tax district to offset the demand placed on community service ~~costs~~."

23. Section 1.2, Summary of Significant Impacts and Proposed Mitigation Measures, 1.2.8, Historic and Archeological Resources, last sentence in this section, and Section 3.8.2 Potential Impacts on page 3.8-2, last sentence in this section. This statement is conclusory of a study prepared by the applicant' representatives. Please cite letter of agreement by the SHPO, otherwise state that the project is not anticipated to have any impact on historic or archeological resources based on evidence found in the study.

24. Section 2.3 Description of Existing Site Conditions, page 2-2; estimate the total acreage of the wetland, including the portion off property, as shown on Figure 2-2.

25. Figure 2-2, after page 2-2. Is the reference correct for the preparer of this figure? Other figures refer to Atzl, Scatassa, & Zigler as preparers of maps. Names of adjoining owners should be updated. The lot offered to the Town should also show a lot number.

26. Section 2-4, Structures and Site Improvements, page 2-4, Table 2-1. There is no discussion of any applicable lot area deductions, such as land under water, steep slope, etc., that may apply to this property.

27. Section 2.4, Structures and Site Improvements, page 2-4, first paragraph under Table 2-1. Please indicate that this figure includes the deduction for fill use. Please be sure that representations of cut and fill are

consistent throughout the document. The discussion should be consistent with the discussion of cut and fills in Section 3.1.1.2.

28. Section 3.1 Geological Resources, starting on Page 3-1. There are two proposed mitigation subsections, one for soils (Section 3.1.1.3 starting on page 3.1-4) and one for topography (Section 3.1.2.3 starting on page 3.1-7). Both sections acknowledge to an extent that the property disturbance will be greater than 5 acres, but no description of any type of phasing, primarily to avoid having more than 5 acres of land exposed at any one time is described in narrative, or on figures in the DEIS, although it is mentioned in the Introduction/Executive Summary. In addition, does the applicant anticipate having to import soils on site to insure that quality of construction of public improvements and landscaping is maintained? If so please indicate in the appropriate section. Also, these sections should indicate the review and approval role/authority of the Planning Board and Town Staff (especially the Town's Department of Environmental Control) during review of and implementation of erosion control plans.

pg 3.1-4

pg 3.1-4

29. Figure 3.1-1 describes Holyoke-Rock soils, and does not refer to soils more common for wetlands and streams. Please re-check sources and amend map and DEIS if necessary.

30. Section 3.1 Geological Resources, subsection 3.1.1.2, Potential Impacts (Soils), page 3.1-3. The statement indicates that the majority of the disturbance will occur on HoC soils, without acknowledging that more than half of the areas that are within the HoD soil group will be entirely disturbed. It would be helpful to note the percentage of each soil group expected to be disturbed.

31. Section 3.1 Geological Resources, subsection 3.1.1.2, Potential Impacts (Soils), page 3.1-3. Please describe where the undisturbed areas lie in the project.

pg 3.1-6 Revised

32. Section 3.1.2.2 Potential Impacts (Topography and Slopes), page 3.1-6. The last sentence on the page appears to be incomplete, and the meaning is not clear.

Figure 3.1-5 Revised

33. Section 3.1.2.2, Potential Impacts (Topography and Slopes) Figure 3.1.5 Existing Slopes Map, after page 3.1-6. Lot numbers are legible, but lot lines are barely legible.

pg 3.2-4

34. Section 3.2.2.2, Potential Impacts (Water Resources) starting on page 3.2-3. This section does not mention Clarkstown Drainage and Watercourse Law (Chapter 128) and how this law would apply to the project. Please revise to include this information.

35. Section 3.2.2.2, Potential Impacts (Water Resources), starting on page 3.2-3. This section contains a description of the proposed drainage system. Please indicate in this section the review and approval authority of the Town.

36. Section 3.2.3, Proposed Mitigation Measures (Water Resources), page 3.2-5. The statement at the bottom of the page is conclusory. Please remove or modify the statement.

37. Section 3.3.4 Proposed Mitigation Measures (Water Resources), page 3.3-6, second bullet. No explanation is given on how the erosion control and stormwater system will be beneficial to wildlife.

38. Section 3.4.2, Mitigation Measures. (Aesthetic Resources) page 3.4-4. The following statements are conclusory "...the project will not adversely impact the visual environment;" "No views from significant aesthetic resources have been identified that will be adversely affected by this project;" and "The proposed development will be visually compatible with the surrounding developed land." These statements are not appropriate for a DEIS. Please revise to indicate that no adverse impact is anticipated. Conclusions drawn regarding the impacts should be reserved to the Planning Board.

39. Section 3.4.2. Mitigation Measures (Aesthetic Resources) page 3.4-4, second paragraph. The authority of the Shade Tree Commission (now the Architecture and Landscape Commission) is limited to street trees, and the Planning Board generally makes this decision. Please revise.

40. Section 3.5.1, Construction Related Impacts, Table 3.5.1. on page 3.5-1 Please move the table heading to the following page.

41. Section 3.5.2.2. Potential Impacts, on page 3.5-5. Move heading to top of next page.

42. Section 3.5.2.3, Proposed Mitigation Measures (Construction Related Impacts, Noise) on page 3.5-6. Please move heading to following page. On page 3.5-7. The last sentence of this section states "Adherence to these regulations will limit construction-related noise levels" is a conclusory statement. Please remove and substitute "No other mitigation measures are offered at this time" or indicate that regulations must be met.

43. Section 3.5.3.2. Potential Impacts, Odors, page 3.5-7. This section does not include the odor impacts discussed in the Summary section 1.2.5, relating to the road paving.

44. Section 3.5.4, Construction Traffic, page 3.5-7. Move heading to top of next page.

45. Section 3.6.1.1 (Community Services), Existing Conditions, Police Protection, Page 3.6-1. Please correct to indicate the "Village of Upper Nyack."

46. Section 3.6.1.2, Potential Impacts (Community Services), page 3.6-2. The statement "The addition of 12 dwellings at the Kury Homes site would not hinder the ability to provide these new residents with the same professional standard of police service" should refer back to the October 31, 2003 letter in the Appendix, since this is the opinion of the Chief of Police. On the following page in the same section, the statement that the project "has no significant impact," based on the analysis is conclusory and should be rewritten to indicate that based on the analysis, it is not likely that there is any impact. The final determination of existence of an impact should be left to the Planning Board. Under the subheading Fire Department and Emergency Medical Service and Hospital in this same section, the sentences that state that "This is considered insignificant." or "This is not considered a significant impact." should be taken out unless a similar response letter can be cited. Alternatively, if no response is received, it would be acceptable to state that the preparer sent a letter requesting the opinion of the emergency service providers, and no response was received, therefore, it is assumed that no significant impact will be created.

47. Section 3.6.2.3 Mitigation Measures (Parks and Recreation Facilities)

48. Section 3.6.3.1 Existing Conditions (Library and Cultural Facilities) The Nyack Library is not "within the Town Borders."

49. Section 3.6.1.2. This section should be re-written to indicate that the money in lieu of land for recreation would be paid in accordance with the Towns fee schedule at the time of subdivision approval. This section should also cite the letter from the Town of Clarkstown Parks Board and Recreation Commission dated October 31, 2003.

50. Section 3.6.3.3, Mitigation Measures (Cultural Facilities) Please revise to state, "No mitigation is proposed at this time."

51. Section 3.6.4.2 Potential Impacts (Schools), page 3.6-6. The school child generation estimates are based on an average for the northeastern United States. Please attempt to obtain more localized figures, preferable from the Nyack School District for the purposes of the fiscal impact.

pg 3.6-9 52. Section 3.6.4.3. Mitigation Measures (School), page 3.6-7. Please revise statement to state, "No mitigation is proposed."

pg 3.6-9 53. Section 3.6.5. Fiscal Analysis, page 3.6-7. The first paragraph in this section states that the houses will be served by public water. This is not correct, and may imply that the cost of water is included in the tax bill, which is not the case. . Please indicate provider of water service.

pg 3.7-1 54. Section 3.7.1.2, Potential Impacts (Water Supply), page 3.7-1 The statement at the end of the first paragraph "This is not considered a significant demand on the system" is conclusory. Please cite the United water responses in the appendix dated July 19, 1996 and July 3, 2003 to support conclusions of the impacts.

pg 3.7-3 55. Section 3.7.3.2, Potential Impacts (Communication) page 3.7-3. This statement should be rewritten to eliminate conclusions by the preparer of the DEIS, and state that impacts are expected to be minimal, given the number of providers.

pg 3.7-3 56. Section 3.7.4.2 Potential Impacts (Solid Waste Management), page 3.7-3. The phrase at the end of this statement under the heading "and is not considered a significant impact" should be removed. It is conclusory. Replace it with a statement that it is not expected to have a significant impact, or something similar.

pg 3.7-4 57. Section 3.7.5.2, Potential Impacts (Wastewater), page 3.7-4. The last paragraph in this section has the statement "This is not considered a significant impact." This statement should be removed, since it is conclusory. The last sentence in this section should state that in the opinion of the project's engineer, that dilution of the discharge would be of sufficient magnitude so as not to cause an adverse environmental impact.

Included 58. Section 4.0 Alternatives. Please add small scale maps to illustrate each layout described in the alternatives section, with the exception of the No Action alternative.

page 4-3 59. Section 4.0 Alternatives. Another alternative would be a cluster layout in accordance with §278 Town Law (New York State Law) for a single-family home alternative that avoids disturbance to the wetlands, and preserves open space along Mountainview Avenue, as included in the scoping outline.

Deleted. 60. Section 4.2.2.Average Density Layout (Alternative). This scenario is an application of the M-1 district regulations under Town of Clarkstown's existing zoning regulations, and not a cluster plan, as described in the narrative. Conditions for applying zoning district M-1 should be applied,

assuming that the zoning would be changed. If deductions for steep slopes or wetlands are required before calculating density, they should be applied as part of the calculation of units per acre.

pg 8-1

61. Section 8.0 Growth Inducing Impacts, page 8-1. Please explain the basis/source for the estimate that approximately 30 percent of a typical household income is spent on retail goods and services; and that a household income of $266,000 annually would be required to support a residence valued at $850,000.

Done
4,000 #

62. On page 2-1, the houses are described as being approximately 4,000 square feet in area, on page 3.1-3, the houses are described as being approximately 3,500 square feet in area, and on page 3.7-7 the description refers to a home of up to 4000 square feet in area. The presentation of the house description should be checked for consistency in the DEIS.

TIM
MILLER
ASSOCIATES, INC.

10 North Street, Cold Spring, New York 10516 *Phone (845) 265-4400* *Fax (845) 265-4418*

February 13, 2006

Ms. Maryellen Ferrara
United Water New York
360 West Nyack Road
West Nyack, NY 10994

Re: Proposed Kury Homes - Price Subdivision, Mountainview Avenue
Town of Clarkstown, Rockland County, NY

Dear Ms. Ferrara:

Per our recent phone conversation, and pursuant to my letter of February 1, 2006, I am enclosing a copy of the site plan for the proposed project, Kury Homes located on the east side of Mountainview Avenue just south of Sierra Vista Road

The proposed development consists of 12 Single Family homes. Based on four bedrooms per home, we have projected a total future population of approximately 44 people, including 10 school age children.

I am requesting that United Water of New York confirm there is sufficient water quantity and sufficient water pressure, and indicate their willingness provide water service to this proposed project.

Please identify the location and size of the closest water main in the vicinity of this project and specify what type of connection will be necessary for the project sponsor to provide.

Thank you for your assistance in this matter. Please do not hesitate to call me should you have any questions or need additional information.

Sincerely,

Ann Cutignola
Associate Planner
TIM MILLER ASSOCIATES, INC.

APPENDIX C

Stormwater Management

JOSEPH GOTTLIEB, P.E., P.C.
Consulting Engineer

P.O. BOX 76
MONTICELLO
NEW YORK 12701-0076

Tel. (845) 794-5506
Fax (845) 794-5520
E-mail: gotteng@verizon.net

JOSEPH W. GOTTLIEB, P.E.

STORMWATER MANAGEMENT REPORT

FOR

KURY HOMES

REALTY SUBDIVISION

MOUNTAINVIEW AVENUE

TOWN OF CLARKSTOWN **ROCKLAND COUNTY, NEW YORK**

DATE: MAY 3, 2004

INTRODUCTION

The purpose of this Stormwater Management Report is to provide the Planning Board's Engineering Consultant with a description of the proposed Kury Homes Subdivision and its conformance to the Town of Clarkstown Subdivision Regulations as it relates to the proposed Drainage Improvements.

PROPERTY DESCRIPTION

The subject property contains a total of 10.29 acres located east of Mountainview Avenue in the Town of Clarkstown, and is identified as Section 59.20, Block 1, Parcels 3, 4 and 5 on the Town of Clarkstown Tax Maps.

PROPERTY SUBDIVISION

It is the intent of the Owner to subdivide the parcel into 12 lots and to provide an area for Stormwater Management consisting of an infiltration basin, dry swales and detention basin.

The property is presently zoned R-22.

SEWAGE DISPOSAL

Sewage disposal for the subdivision lots will be provided by the Clarkstown MSD SD 012.

WATER

Water for the proposed subdivision will be supplied by Central Nyack WD 013.

SOIL TYPES

Based upon the Soil Survey of Rockland County, New York soils maps, the soil type is Rolling Holyoke - Rock Outcrop Complex with 3-15% slopes in the proposed development area.

DRAINAGE SYSTEM DESCRIPTION - PROPOSED CONDOMINIUM & DETENTION BASIN

The proposed subdivision is designed so that the site drainage discharges into the proposed detention basin located in the existing wetlands area which is where the existing site drainage discharges now.

The drainage system consists of swales, collection piping, dry swales, infiltration basin and a detention basin. The subdivision piping consists of 15" diameter to 27" diameter RCP and 60" RCP for the outlet of the Detention Basin. The proposed detention basin was designed in accordance with SCS TR-55 and to maintain existing outflows for 2, 10, and 100 year storms.

The calculations for the stormwater runoff and detention basin are included in the attached Drainage Calculations and were prepared by McDougall Engineering Associates of Mahwah, New Jersey.

WATER QUALITY

Stormwater quality will be provided in accordance with the N.Y.S. Stormwater Management Design Manual by using dry swales and an infiltration basin.

The dry swales will treat the stormwater runoff from disturbed areas of Lots #1, #11 and #12 (1.2 Acres) and will consist of a forebay (230 C.F.) and 232 L.F. of a 7' wide swale.

The infiltration basin will treat the stormwater runoff from Lots #2 through #10 (7.1 Acres) and will consist of a Water Quality diversion structure, forebay (±2,400 C.F.), infiltration basin (±4,700 S.F.) and overflow spillway.

CONCLUSION

Based upon the information provided in this report, the stormwater runoff from this project will have no significant impact on any downstream or adjacent properties. A General Construction Activity Stormwater Permit is required for this project prior to commencing construction.

Report prepared by,

Joseph W. Gottlieb, P.E.

JWG/lg

2003\03-120KuryHomes

I.) Water Quality Volume

A.) Area 1 - To Infiltration Basin

$WQ = \frac{P R_v A}{12}$

$WQ = \frac{(1.3)(0.27)(7.1)}{12}$

$WQ = 0.208$ Ac-FT

$WQ = 9060$ cu.ft

Area = 7.1 Acres
Imp. Area = 1.7 Acres
$R_v = 0.05 + 0.009$ (Imp Ar.)
$R_v = 0.05 + 0.009 \left(\frac{1.7}{7.1}\right)$
$R_v = 0.27$
$P = 1.3$ in

B.) Area 2 - To Dry Swales

$WQ = \frac{P R_v A}{12}$

$WQ = \frac{(1.3)(0.41)(1.18)}{12}$

$WQ = 0.052$ Ac. Ft

$WQ = 2265$ cu. ft

Area = 1.18 Acres
Imp Area = 0.47 Acres
$R_v = 0.05 + 0.009 \left(\frac{0.47}{1.18}\right)$
$R_v = 0.41$
$P = 1.3$ in

II.) Storm Water Management Facilities

A.1) Area 1 Facility - Infiltration Basin Size

Preliminary Soil Test indicates approx 1 1/2" per hour perc. rate. Infiltration basin sized based upon min perc. rate of 1/2"/hr to allow for variations when addition percolation tests are performed.

Basin size = 4,700 SF @ bottom and 2' deep

Vol. = 4,700 SF x 2 = 9,400 cu.ft > 9,060 cu.ft. req'd

Basin Drain Time = 9,060 cu.ft @ 1/2"/hr x 4700 SF = 46.3 hr < 48 hr Req'd

Pretreatment vol. min = 9,060 x 25% = 2265 cu.ft < 2400 cu.ft provided

II. A) Continued

A.2) Peak Water Quality Discharge for Off Line Diversion Structure

(Modified) $CN = 1000/[10+5P+10Q-10(Q^2+1.25QP)^{1/2}]$
Appendix B

$P = 1.3$ in
$A = 7.1$ Ac

$CN = \frac{1000}{11.7} = 85.7$ use 86

$Q = \frac{WQ}{A} = \frac{9,060}{7.1} = 0.35$ in

t_c using TR-55

a) Sheet Flow -

where $n = 0.24$ - Dense Grass
$L = 80'$
$P = 3.5$ in
$S = 18\%$

$t_c = \frac{0.007(nL)^{0.8}}{P_2^{1/2} S^{0.4}}$

$t_c = \frac{0.007(0.24 \times 80)^{0.8}}{(3.5)^{1/2}(0.18)^{0.4}}$

$t_c = 0.079$ hr

b) Shallow Concentrated Flow

where $L = 70'$
$S = 10\%$
Paved
$\therefore$
$V = 6.5$ fps Fig 3.1

$t_c = \frac{L}{3600\,V}$

$t_c = \frac{70}{3600(6.5)}$

$t_c = 0.003$ hr

c) Pipe Flow

where Pipe = 18" RCP (Ave)
Length = 360'
Slope 10% ±
Q Full = 26 cfs
$V = \frac{Q}{A} = \frac{26}{1.77} = 14.7$ cfs

$t_c = \frac{360}{3600 \times 14.7}$

$t_c = 0.007$

$T_c = 0.079 + 0.003 + 0.007$

$t_c = 0.089$ hr $= 5.34$ use 6 min

II A.2 Continued

$\frac{I_a}{P} = \frac{0.326}{1.3} = 0.251$

$I_a = 0.326$ where $C = 86$
$P = 1.3$

$q_u = 610$ Ex 4-III

$A = \frac{7.1 \text{ Acres}}{640 \text{ ac/sq mi}} = 0.0111$ sq mi

$Q_p = (q_u)(A)(WQ_v)$

WQ_v = Runoff in Inches For $P = 1.3$, $CN = 86$
$= 0.37$ in

$Q_p = 610 \times 0.0111 \times 0.37$

$Q_p = 2.5$ cfs

A.3) Peak Flow 10 year Storm

$P = 5.0$ in 10 yr.
$A = 7.1$ Ac
$t_c = 6$ min

I_a for $CN = 80 = 0.500$

$I_a/P = \frac{0.500}{5.0} = 0.100$

$CN = 1.7$ Ac Pave & Bldg @ 98
5.4 Ac Lawn @ 74
$\therefore CN = 80$

$q_u = 650$ Type III Autr.

$Q = 2.89$ in, for $CN = 80$, $P = 5.0$

$Q_{peak} = 650 \times 0.0111 \times 2.89$

$Q_{10} = 20.9$ cfs

A.4) Diversion Structure Size

a) Low Flow Orfice for Water Quality

$Q_{WQ} = 25$ cfs

Use 8" Dia. orfice

$Q = CA(2gh)^{1/2}$

where $C = 0.6$
$A = 0.349$ sf

$h = \frac{Q}{2g(CA)^2}$

$h = \frac{(2.5)^2}{2 \times 32.2 (0.6 \times 0.349)^2} = 2.21'$ Elev $4270 + 2.21 = 4292.21$

II. A4) Continued

b) 10 yr. overflow weir

Use 4' wide weir

$Q_{weir} = Q_{10} - Q_{w.q}$

Set hT of weir @ 1.27' Elev 429.21+1.27=430.48

$Q_{8''orifice} = CA(2gh)^{1/2}$ where h=1.27+2.21=3.48'

$= (0.6)(0.349)(2\times32.2\times3.48)^{1/2}$ A=0.349, C=0.6

$= 3.1$ cfs

$Q_{weir} = 20.9cfs - 3.1 = 17.8cfs$

$Q_{weir} = CLH^{3/2}$ where C=3.1, L=4.0, H=1.27

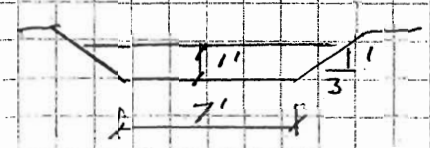
$= (3.1)(4.0)(1.27)^{3/2}$

$= 17.8$ cfs

II) B.) Area 2 Facility – Dry Swales

Forebay $WQ_v \times 10\% = 2.265 \times 10\% = 227$ cuft use 230 c.f.

Dry Swale



Vol = 7+3 = 10 c.f./LF

Length Dry Swale = 2×116 = 232 LF

$WQ_v = 232\,LF \times 10\,cf/LF = 2320$ c.f. > 2265 req'd

DRAINAGE STUDY

for

KURY HOMES
Town of Clarkstown - Rockland County, New York

Prepared By:

McDOUGALL ENGINEERING ASSOCIATES
Consulting Engineers
65 Ramapo Valley Road Suite 14
Mahwah, New Jersey 07430

November 2001

INTRODUCTION: The following drainage study has been prepared for Kury Homes in order to provide for a zero increase in runoff for a proposed 14 lot realty subdivision in the Town of Clarkstown, New York. The project is located on the easterly side of Mountainview Avenue 400 feet south of Sierra Vista Road. The property in question consists of 10.3 acres as shown on a subdivision plat prepared by Atzl, Scatassa & Zigler dated August 2, 2001.

DESIGN CRITERIA: A 36" pipe discharges from the Mountainview Condiminiums into an existing natural wetland basin which is just to the north of the proposed road for this project. An existing 60" RCP then collects the flow under the existing driveway. The design for this project is to use the existing wetland basin for water quality as well as for stormwater detention. A wall will be constructed along the proposed roadway with an outlet structure on the wall to control the flow. There will be no grading or disturbance to the existing basin. The SCS QTR55 method of determining runoff has been used to calculate flows for the 2 year, 25 year and 100 year flows. The computer generated data for the calculations and flood routing is attached hereto for information purposes.

SUMMARY:

2 year flow ---- Existing flow = 77 cfs	Proposed flow = 79 cfs
25 year flow --- Existing flow = 160 cfs	Proposed flow = 161.5 cfs
100 year flow -- Existing flow = 211 cfs	Proposed flow = 214.3 cfs

Since the proposed flows are the same as the existing flows we therefore have provided a zero increase in runoff.

Very truly yours;

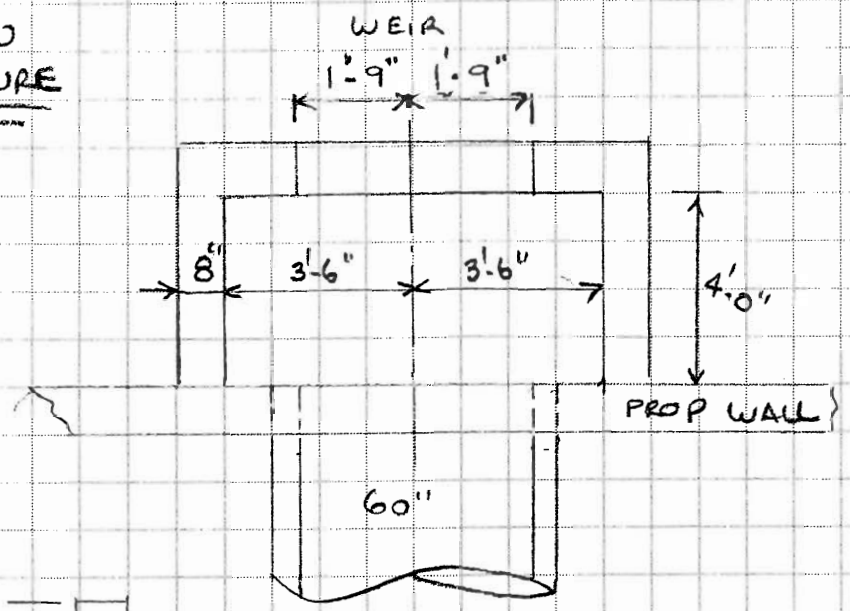
David S. McDougall, P.E.
NJ Lic # 52673

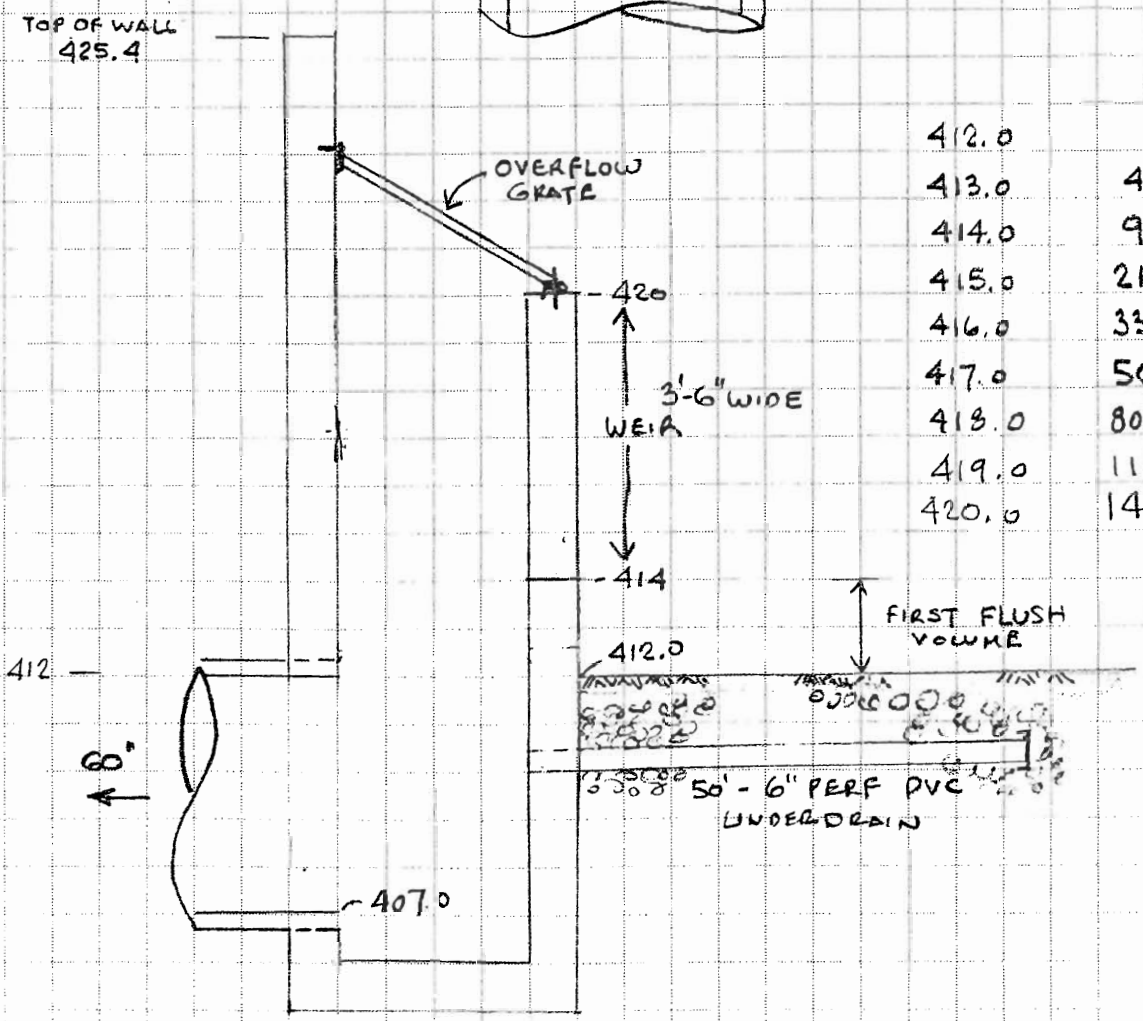
McDOUGALL ENGINEERING ASSOC.
65 Ramapo Valley Road, Suite 14
MAHWAH, NJ 07430
(201) 529-5010 Fax (201) 529-5023

JOB KURY HOMES
SHEET NO. ____ OF ____
CALCULATED BY DMCD DATE 11.1.01
CHECKED BY ____ DATE ____
SCALE ____

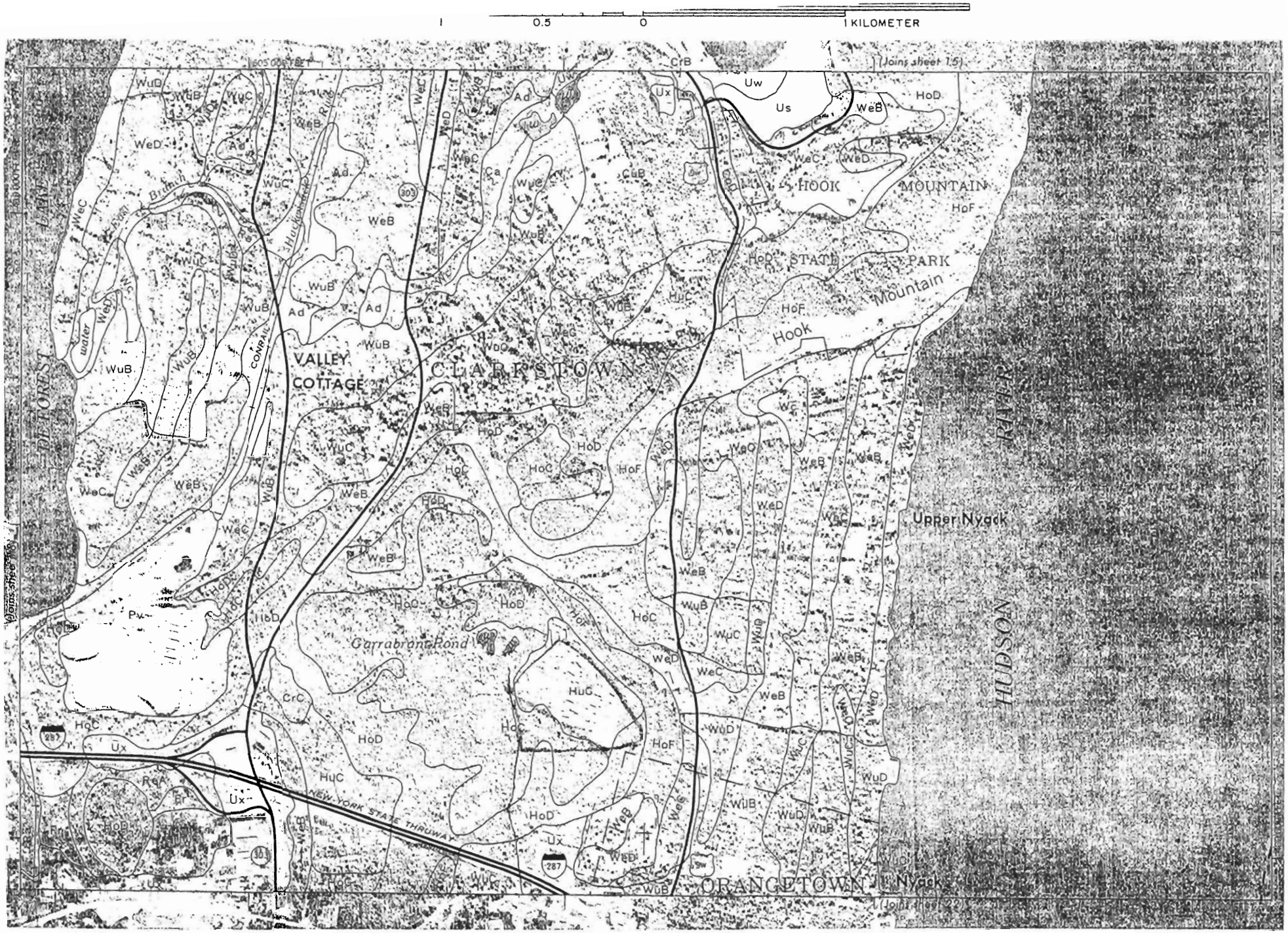
DISTURBED AREA - 9 AC @ 3500 CF/ACRE = 31500 CF

