Check #9432

APPLICATION NO. _____

PLANNING COMMISSION APPLICATION

FOR SUBDIVISION / RE-SUBDIVISION, SUBDIVISION MODIFICATION, POCD AND SUBDIVISION REGULATION AMENDMENT

APPLICATION TYPE: **Subdivision** x **Re-Subdivision** _____ **Subdivision Modification** _____
POCD Amendment _____ **Subdivision Amendment** _____

NAME OF SUBDIVISION: Pattagansett Preserve at Nottingham Hills

PROPOSED ROAD NAME(S): n/a **LENGTH** n/a **l.f.**
(attach list if more than one)

PROPERTY LOCATION: *(attach 8 ½ x 11 location map)* 121 Upper Pattagansett Road

APPLICANT: Kristen Clarke, P.E.
Address: 20 Risingwood Drive, Bow, NH 03304 **Phone:** 434-409-9515 **Fax:** n/a
e-mail: kristentclarke@gmail.com

OWNER: Cold Spring Lot Management
Address: 18 Drabik Road, East Lyme, CT 06333 **Phone:** 860-691-4572 **Fax:** _____
e-mail: _____

PRIMARY CONTACT /AGENT : Paul Geraghty, Esq.
Address: 38 Granite Street, New London, CT 06320 **Phone:** 860-447-8077 **Fax:** 860-447-9833
e-mail: pgeraghty@geraghtybonnono.com

ASSESSOR'S MAP(S) & LOT(S) 35.0-44 **TOTAL ACRES** 63.86
ZONING DISTRICT(S) RU-40 **CONV./O.S.** (circle one) **CAM** n/a **# LOTS** 8
FLOOD ZONE _____ **AQUIFER** _____ **W/IN 500' TOWN BOUNDARY** n/a **FARM LAND** n/a

WATER SUPPLY private well **SEWAGE DISPOSAL** septic
(attach letter from Water & Sewer Dept. if public and Ledge Light Health District if on-site)

CONSERVATION COMMISSION APPLICATION: _____ **PERMIT#:** _____

WAIVER(S) REQUESTED: *(attach letter)* _____

ZONING VARIANCES: *(attach copy from land records)* n/a

PLANS PREPARED BY (Engineer/Surveyor): Gerwick-Mereen
Address: 191 Boston Post Road, East Lyme, CT 06333 **Phone:** 860-442-2201 **Fax:** 860-442-2205
e-mail: jp@gerwickmereen.com

ATTORNEY: Paul Geraghty

Address: 38 Granite Street
New London, CT 06320

Phone: 860-447-8077 **Fax:** 860-447-9833

e-mail: pgeraghty@geraghtybonnono.com

PREVIOUS SUBDIVISION(S) IF RE-SUBDIVISION OR LOT LINE REVISION:

Lot line revision **Map** _____ **Dwr.** _____

_____ **Map** _____ **Dwr.** _____

_____ **Map** _____ **Dwr.** _____

CHECKLIST ATTACHED x

CONSENTS AND PERMISSIONS:

The undersigned owner, or legally authorized agent, hereby consents to necessary and proper inspections of the property that is the subject of this application by agents of the Commission at reasonable times both before and after approval is granted by the Commission.

The undersigned declares all information submitted with this application is accurate to the best of his/her knowledge and belief. If such information subsequently proves to be false, deceptive, incomplete or inaccurate, the approval may be modified, suspended, or revoked by the Commission.

John Drabik	John K Drabik	08/04/2021
Owner's Printed Name	**Owner's Signature**	**Date**
Kristen Clarke, P.E.	Kristen Clarke	8/4/2021
Applicant's Printed Name	**Applicant's Signature**	**Date**

FOR INTERNAL USE ONLY:

SUBMITTED:
APPLICATION FEE:
PROCESSING FEE:
DATE OF RECEIPT:
SET P.H. BY:
PUBLISH LEGAL NOTICE:
HEARING HELD:
DECISION BY:
CONDITIONAL APPROVAL:
LEGAL NOTICE
FINAL APPROVAL:
LEGAL NOTICE:
LETTER OF DECISION:

BOND SUBMITTED:
OPEN SPACE CONVEYED:
MYLARS FILED:
ROAD ACCEPTED:
DEEDS & EASEMENTS FILED:

The Commission has the authority to determine whether a submission constitutes a complete application in accordance with the regulation requirements. If after reviewing a submission, the Commission finds the application to be incomplete in any material respects, it may vote to deny the application. Prior to taking this action, the applicant will be given the opportunity to withdraw the incomplete application. No fees shall be refunded upon withdrawal of an incomplete application.

APPLICATION FEE CALCULATION SHEET

2.1 Subdivision Application Review. For subdivisions and re-subdivisions, the following fees shall be paid at the time of application to the Planning Commission:

2.1.1	# Lots 8 X $100.00	800.00
2.1.2	Base Fee	$750.00
2.1.3	Public Hearing Fee, if applicable ($1250.00)	1250.00
2.1.4	Design Review Fee -LF new road _____ X $1.00	n/a
2.1.5	Professional/Legal Consultations (actual cost)	n/a
2.1.6	State of Conn. Fee	$60.00
	SUBTOTAL	2860.00

2.2 Subdivision Application Processing and Inspection. Upon approval of a subdivision/ re-subdivision by the Planning Commission, the following fees shall be paid prior to the Chair's signing the app6oved subdivision plan:

2.2.1	# Lots 8 X $100	800.00
2.1.2	Base Fee	$100.00
2.2.3	Road/Utility Document Review Fee ($400.00)	n/a
2.2.4	Inspection Fee - LF of new road _____ X $1.00	n/a
2.2.5	E & S Control Fee - # Lots _____ X $50.00	n/a
	SUBTOTAL	900.00

2.3 Coastal Area Management Review
Lots _____ X $10.00 ($25.00 min.) n/a

2.4 Application for Revision of Lot Line $150.00

TOTAL FEES _____

Fees based on Section 2 of the Town Ordinance Establishing Schedule of Fees for Conservation Planning and Zoning Commissions as amended.

Created on 3/2/2010 5:13:00 PM
S:\Forms\SubAppChecklist & Fee Schedule.doc

35.0 2
BOOTH JAMES ROBERT &
130 WAWECUS HILL RD
BOZRAH, CT 06334

35.0 1
COLD SPRING LOT MGT LLC
18 DRABIK RD
EAST LYME, CT 06333

40.0 5
EAST LYME TOWN OF
PO BOX 519
NIANTIC, CT 06357-0519

35.0 42
GESINO FRANK E & JENINE D
133 UPPER PATTAGANSETT
EAST LYME, CT 06333

40.4 18
HINTZE WILLIAM D JR &
20 VILLAGE DR
EAST LYME, CT 06333

35.0 31-8
LINDA M GARDNER REVO
2 ABERDEEN CT
EAST LYME, CT 06333

35.2 2-1
MORAN RONALD K
4 CENTER RD
WATERFORD, CT 06385

40.4 17
SEMPRONI ANTHONY R &
18 VILLAGE DR
EAST LYME, CT 06333

35.0 43
SIBORG RICHARD J & SHEILA
129 UPPER PATTAGANSETT
EAST LYME, CT 06333

40.2 2
VAGE SATYANARAYANA R &
32 VILLAGE DR
EAST LYME, CT 06333

35.0 31-9
BRIGGS WILLIAM F &
1 KENSINGTON DR
EAST LYME, CT 06333

35.0 45
CONNECTICUT STATE OF
STATE OFFICE BLDG
HARTFORD, CT 06106

35.2 4
FOLTZ PATRICK E
828 COLONEL LEDYARD HWY
LEDYARD, CT 06339

35.0 39
GIRL SCOUTS OF
20 WASHINGTON AVE
NORTH HAVEN, CT 06473

35.2 6
INN AT WHITE GATE FARM
PO BOX 250
EAST LYME, CT 06333

40.4 13
MCLLARKY LESLIE M &
3 VILLAGE CT
EAST LYME, CT 06333

40.4 9
PERRY JESSICA
8 VILLAGE COURT
EAST LYME, CT 06333

40.4 20
SHAW MARK B & ELIZABETH
1006 WHITFIELD POINT RD
ANDERSON, SC 29626

40.4 10
STULTZ ADAM & NICOLLE
10 VILLAGE CT
EAST LYME, CT 06333

40.4 14
WHRITENOUR ANDREW R &
1 VILLAGE COURT
EAST LYME, CT 06333

35.0 44
COLD SPRING LOT MGT LLC
18 DRABIK RD
EAST LYME, CT 06333

36.1 11
DRABIK JOHN H
18 DRABIK RD
EAST LYME, CT 06333

35.2 3
FOLTZ PATRICK E
828 COLONEL LEDYARD HWY
LEDYARD, CT 06339

40.4 11
HENRY JOHN &
7 VILLAGE CT
EAST LYME, CT 06333

40.4 16
KALAJAINEN KIMBERLY A
16 VILLAGE DR
EAST LYME, CT 06333

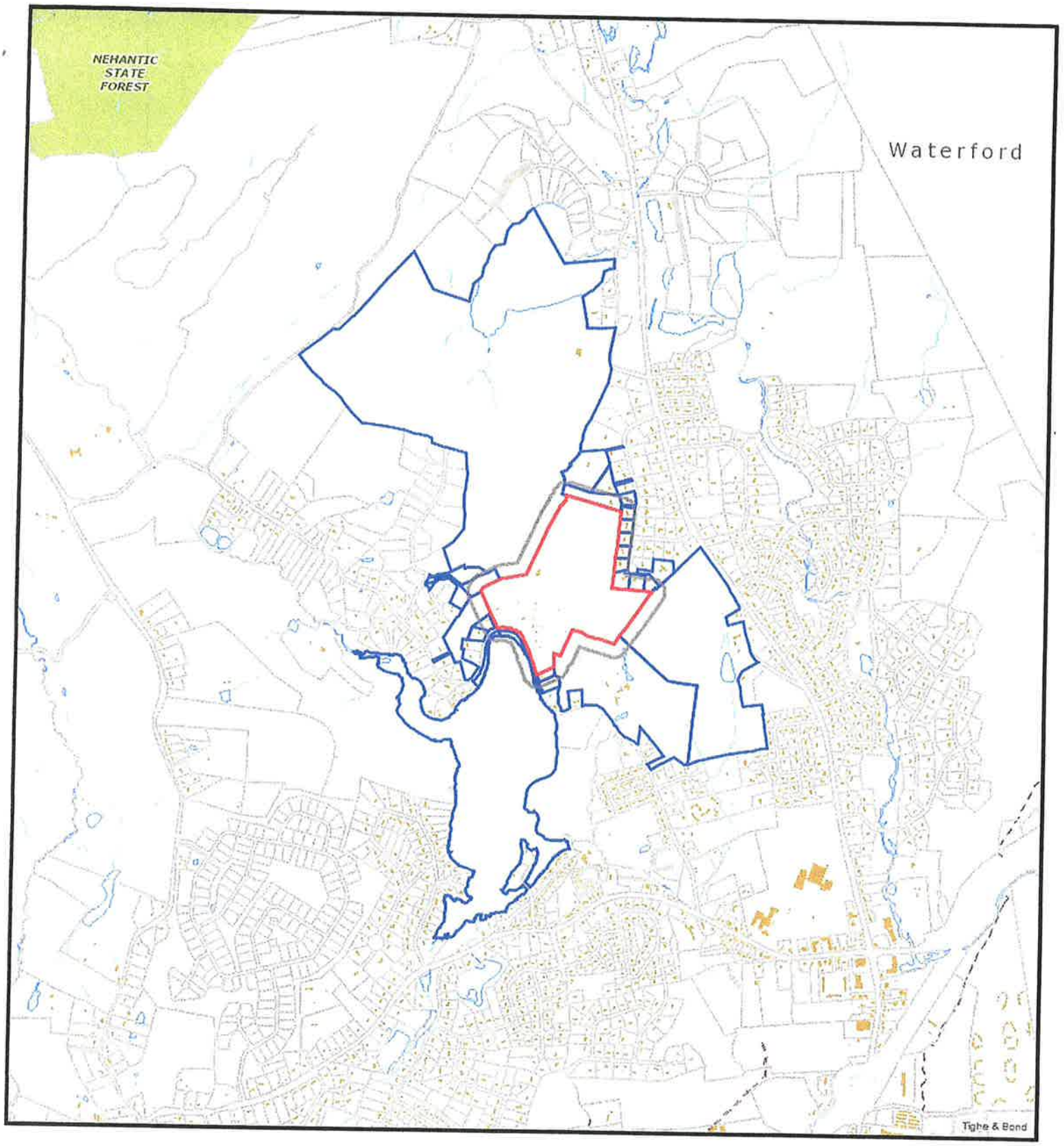
35.2 5-1
MORAN RONALD K
4 CENTER RD
WATERFORD, CT 06385

40.4 12
PIPER JARED L & MARY A
5 VILLAGE COURT
EAST LYME, CT 06333

40.4 8
SHILOH BAPTIST CHURCH
1 GARVIN ST
NEW LONDON, CT 06320

35.0 31-10
SZETO KYLAN &
3 KENSINGTON DR
EAST LYME, CT 06333

40.4 15
ZUMMO MICHAEL & KRISTIN
14 VILLAGE DR
EAST LYME, CT 06333

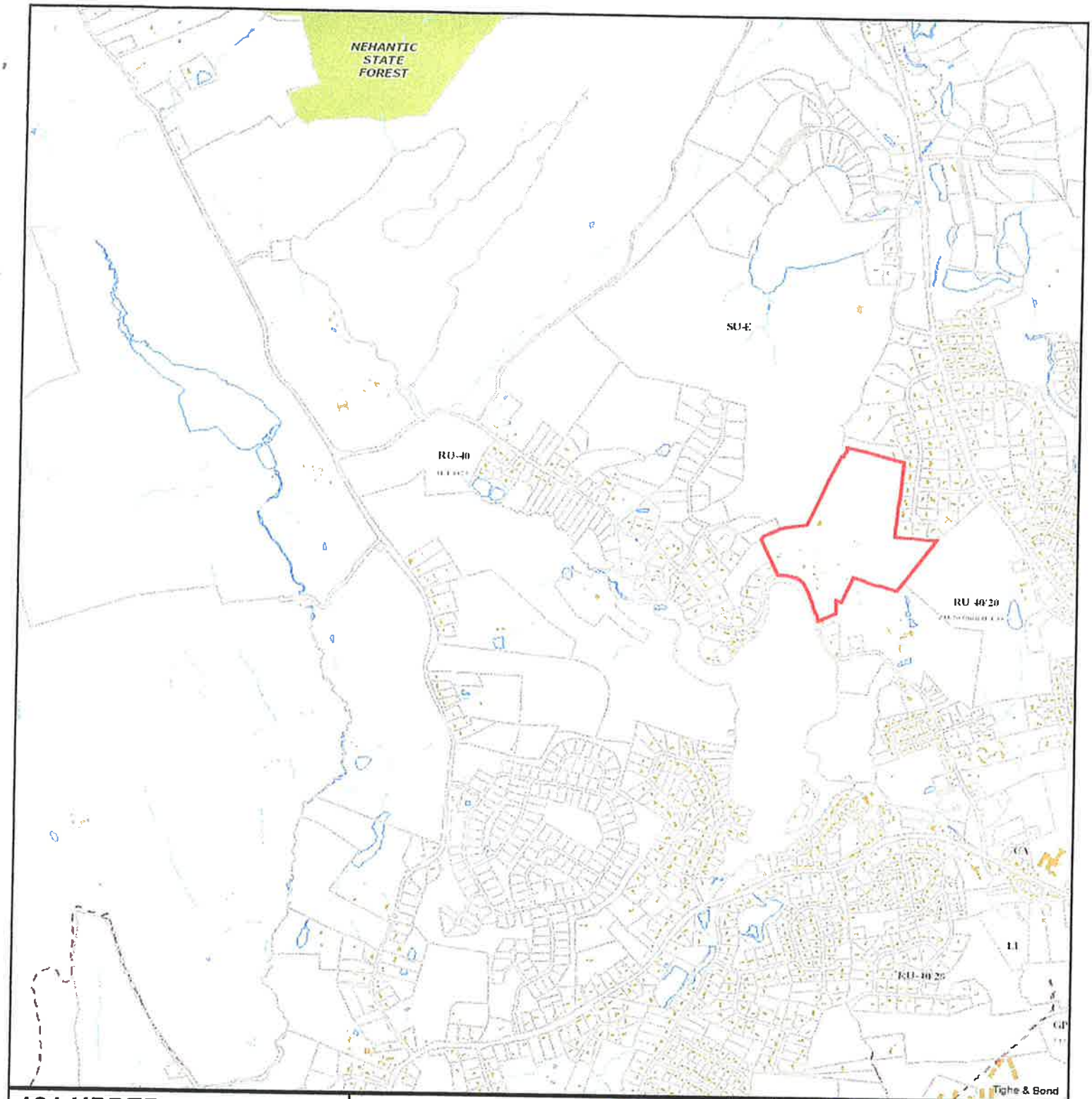


6/19/2021 8:40:02 AM

Scale: 1"=2000'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



121 UPPER

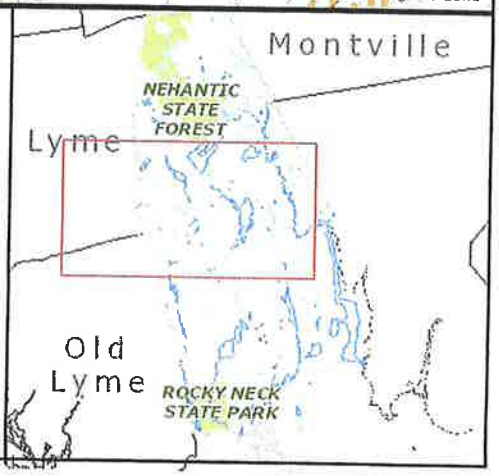
6/13/2021 6:05:32

1"=2000'

Property Information

Parcel ID	35.0 44
Address	121 UPPER
Sale Price	$843,146.00

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



Geraghty & Bonnano, LLC
Attorneys at Law

PAUL M. GERAGHTY*
MICHAEL S. BONNANO
JOHANNA McCORMICK
MARK A. DUBOIS†
JONATHAN E. FRIEDLER††

*Also Admitted in New York
† Board Certified, Trial Advocate
†† Also Admitted in Massachusetts and North Dakota

August 6, 2021

HAND DELIVERED
Gary Goeschel
Director of Planning
Town of East Lyme
108 Pennsylvania Avenue
Niantic, CT 06357

Re: Subdivision Application
Pattagansett Preserve at Nottingham Hills
AKA Nottingham Hills Subdivision Phase 5
121 Upper Pattagansett Road

Dear Mr. Goeschel:

Enclosed please find an application for a subdivision of the above referenced property together with a check for the required application fee in the amount of $2860.00.

I also enclose the following:

1. Two (2) 24" x 36" and twelve (12) 11" x 17" plans titled "Nottingham Hills Subdivision Phase 5 Prepared for Kristen T. Clarke, P.E., English Harbour Asset Management LLC, 1712 Pioneer Avenue, Suite 1939, Cheyenne, WY. 82001.

2. Abutters List.

3. Design Report.

Please feel free to contact me should we need to discuss these plans or the other enclosures in further detail.

Sincerely,

Paul M. Geraghty

DESIGN REPORT
Nottingham Hills Subdivision Phase 5
AUGUST 4, 2021
121 UPPER PATTAGANSETT ROAD
EAST LYME, CONNECTICUT

This Phase of the Nottingham Hills subdivision will create 8 new lots on 14.35 of the 63.86 acres each of which will have frontage on Upper Pattagansett Road. The remaining land, identified as "Lot 6" on the submitted plans containing 49.53 acres, will continue to be used in the same historical manner as it has been for the past 95 years (Camp Ground). The property for this Phase of the subdivision is being acquired from Cold Spring Lot Management, LLC. As is detailed in the submitted plans no public improvements will be necessary.

The subject property will become a part of the Nottingham Hills Subdivision land assemblage and represents the 5th re-subdivision of the Nottingham Hills Subdivision property.

Access to each of the 8 lots will be from 3 common driveways. The applicant is proposing this to reduce impervious surface areas.