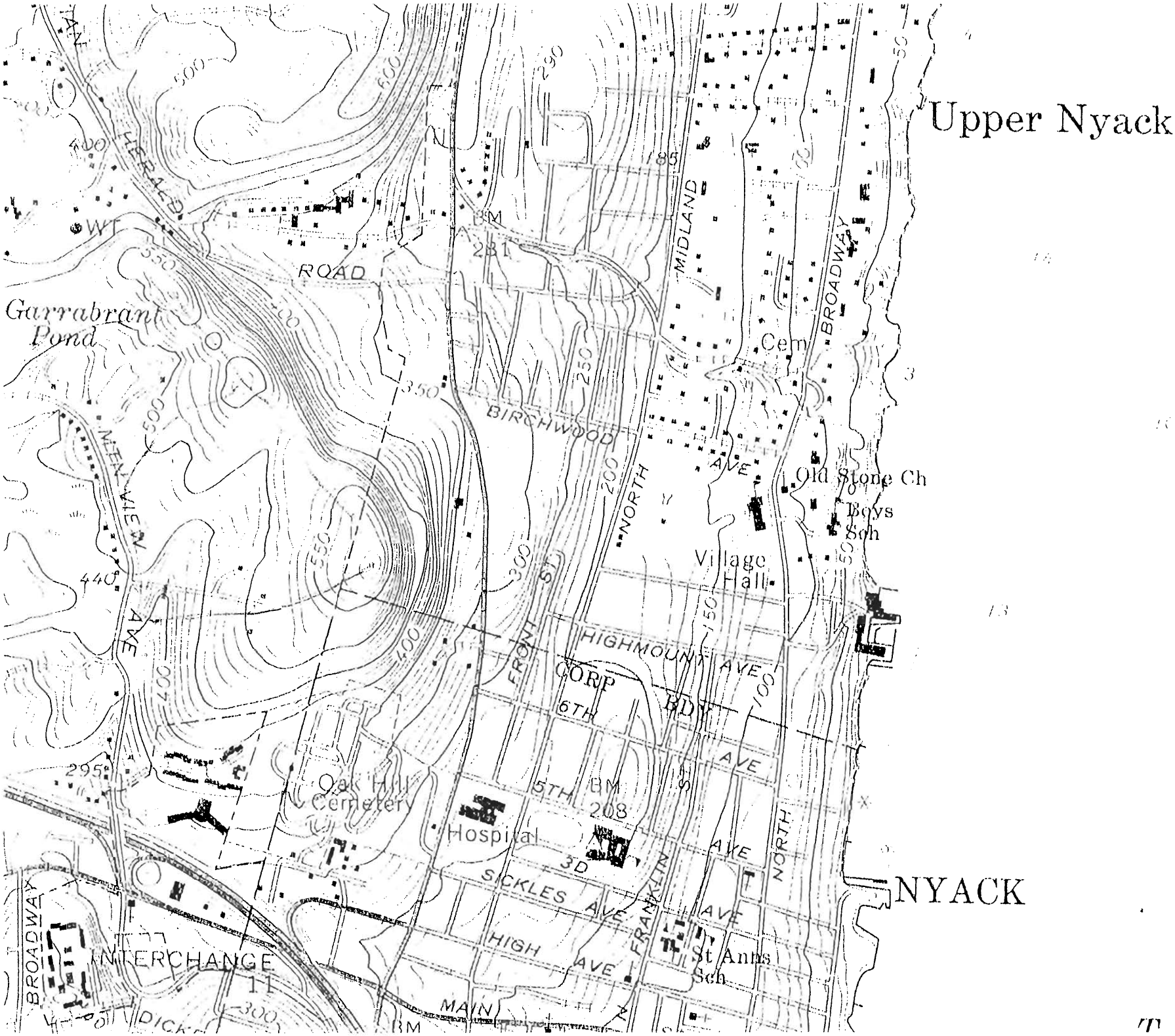
OUTFLOW STRUCTURE





	S	O
412.0	0	0
413.0	4800	0
414.0	9600	0
415.0	21500	12.4
416.0	33400	38.1
417.0	56800	71.4
418.0	80,200	113.9
419.0	113,200	163.5
420.0	146,200	219.7


1 0.5 0 1 KILOMETER
(Joins sheet 15)
(Joins sheet 22)
(Joins sheet 18)
HOOK MOUNTAIN STATE PARK
Hook Mountain
VALLEY COTTAGE
CLARKSTOWN
ORANGETOWN
Upper Nyack
Nyack
Garrabrant Pond
HUDSON RIVER
DE FOREST LAKE
NEW YORK STATE THRUWAY
CONRAIL
Huckleberry Ridge Branch
Uw
Us
Ux
WeB
HoD
WeC
WeD
HoF
WuB
WuC
WuD
HoC
HuC
HuD
CrB
CrC
Ad
Ca
Pw
Rg
Rp
Rr
Ro
Ro
303
287


Upper Nyack
NYACK
Garrabrant Pond
HARRIED
ROAD
BM
281
MIDLAND
BROADWAY
Cem
BIRCHWOOD
AVE
NORTH
Old Stone Ch
Boys Sch
Village Hall
MEN MEN
AVE
FRONT
HIGHMOUNT AVE
CORP
BDY
6TH
5TH
BM
208
Oak Hill Cemetery
Hospital
3D
SICKLES AVE
FRANKLIN
HIGH AVE
St Anns Sch
INTERCHANGE 11
BROADWAY
MAIN
BM

Quick TR-55 Ver.5.47 S/N:
Executed: 14:48:17 10-31-2001

KURY HOMES
Pre-construction
Town of Clarkstown, N.Y.

RUNOFF CURVE NUMBER DATA

::

Composite Area: Pre-const

SURFACE DESCRIPTION		AREA (acres)	CN	
Apartments	C Soil	40.60	90	
Forest/good	D soil	14.50	77	
	COMPOSITE AREA --->	55.10	86.6	(87)

::

Quick TR-55 Ver.5.47 S/N:
Executed: 14:51:19 10-31-2001

KURY HOMES
Post construction
clarkstown, N.Y.

RUNOFF CURVE NUMBER DATA

::

Composite Area: Post constr.

SURFACE DESCRIPTION	AREA (acres)	CN	
Apartments C Soil	40.60	90	
1/2 acre residential C Soil	14.50	80	
COMPOSITE AREA --->	55.10	87.4	(87)

::

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:23:05
Watershed file: --> a:364-100 .WSD
Hydrograph file: --> a:364-100 .HYD

KURY HOMES
Post-dev
Town of Clarkstown, N.Y.

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
18.6	8	22.4	5
18.7	8	22.5	5
18.8	7	22.6	5
18.9	7	22.7	5
19.0	7	22.8	5
19.1	7	22.9	5
19.2	7	23.0	4
19.3	7	23.1	4
19.4	7	23.2	4
19.5	7	23.3	4
19.6	7	23.4	4
19.7	7	23.5	4
19.8	7	23.6	4
19.9	7	23.7	3
20.0	7	23.8	3
20.1	7	23.9	3
20.2	7	24.0	3
20.3	7	24.1	3
20.4	7	24.2	3
20.5	7	24.3	3
20.6	7	24.4	2
20.7	7	24.5	2
20.8	7	24.6	2
20.9	7	24.7	2
21.0	6	24.8	2
21.1	6	24.9	2
21.2	6	25.0	2
21.3	6	25.1	1
21.4	6	25.2	1
21.5	6	25.3	1
21.6	6	25.4	1
21.7	6	25.5	1
21.8	6	25.6	1
21.9	6	25.7	0
22.0	6	25.8	0
22.1	6	25.9	0
22.2	6		
22.3	6		

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:23:05
Watershed file: --> a:364-100 .WSD
Hydrograph file: --> a:364-100 .HYD

KURY HOMES
Post-dev
Town of Clarkstown, N.Y.

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
11.0	13	14.8	22
11.1	14	14.9	21
11.2	15	15.0	20
11.3	16	15.1	20
11.4	18	15.2	19
11.5	21	15.3	19
11.6	23	15.4	18
11.7	30	15.5	18
11.8	37	15.6	17
11.9	44	15.7	17
12.0	65	15.8	16
12.1	95	15.9	16
12.2	150	16.0	15
12.3	231	16.1	15
12.4	261	16.2	14
12.5	236	16.3	14
12.6	187	16.4	13
12.7	144	16.5	13
12.8	107	16.6	13
12.9	84	16.7	13
13.0	62	16.8	12
13.1	54	16.9	12
13.2	46	17.0	12
13.3	42	17.1	12
13.4	37	17.2	11
13.5	35	17.3	11
13.6	33	17.4	10
13.7	32	17.5	10
13.8	30	17.6	10
13.9	29	17.7	10
14.0	28	17.8	9
14.1	27	17.9	9
14.2	26	18.0	9
14.3	25	18.1	9
14.4	24	18.2	9
14.5	24	18.3	8
14.6	23	18.4	8

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:23:05
Watershed file: --> a:364-100 .WSD
Hydrograph file: --> a:364-100 .HYD

KURY HOMES
Post-dev
Town of Clarkstown, N.Y.

Composite Hydrograph Summary (cfs)

Subarea Description	11.0 hr	11.3 hr	11.6 hr	11.9 hr	12.0 hr	12.1 hr	12.2 hr	12.3 hr	12.4 hr
Post-dev	13	16	23	44	65	95	150	231	261
Total (cfs)	13	16	23	44	65	95	150	231	261

Subarea Description	12.5 hr	12.6 hr	12.7 hr	12.8 hr	13.0 hr	13.2 hr	13.4 hr	13.6 hr	13.8 hr
Post-dev	236	187	144	107	62	46	37	33	30
Total (cfs)	236	187	144	107	62	46	37	33	30

Subarea Description	14.0 hr	14.3 hr	14.6 hr	15.0 hr	15.5 hr	16.0 hr	16.5 hr	17.0 hr	17.5 hr
Post-dev	28	25	23	20	18	15	13	12	10
Total (cfs)	28	25	23	20	18	15	13	12	10

Subarea Description	18.0 hr	19.0 hr	20.0 hr	22.0 hr	26.0 hr
Post-dev	9	7	7	6	0
Total (cfs)	9	7	7	6	0

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:23:05
Watershed file: --> a:364-100 .WSD
Hydrograph file: --> a:364-100 .HYD

KURY HOMES
Post-dev
Town of Clarkstown, N.Y.

>>>> Summary of Subarea Times to Peak <<<<

Subarea	Peak Discharge at Composite Outfall (cfs)	Time to Peak at Composite Outfall (hrs)
Post-dev	261	12.4
Composite Watershed	261	12.4

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:23:05
Watershed file: --> a:364-100 .WSD
Hydrograph file: --> a:364-100 .HYD

KURY HOMES
Post-dev
Town of Clarkstown, N.Y.

>>>> Input Parameters Used to Compute Hydrograph <<<<

Subarea Description	AREA (acres)	CN	Tc (hrs)	* Tt (hrs)	Precip. (in)	Runoff (in)	Ia/p input/used	
Post-dev	55.10	88.0	0.30	0.00	7.50	6.08	.04	.10

* Travel time from subarea outfall to composite watershed outfall point.
Total area = 55.10 acres or 0.08609 sq.mi
Peak discharge = 261 cfs

>>>> Computer Modifications of Input Parameters <<<<<

Subarea Description	Input Values Tc (hr)	Input Values * Tt (hr)	Rounded Values Tc (hr)	Rounded Values * Tt (hr)	Ia/p Interpolated (Yes/No)	Ia/p Messages
Post-dev	0.33	0.00	0.30	0.00	No	Computed Ia/p < .1

* Travel time from subarea outfall to composite watershed outfall point.

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:21:19
Watershed file: --> a:364-25 .WSD
Hydrograph file: --> a:364-25 .HYD

KURY HOMES
Post-dev.
Town of Clarkstown, N.Y.

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
18.6	6	22.4	4
18.7	6	22.5	4
18.8	6	22.6	3
18.9	6	22.7	3
19.0	6	22.8	3
19.1	6	22.9	3
19.2	6	23.0	3
19.3	6	23.1	3
19.4	6	23.2	3
19.5	6	23.3	3
19.6	5	23.4	3
19.7	5	23.5	2
19.8	5	23.6	2
19.9	5	23.7	2
20.0	5	23.8	2
20.1	5	23.9	2
20.2	5	24.0	2
20.3	5	24.1	2
20.4	5	24.2	2
20.5	5	24.3	2
20.6	5	24.4	2
20.7	5	24.5	2
20.8	5	24.6	1
20.9	5	24.7	1
21.0	4	24.8	1
21.1	4	24.9	1
21.2	4	25.0	1
21.3	4	25.1	1
21.4	4	25.2	1
21.5	4	25.3	1
21.6	4	25.4	1
21.7	4	25.5	0
21.8	4	25.6	0
21.9	4	25.7	0
22.0	4	25.8	0
22.1	4	25.9	0
22.2	4		
22.3	4		

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:21:19
Watershed file: --> a:364-25 .WSD
Hydrograph file: --> a:364-25 .HYD

KURY HOMES
Post-dev.
Town of Clarkstown, N.Y.

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
11.0	10	14.8	17
11.1	11	14.9	16
11.2	11	15.0	16
11.3	12	15.1	16
11.4	14	15.2	15
11.5	16	15.3	15
11.6	18	15.4	14
11.7	23	15.5	14
11.8	28	15.6	14
11.9	33	15.7	13
12.0	49	15.8	13
12.1	72	15.9	12
12.2	114	16.0	12
12.3	176	16.1	12
12.4	199	16.2	11
12.5	180	16.3	11
12.6	143	16.4	10
12.7	110	16.5	10
12.8	81	16.6	10
12.9	64	16.7	10
13.0	47	16.8	9
13.1	41	16.9	9
13.2	35	17.0	9
13.3	32	17.1	9
13.4	28	17.2	9
13.5	27	17.3	8
13.6	25	17.4	8
13.7	24	17.5	8
13.8	23	17.6	8
13.9	22	17.7	8
14.0	22	17.8	7
14.1	21	17.9	7
14.2	20	18.0	7
14.3	19	18.1	7
14.4	19	18.2	7
14.5	18	18.3	7
14.6	18	18.4	7

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:21:19
Watershed file: --> a:364-25 .WSD
Hydrograph file: --> a:364-25 .HYD

KURY HOMES
Post-dev.
Town of Clarkstown, N.Y.

Composite Hydrograph Summary (cfs)

Subarea Description	11.0 hr	11.3 hr	11.6 hr	11.9 hr	12.0 hr	12.1 hr	12.2 hr	12.3 hr	12.4 hr
Post dev	10	12	18	33	49	72	114	176	199
Total (cfs)	10	12	18	33	49	72	114	176	199

Subarea Description	12.5 hr	12.6 hr	12.7 hr	12.8 hr	13.0 hr	13.2 hr	13.4 hr	13.6 hr	13.8 hr
Post dev	180	143	110	81	47	35	28	25	23
Total (cfs)	180	143	110	81	47	35	28	25	23

Subarea Description	14.0 hr	14.3 hr	14.6 hr	15.0 hr	15.5 hr	16.0 hr	16.5 hr	17.0 hr	17.5 hr
Post dev	22	19	18	16	14	12	10	9	8
Total (cfs)	22	19	18	16	14	12	10	9	8

Subarea Description	18.0 hr	19.0 hr	20.0 hr	22.0 hr	26.0 hr
Post dev	7	6	5	4	0
Total (cfs)	7	6	5	4	0

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:21:19
Watershed file: --> a:364-25 .WSD
Hydrograph file: --> a:364-25 .HYD

KURY HOMES
Post-dev.
Town of Clarkstown, N.Y.

>>>> Summary of Subarea Times to Peak <<<<

Subarea	Peak Discharge at Composite Outfall (cfs)	Time to Peak at Composite Outfall (hrs)
Post dev	199	12.4
Composite Watershed	199	12.4

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:21:19
Watershed file: --> a:364-25 .WSD
Hydrograph file: --> a:364-25 .HYD

KURY HOMES
Post-dev.
Town of Clarkstown, N.Y.

>>>> Input Parameters Used to Compute Hydrograph <<<<

Subarea Description	AREA (acres)	CN	Tc (hrs)	* Tt (hrs)	Precip. (in)	Runoff (in)	Ia/p input/used
Post dev	55.10	88.0	0.30	0.00	6.00	4.63	.05 .10

* Travel time from subarea outfall to composite watershed outfall point.
Total area = 55.10 acres or 0.08609 sq.mi
Peak discharge = 199 cfs

>>>> Computer Modifications of Input Parameters <<<<<

Subarea Description	Input Values Tc (hr)	Input Values * Tt (hr)	Rounded Values Tc (hr)	Rounded Values * Tt (hr)	Ia/p Interpolated (Yes/No)	Ia/p Messages
Post dev	0.33	0.00	0.30	0.00	No	Computed Ia/p < .1

* Travel time from subarea outfall to composite watershed outfall point.

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:19:30
Watershed file: --> a:364-2 .WSD
Hydrograph file: --> a:364-2 .HYD

KURY HOMES
Post-dev
Clarkstown, N.Y.

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
18.6	3	22.4	2
18.7	3	22.5	2
18.8	3	22.6	2
18.9	3	22.7	2
19.0	3	22.8	2
19.1	3	22.9	2
19.2	3	23.0	2
19.3	3	23.1	1
19.4	3	23.2	1
19.5	3	23.3	1
19.6	3	23.4	1
19.7	3	23.5	1
19.8	3	23.6	1
19.9	3	23.7	1
20.0	3	23.8	1
20.1	3	23.9	1
20.2	3	24.0	1
20.3	3	24.1	1
20.4	3	24.2	1
20.5	3	24.3	1
20.6	3	24.4	1
20.7	3	24.5	1
20.8	3	24.6	1
20.9	3	24.7	1
21.0	2	24.8	1
21.1	2	24.9	1
21.2	2	25.0	0
21.3	2	25.1	0
21.4	2	25.2	0
21.5	2	25.3	0
21.6	2	25.4	0
21.7	2	25.5	0
21.8	2	25.6	0
21.9	2	25.7	0
22.0	2	25.8	0
22.1	2	25.9	0
22.2	2		
22.3	2		

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:19:30
Watershed file: --> a:364-2 .WSD
Hydrograph file: --> a:364-2 .HYD

KURY HOMES
Post-dev
Clarkstown, N.Y.

Time (hrs)	Flow (cfs)	Time (hrs)	Flow (cfs)
11.0	5	14.8	8
11.1	5	14.9	8
11.2	6	15.0	8
11.3	6	15.1	8
11.4	7	15.2	8
11.5	8	15.3	7
11.6	9	15.4	7
11.7	11	15.5	7
11.8	14	15.6	7
11.9	16	15.7	7
12.0	24	15.8	6
12.1	35	15.9	6
12.2	56	16.0	6
12.3	86	16.1	6
12.4	97	16.2	6
12.5	88	16.3	5
12.6	70	16.4	5
12.7	54	16.5	5
12.8	40	16.6	5
12.9	31	16.7	5
13.0	23	16.8	4
13.1	20	16.9	4
13.2	17	17.0	4
13.3	16	17.1	4
13.4	14	17.2	4
13.5	13	17.3	4
13.6	12	17.4	4
13.7	12	17.5	4
13.8	11	17.6	4
13.9	11	17.7	4
14.0	11	17.8	3
14.1	10	17.9	3
14.2	10	18.0	3
14.3	9	18.1	3
14.4	9	18.2	3
14.5	9	18.3	3
14.6	9	18.4	3

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:19:30
Watershed file: --> a:364-2 .WSD
Hydrograph file: --> a:364-2 .HYD

KURY HOMES
Post-dev
Clarkstown, N.Y.

Composite Hydrograph Summary (cfs)

Subarea Description	11.0 hr	11.3 hr	11.6 hr	11.9 hr	12.0 hr	12.1 hr	12.2 hr	12.3 hr	12.4 hr
Post dev	5	6	9	16	24	35	56	86	97
Total (cfs)	5	6	9	16	24	35	56	86	97

Subarea Description	12.5 hr	12.6 hr	12.7 hr	12.8 hr	13.0 hr	13.2 hr	13.4 hr	13.6 hr	13.8 hr
Post dev	88	70	54	40	23	17	14	12	11
Total (cfs)	88	70	54	40	23	17	14	12	11

Subarea Description	14.0 hr	14.3 hr	14.6 hr	15.0 hr	15.5 hr	16.0 hr	16.5 hr	17.0 hr	17.5 hr
Post dev	11	9	9	8	7	6	5	4	4
Total (cfs)	11	9	9	8	7	6	5	4	4

Subarea Description	18.0 hr	19.0 hr	20.0 hr	22.0 hr	26.0 hr
Post dev	3	3	3	2	0
Total (cfs)	3	3	3	2	0

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:19:30
Watershed file: --> a:364-2 .WSD
Hydrograph file: --> a:364-2 .HYD

KURY HOMES
Post-dev
Clarkstown, N.Y.

>>>> Summary of Subarea Times to Peak <<<<

Subarea	Peak Discharge at Composite Outfall (cfs)	Time to Peak at Composite Outfall (hrs)
Post dev	97	12.4
Composite Watershed	97	12.4

TR-55 TABULAR HYDROGRAPH METHOD
Type III Distribution
(24 hr. Duration Storm)

Executed: 10-31-2001 15:19:30
Watershed file: --> a:364-2 .WSD
Hydrograph file: --> a:364-2 .HYD

KURY HOMES
Post-dev
Clarkstown, N.Y.

>>>> Input Parameters Used to Compute Hydrograph <<<<

Subarea Description	AREA (acres)	CN	Tc (hrs)	* Tt (hrs)	Precip. (in)	Runoff (in)	Ia/p input/used	
Post dev	55.10	88.0	0.30	0.00	3.50	2.27	.08	.10

* Travel time from subarea outfall to composite watershed outfall point.
Total area = 55.10 acres or 0.08609 sq.mi
Peak discharge = 97 cfs

>>>> Computer Modifications of Input Parameters <<<<<

Subarea Description	Input Values Tc (hr)	* Tt (hr)	Rounded Values Tc (hr)	* Tt (hr)	Ia/p Interpolated (Yes/No)	Ia/p Messages
Post dev	0.33	0.00	0.30	0.00	No	Computed Ia/p < .1

* Travel time from subarea outfall to composite watershed outfall point.

Quick TR-55 Version: 5.47 S/N:

>>>>> GRAPHICAL PEAK DISCHARGE METHOD <<<<<

KURY HOMES
Post-development
Clarkstown, N.Y.

CALCULATED
DISK FILE: a:364-POS .GPD

Drainage Area	(acres)	55.1	--->	0.0861 sq.mi.
Runoff Curve Number	(CN)	88		
Time of Concentration,Tc	(hrs)	.33		
Rainfall Distribution	(Type)	III		
Pond and Swamp Areas	(%)	0	--->	0.0 acres

	Storm #1	Storm #2	Storm #3
Frequency (years)	2	25	100
Rainfall, P, 24-hr (in)	3.5	6.0	7.5
Initial Abstraction, Ia (in)	0.273	0.273	0.273
Ia/p Ratio	0.078	0.045	0.036
Unit Discharge, * qu (csm/in)	482	482	482
Runoff, Q (in)	2.27	4.63	6.08
Pond & Swamp Adjustment Factor	1.00	1.00	1.00
PEAK DISCHARGE, qp (cfs)	94	192	252

Summary of Computations for qu

Ia/p	#1	0.100	0.100	0.100
C0	#1	2.473	2.473	2.473
C1	#1	-0.518	-0.518	-0.518
C2	#1	-0.171	-0.171	-0.171
qu (csm)	#1	482.178	482.178	482.178
Ia/p	#2	0.100	0.100	0.100
C0	#2	2.473	2.473	2.473
C1	#2	-0.518	-0.518	-0.518
C2	#2	-0.171	-0.171	-0.171
qu (csm)	#2	482.178	482.178	482.178
* qu (csm)		482	482	482

* Interpolated for computed Ia/p ratio (between Ia/p #1 & Ia/p #2)
If computed Ia/p exceeds Ia/p limits, bounding limit for Ia/p is used.

$$\log(qu) = C0 + (C1 * \log(Tc)) + (C2 * (\log(Tc))^2)$$

qp (cfs) = qu(csm) * Area(sq.mi.) * Q(in.) * (Pond & Swamp Adj.)

Quick TR-55 Version: 5.47 S/N:

>>>>> GRAPHICAL PEAK DISCHARGE METHOD <<<<<

Kury Homes
Pre-development
Town of Clarkstown, N.Y.

CALCULATED
DISK FILE: a:364-PRE .GPD

Drainage Area	(acres)	55.1	--->	0.0861 sq.mi.
Runoff Curve Number	(CN)	87		
Time of Concentration,Tc	(hrs)	0.5		
Rainfall Distribution	(Type)	III		
Pond and Swamp Areas	(%)	0	--->	0.0 acres

	Storm #1	Storm #2	Storm #3
Frequency (years)	2	25	100
Rainfall, P, 24-hr (in)	3.5	6.0	7.5
Initial Abstraction, Ia (in)	0.299	0.299	0.299
Ia/p Ratio	0.085	0.050	0.040
Unit Discharge, * qu (csm/in)	411	411	411
Runoff, Q (in)	2.18	4.52	5.96
Pond & Swamp Adjustment Factor	1.00	1.00	1.00
PEAK DISCHARGE, qp (cfs)	77	160	211

Summary of Computations for qu

Ia/p	#1	0.100	0.100	0.100
C0	#1	2.473	2.473	2.473
C1	#1	-0.518	-0.518	-0.518
C2	#1	-0.171	-0.171	-0.171
qu (csm)	#1	410.930	410.930	410.930
Ia/p	#2	0.100	0.100	0.100
C0	#2	2.473	2.473	2.473
C1	#2	-0.518	-0.518	-0.518
C2	#2	-0.171	-0.171	-0.171
qu (csm)	#2	410.930	410.930	410.930
* qu (csm)		411	411	411

* Interpolated for computed Ia/p ratio (between Ia/p #1 & Ia/p #2)
If computed Ia/p exceeds Ia/p limits, bounding limit for Ia/p is used.

$$\log(qu) = C0 + (C1 * \log(Tc)) + (C2 * (\log(Tc))^2)$$

qp (cfs) = qu(csm) * Area(sq.mi.) * Q(in.) * (Pond & Swamp Adj.)

```
*********************************
*                               *
* KURY HOMES   100 year storm   *
*       Clarkstown, N.Y.        *
*                               *
*                               *
*                               *
*********************************
```

Inflow Hydrograph: a:364-100 .HYD
Rating Table file: a:364 .PND

----INITIAL CONDITIONS----
Elevation = 412.50 ft
Outflow = 0.00 cfs
Storage = 2,400 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
412.00	0.0	0
413.00	0.0	4,800
414.00	0.0	9,600
415.00	12.4	21,500
416.00	38.1	33,400
417.00	71.4	56,800
418.00	113.9	80,200
419.00	163.5	113,200
420.00	219.7	146,200

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
26.7	26.7
53.3	53.3
119.4	131.8
185.6	223.7
315.6	387.0
445.6	559.5
628.9	792.4
812.2	1031.9

Time increment (t) = 0.100 hrs.