INLAND WETLANDS

There are inland wetlands on the subject property lots 6 (the remaining land) and Lot 7. The "wetland" is an intermittent watercourse which is proposed to be enhanced to address existing drainage matters on the property. A application for a permit to perform the enhancement activities in the upland review area abutting the intermittent watercourse has been submitted to the East Lyme Inland Wetland Agency.

OPEN SPACE

No additional Open Space is required for this Phase of the subdivision based upon the following analysis;
As was established in the findings of fact by this commission on or about January 11, 2021, Ex. A. a total of 79.34 acres of Open Space had been provided to date. In addition a copy of correspondence from Paul Geraghty, Esq. to Gary Goeschel, Director of Planning dated January 6, 2021, Ex. B, provided further detail regarding Open Space in the Nottingham Hills Subdivision. Accordingly the total land in the Nottingham Hills Subdivision will increase from 107.82 acres to 171.68 acres which requires Open Space of 51.5 acres. As was established by the afore said "Findings of Fact" a total of 79.34 acres of Open Space has already been provided resulting in no additional open space being required or provided in this phase of the subdivision.

YIELD PLAN

The design of this Phase of the Subdivision uses a Conventional conforming layout.

SEWAGE DISPOSAL REPORT

The 49.53 acre Lot 6 has an existing septic system. A B-100a Application has been submitted to Ledge Light Health District to review the system area . A Subdivision Feasibility Application for the 8 proposed lots has also been submitted to Ledge Light Health District.

WATER SUPPLY REPORT

The existing and proposed new lots will all be served by well water. Health Code compliant locations for each of the wells are depicted on the submitted plans.

STORM WATER MANAGEMENT PLAN

This Plan, prepared by May Engineering LLC, will been submitted directly by Timothy May, P.E.

ROAD CONSTRUCTION/PUBLIC IMPROVEMENTS

There is no road construction or public improvements required. Public Utilities are available on Upper Pattagansett Road.

NATURAL & CULTURAL RESOURCE MAP

An existing conditions map has been submitted that complies with this requirement of the East Lyme Subdivision Regulations.

ARCHEOLOGICAL SURVEY

This is in process and will be submitted upon completion. There are no known issues at this time.

CONSTRUCTION ACTIVITIES

No construction activities are required. The applicant is not a Home Builder and these activities will be performed by others pursuant to building and other permits obtained directly by them from the Town of East Lyme and Ledge Light Health District.

CONSTRUCTION SEQUENCE REPORT

The paving of the common driveways and the construction of the rain gardens identified in the storm water management plan will occur during the construction of the homes to be built.

EXHIBIT A

Town of

P.O. Drawer 519
Department of Planning &
Inland Wetlands
Gary A. Goeschel II, Director of Planning / Inland Wetlands Agent

East Lyme
108 Pennsylvania Ave
Niantic, Connecticut 06357
Phone: (860) 691-4114
Fax: (860) 860-691-0351

MEMORANDUM

To: **East Lyme Planning Commission**

From: **Gary A. Goeschel II, Director of Planning**

Date: **January 11, 2021**

RE: **Continuation of Application of Kristen T. Clarke, P.E., for English Harbour Asset Management LLC, Owner;** Application for a 4-lot re-subdivision of approximately 3.8± acres of land zoned RU-40, located at 22 and 24 Upper Kensington Dr, East Lyme, Assessor's Map 40.0, Lot 22 and 23.

Upon review of the above referenced application, supporting documentation, and proposed subdivision plan (5-Sheet Drawing Set) entitled "Nottingham Hills Subdivision Lot Line Revisions of Existing Lots 19 & 21 & Conservation Design Development, 1 Lot Re-Subdivision of Portions of Lots 19 & 21 Dated: January 29,2020, revised to: December 9, 2020", by Donald L. Gesick Jr. L.S., of Gesick & Associates, P.C., 19 Cedar Island Ave., Clinton, Connecticut, I offer the following:

FINDINGS

Whereas: The Commission commenced a Public Hearing on July 27, 2020. The Public Hearing for said application was continued to Commission's meetings of August 4th, August 11th, September 1st, October 6th, October 27th, November 10th, December 1st, and December 10th, 2020.

Whereas: The Commission has reviewed the application and received testimony from the applicant, his professionals, representatives, and the public. In addition, Town staff also provided the Commission with comment concerning this application's compliance with local requirements and regulations.

Whereas: The parcel of land constituting the property subject to this application is zoned RU-40 Rural Residential and the property abutting the site to the north and east (Darrow Pond) is zoned SU-E Special Use Elderly Housing and has been preserved as Town owned open space. The abutting properties to the south and east are Zoned RU-40 Rural Residential.

Whereas: The East Lyme Inland Wetlands Agency determined that "No Permit is Required" as there is no activity occurring in the upland review area, wetlands, or watercourse as evidenced by Exhibit "F".

Whereas: The proposed Subdivision is found to meet the requirements of the East Lyme Subdivision Regulations and the East Lyme Plan of Conservation and Development (POCD) as demonstrated by the following:

Section 3-4 Plan of Development: As the proposed Subdivision is located completely within an RU-40 zoning district adjacent to existing residential lots zoned RU-40 and SU-E, the proposed subdivision continues to follow the pattern of development characteristic of the existing residential development.

As such, the proposed subdivision conforms to the comprehensive Plan of Development for the Town of East Lyme (2020 POCD) as adopted by the East Lyme Planning Commission.

Section 5-4 Sanitation Report: As indicated in Exhibit "BBB" e-mail correspondence from Danielle Holmes, REHS/RS, dated December 10, 2020, indicates the proposed lots are able to be served by subsurface sewage disposal systems.

Section 5-5 Water Supply Report: As indicated in Exhibit "BBB" e-mail correspondence from Danielle Holmes, REHS/RS, dated December 10, 2020, indicates the proposed lots are able to be served by on-site water supply wells.

Section 5-2-2(E) and 6-8 Stormwater Management Plan: As indicated in Exhibit "BB", Memo from Victor Benni, P.E., Town Engineer, dated October 19, 2020, indicates that "Waiver of Stormwater Management Report" demonstrates that the water quality of the receiving aquifer, wetland or watercourse will not be affected and that the proposed development will not cause or exacerbate downstream flooding." As such, the proposed design meets the overall intent of Section 6-8 of the East Lyme Subdivision Regulations.

Section 5-2-2(G) Erosion and Sedimentation Control Plan: As indicated by Exhibit "BB" dated October 23, 2020, memorandum from Victor Benni, P.E., Town Engineer, indicates the proposed Plan was updated to contain generalized Erosion and Sedimentation Control Notes. As such, the appropriate notes, details, and provisions regarding erosion control measures adequate to control accelerated erosion and sedimentation and reduce the danger from storm water runoff on the proposed site have been incorporated into the proposed plan. Therefore, the Planning Commission may hereby certify that the Soil Erosion and Sediment Control Plan complies with the requirements and objectives of this Subdivision Regulation.

Section 5-6 Pesticide Report: As evidence by the applicant's testimony during public hearing, there have been no known regular applications of pesticides on the subject site currently or historically. In addition, the site was previously approved for two (2) building lots.

Section 5-8 Archeological Survey: As Evidence by the Design Report in Exhibit "A", the Archeological Survey was provided to the Commission as part of the Nottingham Hills Phase 1 and 3 Subdivision and was incorporated into the public hearing record by testimony of the Applicant. In addition, the site was previously approved for the construction of two (2) single family dwellings. As such, there are no archeological resource issues on the site.

Section 6-2 Lot Design Specifications: As evidenced by Exhibit "CC" correspondence from William Mulholland, Zoning Official, October 23, 2020 and the Exhibit "U" correspondence from Attorney Paul Geraghty, dated August 26, 2020, and Exhibit "KKK" letter correspondence from Mark Zamarra, Esq./Town Attorney, to William Mulholland, Zoning Official, indicate the proposed subdivision meets the lot design specifications under the Conservation Development by Design (CDD) pursuant to Section 23 of the Zoning Regulations as well as Section 6-2 of the East Lyme Subdivision Regulations. Therefore, the proposed subdivision complies with all applicable Zoning Regulations for the purposes of the subdivision of land.

Section 6-7 Open Spaces: As demonstrated by the Design Report in Exhibit "A", identifies the Nottingham Hills Subdivision as being a division of 107.82- acres and the open space provided totaling 41.35-acres. Based on the subdivision regulation requirement of 30% Open Space, or 32.34-acres, the subdivision had exceeded the required Open Space by 9.1-acres as of the date of the pending application. Subsequent, to the application, the applicant conveyed portions of lot 19, (.51-acres), and Lot 21, (1.27-acres), to the property that was in the process of being conveyed to the East Lyme Land Trust. The combined totaled 37.99-acres which, has been transferred to the East Lyme Land Trust as of December 30, 2020 (Vol. 1046, Pg. 120). Upon recalculating the Open Space, it now totals 79.34-acres of the subdivision's 107.82-acres. As such approximately 73.5% of the subdivision's land is now in open space when only 30% or 32.3-acres is required.

In addition, Exhibit "U" correspondence from Attorney Paul Geraghty, dated August 26, 2020, indicates the Nottingham Hills subdivision has "banked" land to use for Open Space as evidenced in the minutes of the Planning Commission dated November 16, 2010 (see Exhibit "FF") wherein excess Open Space, 10-acres, was provided by agreement with the Town of East Lyme Planning Commission on the condition that it was done so with the reserved right that the 10-acres could be used in future calculations on future applications. Further, pursuant to the Memorandum Dated February 1, 2010 from Mark E. Block, Esq. to G. Goeschel, Director of Planning, as provided in Exhibit "U", correspondence from Attorney Paul Geraghty, dated August 26, 2020, the open space requirement is based on the entire tract and not subsequent re-subdivisions. Therefore, adequate Open Space has not only been dedicated but, has been provided in an amount that exceeds the minimum required under the subdivision regulations. As such, the development has met its Open Space obligations.

Section 6-9 Requirements Regarding Flooding: As demonstrated by Exhibit "Z" Nottingham Hills Re-Subdivision Plan (5-sheet set) dated January 29, 2020 revised to October 19, 2020 which, reduces the proposed division of land from 4-Lots to 3-Lots and Exhibit "BB" dated October 23, 2020, memorandum from Victor Benni, P.E., Town Engineer, the proposed Plan indicates that the Drainage Summary meets the overall intent of Section 6-8 of the East Lyme Subdivision Regulations and the proposed site development will not adversely affect the water quality of downstream water features or exacerbate any downstream flooding.

PROPOSED RESOLUTION

The East Lyme Planning Commission based on the record before it with respect to this application, finds this application to be in conformance with the Subdivision Regulations of the Town of East Lyme as based on the above Findings indicated in the Memorandum from Gary A. Goeschel II, Director of Planning, dated January 8, 2021.

NOW THEREFORE, I hereby Move to APPROVE the application known as the Application of Kristen T. Clarke, P.E., for English Harbour Asset Management LLC, Owner; Application for a 4-lot re-subdivision of approximately 3.8± acres of land zoned RU-40, located at 22 and 24 Upper Kensington Dr, East Lyme, Assessor's Map 40.0, Lot 22 and 23, and proposed Subdivision Plan (5-Sheet Drawing Set) entitled "Nottingham Hills Subdivision Lot Line Revisions of Existing Lots 19 & 21 & Conservation Design Development, 1 Lot Re-Subdivision of Portions of Lots 19 & 21 Dated: January 29,2020, revised to: December 9, 2020", by Donald L. Gesick Jr. L.S., of Gesick & Associates, P.C., 19 Cedar Island Ave., Clinton, Connecticut which, is further subject to the following administrative requirements and required modifications to the site plan and/or other materials submitted in support of this application:

1. An Erosion & Sedimentation Control bond in an amount of $3000.00 dollars shall be posted with the Town in a form acceptable to the Town of East Lyme Planning Commission prior to the start of any site work including but not limited to clearing, grubbing, filling and grading.
2. Contact the Planning Director to inspect the installation of erosion and sedimentation controls within 2-days prior to the start of any construction.
3. An Application for Right-of-Way Permit shall be filled with the East Lyme Engineering Department prior to the start of any site work.
4. The applicable items above shall be accomplished prior to the filling of the subdivision on the land records, or other documentation of planning approval and no site work shall commence until all applicable conditions are satisfied.

This approval is specific to the subdivision plan submitted as the application known as the Application of Kristen T. Clarke, P.E., for English Harbour Asset Management LLC, Owner; Application for a 4-lot re-subdivision of approximately 3.8± acres of land zoned RU-40, located at 22 and 24 Upper Kensington Dr, East Lyme, Assessor's Map 40.0, Lot 22 and 23, and proposed Subdivision Plan (5-Sheet Drawing Set) entitled "Nottingham Hills Subdivision Lot Line Revisions of Existing Lots 19 & 21 & Conservation Design Development, 1 Lot Re-Subdivision of Portions of Lots 19 & 21 Dated: January 29,2020, revised to: December 9, 2020", by Donald L. Gesick Jr. L.S., of Gesick & Associates, P.C., 19 Cedar Island Ave., Clinton, Connecticut." Any changes in the subdivision plan shall require prior approval from the Commission and/or the Director of Planning. Any change in the development plan layout other than those identified herein shall constitute a new application. The owner/applicant shall be bound by the provisions of this Application and Approval.

From: pgeraghty@geraghtybonnano.com,
To: ggoeschel@eltownhall.com,
Cc: kristentclarke@gmail.com,
Subject: Lots 19 & 21 Kensington
Date: Thu, Jan 7, 2021 2:14 pm
Attachments: Ltr.Goeschel.Open Space (19&21)01.07.21.pdf (594K)

Gary, I took some time to go back through the records I have for the open space and put together an outline of the history regarding it. I think it's clear the client has meet the requirements for the open space on this application. Call me if you have any questions. Paul.

Paul M. Geraghty

Geraghty & Bonnano, LLC

38 Granite Street

New London, CT 06320

p.860-447-8077

f.860-447-9833

"Please note that among the services that this firm provides is for attempting to collect a debt, and if this communication is in regards to a debt collection, any information obtained will be used for that purpose."

*******Confidentiality Notice*******

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EXHIBIT B

Geraghty & Bonnano, LLC
Attorneys at Law

PAUL M. GERAGHTY*
MICHAEL S. BONNANO
JOHANNA McCORMICK
MARK A. DUBOIS†
JONATHAN E. FRIEDLER††

*Also Admitted in New York
† Board Certified, Trial Advocate
†† Also Admitted in Massachusetts and North Dakota

January 6, 2021

Via email: ggoeschel@eltownhall.com
Gary Goeschel
Director of Planning
Town of East Lyme
108 Pennsylvania Avenue
Niantic, CT 06357

Re: English Harbour Asset Management LLC
Lot Line Revision Lots 19 & 21
1 Lot Re-Subdivision of Portions of Lots 19 & 21

Dear Gary:

As a follow up to our conversation earlier this week, I wanted to reiterate my concern regarding the Planning Commission's discussion and questions regarding the Nottingham Hills subdivision open space contributions to date and provide you with the references in which open space has been addressed by my client in the record of the pending lot line revision/re-subdivision application record.

1. The Design Report submitted at the time of application on March 2, 2020 identifies the size of the subdivision as 107.82 acres and open space provided totaling 41.35 acres and provides the detailed support. Based upon the subdivision regulation requirement of 30% Open space, or 32.34 acres, this subdivision had exceeded the required Open Space required by 9.1 acres as of the date of the pending application (Application Record Ex. A: Attached as Ex. 1, hereto).

2. Subsequent to the pending application my client conveyed portions of lot 19, (.51 acres, Ex. 2 herein), and Lot 21, (1.27 acres, Ex. 3 herein), to the property that was in the process of being conveyed to the East Lyme Land Trust. I note that it is demonstrative of my clients intent given the plain language in the deeds which states **" The intent of this deed is to separate out that portion of lot 19/21 (a/k/a 22/24 Upper Kensington) to be conveyed to the East Lyme Land Trust referenced as "Area to Be Transferred from Lot 19/21 to the East Lyme Land Trust on a map entitled "Lot Line Revisions Nottingham Hills Subdivision Lots 19, 20, 21, & 32 Property Owner: English Harbour Asset Management LLC"** These properties

were part of the lot line revision that you approved and is reflected on the mylar which is recorded in drawer 8-#8 and drawer 8-#118 of the East Lyme Land Records. This map is attached as Ex. 4 hereto.

The combined parcel totaled 37.99 acres. This land was in fact transferred to the East Lyme Land Trust, Inc. on December 30, 2020 the deed for which is recorded in the East Lyme Land Records at volume 1046 page 120. A copy of the recorded deed is enclosed as Ex. 5 herein. When recalculated the open space provided now totals 79.34 acres of the subdivision's 107.82 acres meaning of course that at least 73.5% of the subdivisions land is in open space when only 30% or 32.3 acres is required.

In addition, I would direct you to the pending application's record exhibit FF which is my letter to you dated October 26, 2020, which among other things provides the minutes of the November 16, 2010 Town of East Lyme Planning Commission wherein excess open space,10 acres, was provided by agreement with the Planning Commission on the condition that it was done so with the reserved right that the ten acres could be used in future calculations on future applications. See Attached Ex. 6 herein.

I would also note that this Planning Commission approved the long delayed release of the Open Space Covenant on the same night as the public hearing on the pending applications commenced. I have attached the minutes of that meeting as Ex. 7 herein.

Finally, I attach as Ex. 8 herein the Opinion Letter prepared by Mark Block Esq dated February 1, 2010, that address's Steve Harney's property where he was NOT required to provide additional open space contrary to what we discussed. The open space requirement is based on the entire tract and not subsequent re-subdivisions. Therefore, as concluded by the town's counsel if there has been adequate open space dedicated, the commission may not require additional space as part of a re-subdivision. In the instant case my client and its predecessors have, as outlined herein, dedicate more open space than is required and as such no further opens space dedication can be required. However, as noted my client has as part of this added additional open space from the lots which are part of this application, when it did the lot line revision.

In the final analysis this subdivision has provided far in excess of the required Open Space and the question raised by Ms. Williams given the record of this application is troublesome on many levels.

I look forward to receiving and reviewing your draft approval motion for this application that you indicated you would send me by tomorrow.

Sincerely,

Paul M. Geraghty

Enc.

EXHIBIT 1

DESIGN REPORT
4 LOT RE-SUBDIVISION
UPPER KENSINGTON DRIVE
EAST LYME, CONNECTICUT

This re-subdivision will separate the subject properties from two (2) into four (4) lots.

The subject property is a part of the Nottingham Hills Subdivision land assemblage and represents the sixth re-subdivision of the Nottingham Hills Subdivision property.

More specifically, the plan separates current lots 19 and 21 into four lots. It should be noted that proposed lot 4 will be deeded to the East Lyme Land Trust, Inc for additional Open Space and will be subject to a Conservation Easement by the State of Connecticut Department of Energy and Environmental Protection upon the filing of the mylars of this re-subdivision

Accessible Road frontage to each of the lots will be from Upper Kensington Drive having a total of fifty (50) feet of frontage. Access to each of the lots will be from the two existing curb cuts. The applicant is open to discussing with the East Lyme Planning commission or it's staff the use of a singular driveway for the first One Hundred Fifty Feet (150') to further reduce impervious surface areas.

INLAND WETLANDS

There are inland wetlands on the subject property lots 1 and 2. In both instances the inland wetlands are within already protected front, rear and side yard building setbacks. It is important to note though however that there is no activity proposed in either the inland wetlands or the 100' upland review area on any of the proposed lots. An Application for Determination of Non-Regulated Activity has been filed with the Town of East Lyme Inland Wetlands Agency. Ex. A.

OPEN SPACE

Open space totaling 41.35 acres has already been provided by deed or conservation easement to the Town of East Lyme for the Nottingham Hills Subdivision totaling 38.35% of the total land in all phases of the subdivision vs. the required 30%. Ex. B.

SEWAGE DISPOSAL REPORT

Proposed lots 2 and 4 have already been reviewed for septic feasibility. No changes have been made to require further review outside of a B-100, Ex. C, which has been filed with Ledge Light Health District. Both of lots 2 and 4 have system areas

located outside of the 15-foot buffer required by the State of Connecticut Health Code. Lots 1 and 3 utilize test hole data from the Nottingham Hills subdivision Phase 3 plans to demonstrate the septic feasibility required by the East Lyme Subdivision regulations. An Application For Subdivision Feasibility review has been filed with the ledge Light Health District for Lots 1 and 3. Ex. C.