EXECUTED: 11-01-2001 10:59:24

Pond File: a:364 .PND
Inflow Hydrograph: a:364-100 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
11.000	13.00	-----	13.3	13.3	0.00	412.50
11.100	14.00	27.0	40.3	40.3	0.00	413.51
11.200	15.00	29.0	64.3	69.3	2.53	414.20
11.300	16.00	31.0	82.0	95.3	6.62	414.53
11.400	18.00	34.0	96.2	116.0	9.90	414.80
11.500	21.00	39.0	108.5	135.2	13.35	415.04
11.600	23.00	44.0	116.2	152.5	18.19	415.23
11.700	30.00	53.0	123.5	169.2	22.84	415.41
11.800	37.00	67.0	132.8	190.5	28.81	415.64
11.900	44.00	81.0	143.1	213.8	35.35	415.89
12.000	65.00	109.0	164.3	252.1	43.91	416.17
12.100	95.00	160.0	207.1	324.3	58.63	416.62
12.200	150.00	245.0	277.2	452.1	87.44	417.38
12.300	231.00	381.0	388.3	658.2	134.92	418.42
12.400	261.00	492.0	512.1	880.3	184.13	419.37
12.500	236.00	497.0	580.4	1009.1	214.34	419.90
12.600	187.00	423.0	577.4	1003.4	213.01	419.88
12.700	144.00	331.0	527.0	908.4	190.71	419.48
12.800	107.00	251.0	457.1	778.0	160.43	418.94
12.900	84.00	191.0	382.5	648.1	132.78	418.38
13.000	62.00	146.0	316.0	528.5	106.29	417.82
13.100	54.00	116.0	267.0	432.0	82.49	417.26
13.200	46.00	100.0	232.3	367.0	67.33	416.88
13.300	42.00	88.0	204.7	320.3	57.81	416.59
13.400	37.00	79.0	183.0	283.7	50.35	416.37
13.500	35.00	72.0	166.0	255.0	44.49	416.19
13.600	33.00	68.0	153.6	234.0	40.21	416.06
13.700	32.00	65.0	145.2	218.6	36.68	415.94
13.800	30.00	62.0	140.2	207.2	33.50	415.82
13.900	29.00	59.0	136.7	199.2	31.26	415.73
14.000	28.00	57.0	134.3	193.7	29.72	415.67
14.100	27.00	55.0	132.3	189.3	28.48	415.63
14.200	26.00	53.0	130.6	185.3	27.37	415.58
14.300	25.00	51.0	128.9	181.6	26.32	415.54
14.400	24.00	49.0	127.3	177.9	25.30	415.50
14.500	24.00	48.0	126.2	175.3	24.57	415.47
14.600	23.00	47.0	125.2	173.2	23.97	415.45
14.700	22.00	45.0	123.9	170.2	23.15	415.42
14.800	22.00	44.0	122.9	167.9	22.51	415.39
14.900	21.00	43.0	122.0	165.9	21.94	415.37
15.000	20.00	41.0	120.8	163.0	21.13	415.34
15.100	20.00	40.0	119.8	160.8	20.50	415.32
15.200	19.00	39.0	118.9	158.8	19.94	415.29
15.300	19.00	38.0	118.1	156.9	19.41	415.27
15.400	18.00	37.0	117.3	155.1	18.90	415.25

EXECUTED: 11-01-2001 10:59:24

Pond File: a:364 .PND
Inflow Hydrograph: a:364-100 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
15.500	18.00	36.0	116.5	153.3	18.40	415.23
15.600	17.00	35.0	115.7	151.5	17.89	415.21
15.700	17.00	34.0	114.9	149.7	17.39	415.19
15.800	16.00	33.0	114.1	147.9	16.89	415.17
15.900	16.00	32.0	113.3	146.1	16.39	415.16
16.000	15.00	31.0	112.5	144.3	15.89	415.14
16.100	15.00	30.0	111.8	142.5	15.39	415.12
16.200	14.00	29.0	111.0	140.8	14.89	415.10
16.300	14.00	28.0	110.2	139.0	14.39	415.08
16.400	13.00	27.0	109.4	137.2	13.89	415.06
16.500	13.00	26.0	108.6	135.4	13.39	415.04
16.600	13.00	26.0	108.3	134.6	13.17	415.03
16.700	13.00	26.0	108.1	134.3	13.08	415.03
16.800	12.00	25.0	107.6	133.1	12.75	415.01
16.900	12.00	24.0	106.9	131.6	12.36	415.00
17.000	12.00	24.0	106.4	130.9	12.25	414.99
17.100	12.00	24.0	106.0	130.4	12.17	414.98
17.200	11.00	23.0	105.1	129.0	11.96	414.96
17.300	11.00	22.0	103.8	127.1	11.66	414.94
17.400	10.00	21.0	102.2	124.8	11.29	414.91
17.500	10.00	20.0	100.5	122.2	10.88	414.88
17.600	10.00	20.0	99.3	120.5	10.60	414.86
17.700	10.00	20.0	98.4	119.3	10.41	414.84
17.800	9.00	19.0	97.2	117.4	10.12	414.82
17.900	9.00	18.0	95.6	115.2	9.77	414.79
18.000	9.00	18.0	94.6	113.6	9.53	414.77
18.100	9.00	18.0	93.9	112.6	9.36	414.75
18.200	9.00	18.0	93.4	111.9	9.25	414.75
18.300	8.00	17.0	92.4	110.4	9.01	414.73
18.400	8.00	16.0	91.0	108.4	8.69	414.70
18.500	8.00	16.0	90.0	107.0	8.47	414.68
18.600	8.00	16.0	89.4	106.0	8.32	414.67
18.700	8.00	16.0	88.9	105.4	8.22	414.66
18.800	7.00	15.0	88.0	103.9	7.99	414.64
18.900	7.00	14.0	86.6	102.0	7.68	414.62
19.000	7.00	14.0	85.7	100.6	7.46	414.60
19.100	7.00	14.0	85.0	99.7	7.32	414.59
19.200	7.00	14.0	84.6	99.0	7.22	414.58
19.300	7.00	14.0	84.3	98.6	7.15	414.58
19.400	7.00	14.0	84.1	98.3	7.10	414.57
19.500	7.00	14.0	84.0	98.1	7.07	414.57
19.600	7.00	14.0	83.9	98.0	7.05	414.57
19.700	7.00	14.0	83.8	97.9	7.03	414.57
19.800	7.00	14.0	83.8	97.8	7.02	414.57
19.900	7.00	14.0	83.7	97.8	7.02	414.57
20.000	7.00	14.0	83.7	97.7	7.01	414.57

Pond File: a:364 .PND
Inflow Hydrograph: a:364-100 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
20.100	7.00	14.0	83.7	97.7	7.01	414.57
20.200	7.00	14.0	83.7	97.7	7.00	414.56
20.300	7.00	14.0	83.7	97.7	7.00	414.56
20.400	7.00	14.0	83.7	97.7	7.00	414.56
20.500	7.00	14.0	83.7	97.7	7.00	414.56
20.600	7.00	14.0	83.7	97.7	7.00	414.56
20.700	7.00	14.0	83.7	97.7	7.00	414.56
20.800	7.00	14.0	83.7	97.7	7.00	414.56
20.900	7.00	14.0	83.7	97.7	7.00	414.56
21.000	6.00	13.0	83.0	96.7	6.84	414.55
21.100	6.00	12.0	81.8	95.0	6.58	414.53
21.200	6.00	12.0	81.0	93.8	6.39	414.52
21.300	6.00	12.0	80.5	93.0	6.27	414.51
21.400	6.00	12.0	80.1	92.5	6.18	414.50
21.500	6.00	12.0	79.9	92.1	6.13	414.49
21.600	6.00	12.0	79.7	91.9	6.09	414.49
21.700	6.00	12.0	79.6	91.7	6.06	414.49
21.800	6.00	12.0	79.5	91.6	6.04	414.49
21.900	6.00	12.0	79.4	91.5	6.03	414.49
22.000	6.00	12.0	79.4	91.4	6.02	414.49
22.100	6.00	12.0	79.4	91.4	6.01	414.48
22.200	6.00	12.0	79.4	91.4	6.01	414.48
22.300	6.00	12.0	79.3	91.4	6.01	414.48
22.400	5.00	11.0	78.7	90.3	5.85	414.47
22.500	5.00	10.0	77.5	88.7	5.58	414.45
22.600	5.00	10.0	76.7	87.5	5.40	414.44
22.700	5.00	10.0	76.2	86.7	5.27	414.43
22.800	5.00	10.0	75.8	86.2	5.19	414.42
22.900	5.00	10.0	75.5	85.8	5.13	414.41
23.000	4.00	9.0	74.7	84.5	4.93	414.40
23.100	4.00	8.0	73.4	82.7	4.64	414.37
23.200	4.00	8.0	72.5	81.4	4.43	414.36
23.300	4.00	8.0	71.9	80.5	4.30	414.35
23.400	4.00	8.0	71.5	79.9	4.20	414.34
23.500	4.00	8.0	71.3	79.5	4.14	414.33
23.600	4.00	8.0	71.1	79.3	4.10	414.33
23.700	3.00	7.0	70.3	78.1	3.91	414.32
23.800	3.00	6.0	69.0	76.3	3.62	414.29
23.900	3.00	6.0	68.2	75.0	3.42	414.28
24.000	3.00	6.0	67.6	74.2	3.29	414.27
24.100	3.00	6.0	67.2	73.6	3.20	414.26
24.200	3.00	6.0	66.9	73.2	3.14	414.25
24.300	3.00	6.0	66.7	72.9	3.09	414.25
24.400	2.00	5.0	65.9	71.7	2.91	414.23
24.500	2.00	4.0	64.7	69.9	2.62	414.21
24.600	2.00	4.0	63.8	68.7	2.42	414.20

Pond File: a:364 .PND
Inflow Hydrograph: a:364-100 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH

TIME (hrs)	INFLOW (cfs)
24.700	2.00
24.800	2.00
24.900	2.00
25.000	2.00
25.100	1.00
25.200	1.00
25.300	1.00
25.400	1.00
25.500	1.00
25.600	1.00
25.700	0.00
25.800	0.00
25.900	0.00

ROUTING COMPUTATIONS

I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
4.0	63.3	67.8	2.29	414.18
4.0	62.9	67.3	2.20	414.18
4.0	62.6	66.9	2.14	414.17
4.0	62.4	66.6	2.09	414.17
3.0	61.6	65.4	1.91	414.15
2.0	60.3	63.6	1.62	414.13
2.0	59.5	62.3	1.42	414.11
2.0	58.9	61.5	1.29	414.10
2.0	58.5	60.9	1.20	414.10
2.0	58.3	60.5	1.14	414.09
1.0	57.4	59.3	0.93	414.08
0.0	56.1	57.4	0.64	414.05
0.0	55.2	56.1	0.44	414.04

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: a:364 .PND
Inflow Hydrograph: a:364-100 .HYD
Outflow Hydrograph: a:364-OUT .HYD

Starting Pond W.S. Elevation = 412.50 ft

***** Summary of Peak Outflow and Peak Elevation *****

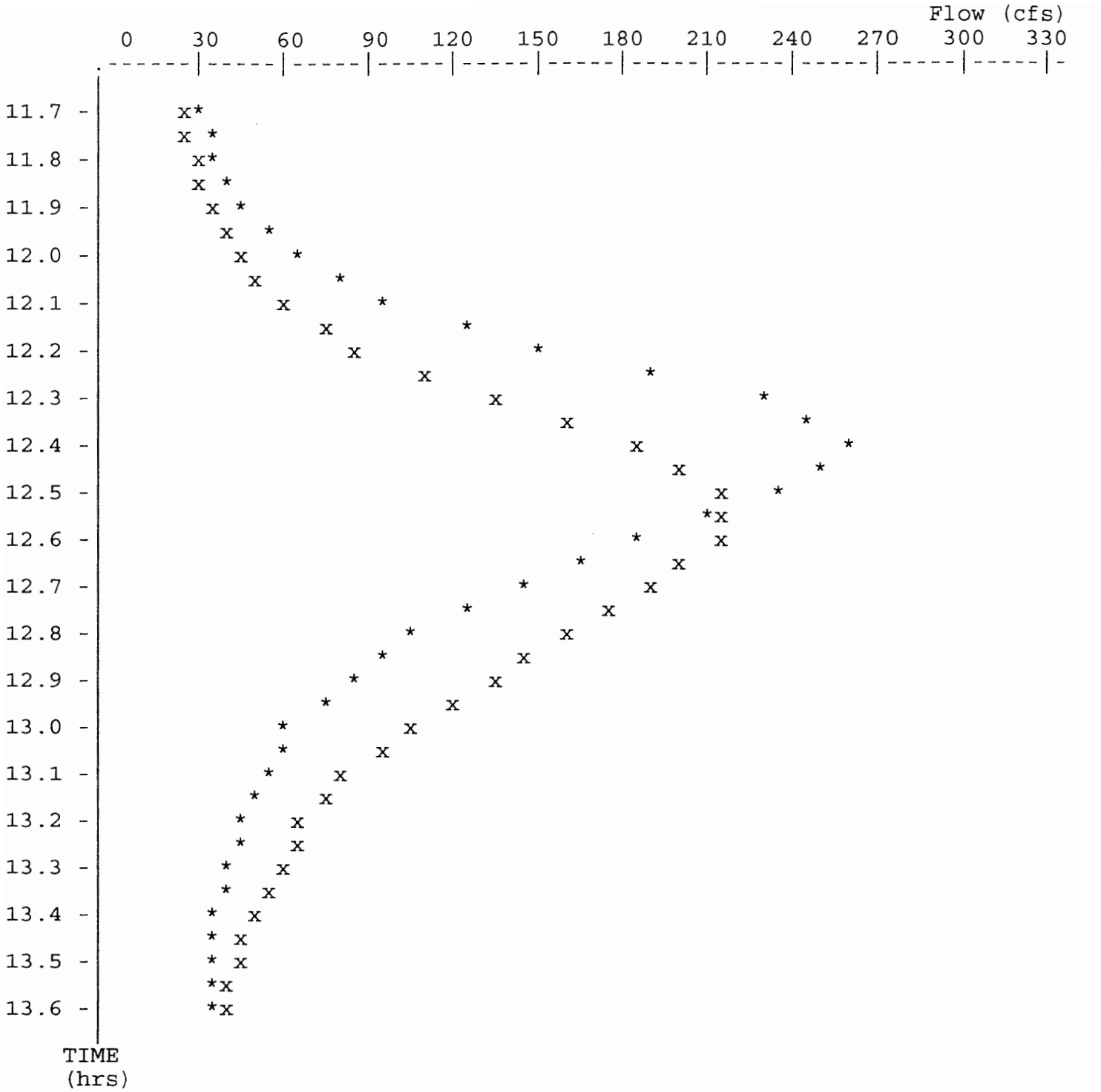
Peak Inflow = 261.00 cfs
Peak Outflow = 214.34 cfs
Peak Elevation = 419.90 ft

***** Summary of Approximate Peak Storage *****

Initial Storage = 2,400 cu-ft
Peak Storage From Storm = 140,652 cu-ft

Total Storage in Pond = 143,052 cu-ft

Warning: Inflow hydrograph truncated on left side.



* File: a:364-100 .HYD Qmax = 261.0 cfs
x File: a:364-OUT .HYD Qmax = 214.3 cfs

```
*************************
*                       *
*  KURY HOMES   25 year *
*    Clarkstown, N.Y.   *
*                       *
*                       *
*                       *
*************************
```

Inflow Hydrograph: a:364-25 .HYD
Rating Table file: a:364 .PND

----INITIAL CONDITIONS----
Elevation = 412.50 ft
Outflow = 0.00 cfs
Storage = 2,400 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
412.00	0.0	0
413.00	0.0	4,800
414.00	0.0	9,600
415.00	12.4	21,500
416.00	38.1	33,400
417.00	71.4	56,800
418.00	113.9	80,200
419.00	163.5	113,200
420.00	219.7	146,200

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
26.7	26.7
53.3	53.3
119.4	131.8
185.6	223.7
315.6	387.0
445.6	559.5
628.9	792.4
812.2	1031.9

Time increment (t) = 0.100 hrs.

EXECUTED: 11-01-2001 11:06:49

Pond File: a:364 .PND
Inflow Hydrograph: a:364-25 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
11.000	10.00	-----	13.3	13.3	0.00	412.50
11.100	11.00	21.0	34.3	34.3	0.00	413.29
11.200	11.00	22.0	55.4	56.3	0.47	414.04
11.300	12.00	23.0	70.5	78.4	3.96	414.32
11.400	14.00	26.0	82.8	96.5	6.81	414.55
11.500	16.00	30.0	94.0	112.8	9.40	414.76
11.600	18.00	34.0	104.4	128.0	11.80	414.95
11.700	23.00	41.0	113.0	145.4	16.21	415.15
11.800	28.00	51.0	121.2	164.0	21.41	415.35
11.900	33.00	61.0	129.2	182.2	26.50	415.55
12.000	49.00	82.0	142.0	211.2	34.62	415.86
12.100	72.00	121.0	170.7	263.0	46.12	416.24
12.200	114.00	186.0	226.3	356.7	65.24	416.81
12.300	176.00	290.0	309.7	516.3	103.26	417.75
12.400	199.00	375.0	403.6	684.7	140.58	418.54
12.500	180.00	379.0	459.8	782.6	161.41	418.96
12.600	143.00	323.0	459.9	782.8	161.45	418.96
12.700	110.00	253.0	419.7	712.9	146.57	418.66
12.800	81.00	191.0	361.1	610.7	124.82	418.22
12.900	64.00	145.0	304.6	506.1	100.75	417.69
13.000	47.00	111.0	258.7	415.6	78.45	417.17
13.100	41.00	88.0	220.3	346.7	63.19	416.75
13.200	35.00	76.0	190.5	296.3	52.91	416.44
13.300	32.00	67.0	167.5	257.5	45.00	416.21
13.400	28.00	60.0	149.7	227.5	38.88	416.02
13.500	27.00	55.0	139.1	204.7	32.80	415.79
13.600	25.00	52.0	133.1	191.1	28.99	415.65
13.700	24.00	49.0	129.2	182.1	26.48	415.55
13.800	23.00	47.0	126.6	176.2	24.81	415.48
13.900	22.00	45.0	124.5	171.6	23.52	415.43
14.000	22.00	44.0	123.2	168.5	22.67	415.40
14.100	21.00	43.0	122.2	166.2	22.01	415.37
14.200	20.00	41.0	120.8	163.2	21.17	415.34
14.300	19.00	39.0	119.4	159.8	20.23	415.30
14.400	19.00	38.0	118.3	157.4	19.54	415.28
14.500	18.00	37.0	117.4	155.3	18.96	415.26
14.600	18.00	36.0	116.5	153.4	18.42	415.23
14.700	18.00	36.0	116.1	152.5	18.19	415.23
14.800	17.00	35.0	115.5	151.1	17.80	415.21
14.900	16.00	33.0	114.4	148.5	17.07	415.18
15.000	16.00	32.0	113.4	146.4	16.47	415.16
15.100	16.00	32.0	113.0	145.4	16.21	415.15
15.200	15.00	31.0	112.4	144.0	15.81	415.13
15.300	15.00	30.0	111.7	142.4	15.36	415.12
15.400	14.00	29.0	110.9	140.7	14.88	415.10

Pond File: a:364 .PND
Inflow Hydrograph: a:364-25 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
15.500	14.00	28.0	110.2	138.9	14.39	415.08
15.600	14.00	28.0	109.8	138.2	14.17	415.07
15.700	13.00	27.0	109.2	136.8	13.79	415.05
15.800	13.00	26.0	108.5	135.2	13.35	415.04
15.900	12.00	25.0	107.8	133.5	12.87	415.02
16.000	12.00	24.0	107.0	131.8	12.39	415.00
16.100	12.00	24.0	106.5	131.0	12.27	414.99
16.200	11.00	23.0	105.4	129.5	12.03	414.97
16.300	11.00	22.0	104.0	127.4	11.70	414.94
16.400	10.00	21.0	102.4	125.0	11.32	414.91
16.500	10.00	20.0	100.6	122.4	10.90	414.88
16.600	10.00	20.0	99.3	120.6	10.62	414.86
16.700	10.00	20.0	98.5	119.3	10.42	414.84
16.800	9.00	19.0	97.2	117.5	10.13	414.82
16.900	9.00	18.0	95.7	115.2	9.77	414.79
17.000	9.00	18.0	94.6	113.7	9.53	414.77
17.100	9.00	18.0	93.9	112.6	9.36	414.76
17.200	9.00	18.0	93.4	111.9	9.25	414.75
17.300	8.00	17.0	92.4	110.4	9.01	414.73
17.400	8.00	16.0	91.0	108.4	8.69	414.70
17.500	8.00	16.0	90.0	107.0	8.47	414.68
17.600	8.00	16.0	89.4	106.0	8.32	414.67
17.700	8.00	16.0	88.9	105.4	8.22	414.66
17.800	7.00	15.0	88.0	103.9	7.99	414.64
17.900	7.00	14.0	86.6	102.0	7.68	414.62
18.000	7.00	14.0	85.7	100.6	7.47	414.60
18.100	7.00	14.0	85.0	99.7	7.32	414.59
18.200	7.00	14.0	84.6	99.0	7.22	414.58
18.300	7.00	14.0	84.3	98.6	7.15	414.58
18.400	7.00	14.0	84.1	98.3	7.10	414.57
18.500	6.00	13.0	83.3	97.1	6.91	414.56
18.600	6.00	12.0	82.0	95.3	6.62	414.53
18.700	6.00	12.0	81.2	94.0	6.43	414.52
18.800	6.00	12.0	80.6	93.2	6.29	414.51
18.900	6.00	12.0	80.2	92.6	6.20	414.50
19.000	6.00	12.0	79.9	92.2	6.14	414.49
19.100	6.00	12.0	79.7	91.9	6.09	414.49
19.200	6.00	12.0	79.6	91.7	6.06	414.49
19.300	6.00	12.0	79.5	91.6	6.04	414.49
19.400	6.00	12.0	79.5	91.5	6.03	414.49
19.500	6.00	12.0	79.4	91.5	6.02	414.49
19.600	5.00	11.0	78.7	90.4	5.86	414.47
19.700	5.00	10.0	77.5	88.7	5.59	414.45
19.800	5.00	10.0	76.7	87.5	5.40	414.44
19.900	5.00	10.0	76.2	86.7	5.27	414.43
20.000	5.00	10.0	75.8	86.2	5.19	414.42

Pond File: a:364 .PND
Inflow Hydrograph: a:364-25 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
20.100	5.00	10.0	75.5	85.8	5.13	414.41
20.200	5.00	10.0	75.4	85.5	5.09	414.41
20.300	5.00	10.0	75.3	85.4	5.06	414.41
20.400	5.00	10.0	75.2	85.3	5.04	414.41
20.500	5.00	10.0	75.1	85.2	5.03	414.41
20.600	5.00	10.0	75.1	85.1	5.02	414.40
20.700	5.00	10.0	75.0	85.1	5.01	414.40
20.800	5.00	10.0	75.0	85.0	5.01	414.40
20.900	5.00	10.0	75.0	85.0	5.01	414.40
21.000	4.00	9.0	74.3	84.0	4.85	414.39
21.100	4.00	8.0	73.2	82.3	4.58	414.37
21.200	4.00	8.0	72.4	81.2	4.40	414.35
21.300	4.00	8.0	71.8	80.4	4.27	414.34
21.400	4.00	8.0	71.5	79.8	4.19	414.34
21.500	4.00	8.0	71.2	79.5	4.13	414.33
21.600	4.00	8.0	71.0	79.2	4.09	414.33
21.700	4.00	8.0	70.9	79.0	4.06	414.33
21.800	4.00	8.0	70.8	78.9	4.04	414.33
21.900	4.00	8.0	70.8	78.8	4.03	414.32
22.000	4.00	8.0	70.7	78.8	4.02	414.32
22.100	4.00	8.0	70.7	78.7	4.01	414.32
22.200	4.00	8.0	70.7	78.7	4.01	414.32
22.300	4.00	8.0	70.7	78.7	4.01	414.32
22.400	4.00	8.0	70.7	78.7	4.00	414.32
22.500	4.00	8.0	70.7	78.7	4.00	414.32
22.600	3.00	7.0	70.0	77.7	3.84	414.31
22.700	3.00	6.0	68.8	76.0	3.58	414.29
22.800	3.00	6.0	68.0	74.8	3.40	414.27
22.900	3.00	6.0	67.5	74.0	3.27	414.26
23.000	3.00	6.0	67.1	73.5	3.18	414.26
23.100	3.00	6.0	66.9	73.1	3.13	414.25
23.200	3.00	6.0	66.7	72.9	3.09	414.25
23.300	3.00	6.0	66.6	72.7	3.06	414.25
23.400	3.00	6.0	66.5	72.6	3.04	414.25
23.500	2.00	5.0	65.8	71.5	2.87	414.23
23.600	2.00	4.0	64.6	69.8	2.60	414.21
23.700	2.00	4.0	63.8	68.6	2.41	414.19
23.800	2.00	4.0	63.2	67.8	2.28	414.18
23.900	2.00	4.0	62.8	67.2	2.19	414.18
24.000	2.00	4.0	62.6	66.8	2.13	414.17
24.100	2.00	4.0	62.4	66.6	2.09	414.17
24.200	2.00	4.0	62.3	66.4	2.06	414.17
24.300	2.00	4.0	62.2	66.3	2.04	414.16
24.400	2.00	4.0	62.1	66.2	2.03	414.16
24.500	2.00	4.0	62.1	66.1	2.02	414.16
24.600	1.00	3.0	61.4	65.1	1.86	414.15

Pond File: a:364 .PND
Inflow Hydrograph: a:364-25 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
24.700	1.00	2.0	60.2	63.4	1.59	414.13
24.800	1.00	2.0	59.4	62.2	1.40	414.11
24.900	1.00	2.0	58.9	61.4	1.27	414.10
25.000	1.00	2.0	58.5	60.9	1.19	414.10
25.100	1.00	2.0	58.2	60.5	1.13	414.09
25.200	1.00	2.0	58.0	60.2	1.09	414.09
25.300	1.00	2.0	57.9	60.0	1.06	414.09
25.400	1.00	2.0	57.8	59.9	1.04	414.08
25.500	0.00	1.0	57.1	58.8	0.87	414.07
25.600	0.00	0.0	55.9	57.1	0.60	414.05
25.700	0.00	0.0	55.1	55.9	0.41	414.03
25.800	0.00	0.0	54.5	55.1	0.28	414.02
25.900	0.00	0.0	54.2	54.5	0.19	414.02

********** SUMMARY OF ROUTING COMPUTATIONS **********

Pond File: a:364 .PND
Inflow Hydrograph: a:364-25 .HYD
Outflow Hydrograph: a:364-OUT .HYD

Starting Pond W.S. Elevation = 412.50 ft

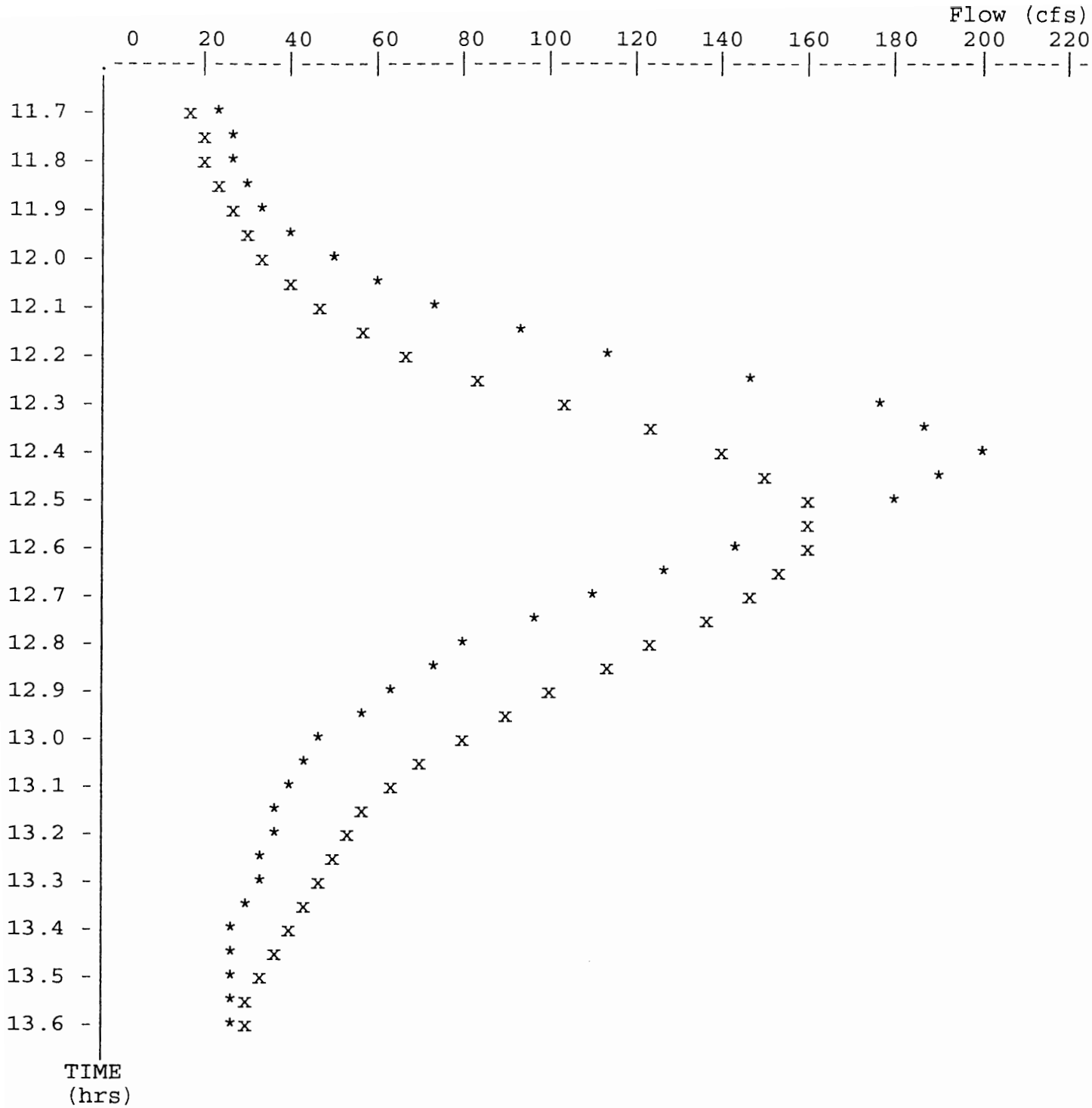
***** Summary of Peak Outflow and Peak Elevation *****

Peak Inflow = 199.00 cfs
Peak Outflow = 161.45 cfs
Peak Elevation = 418.96 ft

***** Summary of Approximate Peak Storage *****

Initial Storage	=	2,400 cu-ft
Peak Storage From Storm	=	109,436 cu-ft
Total Storage in Pond	=	111,836 cu-ft

Warning: Inflow hydrograph truncated on left side.



* File: a:364-25 .HYD Qmax = 199.0 cfs
x File: a:364-OUT .HYD Qmax = 161.4 cfs

```
*******************************
*                             *
*   KURY HOMES   2 year storm *
*       Clarkstown, N.Y.      *
*                             *
*                             *
*                             *
*******************************
```

Inflow Hydrograph: a:364-2 .HYD
Rating Table file: a:364 .PND

----INITIAL CONDITIONS----
Elevation = 412.50 ft
Outflow = 0.00 cfs
Storage = 2,400 cu-ft

GIVEN POND DATA

ELEVATION (ft)	OUTFLOW (cfs)	STORAGE (cu-ft)
412.00	0.0	0
413.00	0.0	4,800
414.00	0.0	9,600
415.00	12.4	21,500
416.00	38.1	33,400
417.00	71.4	56,800
418.00	113.9	80,200
419.00	163.5	113,200
420.00	219.7	146,200

INTERMEDIATE ROUTING COMPUTATIONS

2S/t (cfs)	2S/t + O (cfs)
0.0	0.0
26.7	26.7
53.3	53.3
119.4	131.8
185.6	223.7
315.6	387.0
445.6	559.5
628.9	792.4
812.2	1031.9

Time increment (t) = 0.100 hrs.