WATER SUPPLY REPORT

The existing and proposed new lots will all have wells.

STORM WATER MANAGEMENT PLAN

Drainage from the properties will only increase minimally under the proposed re subdivision. Since lot 4 will be "Open Space it will remain in its current unimproved state with no new impervious surfaces. Lots 2 and 3 will share a common driveway for all but 80 feet of a proposed 10' wide driveway (800s.f.). The homes will have a roof surface area of no more than 2000 s.f. Gutter down spouts will tie into each proposed homes footing drains and utilizing the site topography will daylight to drain onto other lands of the landowner outside of the wetland or their upland review areas, pursuant to the original design of this subdivision, and will easily be disbursed and or absorbed into the provided for 12 acre (552,720 s.f.) drainage area.

ROAD CONSTRUCTION/PUBLIC IMPROVEMENTS

There is no road construction or public improvements required. Utilities (Electric, Cable and Telephone) are stubbed to the entrance on Upper Kensington Drive.

NATURAL & CULTURAL RESOURCE MAP

Provided to the East Lyme Planning Commission as part of the Nottingham Hills Subdivision Phase 1 and incorporated herein. See Ex. D

ARCHEOLOGICAL SURVEY

Provided to the East Lyme Subdivision as part of Nottingham Hills Subdivision Phase 1 and 3 and incorporated herein. There are no Archeological issues to address that need to be addressed.

OPEN SPACE CALCULATIONS
NOTTINGHAM HILLS SUBDIVISION

Phase I

Lot #	Acreage
1	1.71
2	.92
3	1.25
4	1.39
5	1.23
6	1.21

Phase II

6	1.34
8	2.21
9	3.09
10	1.95
11	1.71
30	1.29
31	1.34
48	2.96
49	2.11
197 Upper Patt	2.68

Phase III

12	1.06
13	1.34
14	1.17
15	1.27
16	1.35
17	1.0
18	.93
19 (rear)	2.45
20	Phase IV
21 (rear)	3.12
22	1.30
24	1.73
25	1.78
26	2.58
27	2.91

28	4.36

Phase IV

20	33.0
29	3.05
32	15.03

Open Space

Aunt Ruth Turnpike	23.2	
Phase I	.32	(south side Kensington Drive)
Phase II	4.24	(Conservation Easement)
Phase III	N/A	
Phase IV	10.63	(Conservation Easement)
	2.96	(Conservation Easement)

TOTAL ACRES

LOTS:	107.82
OPEN SPACE:	41.35

EXHIBIT 2

VOL: 1026 PG: 739
INST: 00000672

RECORD AND RETURN TO:
Geraghty & Bonnano, LLC
38 Granite Street, P. O. Box 231
New London, CT 06320

WARRANTY DEED - STATUTORY FORM

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME, KNOW YE THAT **ENGLISH HARBOUR ASSET MANAGEMENT, LLC** of the City of Cheyenne, County of Laramie and State of Wyoming, for consideration of ONE DOLLAR ($1.00) and other good and valuable consideration grants to **ENGLISH HARBOUR ASSET MANAGEMENT, LLC** of City of Cheyenne, County of Laramie and State of Wyoming with WARRANTY COVENANTS, all that certain piece or parcel of land, situated in the Town of East Lyme, County of New London and State of Connecticut, being further bounded and described on Schedule A attached hereto.

The intent of this deed is separate out that portion of Lot 19 (a/k/a 22 Upper Kensington) to be conveyed to the East Lyme Land Trust referenced as "Area To Be Transferred From Lot 19 To The East Lyme Land Trust" on a map entitled "Lot Line Revisions Nottingham Hill Subdivision Lots 19, 20, 21 & 32 Property Owner: English Harbour Asset Management LLC" recorded in Drawer 8-118 of the East Lyme land records.

NO CONVEYANCE TAX RECEIVED
KAREN MILLER GALBO
EAST LYME, CT TOWN CLERK

Said Premises are conveyed subject to:

Any and all provisions of any municipal, ordinance or regulation or public or private law with special reference to the provisions of any zoning regulations and regulations governing the said Premises.

Real property taxes on the current Grand List and any municipal liens or assessments becoming due and payable on or after the delivery of this Deed.

IN WITNESS WHEREOF, the Grantor(s) has/have caused these presents to be executed on this 05 day of ~~February~~ March KS, 2020.

Witnessed by:

Cheryl Desrosiers
authorized

ENGLISH HARBOUR ASSET MANAGEMENT, LLC

By: Kristen Clarke
Kristen Clarke
Its Manager, duly

STATE OF New Hampshire)
) ss:
COUNTY OF Hillsborough)

~~February~~ March KS 05, 2020

On this the 05 day of ~~February~~ March KS, 2020, before me, the undersigned officer, personally appeared Kristen Clarke, as Manager of English Harbour Asset Management, LLC, known to me (or satisfactorily proven) to be the persons whose name is transcribed to the foregoing document and acknowledged same to be her free act and deed, and the free act and deed of the company, before me.

Notary Public
My Commission Expires:

KAILA M. SULLIVAN
MY COMMISSION EXPIRES FEB 5, 2025
NOTARY PUBLIC
NEW HAMPSHIRE

SCHEDULE A

Beginning at a Point, which is at the Northerly Corner of Lot 19, thence the following courses & distances:

S 15°58'11" W a distance of 268.48' to a point

N 65°34'47" W a distance of 64.89' to a point

N 08°47'03" E a distance of 285.14' to a point

S 60°32'04" E a distance of 102.69' to a point and point of beginning

Said area contains 22312.55 Sq. Ft. ± or 0.51 Acres ±, and is referenced as "Area To Be Transferred From Lot 19 To The East Lyme Land Trust" on "Lot Line Revisions Nottingham Hills Subdivision Lots 19, 20, 21 & 32 Property Owner: English Harbour Asset Management LLC c/o Kristen Clarke P.E. 375 N. Bend Drive Manchester, NH"

Dated: February 1, 2019, Revised thru November 8, 2019

RECEIVED FOR RECORD
Mar 18,2020 08:22:42A
Karen Miller Galbo
TOWN CLERK
EAST LYME, CT

EXHIBIT 3

VOL: 1026 PG: 742
INST: 00000673

RECORD AND RETURN TO:
Geraghty & Bonnano, LLC
38 Granite Street, P. O. Box 231
New London, CT 06320

WARRANTY DEED - STATUTORY FORM

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME, KNOW YE THAT **ENGLISH HARBOUR ASSET MANAGEMENT, LLC** of the City of Cheyenne, County of Laramie and State of Wyoming, for consideration of ONE DOLLAR ($1.00) and other good and valuable consideration grants to **ENGLISH HARBOUR ASSET MANAGEMENT, LLC** of City of Cheyenne, County of Laramie and State of Wyoming with WARRANTY COVENANTS, all that certain piece or parcel of land, situated in the Town of East Lyme, County of New London and State of Connecticut, being further bounded and described on Schedule A attached hereto.

The intent of this deed is separate out that portion of Lot 21 (a/k/a 24 Upper Kensington) to be conveyed to the East Lyme Land Trust referenced as "Area To Be Transferred From Lot 21 To The East Lyme Land Trust" on a map entitled "Lot Line Revisions Nottingham Hill Subdivision Lots 19, 20, 21 & 32 Property Owner: English Harbour Asset Management LLC" recorded in Drawer 8-118 of the East Lyme land records.

Said Premises are conveyed subject to:

Any and all provisions of any municipal, ordinance or regulation or public or private law with special reference to the provisions of any zoning regulations and regulations governing the said Premises.

Real property taxes on the current Grand List and any municipal liens or assessments becoming due and payable on or after the delivery of this Deed

NO CONVEYANCE TAX RECEIVED
KAREN MILLER GALBO
EAST LYME, CT TOWN CLERK

IN WITNESS WHEREOF, the Grantor(s) has/have caused these presents to be executed on this 05 March KS day of ~~February~~, 2020.

Witnessed by:

Cheryl O'Leary

authorized

ENGLISH HARBOUR ASSET MANAGEMENT, LLC

By: Kristen Clarke
Kristen Clarke

Its Manager, duly

STATE OF New Hampshire)
) ss:
COUNTY OF Hillsborough)

March KS
~~February~~ 05, 2020

On this the 05 March KS day of ~~February~~, 2020, before me, the undersigned officer, personally appeared Kristen Clarke, as Manager of English Harbour Asset Management, LLC, known to me (or satisfactorily proven) to be the persons whose name is transcribed to the foregoing document and acknowledged same to be her free act and deed, and the free act and deed of the company, before me.

Notary Public
My Commission Expires:

KAILA M. SULLIVAN
MY COMMISSION EXPIRES FEB 5, 2025
NOTARY PUBLIC
NEW HAMPSHIRE

VOL: 1026 PG: 744
INST: 00000673

SCHEDULE A

Beginning at a Point, which is at the Southerly Corner of Lot 21, thence the following courses & distances:

N 60°32'04" W a distance of 102.69' to a point

N 08°47'03" E a distance of 247.27' to a point

S 79°03'42" E a distance of 238.85' to a point

S 81°01'16" E a distance of 43.88' to a point

S 76°38'32" E a distance of 28.93' to a point

S 77°50'59" E a distance of 93.03' to a point

S 05°48'29" E a distance of 86.20' to a point

N 77°50'57" W a distance of 270.00' to a point

S 37°21'33" W a distance of 95.97' to a point

S 15°58'11" W a distance of 115.71' to a point and point of beginning

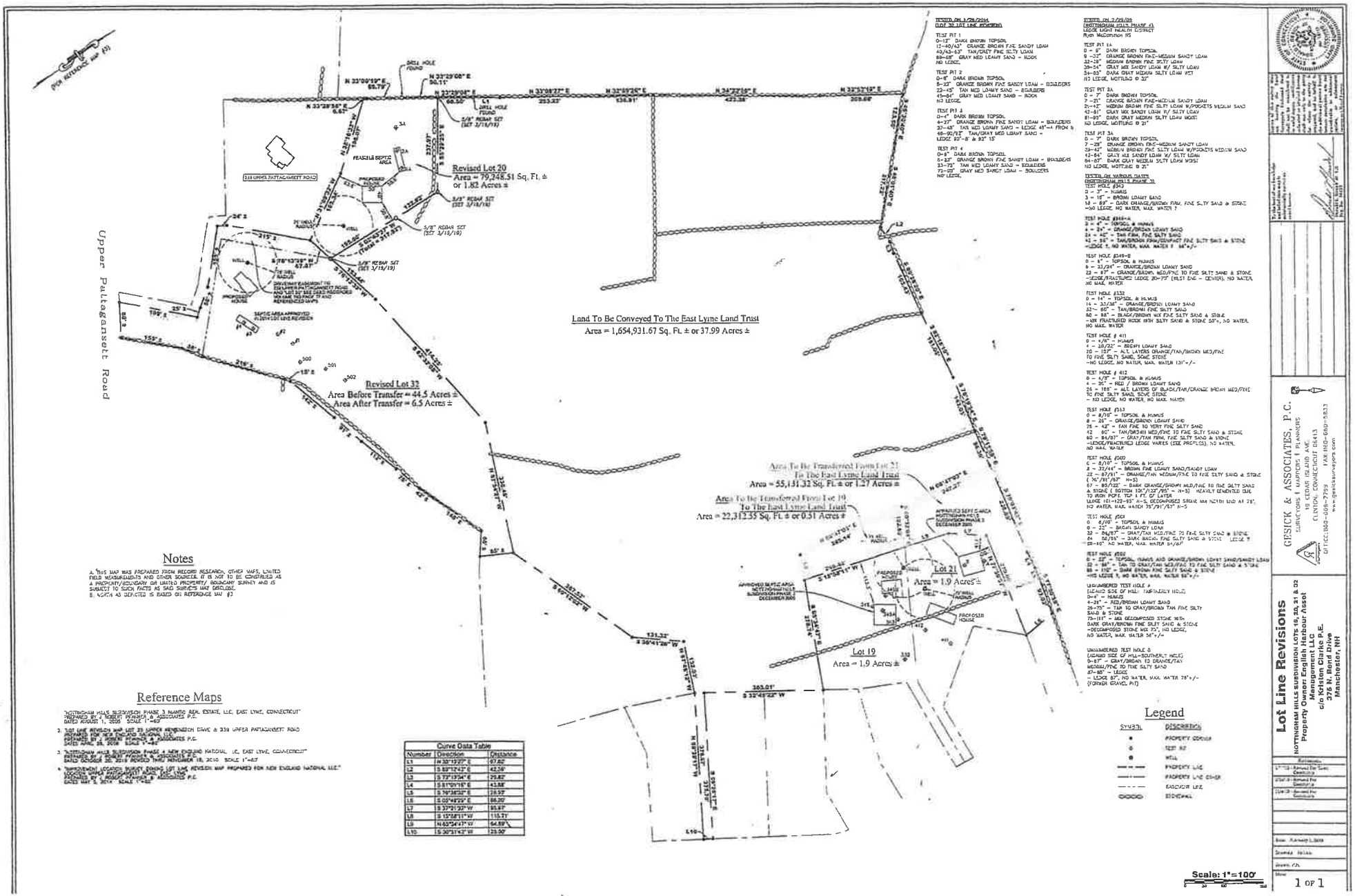
Said area contains 55131.32 Sq. Ft. ± or 1.27 Acres ±, and is referenced as "Area To Be Transferred From Lot 21 To The East Lyme Land Trust" on "Lot Line Revisions Nottingham Hills Subdivision Lots 19, 20, 21 & 32 Property Owner: English Harbour Asset Management LLC c/o Kristen Clarke P.E. 375 N. Bend Drive Manchester, NH"

Dated: February 1, 2019, Revised thru November 8, 2019

RECEIVED FOR RECORD
Mar 18,2020 08:23:01A
Karen Miller Gaibo
TOWN CLERK
EAST LYME, CT

EXHIBIT 4

Recorded E.L. Land Records
Dr. 8 # 88 & #118



TESTED ON 3/28/2016
(LOT 32 LOT LINE REVISION)

TEST PIT 1
0-12" DARK BROWN TOPSOIL
12-40/42" ORANGE BROWN FINE SANDY LOAM
40/42-63" TAN/GREY FINE SILTY LOAM
63-68" GRAY MED LOAMY SAND - ROCK
NO LEDGE.

TEST PIT 2
0-8" DARK BROWN TOPSOIL
8-22" ORANGE BROWN FINE SANDY LOAM - BOULDERS
22-45" TAN MED LOAMY SAND - BOULDERS
45-84" GRAY MED LOAMY SAND - ROCK
NO LEDGE.

TEST PIT 3
0-4" DARK BROWN TOPSOIL
4-27" ORANGE BROWN FINE SANDY LOAM - BOULDERS
27-45" TAN MED LOAMY SAND - LEDGE 45"+- FROM S
46-80/82" TAN/GRAY MED LOAMY SAND - LEDGE 80"-8' & 82" 15'

TEST PIT 4
0-8" DARK BROWN TOPSOIL
8-23" ORANGE BROWN FINE SANDY LOAM - BOULDERS
23-72" TAN MED LOAMY SAND - BOULDERS
72-120" GRAY MED SANDY LOAM - BOULDERS
NO LEDGE.

TESTED ON 2/29/08
(NOTTINGHAM HILLS PHASE 4)
LEDGE LIGHT HEALTH DISTRICT
Ryan MacGregor RS

TEST PIT 1A
0 - 8" DARK BROWN TOPSOIL
8 -32" ORANGE BROWN FINE-MEDIUM SANDY LOAM
32-38" MEDIUM BROWN FINE SILTY LOAM
38-54" GRAY MIX SANDY LOAM W/ SILTY LOAM
54-85" DARK GRAY MEDIUM SILTY LOAM WET
NO LEDGE, MOTTLED @ 32"

TEST PIT 2A
0 - 7" DARK BROWN TOPSOIL
7 -21" ORANGE BROWN FINE-MEDIUM SANDY LOAM
21-42" MEDIUM BROWN FINE SILTY LOAM W/POCKETS MEDIUM SAND
42-81" GRAY MIX SANDY LOAM W/ SILTY LOAM
81-95" DARK GRAY MEDIUM SILTY LOAM MOIST
NO LEDGE, MOTTLED @ 21"

TEST PIT 3A
0 - 7" DARK BROWN TOPSOIL
7 -29" ORANGE BROWN FINE-MEDIUM SANDY LOAM
29-42" MEDIUM BROWN FINE SILTY LOAM W/POCKETS MEDIUM SAND
42-64" GRAY MIX SANDY LOAM W/ SILTY LOAM
64-87" DARK GRAY MEDIUM SILTY LOAM MOIST
NO LEDGE, MOTTLED @ 21"

TESTED ON VARIOUS DATES
(NOTTINGHAM #3 & PHASE 3)

TEST HOLE #349
0 - 3" - HUMUS
3 - 16" - BROWN LOAMY SAND
16 - 88" - DARK ORANGE/BROWN FIRM, FINE SILTY SAND & STONE
-NO LEDGE, NO WATER, MAX. WATER ?

TEST HOLE #349-A
0 = 4" - TOPSOIL & HUMUS
4 = 24" - ORANGE/BROWN LOAMY SAND
24 = 42" - TAN FIRM, FINE SILTY SAND
42 = 88" = TAN/BROWN FIRM/COMPACT FINE SILTY SAND & STONE
-LEDGE ?, NO WATER, MAX. WATER ? 88"+/-

TEST HOLE #349-B
0 = 6" - TOPSOIL & HUMUS
6 - 23/24" - ORANGE/BROWN LOAMY SAND
23 - 87" - ORANGE/BROWN MED/FINE TO FINE SILTY SAND & STONE
-LEDGE/FRACTURED LEDGE 80+-77" (WEST END - CENTER), NO WATER, NO MAX. WATER

TEST HOLE #332
0 = 14" - TOPSOIL & HUMUS
14 - 32/36" - ORANGE/BROWN LOAMY SAND
32 - 60" - TAN/BROWN FINE SILTY SAND
60 - 88" - BLACK/BROWN MIX FINE SILTY SAND & STONE
-MIX FRACTURED ROCK WITH SILTY SAND & STONE 50"+, NO WATER, NO MAX. WATER

TEST HOLE # 411
0 - +/8" - HUMUS
+ - 20/22" - BROWN LOAMY SAND
20 - 132" - ALL LAYERS ORANGE/TAN/BROWN MED/FINE TO FINE SILTY SAND, SOME STONE
-NO LEDGE, NO WATER, MAX. WATER 131"+/-

TEST HOLE # 412
0 - +/8" - TOPSOIL & HUMUS
+ - 20" - RED / BROWN LOAMY SAND
26 - 108" - ALL LAYERS OF BLACK/TAN/ORANGE BROWN MED/FINE TO FINE SILTY SAND, SOME STONE
- NO LEDGE, NO WATER, NO MAX. WATER

TEST HOLE #313
0 = 8/10" - TOPSOIL & HUMUS
8 - 26" - ORANGE/BROWN LOAMY SAND
26 - 42" - TAN FINE TO VERY FINE SILTY SAND
42 - 80" - TAN/BROWN MED/FINE TO FINE SILTY SAND & STONE
80 - 84/87" - GRAY/TAN FIRM, FINE SILTY SAND & STONE
-LEDGE/FRACTURED LEDGE VARIES (SEE PROFILES), NO WATER, NO MAX. WATER

TEST HOLE #300
0 - 8/10" - TOPSOIL & HUMUS
8 - 32/44" - BROWN FINE LOAMY SAND/SANDY LOAM
32 - 87/91" - ORANGE/TAN MEDIUM/FINE TO FINE SILTY SAND & STONE
(76"/81"/87" N=5)
87 - 89/122" - DARK ORANGE/BROWN MED/FINE TO FINE SILTY SAND & STONE (BOTTOM 120"/122"/85" - N=5) HEAVILY CEMENTED DUE TO IRON PAN, TOP 1 FT. OF LAYER
LEDGE 101-122-85" N=5, DECOMPOSED STONE MIX NEVER END AT 76', NO WATER, MAX. WATER 76"/91"/87" N=5