EXECUTED: 11-01-2001 11:12:45

Pond File: a:364 .PND
Inflow Hydrograph: a:364-2 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
11.000	5.00	-----	13.3	13.3	0.00	412.50
11.100	5.00	10.0	23.3	23.3	0.00	412.88
11.200	6.00	11.0	34.3	34.3	0.00	413.29
11.300	6.00	12.0	46.3	46.3	0.00	413.74
11.400	7.00	13.0	57.4	59.3	0.95	414.08
11.500	8.00	15.0	66.4	72.4	3.02	414.24
11.600	9.00	17.0	73.9	83.4	4.75	414.38
11.700	11.00	20.0	81.1	93.9	6.41	414.52
11.800	14.00	25.0	89.4	106.1	8.33	414.67
11.900	16.00	30.0	98.5	119.4	10.44	414.84
12.000	24.00	40.0	110.0	138.5	14.28	415.07
12.100	35.00	59.0	123.4	169.0	22.80	415.40
12.200	56.00	91.0	143.4	214.4	35.51	415.90
12.300	86.00	142.0	184.0	285.4	50.69	416.38
12.400	97.00	183.0	232.3	367.0	67.33	416.88
12.500	88.00	185.0	259.6	417.3	78.89	417.18
12.600	70.00	158.0	259.7	417.6	78.94	417.18
12.700	54.00	124.0	242.2	383.7	70.73	416.98
12.800	40.00	94.0	214.1	336.2	61.05	416.69
12.900	31.00	71.0	183.8	285.1	50.63	416.38
13.000	23.00	54.0	155.9	237.8	40.99	416.09
13.100	20.00	43.0	136.5	198.9	31.16	415.73
13.200	17.00	37.0	125.4	173.5	24.07	415.45
13.300	16.00	33.0	118.7	158.4	19.83	415.29
13.400	14.00	30.0	114.5	148.7	17.13	415.18
13.500	13.00	27.0	111.3	141.5	15.10	415.10
13.600	12.00	25.0	109.0	136.3	13.64	415.05
13.700	12.00	24.0	107.6	133.0	12.72	415.01
13.800	11.00	23.0	106.2	130.6	12.20	414.98
13.900	11.00	22.0	104.5	128.2	11.82	414.95
14.000	11.00	22.0	103.4	126.5	11.56	414.93
14.100	10.00	21.0	102.0	124.4	11.22	414.91
14.200	10.00	20.0	100.3	122.0	10.84	414.87
14.300	9.00	19.0	98.4	119.3	10.42	414.84
14.400	9.00	18.0	96.5	116.4	9.97	414.80
14.500	9.00	18.0	95.2	114.5	9.66	414.78
14.600	9.00	18.0	94.3	113.2	9.45	414.76
14.700	9.00	18.0	93.7	112.3	9.31	414.75
14.800	8.00	17.0	92.6	110.7	9.05	414.73
14.900	8.00	16.0	91.1	108.6	8.72	414.70
15.000	8.00	16.0	90.1	107.1	8.49	414.68
15.100	8.00	16.0	89.4	106.1	8.34	414.67
15.200	8.00	16.0	89.0	105.4	8.23	414.66
15.300	7.00	15.0	88.0	104.0	8.00	414.65
15.400	7.00	14.0	86.6	102.0	7.68	414.62

Pond File: a:364 .PND
Inflow Hydrograph: a:364-2 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
15.500	7.00	14.0	85.7	100.6	7.47	414.60
15.600	7.00	14.0	85.0	99.7	7.32	414.59
15.700	7.00	14.0	84.6	99.0	7.22	414.58
15.800	6.00	13.0	83.6	97.6	6.99	414.56
15.900	6.00	12.0	82.3	95.6	6.68	414.54
16.000	6.00	12.0	81.3	94.3	6.46	414.52
16.100	6.00	12.0	80.7	93.3	6.32	414.51
16.200	6.00	12.0	80.3	92.7	6.22	414.50
16.300	5.00	11.0	79.3	91.3	5.99	414.48
16.400	5.00	10.0	77.9	89.3	5.68	414.46
16.500	5.00	10.0	77.0	87.9	5.46	414.44
16.600	5.00	10.0	76.4	87.0	5.32	414.43
16.700	5.00	10.0	75.9	86.4	5.22	414.42
16.800	4.00	9.0	75.0	84.9	4.99	414.40
16.900	4.00	8.0	73.6	83.0	4.68	414.38
17.000	4.00	8.0	72.7	81.6	4.46	414.36
17.100	4.00	8.0	72.0	80.7	4.32	414.35
17.200	4.00	8.0	71.6	80.0	4.22	414.34
17.300	4.00	8.0	71.3	79.6	4.15	414.33
17.400	4.00	8.0	71.1	79.3	4.10	414.33
17.500	4.00	8.0	71.0	79.1	4.07	414.33
17.600	4.00	8.0	70.9	79.0	4.05	414.33
17.700	4.00	8.0	70.8	78.9	4.03	414.33
17.800	3.00	7.0	70.1	77.8	3.86	414.31
17.900	3.00	6.0	68.9	76.1	3.59	414.29
18.000	3.00	6.0	68.1	74.9	3.40	414.27
18.100	3.00	6.0	67.5	74.1	3.28	414.26
18.200	3.00	6.0	67.1	73.5	3.19	414.26
18.300	3.00	6.0	66.9	73.1	3.13	414.25
18.400	3.00	6.0	66.7	72.9	3.09	414.25
18.500	3.00	6.0	66.6	72.7	3.06	414.25
18.600	3.00	6.0	66.5	72.6	3.04	414.25
18.700	3.00	6.0	66.5	72.5	3.03	414.24
18.800	3.00	6.0	66.4	72.5	3.02	414.24
18.900	3.00	6.0	66.4	72.4	3.01	414.24
19.000	3.00	6.0	66.4	72.4	3.01	414.24
19.100	3.00	6.0	66.4	72.4	3.01	414.24
19.200	3.00	6.0	66.3	72.4	3.00	414.24
19.300	3.00	6.0	66.3	72.3	3.00	414.24
19.400	3.00	6.0	66.3	72.3	3.00	414.24
19.500	3.00	6.0	66.3	72.3	3.00	414.24
19.600	3.00	6.0	66.3	72.3	3.00	414.24
19.700	3.00	6.0	66.3	72.3	3.00	414.24
19.800	3.00	6.0	66.3	72.3	3.00	414.24
19.900	3.00	6.0	66.3	72.3	3.00	414.24
20.000	3.00	6.0	66.3	72.3	3.00	414.24

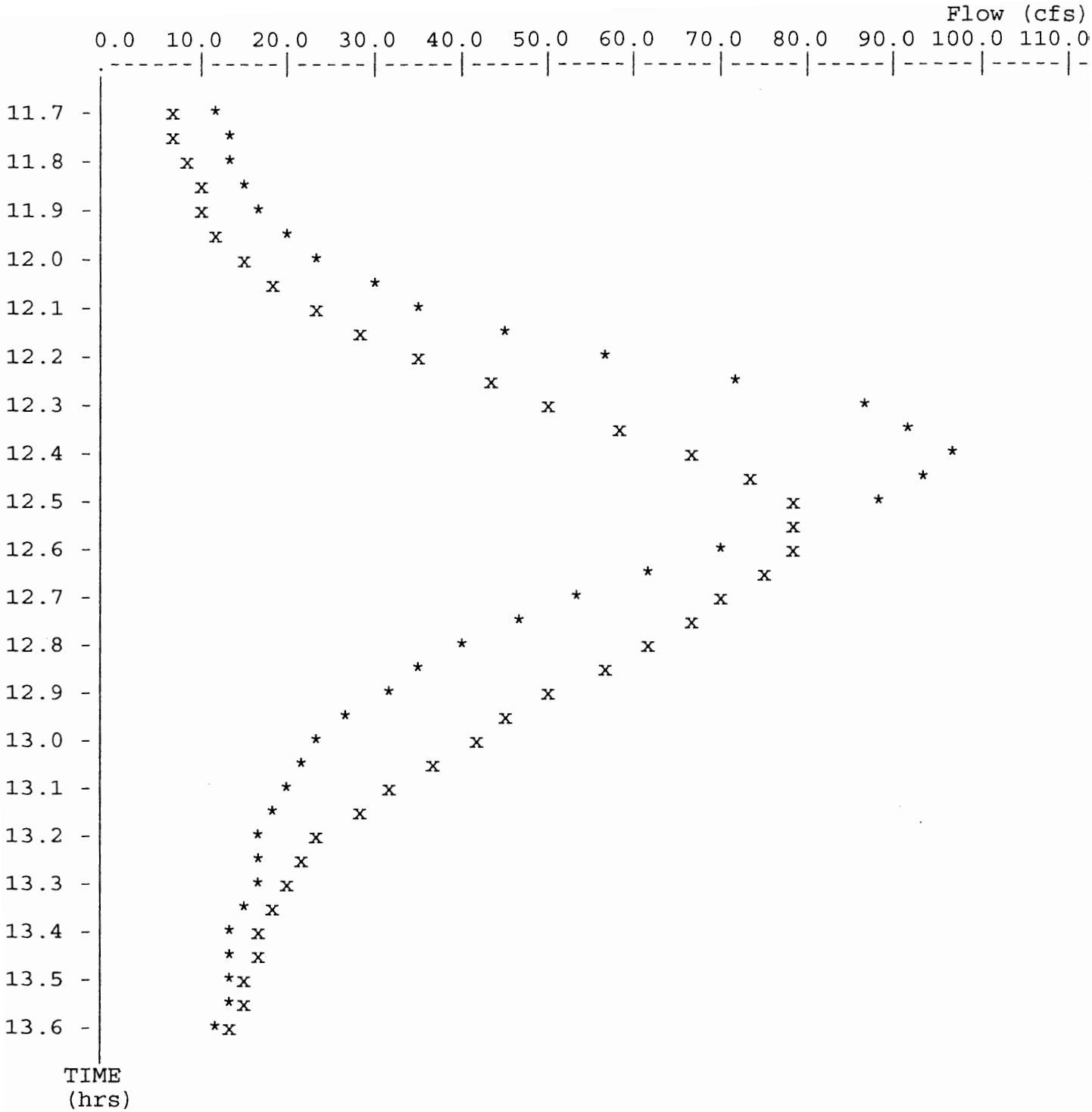
Pond File: a:364 .PND
Inflow Hydrograph: a:364-2 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
20.100	3.00	6.0	66.3	72.3	3.00	414.24
20.200	3.00	6.0	66.3	72.3	3.00	414.24
20.300	3.00	6.0	66.3	72.3	3.00	414.24
20.400	3.00	6.0	66.3	72.3	3.00	414.24
20.500	3.00	6.0	66.3	72.3	3.00	414.24
20.600	3.00	6.0	66.3	72.3	3.00	414.24
20.700	3.00	6.0	66.3	72.3	3.00	414.24
20.800	3.00	6.0	66.3	72.3	3.00	414.24
20.900	3.00	6.0	66.3	72.3	3.00	414.24
21.000	2.00	5.0	65.6	71.3	2.84	414.23
21.100	2.00	4.0	64.5	69.6	2.58	414.21
21.200	2.00	4.0	63.7	68.5	2.39	414.19
21.300	2.00	4.0	63.2	67.7	2.27	414.18
21.400	2.00	4.0	62.8	67.2	2.18	414.18
21.500	2.00	4.0	62.5	66.8	2.13	414.17
21.600	2.00	4.0	62.4	66.5	2.09	414.17
21.700	2.00	4.0	62.3	66.4	2.06	414.17
21.800	2.00	4.0	62.2	66.3	2.04	414.16
21.900	2.00	4.0	62.1	66.2	2.03	414.16
22.000	2.00	4.0	62.1	66.1	2.02	414.16
22.100	2.00	4.0	62.1	66.1	2.01	414.16
22.200	2.00	4.0	62.0	66.1	2.01	414.16
22.300	2.00	4.0	62.0	66.0	2.01	414.16
22.400	2.00	4.0	62.0	66.0	2.00	414.16
22.500	2.00	4.0	62.0	66.0	2.00	414.16
22.600	2.00	4.0	62.0	66.0	2.00	414.16
22.700	2.00	4.0	62.0	66.0	2.00	414.16
22.800	2.00	4.0	62.0	66.0	2.00	414.16
22.900	2.00	4.0	62.0	66.0	2.00	414.16
23.000	2.00	4.0	62.0	66.0	2.00	414.16
23.100	1.00	3.0	61.3	65.0	1.84	414.15
23.200	1.00	2.0	60.2	63.3	1.58	414.13
23.300	1.00	2.0	59.4	62.2	1.39	414.11
23.400	1.00	2.0	58.8	61.4	1.27	414.10
23.500	1.00	2.0	58.5	60.8	1.18	414.10
23.600	1.00	2.0	58.2	60.5	1.13	414.09
23.700	1.00	2.0	58.0	60.2	1.09	414.09
23.800	1.00	2.0	57.9	60.0	1.06	414.09
23.900	1.00	2.0	57.8	59.9	1.04	414.08
24.000	1.00	2.0	57.8	59.8	1.03	414.08
24.100	1.00	2.0	57.7	59.8	1.02	414.08
24.200	1.00	2.0	57.7	59.7	1.01	414.08
24.300	1.00	2.0	57.7	59.7	1.01	414.08
24.400	1.00	2.0	57.7	59.7	1.01	414.08
24.500	1.00	2.0	57.7	59.7	1.00	414.08
24.600	1.00	2.0	57.7	59.7	1.00	414.08

Pond File: a:364 .PND
Inflow Hydrograph: a:364-2 .HYD
Outflow Hydrograph: a:364-OUT .HYD

INFLOW HYDROGRAPH		ROUTING COMPUTATIONS				
TIME (hrs)	INFLOW (cfs)	I1+I2 (cfs)	2S/t - O (cfs)	2S/t + O (cfs)	OUTFLOW (cfs)	ELEVATION (ft)
24.700	1.00	2.0	57.7	59.7	1.00	414.08
24.800	1.00	2.0	57.7	59.7	1.00	414.08
24.900	1.00	2.0	57.7	59.7	1.00	414.08
25.000	0.00	1.0	57.0	58.7	0.84	414.07
25.100	0.00	0.0	55.8	57.0	0.58	414.05
25.200	0.00	0.0	55.0	55.8	0.39	414.03
25.300	0.00	0.0	54.5	55.0	0.27	414.02
25.400	0.00	0.0	54.1	54.5	0.18	414.01
25.500	0.00	0.0	53.9	54.1	0.13	414.01
25.600	0.00	0.0	53.7	53.9	0.09	414.01
25.700	0.00	0.0	53.6	53.7	0.06	414.00
25.800	0.00	0.0	53.5	53.6	0.04	414.00
25.900	0.00	0.0	53.5	53.5	0.03	414.00

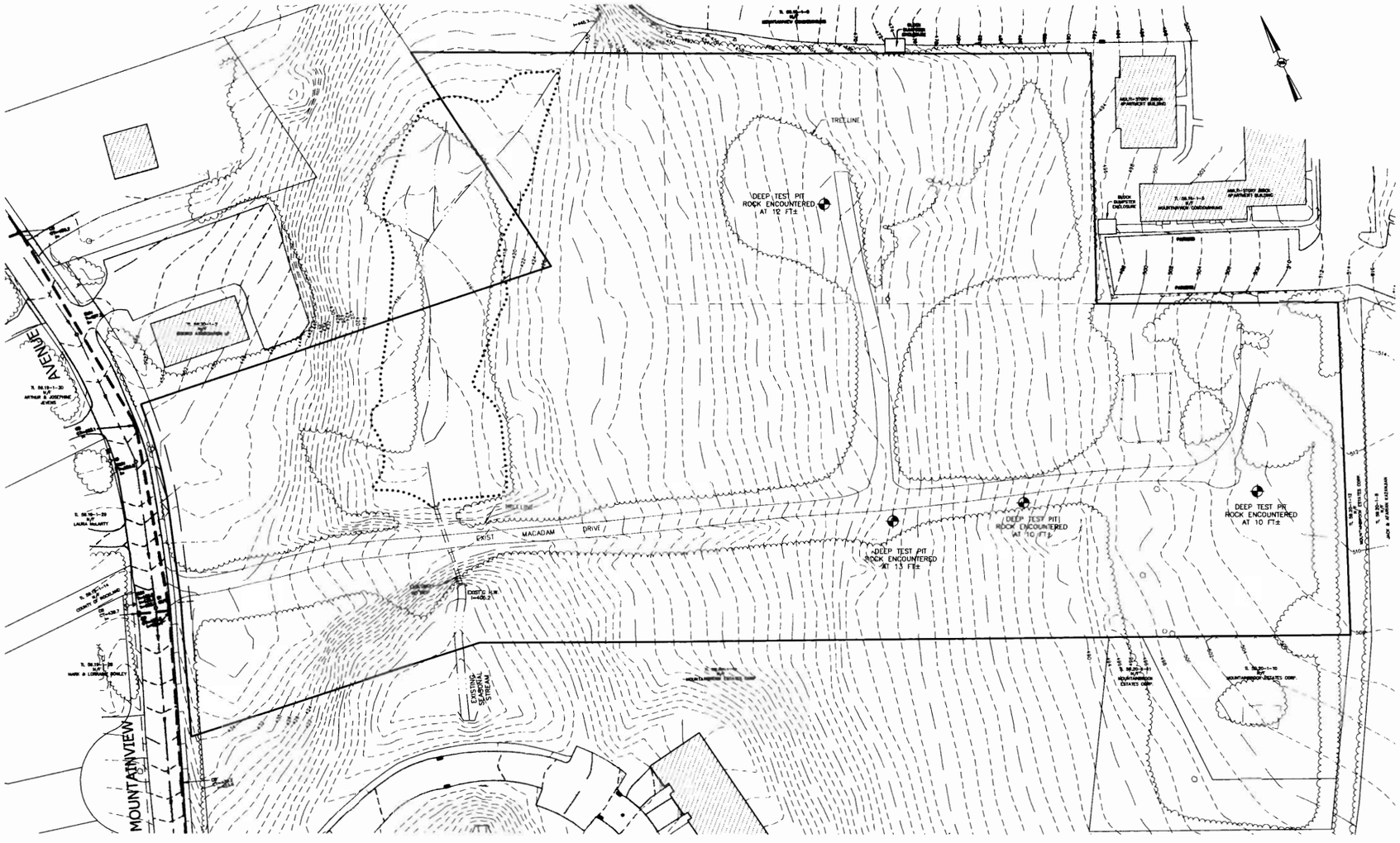
```
****************** SUMMARY OF ROUTING COMPUTATIONS ******************

Pond File:           a:364      .PND
Inflow Hydrograph:   a:364-2    .HYD
Outflow Hydrograph:  a:364-OUT  .HYD


Starting Pond W.S. Elevation =   412.50 ft


         ***** Summary of Peak Outflow and Peak Elevation *****

                     Peak Inflow    =    97.00 cfs
                     Peak Outflow   =    78.94 cfs
                     Peak Elevation =   417.18 ft


           ***** Summary of Approximate Peak Storage *****

               Initial Storage          =     2,400 cu-ft
               Peak Storage From Storm  =    58,553 cu-ft
                                          ---------------
               Total Storage in Pond    =    60,953 cu-ft


          Warning: Inflow hydrograph truncated on left side.
```

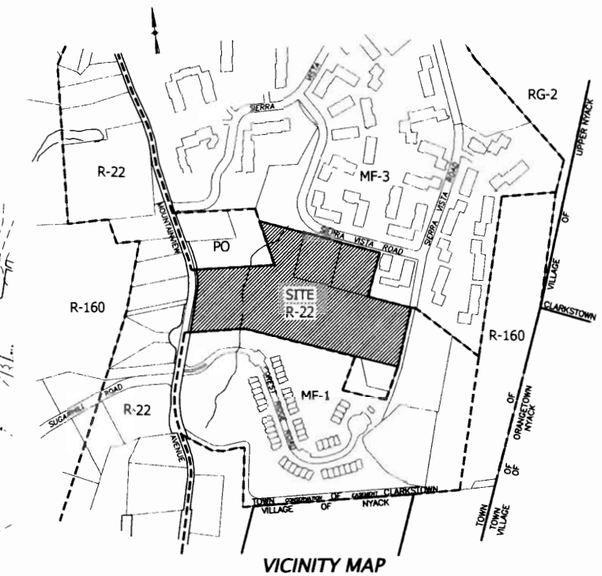


* File: a:364-2 .HYD Qmax = 97.0 cfs
x File: a:364-OUT .HYD Qmax = 78.9 cfs

APPENDIX D

Soil Investigation Map





VICINITY MAP

SCALE: 1 IN.= 300 FT.

OWNER AND APPLICANT:

KURY HOMES, INC.
[illegible] SOUTH MAIN STREET
NEW CITY, N.Y. 10956

THEODORE F. ATZL
N.Y.S.P.L.S. LIC. No. 40157

REVISION	DATE	DESCRIPTION

Theodore F. Atzl, P.L.S.
Vittorio Scatassa, P.L.S.
David M. Zigler, P.L.S.

ATZL, SCATASSA & ZIGLER P.C.

SURVEYORS–PLANNERS
234 North Main Street · New City, New York 10956
Tel: (845) 634-4694 FAX: (845) 634-5543
Email: ASZSurveys@aol.com

PROJECT:

KURY HOMES

TOWN OF CLARKSTOWN
ROCKLAND COUNTY, NEW YORK

TITLE:

DEEP TEST HOLE LOCATION MAP

DRAWN BY: ASA	CHECKED BY: DMZ
DATE: MARCH 1, 2005	SCALE: 1 IN.= 50 FT.
PROJECT NO: 2760	DRAWING NO: 1

APPENDIX E

Phase IA and IB Cultural Resource Investigation

PHASE 1A and 1B
CULTURAL RESOURCES INVESTIGATION
of the
KURY HOMES DEVELOPMENT PROPERTY
TOWN OF CLARKSTOWN,
ROCKLAND COUNTY, NEW YORK

by

Edward J. Lenik, R.P.A.
and
Nancy L. Gibbs

of

Sheffield Archaeological Consultants
24 High Street
Butler, New Jersey 7405

prepared for

Arthur Price
Kury Homes, Inc.
493 South Main Street
New City, New York 10956

May 2002

MANAGEMENT SUMMARY

A Phase 1A and 1B cultural resources investigation was conducted within the proposed Kury Homes subdivision property located on Mountainview Avenue in the Town of Clarkstown, Rockland County, New York. Documentary research, informant interviews, field reconnaissance and archaeological testing were the methods employed in this investigation.

No prehistoric (Native American) cultural resources were found within the property. The project site does not have the potential for containing evidence of prehistoric occupation or use.

Several historic period structures and ruins are present within the property. These include a former groundskeeper-servant's cottage dating to circa 1940, a Cape Cod house, and a ranch style house. The latter two houses date to the late 20th century. Also present are three outbuildings associated with the former servant's cottage: a garage, garden shed, and equipment/animal shed. All of these structures lack research potential and are not architecturally or historically significant. They do not meet the required criteria of eligibility for nomination to the National Register of Historic Places.

We conclude that the proposed residential subdivision will have no impact upon any significant cultural resources. Therefore, no further archaeological investigation is necessary.

TABLE OF CONTENTS

Page

MANAGEMENT SUMMARY I

I. INTRODUCTION 1

II. RESEARCH DESIGN AND METHODS 3

III. ENVIRONMENTAL SETTING 5

IV. BACKGROUND RESEARCH: NATIVE AMERICAN RESOURCES 7

V. BACKGROUND RESEARCH: HISTORIC RESOURCES 12

VI. PEDESTRIAN SURVEY OF THE PROJECT SITE 16

VII. ARCHAEOLOGICAL TEST EXCAVATIONS 20

VIII. CONCLUSIONS AND RECOMMENDATIONS 21

IX. REFERENCES 23

X. APPENDICES 28

XI. FIGURES 35

LIST OF ILLUSTRATIONS

Page

FIGURE 1: Portion of U.S.G.S. map Nyack, NY-NJ quadrangle showing location of project area 36

FIGURE 2: Portion of 1891 map of the project area 37

FIGURE 3: 1975 Historical Map of Rockland County 38

FIGURE 4: Photograph of Cottage 39

FIGURE 5: Photograph of Garage 40

FIGURE 6: Photograph of Garden Shed 41

FIGURE 7: Photograph of Equipment Shed 42

FIGURE 8: Photograph of Cape Cod House 43

FIGURE 9: Photograph of Ranch Style House 44

FIGURE 10: Photograph of paved entrance road 45

FIGURE 11: Photograph of machine excavated area 46

FIGURE 12: Photograph of landfilled area 47

FIGURE 13: Project Base Map ..... At end of report

I. INTRODUCTION

A. PROJECT DESCRIPTION

Kury Homes, Inc. proposes to construct a residential subdivision within 10.29 acres of land situated within the Town of Clarkstown, Rockland County, New York. The proposed development will consist of fourteen lots with a house to be built within each lot. The development of the property will include the construction of an entrance road, driveways, and utility systems.

There are three $1^1/_2$ story dwellings within the property that are presently occupied. In addition, there is an existing frame garage and two abandoned sheds within proposed Lot 8 at the northeast corner of the property. All of these structures are to be removed (Atzl, Scatassa & Zigler, P.C. 2001).

B. PROJECT LOCATION

The Kury Homes subdivision is located at 211, 221 and 231 Mountainview Avenue in the Town of Clarkstown, Rockland County, New York. The Town of Clarkstown tax map reference is section 59.20, Black 1, parcels 3, 4 and 5.

The proposed development property is bounded on the north and northeast by an office building and condominium structures, on the east by undeveloped wooded land and condominium structures, and on the west by Mountainview Avenue. The location of the project site is indicated on the Nyack, NJ-NY quadrangle, United States Geological Survey map 7.5 minute series, revised 1997 (FIGURE 1).

C. CULTURAL RESOURCES STUDY

This report presents the results of a Phase 1A and 1B cultural resources investigation conducted within the Kury Homes property. The study was conducted in accordance with the requirements of the New York State Environmental Quality Review Act (SEQRA). The New York State Office of Parks, Recreation and Historic Preservation Project Review (PR) number is 02PR1271. The OPRHP has determined that "there is an archaeological site in or adjacent to" the project area and recommended a Phase 1 archaeological survey (see correspondence in Appendix C).

The objectives of this Phase 1A and 1B investigation were to determine the presence or absence of Native American (Indian) or historic period cultural

resources within or immediately adjacent to the proposed development, to assess the research potential and significance of any identified cultural resources, and to determine any impacts upon such resources.

II. RESEARCH DESIGN AND METHODS

A. BACKGROUND RESEARCH

Prior to the beginning of field investigations, several sources were consulted to acquire historical and archaeological information on the project site and area. The background research consisted of the examination of historical maps, local and county historical studies, and relevant prehistoric archaeological literature. These sources were consulted for references to known or potential historical or archaeological resources within one mile of the project area. The research included a search of the archaeological site files of the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) and the Trailside Museum, Palisades Interstate Park, Bear Mountain, New York. The State and National Registers of Historic Places were also consulted to determine if any properties listed in, or eligible for listing, were present in the immediate vicinity of the development site. Other primary research sources were the Finklestein Memorial Library, Spring Valley, N.Y., and the New City Library in New City, N.Y.

B. INFORMANT INTERVIEWS

Several local residents were consulted for information regarding the project site and local archaeology and history. A former Rockland County Park Ranger and avocational archaeologist was also consulted.

C. ENVIRONMENTAL ANALYSIS

The present environmental setting of the project area was examined including such factors as topography and slope, geology, soils, flora and fauna, the presence of water, and historic period settlement and use of the land.

D. FIELD RECONNAISSANCE

An intensive pedestrian survey was conducted within the project area. This involved a walkover and observation of the landscape during which a search was made for evidence of cultural features, artifacts and landscape alteration and disturbance.

E. TEST EXCAVATIONS

Archaeological test excavations were conducted within the property in areas determined to have potential for containing evidence of prehistoric or historic cultural resources as indicated by the background research, environmental assessment, and pedestrian reconnaissance. Shovel tests were excavated in areas which could reasonably be expected to contain buried cultural resources. Those areas within the property that contained steep slopes, were disturbed or altered in any way, or were outside the project footprint were not archaeologically tested.

The basic sampling strategy involved the excavation of 40 centimeter by 40 centimeter shovel tests at intervals of 15 meters (50 feet) in a linear or grid pattern compatible with on-site landscape conditions. Test intervals were adjusted, more or less, because of physical conditions such as the presence of trees, rock, or other factors. The tests were excavated to culturally sterile depths or to depths dictated by physical conditions such as the presence of rock or large roots.

All test units were excavated by shovel and hand trowel and the soils were screened and examined. Any artifacts recovered were recorded and bagged by test number and stratigraphic context. All test pits were backfilled at the conclusion of each excavation. The location of each archaeological test is shown on the project topographic base map.

III. ENVIRONMENTAL SETTING

The Kury Homes Subdivision lies within the Piedmont physiographic province or Newark Basin which extends in a northeast to southwesterly direction from the Palisades of the Hudson River towards Pennsylvania. The primary underlying bedrock of the region is Triassic-Jurassic sedimentary red conglomerate sandstone and shale, and igneous Palisades Diabase rocks (Isachsen et al. 2000:46, 47). The entire region was covered by a glacial ice sheet during the last Pleistocene Epoch known as the Wisconsin glacier. Deglaciation of the region began about 15,000 years ago. As the glacial ice sheet melted and receded, huge amounts of meltwater flowed southerly from its leading edge leaving behind sand, gravel, cobbles and boulders. By 13,000 years ago the glacial ice had retreated from the region. The effects of the Wisconsin glacier are visible on the landscape in the project area in the presence of large boulders and abundant rocks and cobbles, which were gathered together by historic-era people to form stone fences.

The project site is situated on the western slope of a ridge. Local elevations within the property range from approximately 400 feet above mean sea level near Mountainview Avenue on the west to about 510 feet above m.s.l. at the eastern border. According to the proposed subdivision plat, slopes of 30% to 50% and over 50% are present within the western section of the property (Atzl, Scatassa & Zigler 2001).

The predominant soil associations in the project area are Holyoke-Urban land-rock outcrop complex, rolling (HuC) and Holyoke-Rock outcrop complex, rolling (HoC). Holyoke series soils are shallow, well-drained and somewhat excessively drained soils on uplands. They formed in a thin mantle of glacial till derived mainly from red sandstone, shale, conglomerate and basalt (U.S.D.A. 1990).

An unnamed stream flows from north to south through the western portion of the property. Wetlands are present along both sides of the stream.

The Kury Homes property was once part of a larger farm, and open land. However, much of the land today is wooded and overgrown with brush and weeds. The flora within the property consists of apple, dogwood, tulip, and maple trees, abundant rose and greenbriar bushes, wild grapes, and poison

ivy. Several large and mature pine trees are present within the northeast section of the property.

The documentary evidence and field reconnaissance clearly indicate that the project site has undergone a number of landscape modifications since the arrival of Euroamericans. These physical changes are described in the field survey section of this report.

IV. BACKGROUND RESEARCH: NATIVE AMERICAN RESOURCES

A. REGIONAL CULTURAL HISTORY

The prehistoric archaeological record of the Piedmont Physiographic Province in Rockland County, New York, consists of four time periods of culture history. The Paleo Indian Period (c. 10,500 B.C. to 8000 B.C.) represents the earliest known human occupation of this area. The Archaic Period (c. 8000 B.C. to c. 1000 B.C.) refers to a time prior to the introduction of horticulture and the production of ceramic vessels and is divided into Early, Middle and Late periods. The period from c. 1700 B.C. to 1000 B.C. is referred to as the Terminal Archaic and represents a gradual change in Archaic lifestyles and the development of Woodland Period traits. The Woodland Period (c. 1000 B.C. to c. 1600 A.D.) refers to the time of ceramic vessel use by prehistoric people and the establishment of horticulture. The Woodland Period is also divided into Early, Middle, and Late Periods. The Historic Contact Period (c. A.D. 1600- to c. 1750 A.D.) represents the time of Indian habitation in the region and their extensive contacts with European traders, travelers and settlers.

In order to assess the project area's potential for containing evidence of Native American occupation and use, a brief overview of each of these time periods and their associated settlement patterns is presented below. These regional cultural periods are based on evidence recovered from the archaeological record and represent inferred changes in Native American technology, economics, and social lifeways.

1. PALEO INDIAN PERIOD (c. 10,500 B.C. to c. 8000 B.C.)

The Paleo Indian Period includes the time from the final retreat of the Wisconsin glacier from the region to the development of modern Holocene environments. Following deglaciation the landscape consisted of tundra-like vegetation including sedges, mosses, and lichens. This was succeeded by open parkland vegetation characterized by a mosaic of grasslands and coniferous forests. Initially, the climate was wet and cold, but gradual warming took place resulting in the expansion of boreal forests. Faunal species such as mammoth, mastodon, caribou, giant beaver, elk, moose, peccary, bear, and horse were present in the region and were potentially available for exploitation by early Paleo Indian hunters (Funk 1972; Eisenberg 1978). Many of these

animals are now extinct or no longer native to the area. The remains of numerous mastodons have been found in Orange County, New York, and also caribou, bear, horse, flat-headed peccary, and giant beaver (Ritchie 1980:10; Funk and Steadman 1994:42-45). The remains of mastodons have also been found in Rockland County, New York and in northern New Jersey.

The material remains of the Paleo Indians includes their stone tools. Their tool kits are characterized by Clovis-type fluted projectile points, a diagnostic Paleo Indian artifact. Their tools also included bifacial knives, drills, gravers, burins, scrapers, flake cores, and flake tools with no formal shape. These tools were utilized in the procurement and processing of faunal species and were generally made from high quality lithic material.

The Paleo Indians were hunter-gatherers who roamed widely in search of food and their settlement pattern consisted of small temporary camps. These people traveled in single or multiple family bands and some evidence of their presence in the region has been found. Most evidence of Paleo Indian activity comes from scattered surface finds of Clovis-type fluted projectile points. A limited number of Paleo Indian sites have been recorded in the region.

2. ARCHAIC PERIOD (c. 8000 B.C. to c. 1000 B.C.)

During the Archaic Period, a major shift occurred in the settlement and subsistence patterns of Native American groups. Hunting and gathering were still the basic ways of life during this period, but the emphasis in subsistence shifted from the large faunal species, which were rapidly becoming extinct or unavailable, to smaller game and plants of the deciduous forest. The environment differed from the earlier period as the open grasslands disappeared and temperate habitats consisting of forests of oak and hemlock were established. The settlement pattern of the Archaic people indicates larger, relatively more permanent habitation sites. These people were more efficient in the exploitation of their environment, and plant food resources along with fish and shellfish played a more important role in their diet.