TEST HOLE #301
0 - 6/10" - TOPSOIL & HUMUS
6 - 32" - BROWN SANDY LOAM
32 - 86/87" - GRAY/TAN MED/FINE TO FINE SILTY SAND & STONE
86 - 88/95" - DARK BROWN FINE SILTY SAND & STONE - LEDGE ?
89-90" NO WATER, MAX. WATER 84/87"

TEST HOLE #302
0 - 22" - TOPSOIL, HUMUS AND ORANGE/BROWN LOAMY SAND/SANDY LOAM
22 - 86" - TAN TO GRAY/TAN MED/FINE TO FINE SILTY SAND & STONE
86 - 112" - BLACK BROWN FINE SILTY SAND & STONE
-NO LEDGE ?, NO WATER, MAX. WATER 86"+/-

UNNUMBERED TEST HOLE A
(UPHILL SIDE OF HILL- TWENTY-FIVE HOLE)
0-4" - HUMUS
4-28" - RED/BROWN LOAMY SAND
28-70" - TAN TO GRAY/BROWN TAN FINE SILTY SAND & STONE
70-117" - MIX DECOMPOSED STONE WITH DARK GRAY/BROWN FINE SILTY SAND & STONE
-DECOMPOSED STONE MIX 75", NO LEDGE, NO WATER, MAX. WATER 56"+/-

UNNUMBERED TEST HOLE B
(UPHILL SIDE OF HILL-SOUTHERLY HOLE)
0-87" - GRAY/BROWN TO ORANGE/TAN MEDIUM/FINE TO FINE SILTY SAND
87-88" - LEDGE
- LEDGE 87", NO WATER, MAX. WATER 78"+/-
(FORMER GRAVEL PIT)

GESICK & ASSOCIATES, P.C.
SURVEYORS | MAPPERS | PLANNERS
CLINTON, CONNECTICUT 06413
OFFICE: 860-669-7299 FAX: 860-669-5833
www.gesicksurveys.com

Lot Line Revisions
NOTTINGHAM HILLS SUBDIVISION LOTS 16, 20, 21 & 32
Property Owner: English Harbour Asset Management LLC
c/o Kristen Clarke P.E.
375 N. Bond Drive
Manchester, NH

1 OF 1

EXHIBIT 5

VOL: 1046 PG: 120
INST: 00003913

Return to:

Geraghty & Bonnano, LLC
Attorneys at Law
PO Box 231
New London, CT 06320

WARRANTY DEED-STATUTORY FORM

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME, KNOW YE THAT ENGLISH HARBOUR ASSET MANAGEMENT, LLC of the City of Cheyenne, County of Laramie and State of Wyoming, for consideration of ONE DOLLAR ($1.00) and other good and valuable consideration grants to the **EAST LYME LAND TRUST, INC.** of 13 Enid Lane, Town of East Lyme, County of New London and State of Connecticut with **WARRANTY COVENANTS**, all that certain piece or parcel of land situated in the Town of East Lyme, County of New London and State of Connecticut, known as Assessors Map 30.0-10.1, being further bounded and described on Schedule A attached hereto.

Said Premises are conveyed subject to

Any and all provisions of any municipal ordinance or regulation or public or private law, with special reference to the provisions of any zoning rules and regulations governing the said Premises.

Real property taxes and any municipal liens or assessments on the current grand list or hereinafter becoming due and payable, which the Grantee, by acceptance of this Deed, assumes and agrees to pay.

CONVEYANCE TAX RECEIVED
STATE $ .00
TOWN $ .00
EAST LYME, CT TOWN CLERK

IN WITNESS WHEREOF, the Grantor has caused these presents to be signed this

23 day of December, 2020.

Signed, Sealed and Delivered
in the presence of:

ENGLISH HARBOUR ASSET
MANAGEMENT, LLC

By: Kristen Clarke
Kristen T. Clarke, Its Manager
Duly authorized

STATE OF NEW HAMPSHIRE :
: ss.
COUNTY OF Hillsborough :

On this 23 day of December, 2020, before me, the undersigned officer, personally appeared, Kristen T. Clarke, as Manager of English Harbour Asset Management, LLC, known to me (or satisfactorily proven) to be the person whose name is transcribed to the foregoing document and acknowledged the same to be her free act and deed, and the free act and deed of the company.

CHERYL L. DESCOTEAUX
MY COMMISSION EXPIRES MAY 16, 2023
NOTARY PUBLIC
NEW HAMPSHIRE

Cheryl L. Descoteaux
Notary Public
My commission expires: 05-16-2023

The East Lyme Land Trust, Inc. hereby acknowledges acceptance of the foregoing conveyance:

Signed, Sealed and Delivered
in the presence of:

Paul M Gragosky

Nicolette Waring

EAST LYME LAND TRUST, INC.

By: Ronald Luich
Ronald Luich, ~~Its~~ President
Duly authorized

STATE OF CONNECTICUT :
: ss. New London
COUNTY OF NEW LONDON :

The foregoing instrument was acknowledged before met this 30 day of December, 2020, by Ronald Luich, President of the East Lyme Land Trust, Inc., a State of Connecticut corporation, on behalf of the corporation.

Paul M Gragosky

~~Notary Public~~ Commissioner of Superior Court
~~My commission expires:~~

SCHEDULE A

A certain piece or parcel on the westerly side of Upper Kensington Drive in the Town of East Lyme, County of New London and state of Connecticut, shown as "Land Conveyed to East Lyme Land Trust, Inc. Area = 1654931.67 Sq. Ft. ± or 37.99 Acres ±"
On a map or plan entitled "Property Survey of Land Conveyed to East Lyme Land Trust, Inc. Upper Pattagansett Road & Upper Kensington Drive, East Lyme, Connecticut Prepared for East Lyme Land Trust, Inc." Date June 16, 2020 Scale 1"=100' Sheet 1 of 1 Prepared by Donald L. Gesick Jr, Gesick & Associates, P.C. Surveyors Mappers & Planners, 19 Cedar Island Avenue, Clinton Connecticut 06413. Said map is or shall be recorded in the Land Records at the Office of the Town Clerk in the Town of East Lyme. Said piece or parcel being more particularly described as follows.

Beginning at a 5/8" Rebar, in a stonewall, being the northwest corner of the herein described parcel, in the easterly line of 259 Upper Pattagansett Road;

Thence along said stonewall and said 259 Upper Pattagansett Road, the following six (6) courses and distances:
N 33°29'08" E a distance of 88.50' to a Drill Hole;
N 35°15'27" E a distance of 67.80' to a point;
N 33°08'27" E a distance of 253.23' to a point;
N 32°59'26" E a distance of 136.91' to a Drill Hole;
N 34°23'50" E a distance of 423.36' to a point;
N 32°53'10" E a distance of 209.68' to a 1/2" Rebar at a corner of stonewalls, being the northern most point of the herein described parcel, in the southerly line of
16 Mostowy Road

Thence along said stonewall and said southerly line of 16 Mostowy Road, the following thirteen (13) courses and distances:
S 46°30'40" E a distance of 123.50' to a point;
S 46°01'40" E a distance of 217.22' to a 5/8" Rebar;
S 89°12'43" E a distance of 42.36' to a point;
S 73°13'34" E a distance of 29.82' to a point;
S 80°28'20" E a distance of 165.43' to a point in stonewall corner
S 82°18'10" E a distance of 181.05' to a point;
S 78°19'54" E a distance of 143.05' to a 7/8" Rebar in a stonewall corner;
S 79°11'56" E a distance of 96.36' to a point;
S 79°03'42" E a distance of 238.85' to a point;
S 81°01'16" E a distance of 43.88' to a point;
S 76°38'32" E a distance of 28.93' to a point in a stonewall corner;

S 77°50'59" E a distance of 93.03' to a 7/8" Rebar being the northeast corner of the herein described parcel;
S 05°48'29" E a distance of 86.20' to a Mag Nail, being the northwest corner of 26 Upper Kensington Drive

Thence along 24 Upper Kensington Drive, the following three (3) courses and distances:
N 77°50'57" W a distance of 270.00' to a 7/8" Rebar;
S 37°21'33" W a distance of 95.97' to a 7/8" Rebar;
S 15°58'11" W a distance of 115.71' to a 7/8" Rebar, Being the northwest Corner of
22 Upper Kensington Drive;

Thence along said 22 Upper Kensington Drive, the following two (2) courses and distances:
S 15°58'11" W a distance of 268.48' to a 7/8" Rebar;
S 65°34'47" E a distance of 278.74' to a point, being the northwest corner of 16 Upper Kensington Drive;
Thence S 32°45'22" W along said 16 Upper Kensington Drive, a distance of 150.01' to a 1/2" Rebar; being the northwest corner of 14 Upper Kensington Drive;

Thence along said 14 Upper Kensington Drive, the following three (3) courses and distances:
S 32°45'22" W a distance of 153.00' to a 1/2" Rebar;
S 59°28'17" E a distance of 175.70' to a 5/8" Rebar;
S 59°28'17" E a distance of 200.00' to a 7/8" Rebar in the westerly line of upper Kensington Drive;
Thence S 30°31'43" W along said westerly line of Upper Kensington Drive, a distance of 25.00' to a 1/2" Rebar, being the northeast corner of 12 Upper Kensington Drive,
and the southeast corner of the parcel herein described;

Thence along said 12 Upper Kensington Drive, the following two (2) courses and distances:
N 59°28'17" W a distance of 200.00' to a 5/8" Rebar;
N 59°28'17" W a distance of 176.67' to a 1/2" Rebar, being the northeast corner of 235B Upper Pattagansett Road

Thence along said 235B Upper Pattagansett Road, the following five (5) courses and distances:
N 67°46'12" W a distance of 132.03' to a 7/8" Rebar;
S 38°41'26" W a distance of 100.72' to a 7/8" Rebar;

S 38°41'26" W a distance of 30.60' to a point;
S 69°12'02" W a distance of 292.52' to a 5/8" Rebar;
S 69°12'02" W a distance of 75.00' to a 7/8" Rebar, being the northeast corner of 237 Upper Pattagansett Road;

Thence along said 237 Upper Pattagansett Road, the following five (5) courses and distances:
N 67°54'27" W a distance of 170.00' to a 5/8" Rebar;
N 67°54'27" W a distance of 168.46' to a 7/8" Rebar;
S 82°32'08" W a distance of 146.00' to a 5/8" Rebar;
S 82°32'08" W a distance of 268.25' to a 7/8" Rebar;
S 76°13'39" W a distance of 153.44' to a 5/8" Rebar, being the southeast corner of 239R Upper Pattagansett Road;

Thence along said 239R Upper Pattagansett Road, the following three (3) courses and distances:
N 02°43'37" E a distance of 195.00' to a 5/8" Rebar;
N 02°43'37" E a distance of 122.92' to a 5/8" Rebar;
N 55°29'25" W a distance of 237.97' to a 5/8" Rebar, Being the point of and place of beginning

Said parcel containing 37.99 Acres ±.