The tool kit of the Early Archaic people (c. 8000 to 6000 B.C.) was basically the same as that of the Paleo Indians with the exception of projectile points. Early Archaic projectile points are bifurcated or basally notched and were generally made of high quality stone. The names assigned to the Early Archaic Period projectile points in New York are Palmer, Kirk and LeCroy.

Evidence of Early Archaic sites in the region are extremely sparse and consists of a few surface finds of bifurcated points.

The Middle Archaic covers the period between c. 6000 B.C. to c. 4000 B.C. The archaeological record suggests that a population increase took place during this period. In addition to projectile points, the tool kits of these people included grinding stones, mortars, and pestles. Evidence of Middle Archaic Period occupation has been found at the Spring House Rockshelter in Sloatsburg, Rockland County, New York (Lenik 1995).

Late Archaic people, from c. 4000 B.C. to c. 1000 B.C., were specialized hunter-gatherers who exploited a variety of upland and lowland settings in a well-defined and scheduled seasonal round. The projectile point types attributed to this period include the Lamoka, Brewerton, Normanskill, Lackawaxen, Bare Island, and Poplar Island (Ritchie 1971; Kinsey 1972). Milling equipment, stone axes, and adzes were also part of the tool kit of these peoples.

During the Terminal Archaic Period, c. 1700 B.C. to c. 1000 B.C., new and radically different broad-bladed projectile point types were developed. These include the Susquehanna, Koens-Crispin, Perkiomen, and Orient Fishtail types. The use of steatite or stone bowls is also a hallmark of this period.

Numerous Late and Terminal Archaic Period sites have been found in the region surrounding the project area. They have been found in various environmental settings such as river and stream floodplains, around lakes, wetlands and freshwater springs, on upland terraces, hilltops and in rockshelters (P.I.P.C. 1996a, b). These sites vary in size, length of occupation, and are focused on the procurement and processing of subsistence resources.

3. THE WOODLAND PERIOD (c. 1000 B.C. to c. 1600 A.D.)

The Woodland Period is distinguished from the Archaic Period by the introduction of ceramic vessels. In general, the hunting and gathering way of life persisted. However, horticulture began during this period and later became well established with the cultivation of corn, beans, and squash. Clay pottery vessels replaced the soapstone bowls, and tobacco pipes and smoking were adopted. Also, the bow and arrow replaced the spear and javelin during this period. The habitation sites of the Woodland Period Indians increased in size and permanence and base camps were located on expansive floodplains.

The use of fired clay ceramic vessels began during the Early Woodland Period (c. 1000 B.C. to A.D. 1). The earliest ceramic type found in New York State is called Vinette 1, an interior-exterior cordmarked, generally sand tempered vessel. Projectile points are also chronological indicators of this period and include the Meadowood type. Along with the use of ceramics, Indian groups became more sedentary and social complexity increased over time.

Cord marked vessels became common during the Middle Woodland Period (c. A.D. 1 to c. 1000 A.D.). Jacks Reef and Fox Creek type projectile points are diagnostic of the Middle Woodland. During the Late Woodland Period (c. 1000 A.D. to 1600 A.D.) collared ceramic vessels, including many with incised decorations, made their appearance. Large triangular projectile points known as the Levanna type became common throughout this time and smaller triangular forms known as Madison appeared near the end of this period. Woodland Period sites are also numerous in the region.

4. THE HISTORIC CONTACT PERIOD (c. 1600 A.D. to 1750 A.D.)

The settlement of New Amsterdam (New York) by the Dutch in the early 1600s initiated the Historic Contact Period between the Indians of southeastern New York and northern New Jersey and the Europeans. During this time, the Native Americans of this region were part of the widespread Algonquian cultural and linguistic stock. They were Munsee speaking groups, i.e. Lenape-Delawares who migrated into the region during Late Woodland times (Goddard 1978a, b). The local bands of Munsee speaking Indians encountered by Europeans were often identified by their geographic location and referred to as the Esopus, Haverstraws, Waoranecks, Warranawankongs, Tappans (Ruttenber 1872; Ruttenber and Clark 1881).

Following the settlement of New Amsterdam, a regular pattern of Indian-European trade developed and the Indians began to acquire European-made tools, utensils and ornaments. Items of European origin have been found on sites in the region, although their number is small (Lenik 1989, 1995, 1999).

B. NATIVE AMERICAN ARCHAEOLOGICAL SITES IN THE PROJECT AREA

There are no recorded prehistoric archaeological sites located within the proposed Kury Homes subdivision property. We have reviewed studies, reports, site files, regional site records and inventories, and consulted with informants familiar with the cultural resources of this region and have verified that no sites have ever been recorded here.

One documented Native American site is located about one mile west-southwest of the Kury Homes property. This site was discovered in the 1920s, and is referred to as the Budke site; it has been assigned the New York State Museum Number 6411. No further information is available on this particular site.

Four Native American archaeological sites have been documented at distances of approximately one mile to the northeast, east, and southeast of the project area in the Village of Upper Nyack and Nyack, near the Hudson River. Site Number 4642 in Upper Nyack was recorded by A.C. Parker in 1922 (p. 675) as a burial site. Sites 6397, 6398, and 6399 were also recorded by George H. Budke in the 1920s but the nature of these sites is unknown.

George H. Budke's Indian Sites map, 1902-1922 Tarrytown U.S.G.S. map, indicates the presence of some 20 sites along the main stem of the Hackensack River and the West Branch of the Hackensack River between Deforest Lake reservoir on the north and Orangetown on the south. These sites are nearly two miles to the west of the project area. No further information on these sites is available.

All of the sites described above are well outside the Kury Homes project area.

V. BACKGROUND RESEARCH: HISTORICAL RESOURCES

A. REGIONAL SETTING

The proposed Kury Homes site is in the Town of Clarkstown, Rockland County, New York. It sits at the edge of the southeastern corner of the hamlet of Valley Cottage close to Nyack, Upper Nyack, Central Nyack and West Nyack. The exact village boundary appears to puzzle many as the county park property across Mountainview Avenue from the entrance to the study area is listed some places as Nyack and others as West Nyack. Perhaps it is best to regard the property as in an unincorporated portion of Clarkstown, as it is removed from the centers of each of these communities.

Colonial settlement on the western bank of the Hudson River lagged behind settlement of the eastern shore. In 1640 the DeVries settlement near present-day Piermont was destroyed by hostile Indians and few ventured into this area for many years after. Green, writing about the early colonial days here, notes that in 1683, when the area was declared Orange County, it was a "howling wilderness" and by 1693 only about 20 families had settled in the entire county (Green 1886: 44-45).

In 1798, Rockland County was created by cutting a wedge from the southeastern corner of Orange County (Cole 1884:112). Clarkstown was created in 1791 from the southern portion of the earlier town of Haverstraw. It was named for Daniel DeClark, one of the purchasers of the southern half of the Kakiat Patent of 1696 in 1716 (Green 1886:414).

Early patents in this region were granted before they were surveyed, leading to much confusion and overlaying of claims. The Kakiat Patent and the Cheesecock Patent each contained the part of Clarkstown containing the project area. The boundaries were not settled until 1769 and final division of the Kakiat was completed in 1773. Charles Clinton, surveying the Cheesecock Patent in 1737-38 remarked that there were settlers on some of the disputed lands (Budke 1973:57).

Within Clarkstown the only incorporated village is Upper Nyack. Valley Cottage, west of Upper Nyack and on the backside of the Palisades ridge, is unincorporated. It occupies the eastern portion of the valley of the Hackensack River. The earliest settlement in this area dates to 1753 when John Ryder bought land on the Kings Highway in the western portion of the hamlet. The

Ryder House, a Dutch sandstone structure, survived into the 19th century, giving the area its name. The hamlet was referred to as the Cottage in the Valley and in the late nineteenth century was given the name Valley Cottage (Anon.: 1998). The formal name was bestowed with the coming of the West Shore Railroad in the 1880s.

Nyack, the river market town for the southern Clarkstown area, and Haverstraw were little more than landings at the outbreak of the Revolutionary War. Nyack in 1810 was still rural with about seven houses there and Haverstraw's first street was not laid out until 1803 (O'Brien 1981:92). By the 1820s, however, the invention of the steamboat made these Rockland County towns centers of commerce and the place where all products of Clarkstown and the other townships flowed down to the river to be shipped to burgeoning New York City (O'Brien 1981:134). In 1825, the completion of the Nyack Turnpike provided a faster inland route to the landing. The western slopes of the Palisades ridge and Hook Mountain provided good farming lands and Nyack provided a way to market.

Green described Clarkstown as "hilly throughout and thoroughly devoted to agriculture." The area encompassing Valley Cottage contained "well-watered headwaters of the Hackensack River" (Green 1886:426).

Nyack in Orangetown and Upper Nyack in Clarkstown occupy the western bank of the Hudson River and the eastern side of the Palisades and Hook Mountain. West and Central Nyack are in the area south and west of Valley Cottage. The Kury Homes site lies where they all meet.

B. KURY HOMES SITE

The site of the proposed Kury Homes development is on the eastern side of Mountainview Avenue just north of the border between Valley Cottage, Upper Nyack and West Nyack. It fits Green's descriptions, hilly throughout and in the well-watered headwaters of the Hackensack River. For much of its past it appears to have met the "howling wilderness" description as well.

Mountainview Avenue is a mountain road, running more or less north and south, depending on the contours of the ridges to its east. It is apparent on area maps from the 1850s, but not shown on the portion of the 1828 Thomas Gordon map devoted to Rockland County. It may have existed at this point to access the area, but not as a major route through the township.

The earliest map available with any indication of settlement and ownership in the project area is the 1859 Beers, French, and Smith map of Rockland County. On this map Mountainview Avenue (not named) is present in its entirety. The study area falls within lands owned by "J. Lyon." Just east of this property, in Nyack, is Oak Hill Cemetery.

J. Lyon appears on historic Rockland County maps through the 1870s and the 1880s. On the 1891 Section 7 of the G. Watson's *New Map of New York and Adjacent Cities*, the property is marked "J. Lyon Est." and shows a large ice pond and ice house north of the homestead (FIGURE 2).

Mountainview Avenue is a new name for this road. Green refers to it in 1886 as "Lyon's Hill Road," leading us to assume that the Lyon family was thoroughly identified with this area by that time (Green 1886:428).

Neither Green nor Cole, the two area nineteenth century historians, provide any background on J. Lyon and his family. We have searched regional genealogical materials and have found no data on this family.

Like the Lyon family, John P. Garrabrant (1833-1929) owned a farm and ice pond on Mountainview Avenue in the nineteenth century. In the 1991 Clarkstown Bicentennial Committee history of Clarkstown, Garrabrant is described as "a large vegetable grower" who shipped his produce down the Hudson to the Fulton Market (Anon.: 1991:np). His ice house may have served to preserve the freshness of his produce rather than compete with the Rockland Lake Knickerbocker Ice Company that flourished north and east of the study area. We can consider that J. Lyon and his family may have raised similar crops and needed ice for shipping these as well.

C. PROJECT AREA

The project area is a ten-acre portion of the much larger Lyon property. By our map analysis it lies south of the portion of the Lyon property shown by nineteenth century maps to contain the Lyon house, out buildings, ice pond and ice house.

Our pedestrian survey of the property reveals the presence of a frame cottage typical of the early twentieth century. We have been told by a local informant that this house was the house for the groundskeeper or servant of an estate served by a mansion in the 1940s (Deynoyelles 2002). The ruins of the mansion are found in the wooded area east of the study area. Here a massive stone foundation, approximately 50 feet by 70 feet, is located in a fourteen-acre

section on Mountainview Nature Center. The parcel was originally part of Mountain Brook Estates, the development on the south side of the study area.

Winston Perry, a Nyack native and a historian, reported that his father lived across Mountainview Avenue on the current Mountainview Nature Park property. Born in 1900, his father described the property east of the road as a large dairy farm owned by a prominent person, perhaps an ambassador, who had a large house on the mountain top. The property extended to Route 59 to the south and Route 9W to the east. There was an entrance from Route 59 and many miles of internal roads within the property. A herd of very large animals – Mr. Perry recalled them as elk – roamed the hilltop. The elder Mr. Perry did not recall the owner's name and Winston Perry never knew it (Perry 2002).

D. ONE FINAL MYSTERY

Historian Claire Tholl prepared a historical map of Rockland County in 1976 (FIGURE 3). J. Lyon appears on this map with symbols indicating that the house and buildings no longer existed at that point. In the general area is the word "Pessatinct." We have not been able to locate anything in the area histories bearing this name.

Ray Whritenour, a researcher on regional Indian languages, has suggested that it may relate to an Indian word for a place where something splits (Whritenour 2002). We suggest that if this is the true background that this may have been an Indian term for the splitting of waters forming the Hackensack, a split in the palisade wall of the mountains or a place where the land agreements prior to the patents indicated a splitting up of property. Claire passed away several years ago, so we cannot ask her.

VI. PEDESTRIAN SURVEY OF THE PROJECT SITE

A. INTRODUCTION

The field work of this project was conducted in April 2002, and consisted of an intensive pedestrian survey and subsurface test excavations. The field conditions for the walkover and observation of the landscape were good. Ground surface visibility ranged from good to excellent based on the amount of vegetation present within the property.

The pedestrian survey included locating and recording any existing cultural features, artifacts, and areas of landscape disturbance. The results of the pedestrian survey are described below. The locations of cultural resources or features are indicated on the PROJECT BASE MAP at the end of this report. The numbering system for the historic period structures and features utilized in the narrative below corresponds to the location of these sites on the PROJECT BASE MAP, FIGURE 13.

B. CULTURAL FEATURES

#1: Dwelling / Cottage (FIGURE 4)

An existing $1^1/_2$ story frame structure is located within the northeast section of the property. This house was originally a small cottage built on a foundation of coursed fieldstone or rubble. However, it has been significantly enlarged. A large expansion took place on the west side of the house, with the addition constructed on a foundation of cinder blocks. A smaller addition, including a side entrance and stairs, was further added to the west side. Another small addition of a similar construction was built on the north side of the house. The house has a low peaked roof that is covered with asphalt shingles. The facade on the south side of the house has an enclosed entryway, brick steps, and adjacent cellar bulkhead, and a picture window. The development plan indicates that this house will be removed (Atzl, Scatassa & Zigler P.C. 2001).

#2: Garage (FIGURE 5)

An abandoned two-car garage and shed is situated near the northwest corner of Dwelling #1 described above. Of frame construction, it has a gabled roof covered with asphalt shingles, and clapboard siding. There are two overhead doors on the south side of the structure along with a small rectangular vertically hung door on the right. A large double-door is also present on the east side of the garage. Construction plans indicate this structure will be removed.

#3: Garden Shed (FIGURE 6)

This structure is located a short distance to the west of the garage. It is a small rectangular structure with clapboard siding and a slanting roof covered with shingles. The shed is raised off the ground, has a rectangular vertical hung door on its south side, and a window. The condition of this structure is poor.

#4: Equipment And Animal Shed (FIGURE 7)

This frame shed has three sections and was probably used to store machinery and equipment and house animals. It has a flat slanting roof covered with shingles and the exterior walls are covered with tarpaper. A large open-bay is present on the east side, and a rectangular vertical hung door is in the center. A mower, a long heavy chain with hook, and rubber drive belts were observed within the eastern section. The middle section contains small cages that were once used to contain small animals. The third or western section of the shed appears to have housed chickens. This structure is in very poor condition.

#5: Cape Cod House (FIGURE 8)

This structure is a $1^1/_2$ story Cape Cod style house. It is a banked framed dwelling with an elevated deck on its west side. The house has a gabled roof covered with asphalt shingles and clapboard siding. The south or front of the house has three bays (openings): a door, picture window and double-hung window. A concrete retaining wall, and stairs leading to the door are at the southwest corner of the house. A terraced lawn with stone retaining walls are present to the south of the house, and a gravel-covered driveway extends up to the stairs-entrance. A small plywood shed set on concrete blocks is located a short distance from the southwest corner of the house. The Kury Homes development plan indicates that this house will be removed from the site (Atzl, Scatassa & Zigler P.C. 2001).

#6: Ranch Style House (FIGURE 9)

This dwelling is a $1^1/_2$ story ranch style house, constructed of brick that is covered with stucco. It is also a banked structure that has a gabled roof covered with asphalt shingles. The south facade has a central doorway, two double-hung windows on the west and a large picture window on the east. A paved driveway extends up to the house. A grass covered lawn surrounds the dwelling. The Kury Homes development plan indicates that this house will be removed from the site (Atzl, Scatassa & Zigler P.C. 2001).

C. FARM EQUIPMENT

Several pieces of abandoned and rusted farm machinery lie on the surface of the ground near the sheds previously described. We observed such items as a McCormick-Bering tractor, and the remains of three disc cultivators.

D. THE SEARCH FOR PREHISTORIC CULTURAL REMAINS

A careful search for Indian artifacts was made within the property, particularly where the ground surface was bare and exposed. No Native American artifacts or cultural features were found. In addition, we searched for other historic period ruins or remains but none were found during our field reconnaissance.

E. LAND USE AND DISTURBANCE

This property was once utilized for agricultural purposes. The forest was cut down and the land was cleared of large boulders and cobbles. Remnants of stone fences were observed along the northern edge of the property, and piles of boulders and cobbles are present along the eastern side of the wetland area. The presence of abandoned farm equipment, chicken coop, and small animal cages also attest to the use of the land for agriculture.

A paved and narrow road extends east from Mountainview Avenue down a slope where it crosses a stream and then rises upward to a relatively flat hilltop terrace at the eastern end of the property. At the point where this road crosses the stream there is a large diameter concrete pipe under the road through which the water flows in a southerly direction. The land immediately bordering the north side of this entrance road has been excavated and graded by machine along the entire length of the road (FIGURE 10). The width of this

ground disturbance ranges from 15 to 20 feet. A branch excavation (FIGURE 11) also about 20 feet wide, extends north to a point near the Cape Cod house.

There is an open grass-covered area in the southeast section of the property. At the western end of this field, there is a partially buried stone fence. The land on the south side of the road slopes down (east to west) from this buried stone feature to the stream and wetland area. The landscape in this zone is disturbed as indicated by the presence of soil piles, graded areas, irregular ground surface and the installation of overhead electric lines. The presence of earth fill is especially evident along the south side of the road.

A bedrock outcrop or ridge is visible within the southwest corner of the property. Extensive landfilling has taken place along the eastern and southern sides of the ridge. Soil, quarried rock and chunks of concrete have been dumped here (FIGURE 12). This entire corner, particularly that portion adjacent to the entrance road, has been graded by machine.

A basalt ridge or outcrop is also present within the northwest corner of the property adjacent to Mountainview Avenue. This area is wooded, contains an extensive cover of greenbrier, and is littered with roadside trash. There is a steep drop on the east side of the ridge down to the wetland and stream. A section of the eastern edge of the ridge has been lined with stone blocks.

In summary, significant portions of the original land surface within this property have been cleared, excavated, graded, filled, paved and built upon. These landscape modifications and disturbances are associated with the construction and occupation of the three homes within the property as well as access to and use of the land for agricultural and other purposes.

VII. ARCHAEOLOGICAL TEST EXCAVATIONS

Twenty-two (22) archaeological test pits (STPs) were excavated within the subdivision property. A list and description of the soils encountered within each test and the artifacts recovered are presented in the appendix of this report. The locations of the archaeological tests are indicated on the project topographic base map at the end of this report (FIGURE 13).

Ten shovel tests were excavated within a ridgetop terrace located within the southeast corner of the property. This area was selected for testing because of its gently sloping topography and undisturbed appearance. Two strata of soils were encountered in this location. Stratum I, the upper layer, is dark brown (10YR 3/3) slightly sandy silty loam that contained cobbles. Stratum I extended to depths ranging from seven inches to twelve inches. Stratum II, located beneath stratum I, as strong brown (7.5YR 4/6) or dark yellowish brown (10YR 4/6) sandy silty subsoil. No prehistoric artifacts or cultural features were found in this area. However, a few historic period artifacts were recovered. A glass marble was found in STP 2 in soil stratum I, a fragment of clear window glass in STP 3-I, a brick fragment in STP 4-I, a fragment of whiteware ceramic in STP 6-I and a glass marble in STP 9-I.

Seven shovel test pits were excavated at the northeast corner of the property near Dwelling #1, the cottage. The landscape in this area was generally disturbed by previous house construction and maintenance work, landfilling, and gardening. Two tests, STPs 12 and 13, revealed disturbed and mixed soils, the result of grading and filling. No prehistoric artifacts or cultural features were found in this area. Several historic period artifacts were recovered; a wire nail in STP 11-I, and a beer bottle fragment, light bulb fragment, and broken toy in STP 12-I.

Three (3) shovel test pits were excavated near the bottom of the sloping hillside to the east of the stream and wetland area. This area was undisturbed and its proximity to the stream suggested this zone may contain evidence of prehistoric occupation. No prehistoric or historic period artifacts or cultural features were found. The soils encountered here were very dark brown (10YR 2/2) sandy silty clayey loam in stratum I and strong brown (7.5YR 4/6) silty sandy clayey subsoil in stratum II.

Two test pits were excavated on a ridgetop located in the northwest corner of the property. The soils here are shallow and bedrock was encountered. No prehistoric or historic period artifacts or cultural features were found.

VIII. CONCLUSIONS AND RECOMMENDATIONS

A. PREHISTORIC ARCHAEOLOGICAL RESOURCES

The background research, field reconnaissance and archaeological tests did not reveal any evidence of prehistoric (Native American) occupation within the project area. Therefore, we conclude that the project site does not have the potential for containing evidence of prehistoric occupation.

B. HISTORIC PERIOD CULTURE RESOURCES

A cottage (#1), garage (#2), garden shed (#3), and an equipment and animal shed (4) are located along the northeastern border of the property. The dwelling was originally a small cottage that was built around 1940 and reportedly occupied by groundskeeper-servants employed at a "mansion" located to the southeast (the ruins of this mansion are not within the Kury Homes property). The original cottage has been extensively expanded on it west and north sides, and modernized. We conclude that this dwelling lacks research potential and is not architecturally or historically significant. Therefore, no further investigation of this structure is necessary.

The outbuildings, that is, garage and sheds are in poor physical condition and collapsing. Ths collection of structures lack physical integrity, research potential and are not historically significant. Therefore, no further investigation is necessary.

The Cape Cod house (#5) is situated on the sloping hillside near the northeast border of the property. A modern dwelling, this structure lacks research potential and is not architecturally or historically significant. Therefore, no further investigation of this structure is necessary.

The ranch style house (#6) is also situated on the sloping hillside near the north-central border of the property. It is also a modern dwelling of late 20th century date. This structure lacks research potential and is not architecturally or historically significant. Therefore, no further investigation of this structure is necessary.

Several pieces of farming equipment are present on the landscape in the vicinity of the two sheds. Their physical condition is poor; they are badly rusted or broken. All have been abandoned for quite some time. They are not historically important items of material culture and lack research potential.

Finally, ten historic period artifacts were recovered from the archaeological tests conducted here. These items date to the late 20th century and are not significant specimens of material culture.

C. SUMMARY

From a National Register perspective, the extant structures on the Kury Homes subdivision property do not meet the criteria of eligibility for nomination to the register. The property and structures are not associated with events that have made a significant contribution to the broad patterns of history. The property is not associated with the lives of persons significant in history. The structures are not architecturally significant nor representative of any local historical architectural traditions. Finally, the site lacks information potential; it has not yielded nor is it likely to yield important historical information.

We conclude that the proposed development will have no impact upon any significant cultural resources.

IX. REFERENCES

Anonymous

1991 *Celebrate Clarkstown.* Clarkstown, New York: Clarkstown Bicentennial Committee.

1998 "So You are Thinking of Living in Valley Cottage." *New York Times* 11/29/98. On file at Finklestein Memorial Library, Spring Valley, New York.

Atzl, Scatassa & Zigler, P.C.

2001 Grading Plan. Kury Homes. Surveyors-Planners, New City, NY.

Budke, George

1923-28 *Historical Miscellanies*, Vols. I & II. Reprinted by the Library Association of Rockland County, 1973, from the collections of the New York City Library.

Cole, Rev. David

1884 *History of Rockland County, New York.* New York: J.B. Beers & Co.

Davis, F.A. and H. I. Kochersperger

1876 *Combination Atlas Map of Rockland County, New York.* Philadelphia: F.A. Davis & Co.

Deynoyelles, John

2002 Personal communication with E.J. Lenik, Principal Investigator.

Eisenberg, Leonard

1978 *Paleo Indian Settlement Patterns in the Hudson and Delaware River Drainages.* Occasional Publications in Northeastern Anthropology 4. Department of Anthropology, Franklin Pierce College, Rindge, N.H.

French, F.F., W.E. Woods and S.N. Beers

1859 *Map of Orange and Rockland Counties, New York.* Philadelphia: Cory & Bachman.

Funk, Robert E.

1972 "Early Man in the Northeast and Late Glacial Environment." *Man In The Northeast* 4:7-39.

Funk, Robert E. and D.W. Steadman

1994 *Archaeological and Paleoenvironmental Investigations in the Dutchess Quarry Caves, Orange County, New York.* Persimmon Press, Buffalo, N.Y.

Green, Frank B.

1886 *The History of Rockland County.* New York: A.S. Barnes.

Goddard, Ives

1978a "Eastern Algonkian Languages." In *Handbook of North American Indians* 15:10-77. Smithsonian Institution, Washington, D.C.

1978b "Delaware." In *Handbook of North American Indians* 15:213-239. Smithsonian Institution, Washington, D.C.

Green, Frank Bertangue

1886 *The History of Rockland County, New York.* New York: A.S. Barnes & Company.

Isachsen, Y.W., E. Landing, J.M. Lauber, L.V. Richard, W.B. Rogers, editors

2000 *Geology of New York. A Simplified Account.* Second edition. New York State Museum Educational Leaflet 28, Albany, N.Y.

Kinsey, W. Fred

1972 *Archaeology In The Upper Delaware Valley.* Pennsylvania Historic and Museum Commission, Anthropological Series 3, Harrisburg, PA.

Lenik, Edward J.

1989 "New Evidence of the Contact Period in Northeastern New Jersey and Southeastern New York." *Journal of Middle Atlantic Archaeology* 5:103-120.

1995 "Summary Report of the Data Recovery Excavations at the Spring House Rockshelter Prehistoric Site, Village of Sloatsburg, Rockland County, New York." Sheffield Archaeological Consultants, Butler, N.J.

1999 *Indians in the Ramapos.* The North Jersey Highlands Historical Society, Ringwood, N.J.

O'Brien, Raymond J.

1981 *American Sublime: Landscape and Scenery of the Lower Hudson Valley.* New York: Columbia University Press.

O'Connor, R.F.

1854 *Map of Rockland County, New York.* R.F. O'Connor surveyor and publisher, New York.

Palisades Interstate Park Commission

1996a *Inventory of Prehistoric Sites within Bear Mountain, Harriman, Goosepond and Rockland Lake, New York State Parks.* Summary inventory prepared by E.J. Lenik and N.L. Gibbs, Sheffield Archaeological Consultants, Butler, N.J.

1996b *Inventory of Prehistoric Sites Investigated by Trailside Museum Staff in Orange, Ulster, Rockland, Green and Westchester Counties, New York and Bergen County, New Jersey.* Summary inventory prepared by E.J. Lenik and N.L. Gibbs, Sheffield Archaeological Consultants, Butler, N.J.

Parker, Arthur C.

1922 *The Archeological History of New York, Part 2.* New York State Museum Bulletin Nos. 237-238. The University of New York, Albany, N.Y.

Perry, Winston

2002 Personal communication with Nancy L. Gibbs.

Ritchie, William A.

1971 *A Typology and Nomenclature For New York State Projectile Points.* New York State Museum and Science Service Bulletin No. 384, Revised edition, Albany, N.Y.

1980 *The Archaeology of New York State.* Harbor Hill Books, Harrison, N.Y.

Ruttenber, Edward M.

1872 *History of the Indian Tribes of Hudson's River.* I.J. Freeman Div., Kennikat Press, Fort Washington, N.Y.

Ruttenber, E.M. and L.H. Clark

1881 *History of Orange County.* Verts and Peck, Philadelphia, PA.

Tholl, Claire K.

1975 *Landmarks of Rockland County with Old Roads and Early Buildings.* New City, New York: Historical Society of Rockland County.

Tompkins, Arthur

1902 *Historical Record to the Close of the Nineteenth Century of Rockland County, New York.* Van Densen and Joyce, Nyack, N.Y.

United States Department of Agriculture

1990 *Soil Survey of Rockland County, New York.* Soil Conservation Service, Washington, D.C.

Watson, Gaylord, publisher

1891 *Watson's New Map of New-York and Adjacent Cities.* New York: 278 Pearl St.

X. APPENDICES

Page

APPENDIX A: TEST EXCAVATION RECORDS..... 29

APPENDIX B: ARTIFACT INVENTORY..... 31

APPENDIX C: CORRESPONDENCE FROM NYSOPRHP..... 32

APPENDIX A:
TEST EXCAVATION RECORDS

Test Number	Stratum	Depth (inches)	Description of Strata Munsell Soil Color	Cultural Remains
LOCATION: RIDGETOP AT SOUTHEAST CORNER OF PROPERTY				
1.	I	0-10	Dk. brown silty loam, some sand, cobbles; 10YR 3/3	none
	II	10-17	Strong brown silt, some sand; 7.5YR 4/6	none
2.	I	0-9	Dk. brown silty loam, light sand, cobbles; 10YR 3/3	marble
	II	9-16	Strong brown sandy silt; 7.5YR 4/6	none
3.	I	0-10	Dk. brown silty loam, some sand, cobbles; 10YR 3/3	glass
	II	10-18	Strong brown sandy silt; 7.5YR 4/6	none
4.	I	0-8	Mottled dk. brown and dk. yellowish brown silty loam, very stony, disturbed; 10YR 3/3, 3/6	brick frags.
	II	8-17	Strong brown sandy silt; 7.5YR 4/6	none
5.	I	0-10	Dk. yellowish brown silty loam; 10YR 3/6	none
	II	10-18	Dk. brown sandy silt; 10YR 3/3	none
6.	I	0-12	Dk. brown silty loam, cobbles; 10YR 3/3	ceramic frag.
	II	12-14	Dk. yellowish brown sandy silt; 10YR 4/6	none
	III	14+	Bedrock	none
7.	I	0-8	Dk. brown silty loam with cobbles; 10YR 3/3	none
	II	8-18	Dk. yellowish brown sandy silt, stony; 10YR 4/6	none
8.	I	0-10	Dk. brown sandy silt, cobbles; 10YR 3/3	none
	II	10-19	Strong brown sandy silt; 7.5YR 4/6	none
9.	I	0-7	Dk. brown sandy silt, cobbles; 10YR 3/3	marble
	II	7-18	Strong brown sandy silt; 7.5YR 4/6	none
10.	I	0-10	Dk. brown sandy silt, cobbles; 10YR 3/3	none
	II	10-18	Strong brown sandy silt; 7.5YR 4/6	none
LOCATION: RIDGETOP AT NORTHEAST CORNER OF PROPERTY				
11.	I	0-12	Dk. brown sandy silt, cobbles; 10YR 3/3	nail
	II	12-20	Strong brown sandy silt; 7.5YR 4/6	none
12.	I	0-24	Dk. brown very fine silty loam, pebbles; 10YR 3/3; deposited fill	glass, toy
	II	24-30	Dk. yellowish brown sandy silt; 10YR 4/6; deposited fill	none
13.	I	0-19	Mottled dk. brown and dk. yellowish brown sandy silt, cobbles; 10YR 3/3, 3/6; disturbed	none
	II	19-25	Strong brown sandy silt; 7.5YR 4/6	none

LOCATION: SOUTH SIDE OF DWELLING #1, COTTAGE

14.	I	0-9	Dk. brown sandy silty loam, cobbles, grass; 10YR 3/3	none
	II	0-19	Strong brown sandy silt, pebbles; 7.5YR 4/6	none
15.	I	0-10	Dk. brown sandy silt, grass; 10YR 3/3	none
	II	10-17	Strong brown sandy silt; 7.5YR 4/6	none
16.	I	0-9	Dk. brown sandy silt, cobbles; 10YR 3/3	none
	II	9-18	Strong brown sandy silt; 7.5YR 4/6	none
17.	I	0-8	Dk. brown sandy silt, cobbles; 10YR 3/4	none
	II	8-18	Strong brown sandy silt, stony; 7.5YR 4/6	none

LOCATION: SLOPING TERRACE ON EAST SIDE OF WETLAND

18.	I	0-7	Very dk. brown sandy silty clayey loam, cobbles, wet; 10YR 2/2	none
	II	7-19	Strong brown silty clayey sand, wet; 7.5YR 4/6	none
19.	I	0-10	Very dk. brown sandy silty clayey loam, cobbles, wet; 10YR 2/2	none
		10-18	Strong brown silt, clayey sand; wet; 7.5YR 4/6	none
20.	I	0-10	Very dk. brown sandy silty clayey loam, cobbles, wet; 10YR 2/2	none
	II	10-20	Strong brown silt, clayey sand; wet; 7.5YR 4/6	none

LOCATION: RIDGETOP AT NORTHWEST CORNER OF PROPERTY

21.	I	0-10	Dk. brown sandy silt, pebbles; 10YR 3/3	none
	II	10-16	Strong brown silty sand; 7.5YR 4/6	none
	III	16+	Bedrock	none
22.	I	0-4	Dk. brown sandy silty loam, pebbles; 10YR 3/3	none
	II	4+	Bedrock	none

APPENDIX B: ARTIFACT INVENTORY

Test No./ Soil Stratum	Artifact	Material/Color	Quantity	Comments
2 - I	marble fragment	glass/red	1	20th c.
3 - I	window glass frag.	glass/clear	1	20th c.
4 - I	very sm. brick frags.	clay/red	2	discarded in field
6 - I	sm. whiteware frag.	ceramic/white, plain	1	1815-present
9 - I	marble	glass/polychrome	1	20th c.
11 - I	wire nail, length $2^1/_2$"	iron/rusted	1	20th c.
12 - I	bottle fragment, beer	glass/amber	1	20th c.
	light bulb fragment	glass/white	1	20th c.
	toy jet airplane	metal/tarnished	1	post-1950

APPENDIX C:

CORRESPONDENCE FROM NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

March 27, 2002

David M. Zigler, P.L.S.
Artzl, Scatassa & Zigler, Land Surveyors, P.C.
234 North Main Street
New City, New York 10956

Dear Mr. Zigler:

Re: SEQRA
Kury Homes
Clarkstown, Rockland County
02PR1271

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP) concerning your project's potential impact/effect upon historic and/or prehistoric cultural resources. Our staff has reviewed the documentation that you provided on your project. Preliminary comments and/or requests for additional information are noted on separate enclosures accompanying this letter. A determination of impact/effect will be provided only after ALL documentation requirements noted on any enclosures have been met. Any questions concerning our preliminary comments and/or requests for additional information should be directed to the appropriate staff person identified on each enclosure.

In cases where a state agency is involved in this undertaking, it is appropriate for that agency to determine whether consultation should take place with OPRHP under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. In addition, if there is any federal agency involvement, Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties" 36 CFR 800 requires that agency to initiate consultation with the State Historic Preservation Officer (SHPO).

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont
Director

RLP:bsd
Enclosure(s)

An Equal Opportunity/Affirmative Action Agency
printed on recycled paper

ARCHEOLOGY COMMENTS

02PR1271

Based on reported resources, there is an archeological site in or adjacent to your project area. Therefore the Office of Parks, Recreation and Historic Preservation (OPRHP) recommends that a Phase 1 archeological survey is warranted for all portions of the project to involve ground disturbance, unless substantial prior ground disturbance can be documented. If you consider the project area to be disturbed, documentation of the disturbance will need to be reviewed by OPRHP. Examples of disturbance include mining activities and multiple episodes of building construction and demolition.

A Phase 1 survey is designed to determine the presence or absence of archeological sites or other cultural resources in the project's area of potential effect. The Phase 1 survey is divided into two progressive units of study including a Phase 1A sensitivity assessment and initial project area field inspection, and a Phase 1B subsurface testing program for the project area. The OPRHP can provide standards for conducting cultural resource investigations upon request. Cultural resource surveys and survey reports that meet these standards will be accepted and approved by the OPRHP.

Our office does not conduct cultural resources surveys. A 36 CFR 61 qualified archeologist should be retained to conduct the Phase 1 survey. Many archeological consulting firms advertise their availability in the yellow pages. The services of qualified archeologists can also be obtained by contacting local, regional, or statewide professional archeological organizations. Phase 1 surveys can be expected to vary in cost per mile of right-of-way or by the number of acres impacted. We encourage you to contact a number of consulting firms and compare examples of each firm's work to obtain the best product.

Documentation of ground disturbance should include a description of the disturbance with confirming evidence. Confirmation can include current photographs and/or older photographs of the project area which illustrate the disturbance (approximately keyed to a project area map), past maps or site plans that accurately record previous disturbances, or current soil borings that verify past disruptions to the land. Agricultural activity is not considered to be substantial ground disturbance and many sites have been identified in previously cultivated land.

If you have any questions concerning archeology, please call Mike Schifferli at (518) 237-8643 ext. 3281.

XI. FIGURES

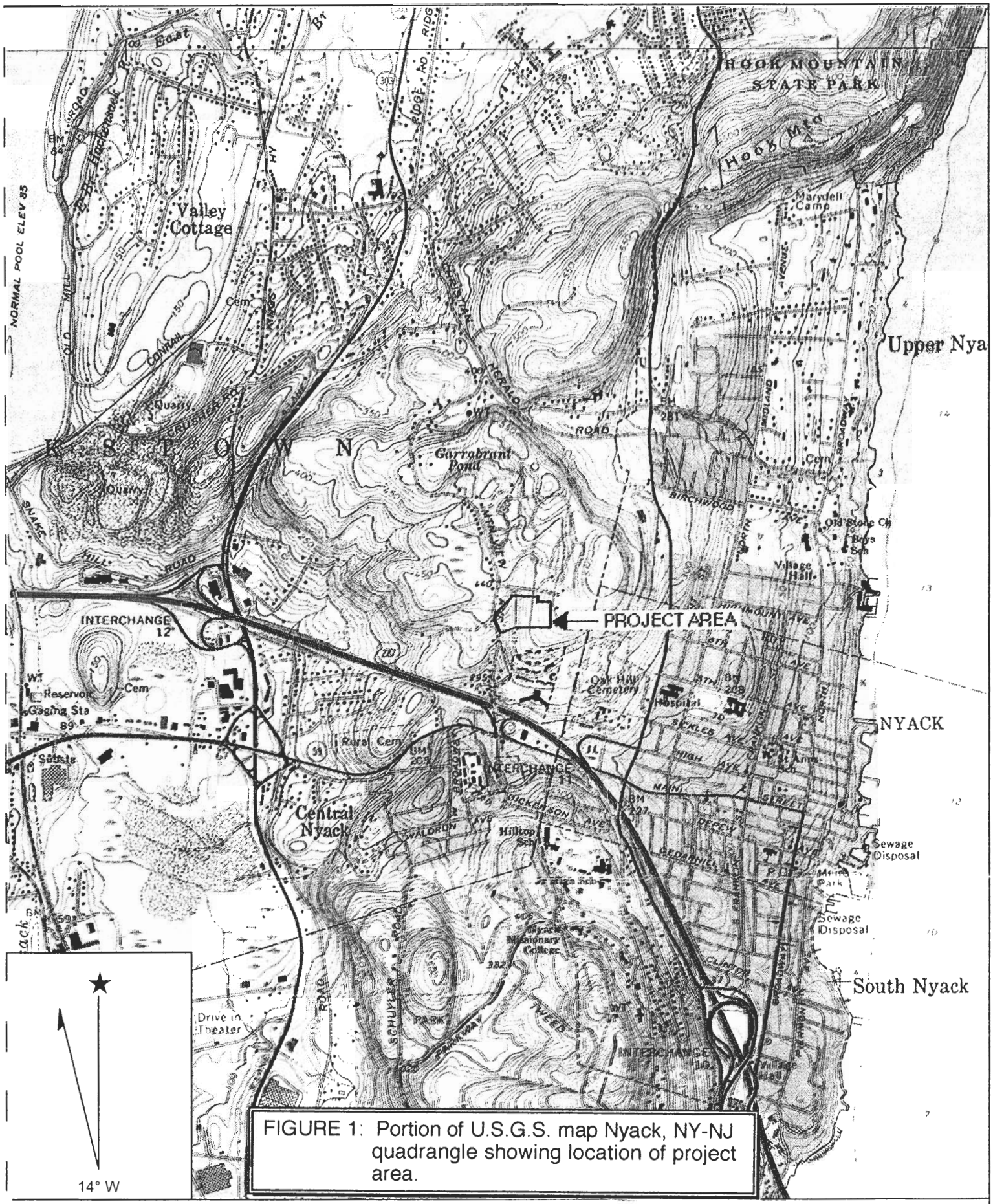


FIGURE 1: Portion of U.S.G.S. map Nyack, NY-NJ quadrangle showing location of project area.

Name: NYACK
Date: 4/22/2002
Scale: 1 inch equals 2000 feet

Location: 041° 06' 01.4" N 073° 56' 10.4" W
Caption: Sheffield Archeological Consultants
Kury Homes Inc.
Town of Clarkstown, NY

Copyright (C) 1997, Maptech, Inc.

FIGURE 2: Portion of the 1891 Watson's New Map of New-York and Adjacent Cities. Scale 1" = 1200'

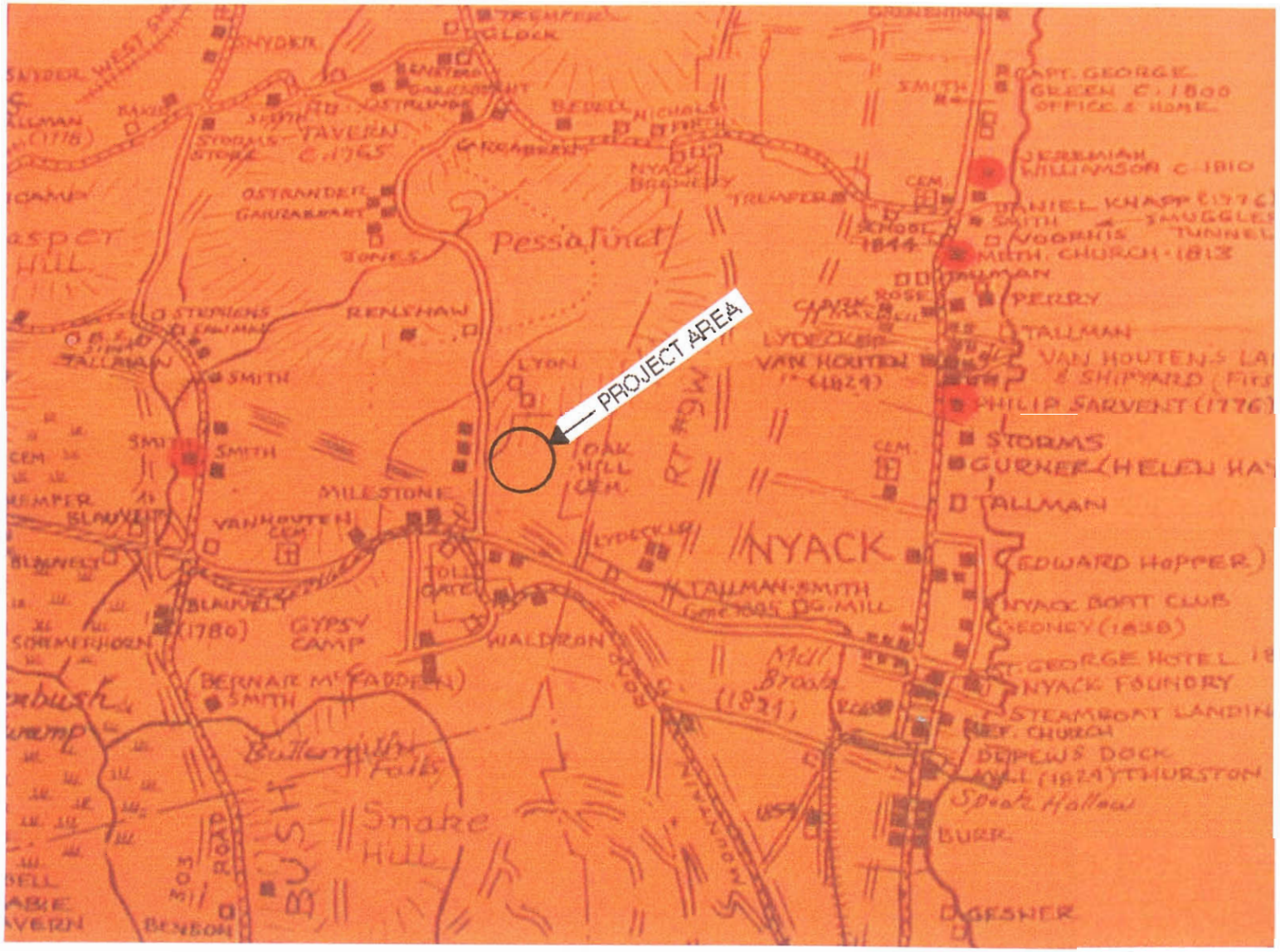


FIGURE 3: Portion of C.K. Tholl's 1975 map of *Landmarks of Rockland County with Old Roads and Early Buildings.* Scale 1" = 3000'

FIGURE 4: Dwelling #1/cottage. South facade. Photo by E.J. Lenik, 2002.

FIGURE 5: Garage. View looking north. Photo by E.J. Lenik 2002.

FIGURE 6: Garden shed, south side. Photo by E.J. Lenik 2002.

FIGURE 7: Equipment and animal shed, south side. Photo by E.J. Lenik 2002.

FIGURE 8: Cape Cod style house. View looking north-northwest.
Photo by E.J. Lenik 2002.

FIGURE 9: Ranch style house. View looking north-northwest.
Photo by E.J. Lenik 2002.

FIGURE 10: Entrance road through center of property. View looking west. Note excavated and graded area along right (north) side of road. Photo by E.J. Lenik 2002.

FIGURE 11: Excavated and graded area extending north from paved road. Photo by E.J. Lenik 2002.

FIGURE 12: Landfill at southwest corner of property. View looking north. Photo by E.J. Lenik 2002.

APPENDIX F

Average Density Alternative Stormwater Management Report

KURY HOMES

MOUNTAINVIEW AVENUE
TOWN OF CLARKSTOWN
ROCKLAND COUNTY
NEW YORK

PRELIMINARY STORM WATER MANAGEMENT REPORT & CONCEPTUAL DETENTION POND DESIGN

BY

RA ASSOCIATE CONSULTING ENGINEERS
227 SOUTH MOUNTAIN ROAD
NEW CITY, NEW YORK
TEL / FAX (845)634-1351

DATE OF REPORT
JUNE 22, 2005

Surface layers: 0 to 4 inches, dark brown silt loam.

Subsoil: 4 to 10 inches, strong brown silt loam and 10 to 16 inches, reddish brown silt loam.

Permeability: moderate throughout.

Depth to water table: more than 6 feet.

Depth to bedrock: 10 to 20 inches.

DRAINAGE STUDY:

We have prepared the attached Hydrological – Hydraulics analysis for the developed areas in the WS#1 and WS#2. The site will be subdivided into 14 lots. Lots 3 & 4 will be used for drainage purposes. The runoffs from lots 1 & 2 will be divided into the proposed detention pond. See subdivision maps for details.

As the result of developing the site, the runoff from the developed area will be increased due to the proposed impervious areas. The 100-year peak runoff storm from the combined watersheds will increase from 46.35 CFS to 47.58 CFS. It is required a 0.39 acs-ft to attenuate the peak runoffs.

Peak Flow Year	Existing Peak Flow (cfs)	Developed Peak Flow (cfs)	Change of Flow (cfs)	Change of %
1-Year	7.42	9.09	1.67	22.5
2-Years	13.05	14.90	1.85	14.17
5-Years	20.83	22.72	1.89	9.07
10-Years	24.93	26.77	1.84	7.38
25-Years	33.37	35.05	1.68	5.03
50-Years	42.00	43.40	1.4	3.33
100-Years	46.35	47.58	1.23	2.65

The proposed detention pond is calculated to be 0.39 acs-ft. for the 100-year storms. The designed storage volume of the detention pond is approximately 0.5 acs-ft. Detail calculations are shown on the grading plan.

Once the conceptual design is approved, we will refine the calculations and run HEC or HEC-hms, Army Corps of Engineers software for details of Hydrographs and detention pond.

Preliminary calculations are attached for your reference.

Very truly yours,

Ray Ahmadi, Ph.D., P.E.

C:Hydrology TR-55\2760\DRAINAGE STUDY

KURY HOMES

MOUNTAINVIEW AVENUE
TOWN OF CLARKSTOWN
ROCKLAND COUNTY
NEW YORK

TR-55 INPUT DATA
FOR
EXISTING CONDITION
AND
SITE DEVELOPED CONDITION

BY

RA ASSOCIATE CONSULTING ENGINEERS
227 SOUTH MOUNTAIN ROAD
NEW CITY, NEW YORK
TEL / FAX (845)634-1351

DATE OF REPORT
JUNE 22, 2005

KURY HOMES

MOUNTAINVIEW AVENUE
TOWN OF CLARKSTOWN
ROCKLAND COUNTY
NEW YORK

PRELIMINARY STORM WATER MANAGEMENT REPORT & CONCEPTUAL DETENTION POND DESIGN

BY

RA ASSOCIATE CONSULTING ENGINEERS
227 SOUTH MOUNTAIN ROAD
NEW CITY, NEW YORK
TEL / FAX (845)634-1351

DATE OF REPORT
JUNE 22, 2005

INTRODUCTION:

The following drainage study has been prepared for Kury Homes in order to provide a zero net increase of peak runoff for a proposed 14 lot realty subdivisions in the town of Clarkstown, New York. The project is located on the easterly side of Mountain Avenue 400 feet south of Sierra Vista Road. The property in question consists of 10.3 acres as shown on a subdivision plat prepared by Atzl, Scatassa & Zigler P.C. dated June 22, 2005.

HYDROLOGICAL SOIL GROUP:

The soils at the site are "Holyoke" with soil map symbols of HoC & HoD and Hydrological Soil Group of "C/D". Upland areas belong to group of "C" and wetland areas belong to group of "D". See sheet 19 of Soil Survey of Rockland County, New York, United States Department of Agriculture Soil Conservation Service, in cooperation with Cornell University Agricultural Experiment Station dated October 1990.

HoC Holyoke-Rock outcrop complex, rolling. This unit is on bedrock-controlled uplands. It consists of shallow, well drained or somewhat excessively drained Holyoke soils and areas of exposed bedrock that commonly appear as ledge. The unit consists of about 60 percent Holyoke soils. The Holyoke soils and rock outcrop are in such an intricate pattern that it was not practical to map them separately. The areas of the unit are irregular in shape and range from 10 to 100 acres. Slope ranges from 3 to 15 percent. The typical sequence, depth, and composition of the layers of the Holyoke soils are as follows:

Surface layers: 0 to 4 inches, dark brown silt loam.

Subsoil: 4 to 10 inches, strong brown silt loam and 10 to 16 inches, reddish brown silt loam.

Permeability: moderate throughout.

Depth to water table: more than 6 feet.

Depth to bedrock: 10 to 20 inches.

HoD Holyoke-Rock outcrop complex, hilly. This unit is on ridges and side slopes on bedrock-controlled uplands. It consists of shallow, well drained or somewhat excessively drained Holyoke soils and areas of exposed bedrock that commonly appear as ledges. The unit consists of about 55 percent Holyoke soils, 20 percent rock outcrop, and 25 percent other soils. The Holyoke soils and rock outcrop are in such an intricate pattern that it was not practical to map them separately. The areas of the unit are irregularly in shape and range from 10 to 150 acres. Slopes range from 15 to 25 percent. The typical sequence, depth, and composition of the layers of the Holyoke soils are as follows:

Surface layers: 0 to 4 inches, dark brown silt loam.

Subsoil: 4 to 10 inches, strong brown silt loam and 10 to 16 inches, reddish brown silt loam.

Permeability: moderate throughout.

Depth to water table: more than 6 feet.

Depth to bedrock: 10 to 20 inches.

DRAINAGE STUDY:

We have prepared the attached Hydrological – Hydraulics analysis for the developed areas in the WS#1 and WS#2. The site will be subdivided into 14 lots. Lots 3 & 4 will be used for drainage purposes. The runoffs from lots 1 & 2 will be divided into the proposed detention pond. See subdivision maps for details.

As the result of developing the site, the runoff from the developed area will be increased due to the proposed impervious areas. The 100-year peak runoff storm from the combined watersheds will increase from 46.35 CFS to 47.58 CFS. It is required a 0.39 acs-ft to attenuate the peak runoffs.

Peak Flow Year	Existing Peak Flow (cfs)	Developed Peak Flow (cfs)	Change of Flow (cfs)	Change of %
1-Year	7.42	9.09	1.67	22.5
2-Years	13.05	14.90	1.85	14.17
5-Years	20.83	22.72	1.89	9.07
10-Years	24.93	26.77	1.84	7.38
25-Years	33.37	35.05	1.68	5.03
50-Years	42.00	43.40	1.4	3.33
100-Years	46.35	47.58	1.23	2.65

The proposed detention pond is calculated to be 0.39 acs-ft. for the 100-year storms. The designed storage volume of the detention pond is approximately 0.5 acs-ft. Detail calculations are shown on the grading plan.

Once the conceptual design is approved, we will refine the calculations and run HEC or HEC-hms, Army Corps of Engineers software for details of Hydrographs and detention pond.

Preliminary calculations are attached for your reference.

Very truly yours,

Ray Ahmadi, Ph.D., P.E.

C:Hydrology TR-55\2760\DRAINAGE STUDY

KURY HOMES

MOUNTAINVIEW AVENUE
TOWN OF CLARKSTOWN
ROCKLAND COUNTY
NEW YORK

TR-55 INPUT DATA FOR EXISTING CONDITION AND SITE DEVELOPED CONDITION

BY

RA ASSOCIATE CONSULTING ENGINEERS
227 SOUTH MOUNTAIN ROAD
NEW CITY, NEW YORK
TEL / FAX (845)634-1351

DATE OF REPORT
JUNE 22, 2005

Ray Ahmadi, Ph.D. P.E.
Consulting Engineer
227 South Mountain Road
New City, New York 10956
914 634-1351
634-4106

JOB KURY HOMES
SHEET NO. MOUNTAINVIEW OF AVE.
CALCULATED BY (1) DATE 2760
CHECKED BY 6/21/05 DATE
SCALE

THE RUNOFF FROM THE EXIST. TOWN HOUSES IS COLLECTED BY EXISTING DRAINAGE SYSTEM.

THE LIMIT OF WATERSHED & BOUNDARY APPROXIMATELY IS THE SAME.

THE SITE IS DIVIDED INTO TWO WATERSHEDS, WS #1 & WS #2.

SOILS ARE "HOLYOKE" WITH MAP SIMBOLES OF "HOD" & "HOC". HYDROLOGICAL SOIL GROUP IS C/D.

"C" UPLAND AREAS

"D" WET LAND AREAS.

Ray Ahmadi, Ph.D. P.E.
Consulting Engineer
227 South Mountain Road
New City, New York 10956
914 634-1351
634-4106

JOB
SHEET NO. OF
CALCULATED BY (2) DATE 2760
CHECKED BY DATE 6/21/05
SCALE

EXIST. CONDITION

WS #1

$A_1 = 1.65$ ACS
- 0.19 ACS "D" WETLAND AREA
- 1.46 ACS "C"
  - 0.07 Asphalt
  - 1.39 WOODED AREA

$L_1 = 100$ LF OVERLAND FLOW WOOD

$S_1 = \frac{451-440}{100} = 0.11$

$L_2 = 100$ LF CONCENTRATED SHALLOW

$S_2 = \frac{440-414}{100} = 0.26$

$L_3 = 70$ LF CONC. SHALLOW

$S_3 = \frac{414-412}{70} = 0.0286$

$L_4 = 135$ LF 60" RCP

$S_4 = \frac{412-398}{135} = 0.1037$

$A_{PIPE} = 19.63$ ☐

$W_P = 15.70$

$n = 0.015$

Ray Ahmadi, Ph.D. P.E.
Consulting Engineer
227 South Mountain Road
New City, New York 10956
914 634-1351
634-4106

JOB
SHEET NO. 3 OF
CALCULATED BY DATE 2760
CHECKED BY DATE 6/21/05
SCALE

WS #2

A = 8.60 { 0.46 "D" WETLAND
8.14 "C" { Imp = 0.0 + 0.43 + 0.12 H = 0.55
7.59 ACS WOODS

L1 = 100 LF OVERLAND FLOW WOODS

$S_1 = \frac{513 - 508}{100} = 0.05$

L2 = 710 LF : CONC. FLOW

$S_2 = \frac{508 - 398}{710} = 0.1549$

Ray Ahmadi, Ph.D. P.E.
Consulting Engineer
227 South Mountain Road
New City, New York 10956
914 634-1351
634-4106

JOB
SHEET NO. OF 4
CALCULATED BY DATE 6/21/05
CHECKED BY DATE 2760
SCALE

DEVELOPED CONDITION

THE SITE WILL SUBDIVIDED INTO 14 LOTS.

LOTS 3 & 4 WILL BE USED FOR DRAINAGE.

LOTS #1 & #2 WILL BE DIVERTED INTO THE PROPOSED DETENTION POND.

WS #D (DEVELOPED)

A = 8.48 ACS { 0.17 "D" ; 8.31 "C" { 2.16 IMP. ; 6.15 WOOD & GRASS

HOUSES DRIVEWAY BACKUP DR. ROAD

12 x 2,925 + 12 x 1400 + 900 x 12 + 9,499

+ 725 x 30 = 93,849 SF OR 2.16 ACS

L_1 = 100 LF OVERLAND FLOW

$S_1 = \frac{512.5 - 507}{100} = 0.055$

L_2 = 130 LF CONCENTRATED FLOW

$S_2 = \frac{507 - 494.5}{130} = 0.0962$

L_3 = 50 LF ASPHALT

Ray Ahmadi, Ph.D. P.E.
Consulting Engineer
227 South Mountain Road
New City, New York 10956
914 634-1351
634-4106

JOB 2760
SHEET NO. _____ OF 2
CALCULATED BY _____ DATE 6/22/05
CHECKED BY _____ DATE _____
SCALE _____

$S_3 = \frac{494.5 - 492.0}{50} = 0.05$

L4 = 425 PIPE

$S_4 = \frac{492 - 454}{425} = 0.0894$ A = 1.77 18" n = 0.015

L5 = 350 LF PIPE & CHNL

$S_5 = \frac{416 - 398}{350} = 0.0514$

60" RCP

A = 19.63 ft²

WP = 15.70 Ft

n = 0.025 Combined

WS # V

UNDISTURBED AREA

A = 1.77 ACS { 0.46 "D" / 1.31 "C" WOODED

L1 = 100 LF OVERLAND FLOW

$S_1 = \frac{509 - 504}{100} = 0.05$

L2 = 650 LF CONCENTRATED FLOW

$S_2 = \frac{504 - 398}{650} = 0.1631$

Ray Ahmadi, Ph.D. P.E.
Consulting Engineer
227 South Mountain Road
New City, New York 10956
914 634-1351
634-4106

JOB 2760
SHEET NO. ____ OF 6
CALCULATED BY ____ DATE 6/22/05
CHECKED BY ____ DATE ____
SCALE ____

STORAGE

RESULT OF TR-55 FOR 100-YR STORMS
EXIST. CONDITION

	AREA	CN	TC	Q_{100}
WS #1	1.65 ACS	75	0.184 HR	7.10 CFS
WS #2	8.60 ACS	75	0.128 HR	39.37
POINT OF INTEREST				46.35 CFS

DEVELOPED CONDITION

WS # 1	8.48 ACS	80	0.197	39.88 CFS
WS # 1	1.77 ACS	74	0.125	7.96 CFS

WS #1

$$S = \frac{1000}{CN} - 10 = 3.33 \qquad CN = 75$$

$$Q_{100} = \frac{(P - 0.2S)^2}{P + 0.8 \times S} \qquad P = 7.5''$$

$$Q_{100} = \frac{(7.5 - 0.2 \times 3.33)^2}{7.5 + 0.8 \times 3.33} = 4.59''$$ DEPTH OF RUN OFF

WS #2

$$S = \frac{1000}{CN} - 10 = 3.33$$

Ray Ahmadi, Ph.D. P.E.
Consulting Engineer
227 South Mountain Road
New City, New York 10956
914 634-1351
634-4106

JOB
SHEET NO. OF 7
CALCULATED BY DATE 6/22/05
CHECKED BY DATE
SCALE

$$Q_{100} = \frac{(P-0.2S)^2}{P+0.8S} = 4.59''$$

WS # D

$$S = \frac{1000}{CN} - 10 = \frac{1000}{80} - 10 = 2.50$$

$$Q_{100} = \frac{(P-0.2S)^2}{P+0.8S} = \frac{(7.5-0.2\times 2.5)^2}{7.5+0.8\times 2.5} = 5.16''$$

$P = 7.5''$ FOR 100-YR RAINFALL

WS # U

$$S = \frac{1000}{CN} - 10 = 3.51$$

$$Q_{100} = \frac{(7.5-0.2\times 3.51)^2}{7.5+0.8\times 3.51} = 4.48''$$

STORAGE REQ'D

$$V_S = \left[(8.48\times 5.16 + 1.77\times 4.48) - (1.65\times 4.59 + 8.60\times 4.59)\right]\left(\frac{43{,}560^{\text{FT}^2}}{12''}\right) = 16{,}839 \text{ C.F.}$$

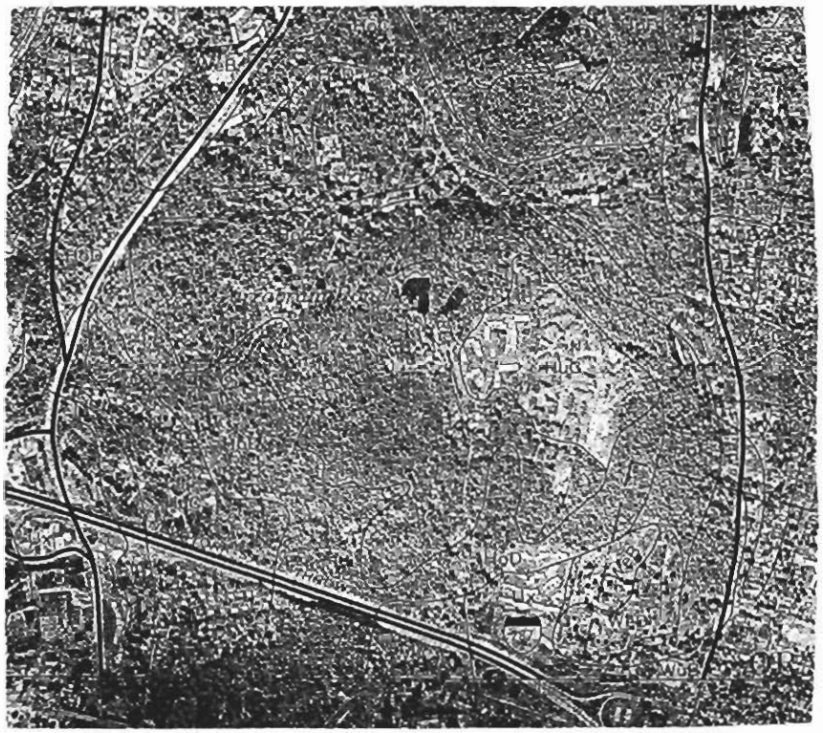
OR 0.39 AC-FT

RA Associates

CONSULTING ENGINEERS / PLANNER

Ray Ahmadi, Ph.D., P.E.
22[illegible] South Mountain Road
New City, New York 10956
Tel Fax/Ans..: (845)634-1351
E-Mail: RAAssoc@optonline.net

NORTH



WATERSHED SOIL MAP
SCALE: 1"=2,000' +/-
MOUNTAINVIEW AVENUE
TOWN OF CLARKSTOWN
ROCKLAND COUNTY, NEW YORK
REF: SOIL SURVEY OF ROCKLAND COUNTY, NY, DATED OCT. 1990

KURY HOMES

MOUNTAINVIEW AVENUE
TOWN OF CLARKSTOWN
ROCKLAND COUNTY
NEW YORK

TR-55 OUTPUT DATA AND HYDROGRAPHS FOR EXISTING CONDITION (1, 2, 5, 10, 25, 50 & 100-YEAR STORMS)

BY
RA ASSOCIATE CONSULTING ENGINEERS
227 SOUTH MOUNTAIN ROAD
NEW CITY, NEW YORK
TEL / FAX (845)634-1351

DATE OF REPORT
JUNE 22, 2005

KURY Homes (No. 2760)
Existing Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
WS#1	Paved parking lots, roofs, driveways		D	.07	98
	Meadow -cont. grass (non grazed)		D	.19	78
	Woods	(fair)	C	1.39	73
	Total Area / Weighted Curve Number			1.65	75
				====	==
WS#2	Paved parking lots, roofs, driveways		C	.55	98
	Meadow -cont. grass (non grazed)		D	.46	78
	Woods	(fair)	C	7.59	73
	Total Area / Weighted Curve Number			8.6	75
				===	==

KURY Homes (No. 2760)
Existing Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
WS#1							
SHEET	100	0.1100	0.400				0.173
SHALLOW	100	0.2600	0.050				0.003
SHALLOW	70	0.0286	0.050				0.007
CHANNEL	135	0.1037	0.015	19.63	15.70	37.500	0.001
					Time of Concentration		.184
WS#2							
SHEET	100	0.0500	0.130				0.097
SHALLOW	710	0.1549	0.050				0.031
					Time of Concentration		.128

RA

KURY Homes (No. 2760)
Existing Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
WS#1	1.65	0.184	75	Outlet	Existing WS#1
WS#2	8.60	0.128	75	Outlet	Existing WS#2

Total Area: 10.25 (ac)

RA

KURY Homes (No. 2760)
Existing Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs) (hr)	5-Yr (cfs) (hr)	10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	50-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS							
WS#1	1.98	3.18	3.81	5.10	6.44	7.10	1.12
	12.16	12.15	12.15	12.15	12.15	12.15	12.17
WS#2	11.12	17.72	21.20	28.36	35.66	39.37	6.33
	12.13	12.13	12.13	12.12	12.12	12.12	12.14
REACHES							
OUTLET	13.05	20.83	24.93	33.37	42.00	46.35	7.42

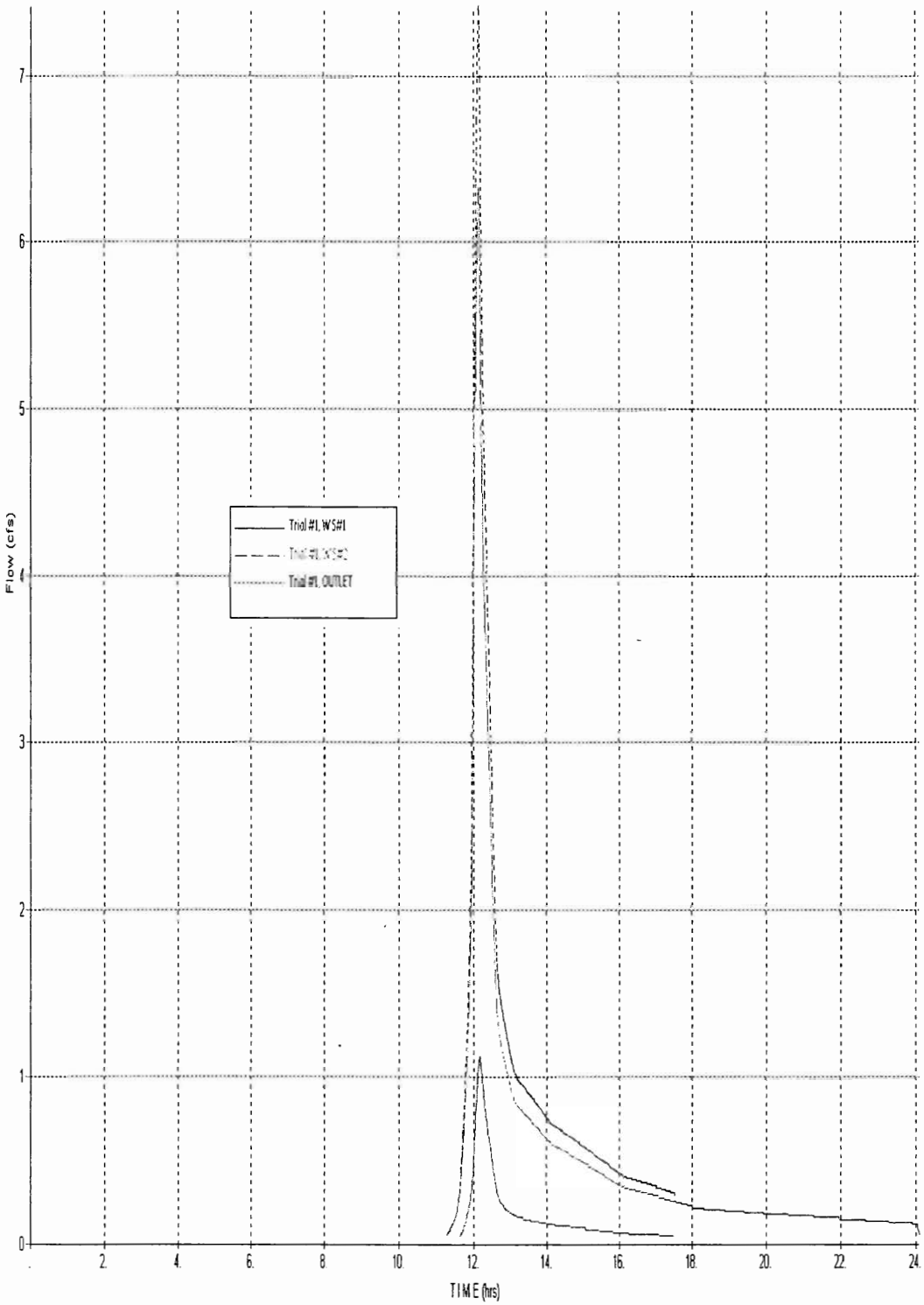
RA

KURY Homes (No. 2760)
Existing Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

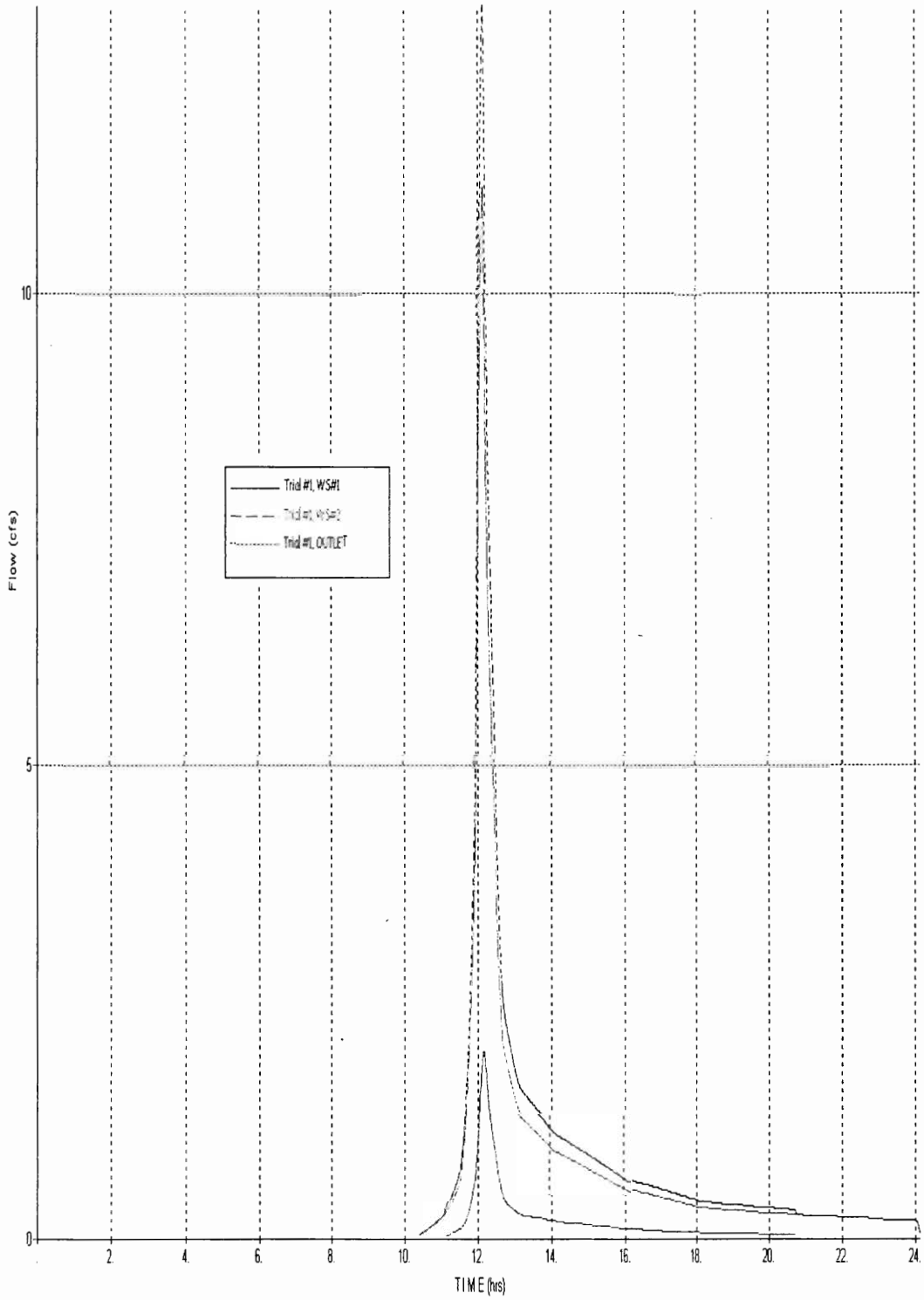
Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 2-Yr (cfs)	5-Yr (cfs)	10-Yr (cfs)	25-Yr (cfs)	50-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS							
WS#1	1.98	3.18	3.81	5.10	6.44	7.10	1.12
WS#2	11.12	17.72	21.20	28.36	35.66	39.37	6.33
REACHES							
OUTLET	13.05	20.83	24.93	33.37	42.00	46.35	7.42

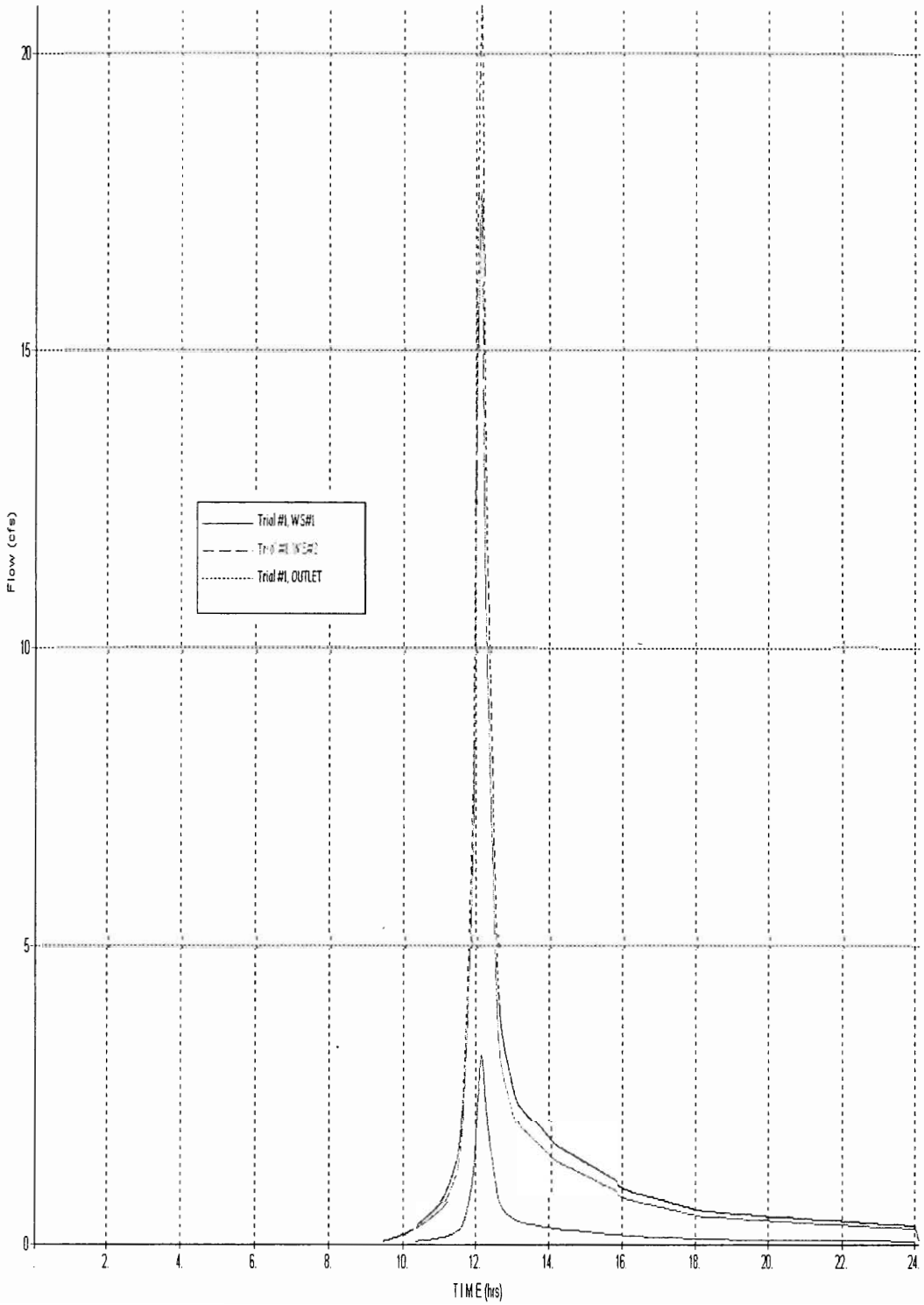
Project: KURY Homes (No. 2760)
Subareas: (WS#1, WS#2, Outlet) Storm: 1-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-E-1.w55



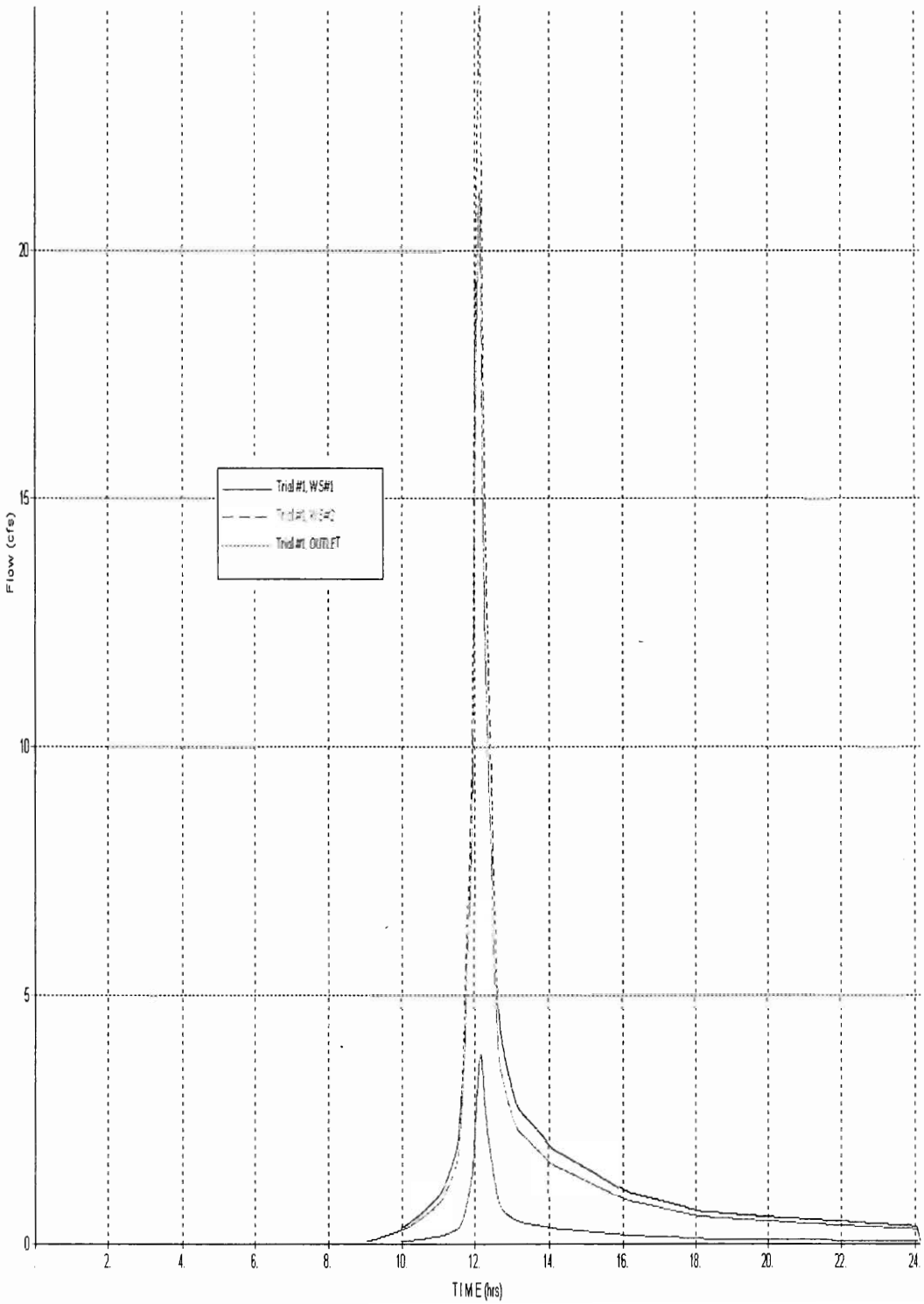
Project: KURY Homes (No. 2760)
Subareas: (WS#1, WS#2, Outlet) Storm: 2-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-E-1 *55



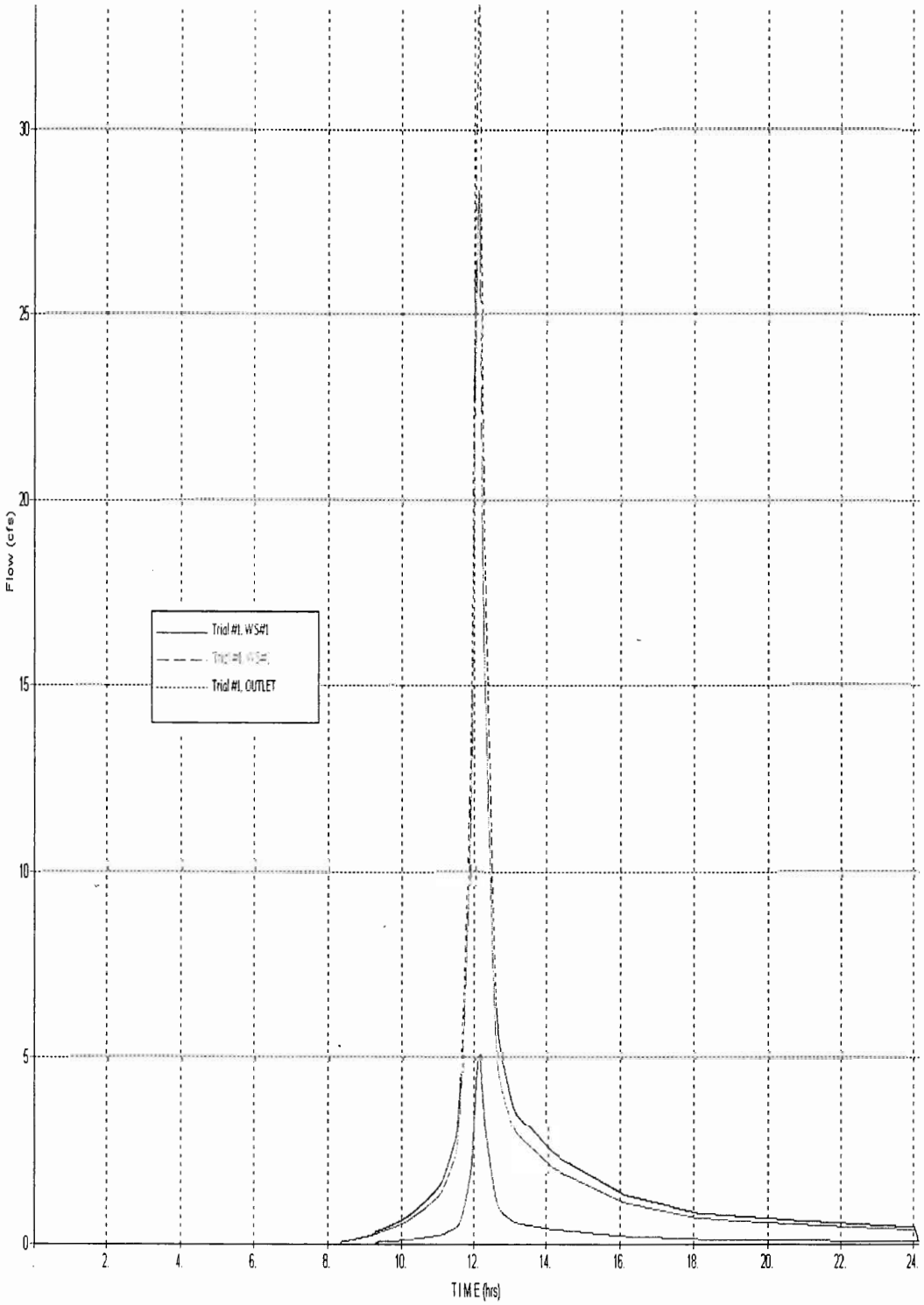
Project: KURY Homes (No. 2760)
Subareas: (WS#1, WS#2, Outlet) Storm: 5-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-E-1.w55



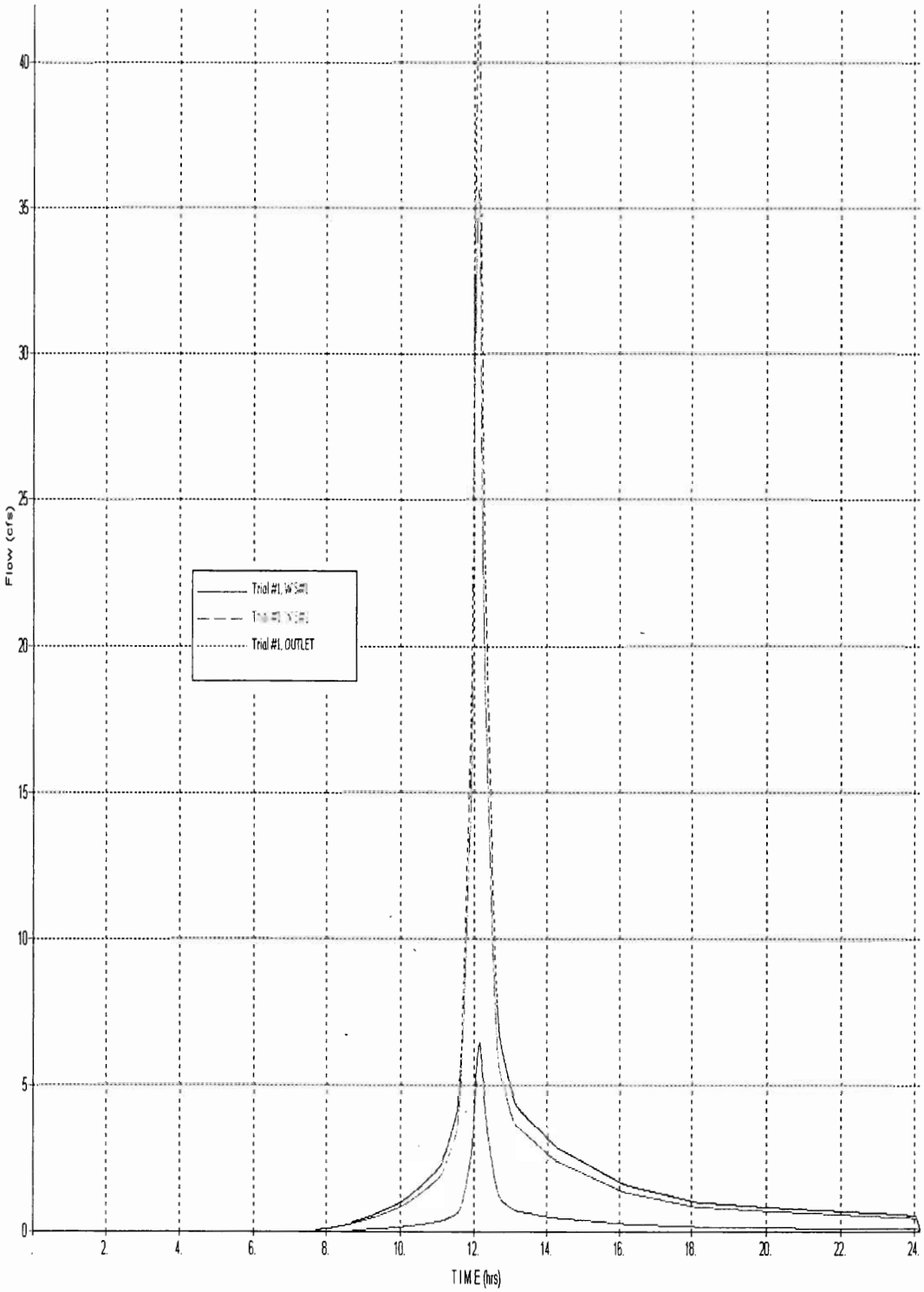
Project: KURY Homes (No. 2760)
Subareas: (WS#1, WS#2, Outlet) Storm: 10-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-E-1.w55



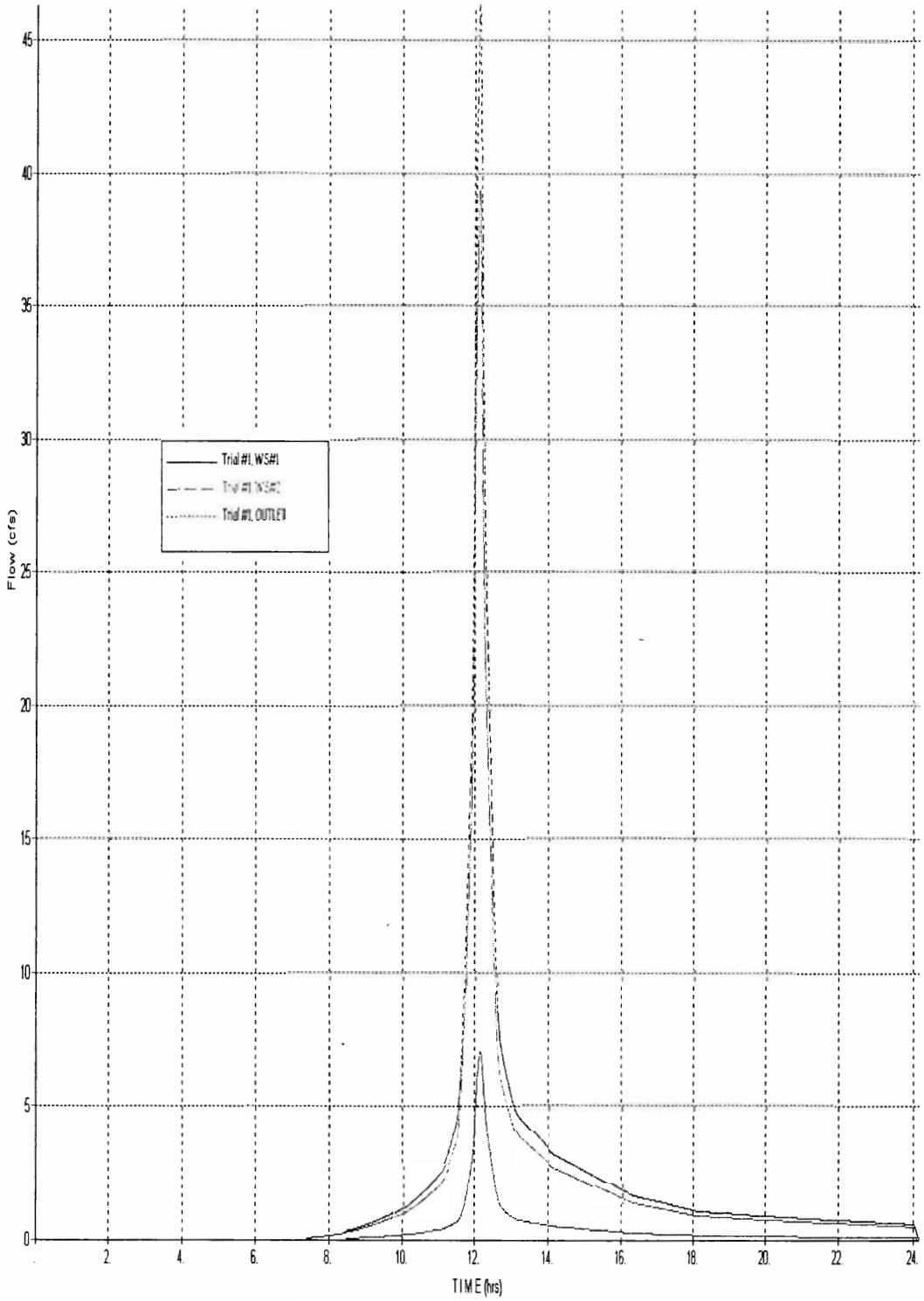
Project: KURY Homes (No. 2760)
Subareas: (WS#1, WS#2, Outlet) Storm: 25-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-E-1.w55



Project: KURY Homes (No. 2760)
Subareas: (WS#1, WS#2, Outlet) Storm: 50-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-E-1.w55



Project: KURY Homes (No. 2760)
Subareas: (WS#1, WS#2, Outlet) Storm: 100-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-E-1.w55



WinTR-55 Current Data Description

--- Identification Data ---

User: RA
Project: KURY Homes (No. 2760)
SubTitle: Existing Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
State: New York
County: Rockland
Filename: \\Server\primary share\hydrology TR-55\2760\TR-55-E-1.w55

Date: 6/23/2005
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
WS#1	Existing WS#1	Outlet	1.65	75	.184
WS#2	Existing WS#2	Outlet	8.6	75	.128

Total area: 10.25 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.5	4.5	5.0	6.0	7.0	7.5	2.7

Storm Data Source: Rockland County, NY (NRCS)
Rainfall Distribution Type: Type III
Dimensionless Unit Hydrograph: <standard>

RA

KURY Homes (No. 2760)
Existing Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.5	4.5	5.0	6.0	7.0	7.5	2.7

Storm Data Source: Rockland County, NY (NRCS)
Rainfall Distribution Type: Type III
Dimensionless Unit Hydrograph: <standard>

KURY HOMES

MOUNTAINVIEW AVENUE
TOWN OF CLARKSTOWN
ROCKLAND COUNTY
NEW YORK

TR-55 OUTPUT DATA AND HYDROGRAPHS FOR SITE DEVELOPED WITHOUT STORAGE (1, 2, 5, 10, 25, 50 & 100-YEAR STORMS)

BY
RA ASSOCIATE CONSULTING ENGINEERS
227 SOUTH MOUNTAIN ROAD
NEW CITY, NEW YORK
TEL / FAX (845)634-1351

DATE OF REPORT
JUNE 22, 2005

KURY Homes (No. 2760)
Developed Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
WS#D	Open space; grass cover > 75%	(good)	C	3	74
	Paved parking lots, roofs, driveways		D	2.16	98
	Meadow -cont. grass (non grazed)		D	.17	78
	Woods	(fair)	C	3.15	73
	Total Area / Weighted Curve Number			8.48	80
				====	==
WS#U	Meadow -cont. grass (non grazed)		D	.46	78
	Woods	(fair)	C	1.31	73
	Total Area / Weighted Curve Number			1.77	74
				====	==

RA

KURY Homes (No. 2760)
Developed Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
WS#D							
SHEET	100	0.1100	0.400				0.173
SHALLOW	130	0.0962	0.050				0.007
SHALLOW	50	0.0500	0.025				0.003
CHANNEL	425	0.0894	0.015	1.77	4.71	14.757	0.008
CHANNEL	350	0.0514	0.025	19.63	15.70	16.204	0.006
					Time of Concentration		.197
WS#U							
SHEET	100	0.0500	0.130				0.097
SHALLOW	650	0.1631	0.050				0.028
					Time of Concentration		.125

RA

KURY Homes (No. 2760)
Developed Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
WS#D	8.48	0.197	80	Outlet	Developed (disturbed Are)
WS#U	1.77	0.125	74	Outlet	Developed (Undisturbed)

Total Area: 10.25 (ac)

RA

KURY Homes (No. 2760)
Developed Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.5	4.5	5.0	6.0	7.0	7.5	2.7

Storm Data Source: Rockland County, NY (NRCS)
Rainfall Distribution Type: Type III
Dimensionless Unit Hydrograph: <standard>

WinTR-55 Current Data Description

--- Identification Data ---

User: RA
Project: KURY Homes (No. 2760)
SubTitle: Developed Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
State: New York
County: Rockland
Filename: \\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55

Date: 6/23/2005
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
WS#D	Developed (disturbed Are)	Outlet	8.48	80	.197
WS#U	Developed (Undisturbed)	Outlet	1.77	74	.125

Total area: 10.25 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.5	4.5	5.0	6.0	7.0	7.5	2.7

Storm Data Source: Rockland County, NY (NRCS)
Rainfall Distribution Type: Type III
Dimensionless Unit Hydrograph: <standard>

RA

KURY Homes (No. 2760)
Developed Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs) (hr)	5-Yr (cfs) (hr)	10-Yr (cfs) (hr)	25-Yr (cfs) (hr)	50-Yr (cfs) (hr)	100-Yr (cfs) (hr)	1-Yr (cfs) (hr)
SUBAREAS							
WS#D	12.82	19.35	22.71	29.54	36.46	39.88	7.93
	12.16	12.16	12.16	12.16	12.15	12.16	12.16
WS#U	2.18	3.52	4.23	5.69	7.20	7.96	1.22
	12.13	12.12	12.13	12.12	12.12	12.12	12.13
REACHES							
OUTLET	14.90	22.72	26.77	35.05	43.40	47.58	9.09

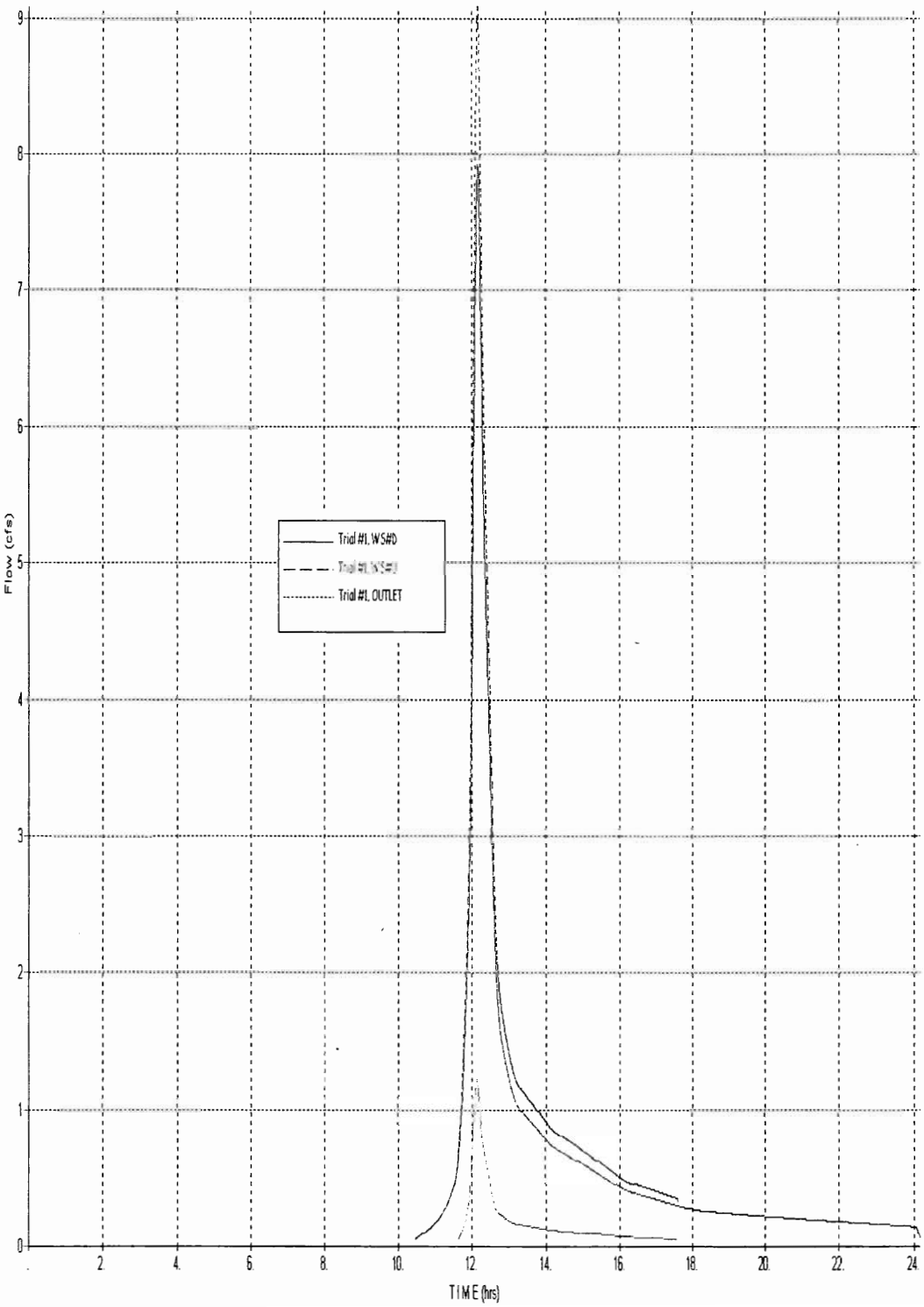
RA

KURY Homes (No. 2760)
Developed Condition 1, 2, 5, 10, 25, 50 & 100-yr storms
Rockland County, New York

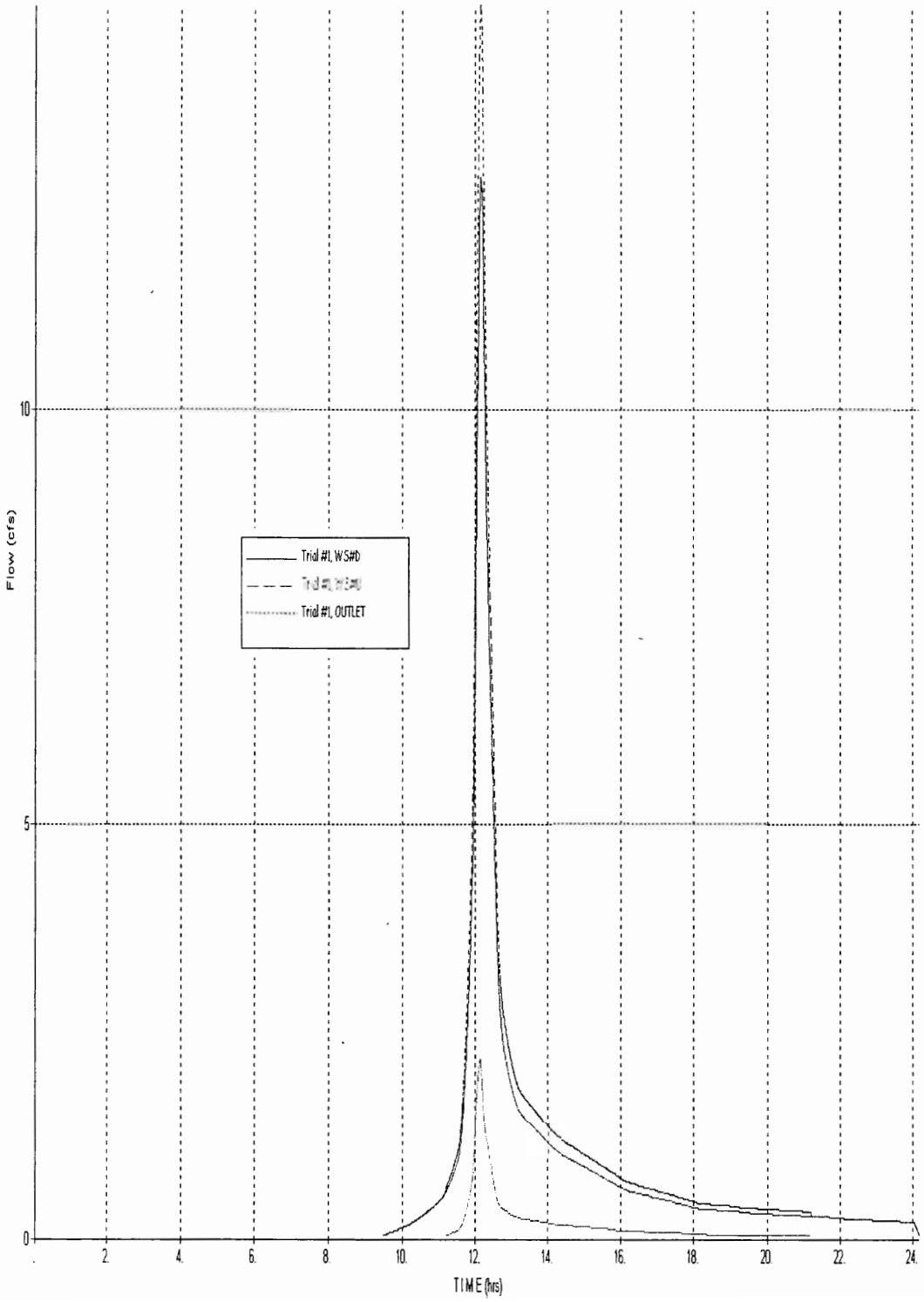
Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 2-Yr (cfs)	5-Yr (cfs)	10-Yr (cfs)	25-Yr (cfs)	50-Yr (cfs)	100-Yr (cfs)	1-Yr (cfs)
SUBAREAS							
WS#D	12.82	19.35	22.71	29.54	36.46	39.88	7.93
WS#U	2.18	3.52	4.23	5.69	7.20	7.96	1.22
REACHES							
OUTLET	14.90	22.72	26.77	35.05	43.40	47.58	9.09

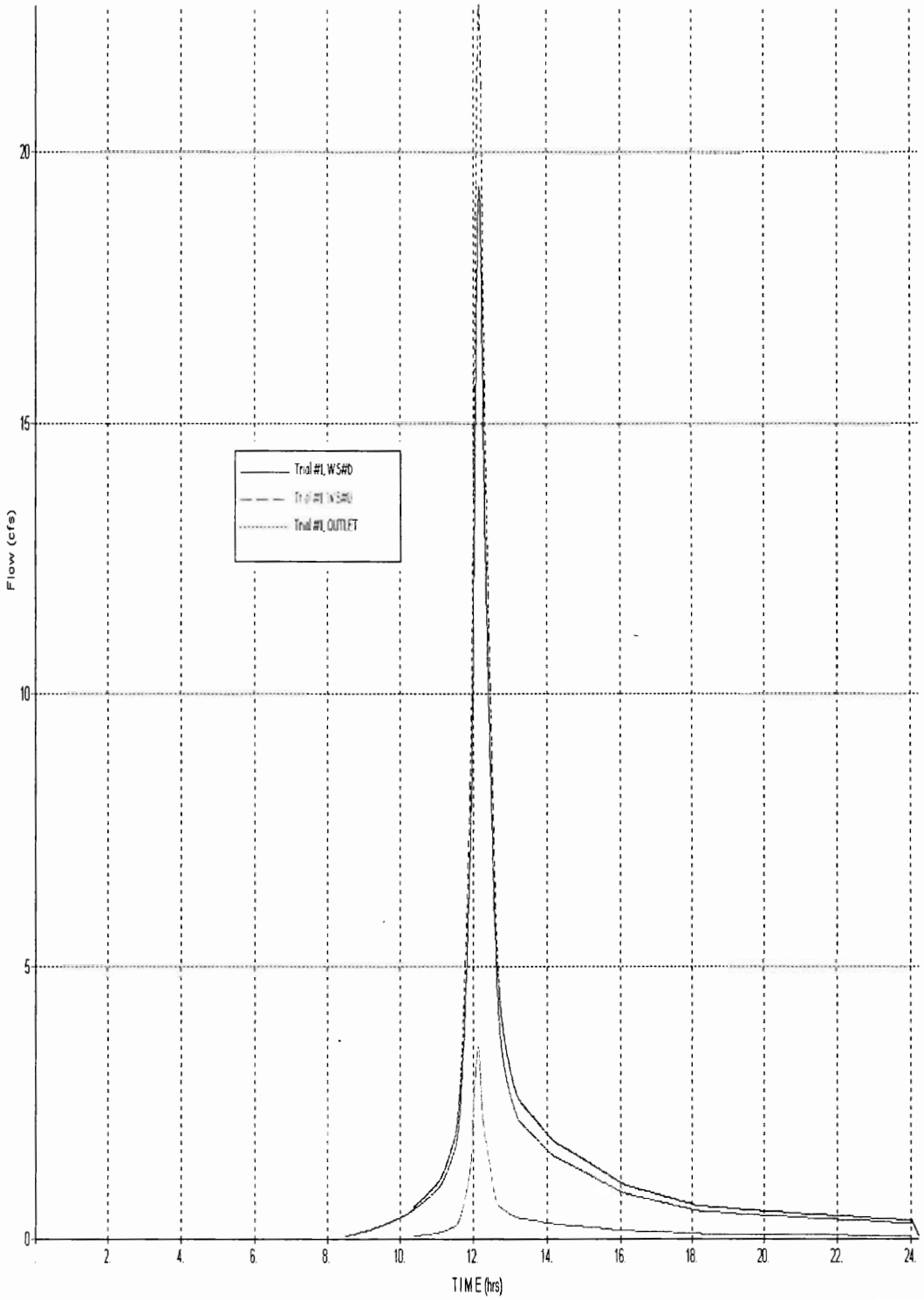
Project: KURY Homes (No. 2760)
Subareas: (WS#D, WS#U, Outlet) Storm: 1-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55



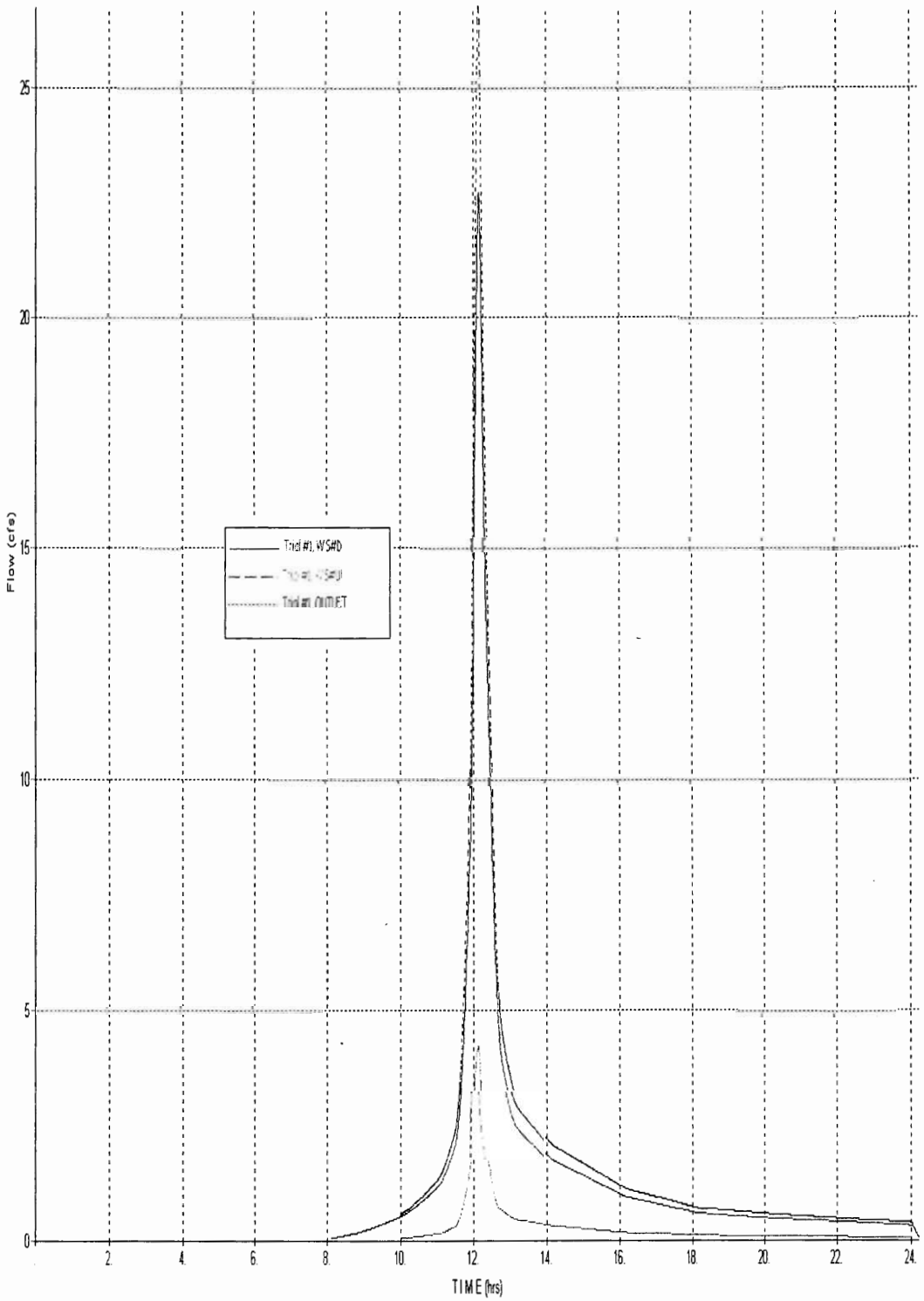
Project: KURY Homes (No. 2760)
Subareas: (WS#D, WS#U, Outlet) Storm: 2-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55



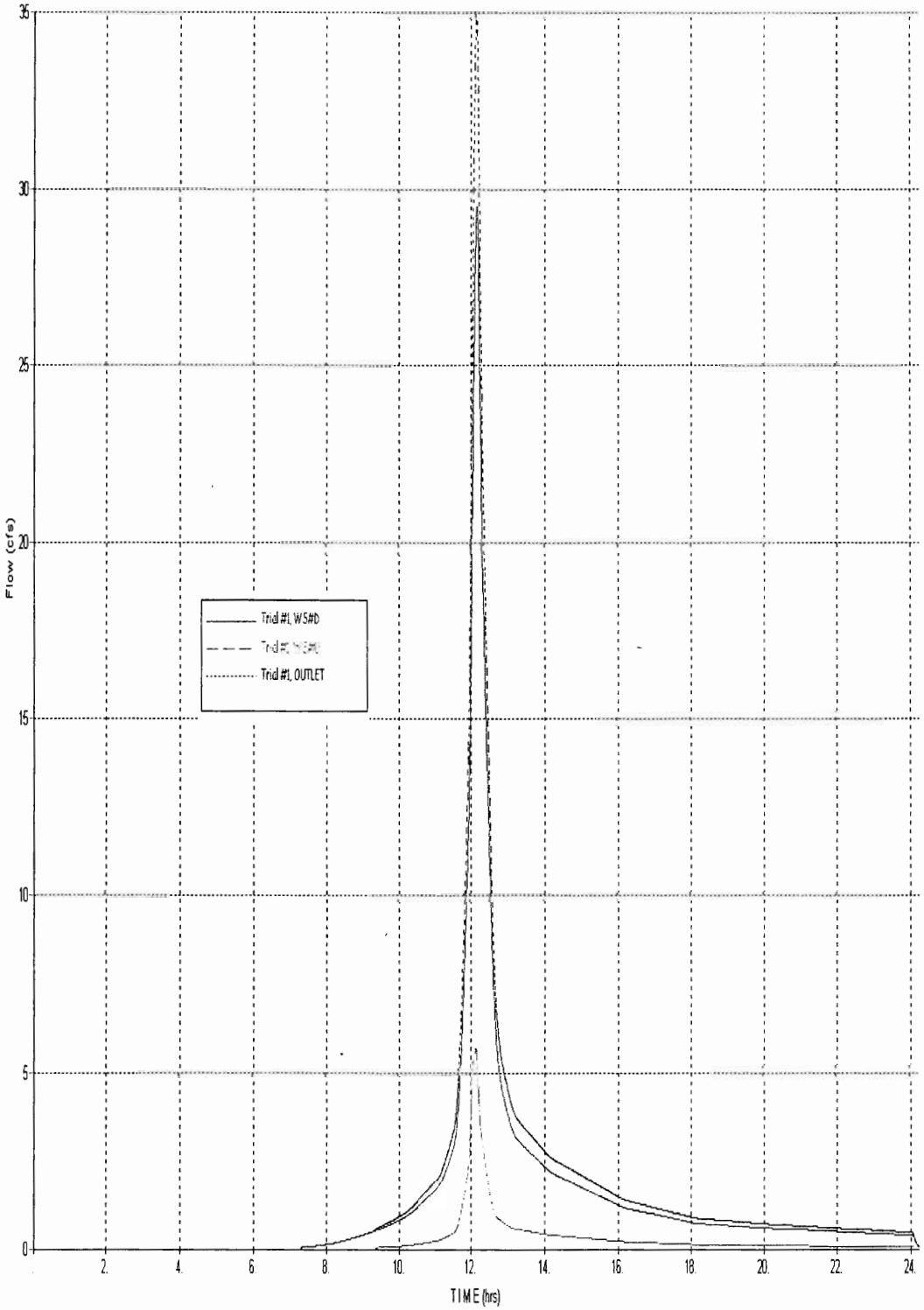
Project: KURY Homes (No. 2760)
Subareas: (WS#D, WS#U, Outlet) Storm: 5-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55



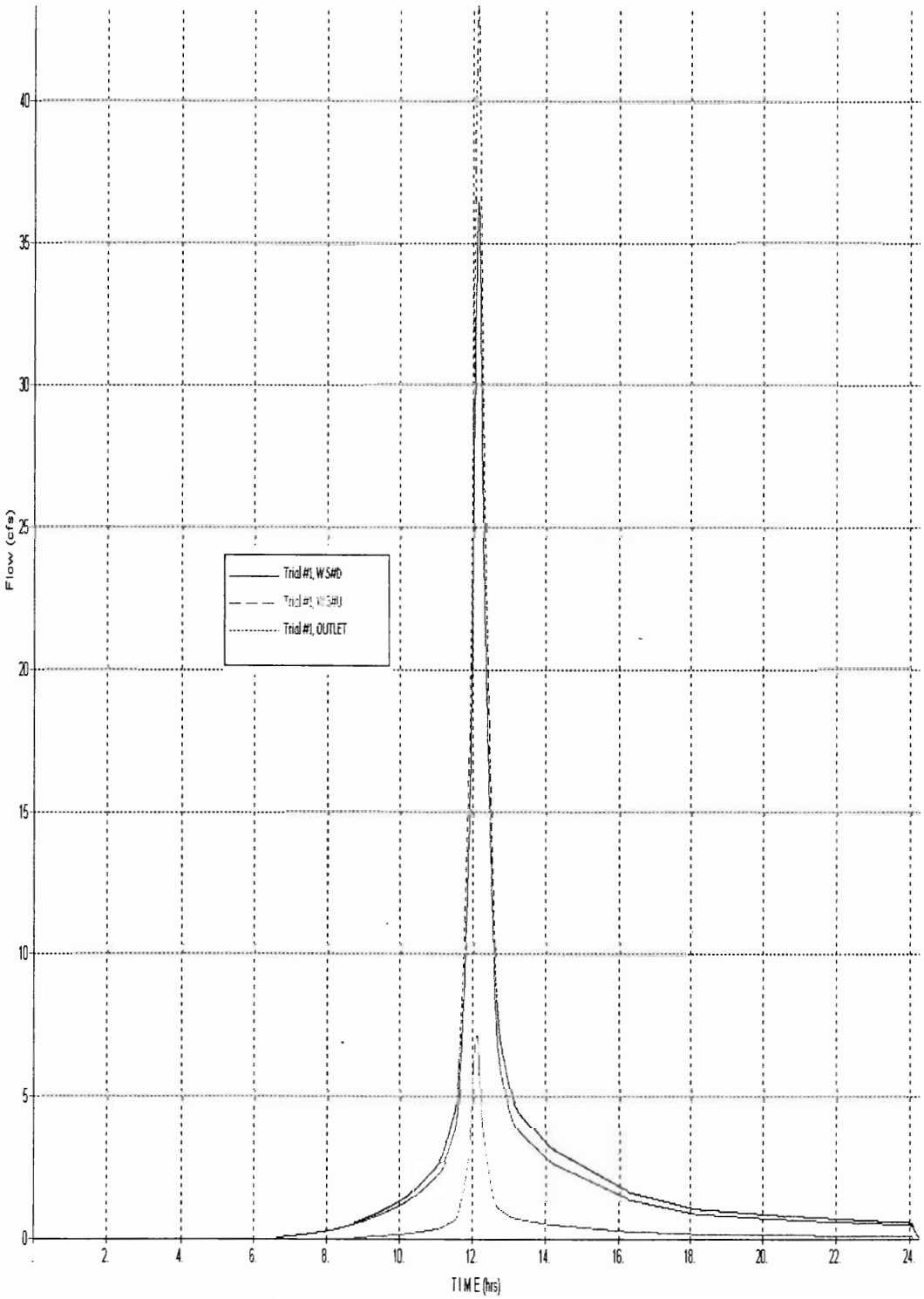
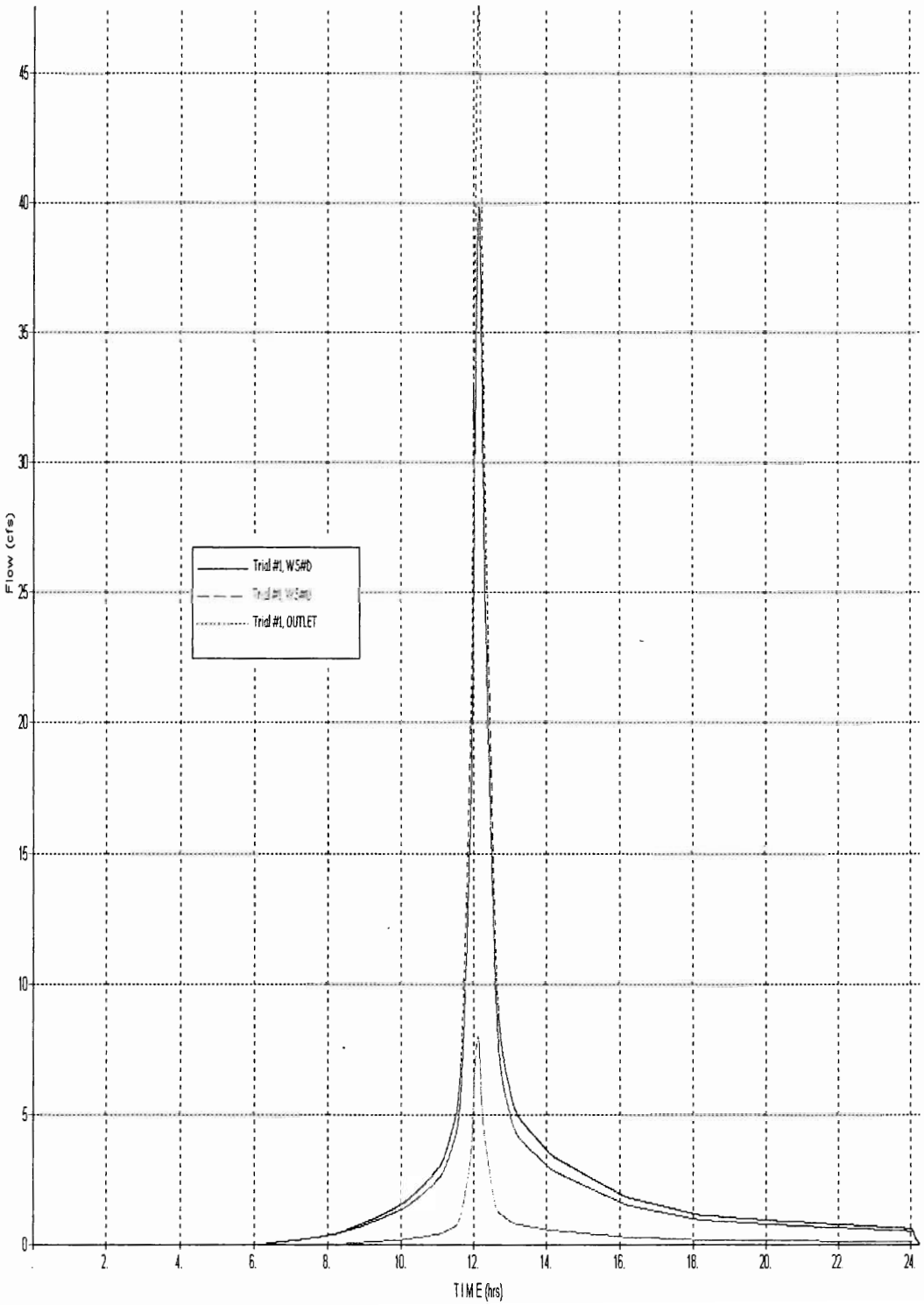
Project: KURY Homes (No. 2760)
Subareas: (WS#D, WS#U, Outlet) Storm: 10-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55



Project: KURY Homes (No. 2760)
Subareas: (WS#D, WS#U, Outlet) Storm: 25-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55



Project: KURY Homes (No. 2760)
Subareas: (WS#D, WS#U, Outlet) Storm: 50-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55



Project: KURY Homes (No. 2760)
Subareas: (WS#D, WS#U, Outlet) Storm: 100-Yr
\\Server\primary share\hydrology TR-55\2760\TR-55-D-1.w55