RECEIVED FOR RECORD
Dec 30,2020 02:09:10P
Karen Miller Galbo
TOWN CLERK
EAST LYME, CT

EXHIBIT 6

FILED IN EAST LYME TOWN CLERK'S OFFICE

NOV 22 2010 at 10:00 AM PM

Esther B Williams

EAST LYME TOWN CLERK

EAST LYME PLANNING COMMISSION
PUBLIC HEARING IV
Tuesday, NOVEMBER 16th, 2010
MINUTES

The East Lyme Planning Commission held a Public Hearing on the Application of New England National LLC for a proposed 2-lot Re-Subdivision of 46.95 acres of property having frontage on and located between 241 and 233 Upper Pattagansett Rd., East Lyme, CT; Tax Assessor's Map #39.0, Lot 10-1; with a request for the substitution and re-subdivision of previously designated open space to create one additional proposed lot of record and a request for a waiver of Section 6-16-1 through 6-16-6 of the Subdivision Regulations on November 16, 2010 at Town Hall, 108 Pennsylvania Ave., Niantic, CT. Acting Chairman McPherson opened the Public Hearing and called it to order at 7:46 PM after the three previously scheduled Public Hearings.

PRESENT: George McPherson, Acting Chairman, Francine Schwartz, Frank Balantic, Alternate, Brian Bohmbach, Alternate

ALSO PRESENT: Jeffrey Torrance, representing the Applicant
Attorney Mark Block, Town Counsel
Gary Goeschel, Planning Director
William Scheer, Town Engineer

ABSENT: Mike Bowers, Chairman, Mike Mangelinkx, Chris Sandford, Brian Schuch, Joan Bengtson, Alternate

Pledge of Allegiance
The Pledge was observed.
Acting Chairman McPherson noted that he had seated Frank Balantic Alternate and Brian Bohmbach, Alternate at the table this evening.

Public Hearing I

1. **Application of New England National LLC for a proposed 2-lot Re-Subdivision of 46.95 acres of property having frontage on and located between 241 and 233 Upper Pattagansett Rd., East Lyme, CT; Tax Assessor's Map #39.0, Lot 10-1; with a request for the substitution and re-subdivision of previously designated open space to create one additional proposed lot of record located at the terminus of Kensington Drive and north of Upper Kensington Drive, East Lyme, Connecticut, Tax Assessor's Map #40.0, Lot #14-1; and a request for a waiver of Section 6-16-1 through 6-16-6 of the Subdivision Regulations**

Mr. McPherson called for the applicant or his representative to give a presentation on this application.

Jeffrey Torrance, representing the applicant submitted **Exhibit P** for the record – a letter dated 11/2/2010 from Robert A. Blatt authorizing him to act on his behalf on this application.

Mr. Goeschel read the List of Exhibits into the record and added **Exhibit Q** – Plans revised through 11/16/2010 and **Exhibit R** – Certificates of Mailing dated 11/12/2010. (List attached at end of Minutes).

Mr. Torrance noted that the sign was posted on the property on November 1, 2010.He explained that this property is approximately 48 acres that was set aside for future development. It has access from two locations – the Nottingham Hills Subdivision and Pattagansett Road. The proposal is to make two lots from the one. One lot would be approximately 15 acres and the other would be 33 acres. A third lot is a parcel of land that was preliminarily designated as open space in a previous application – but was not finalized. There is a 3.04 acre parcel and 2.2 acres of conservation easement and they are designating an additional 10.63 acres on the 48 acre parcel as open space. This is far more than they are required to set aside and they want to reserve the right to use it for the open space requirement calculations on future development. He

continued that in working with the Town Engineer, they no longer need the waiver of Section 6-16-1 through 6-16-6 and Sheet SD4 shows the stormwater detention area. An area was originally designed to keep stormwater on site adjacent to this lot however they have added more. He summed up that he feels that they have met the requirements for the subdivision of the two parcels.

Mr. McPherson asked if the Commissioners had any questions or comments –

Mr. Goeschel asked if they were clear on the open space.
Mr. Balantic asked if the ¾ acre shift was to allow for the conservation easement.
Mr. Torrance said that went to wetlands and they approved it as a lot.
Mr. Balantic said that it looks like it is a good swap. He asked when the open space would be finalized.
Mr. Torrance said that per the opinion of Counsel, they do not have to do it until the development is finished so it could go on for quite some time. However – as per this 10 acre piece – he said they will put the conservation easement on it now but reserve the right to include it in future calculations.

William Scheer, Town Engineer explained the stormwater regulations noting that in a subdivision like this one where they are in the woods – there are basically swales and indentations in the ground. They are meant to catch the stormwater to pool and let it go into the ground. He said that he would review it out in the field when they start development but there is enough area and woods for the water to go into the ground.

Mr. Torrance said that while they requested a waiver of the stormwater regulations that it is basically a moot point and they do not need one.

Mr. McPherson called for any comments from the public –
Hearing none –
He called for a motion to close this Public Hearing –

****MOTION (1)**
Mr. Balantic moved to close this Public Hearing.
Mr. Bohmbach seconded the motion.
Vote: 4 – 0 – 0. Motion passed.

Mr. McPherson closed this Public Hearing at 8:05 PM.

Respectfully submitted,

Karen Zmitruk,
Recording Secretary

EXHIBIT 7

VI. **PUBLIC HEARINGS-None**

VII. **SUBDIVISIONS / RE-SUBDIVISIONS - (PENDING)- None**

VIII. **ZONING REFERRALS [Connecticut General Statute (CGS) 8-3a] no zoning referrals**

IX. **MUNICIPAL REFERRALS [Connecticut General Statutes (CGS) 8-24] -none**

X. **OLD BUSINESS – None**

XI. **NEW BUSINESS:**

A. Application of Kristen T. Clarke, P.E., for English Harbour Asset Management LLC, Owner; Application for a 4-lot re-subdivision of approximately 3.8 acares of land zoned RU-40, located at 22 and 2 Upper Kensington Dr., East Lyme, Assessor's Map 40.0, Lot 22 and 23.

C. Application of Jason Pazzaglia, for Pazz and Construction LLC, Owner; Application and waiver request from Section 23.5 B of the East Lyme Zoning Regulationss for a 1-lot re-subdivision of 5.29 acres of land within the R-40 zoning district located at 24 Darrows Ridge Rd., East Lyme, Assessor's map 44.0, Lot 8-31.

The commission scheduled a Public Hearing for items A. and C. for July 27, 2020 at 7:00

B. Request of Paul M. Geraghty, Esq., Attorney for English Harbour Asset Management LLC, for release of Open Space Covenant, Recording of Conservation Easement in favor of East Lyme Land Trust, Inc., and Release of the Conservation Easement in conjunction with the Nottingham Hills Subdivision Phase IV.

P. Geraghty gave background on the subdivision and the approximately 36 acres proposed to be donated to the East Lyme Land Trust. He stated that the applicant has to submit the title insurance policy to DEEP. DEEP has seen the covenant and they will not accept the title policy that has the covenant in it. He then spoke to the insurance company and they would like it removed due to DEEP's request. The applicant believes the covenant has been satisfied and therefore requests the commission release the open space covenant.

P. Geraghty stated they have donated 41.35 acres of open space to the East Lyme Land Trust. G. Goeschel stated the applicant has satisfied the open space requirements.

The two conservation easements were given to the town by the previous developer and they are asking that they be assigned to the East Lyme Land Trust. He informed the members that the transaction will be held in escrow; if the agreement fails to go forward then the town will not lose the conservation easements.

G. Goeschel stated the town attorney is declining to comment on this application due to a conflict of interest.

P. Geraghty informed the members that because DEEP is awarding a grant they will apply their own requirements/easements to assure the East Lyme Land Trust will abide by the grant award.

MOTION: (Williams/Gordon) Move to FIND the terms of the open space covenant record on the East Lyme land record book 653, page 355 as the terms of of the covenant have been met with the dedication open space as part of the Phase II of the Nottingham Hills Subdivision and herby authorize the Planning Commission Chairman to execute the release of covenant. Vote: Approved Unanimously.

MOTION: (Gordon/ Davison) move to assign the Conservation Easement in favor of the Town of East Lyme recorded in book 742, page 502 and book 870, page 689 to the East Lyme Land Trust and to authorize the Planning Commission Chairman to execute said agreement and the Town of East Lyme shall hold in escrow the release of the covenant and assignment of the conservation easement pending recording. Vote: Approved Unanimously.

D. Application of the Town of East Lyme Inland Wetlands Agency for a text amendment to amend section 2.1 of the East Lyme Inland Wetland Regulations to change the Definition of a "Regulated Activity" by enlarging the distance of the boundary for a regulated activity from 100' from an inland wetlands and/or watercourse to 500'.

G. Goeschel gave background on the text amendment of the East Lyme Inland Wetlands Regulations. He created a map for the public hearing comparing the current regulated area and the proposed regulated area. If the proposed changes are enacted the regulated area would cover most of the town. If adopted, then any proposed activity would require an application which would necessitate hiring more staff. DEEP suggests that 100' is sufficient for the Upland Review Area.

After a lengthy discussion on the role of the IWA jurisdiction and authority and if the Planning Commission should issue a comment on a regulation change by another commission, the members did not want to approve or disapprove the proposed regulation change as they did not have the expertise to comment. K. Scott understood increasing the regulated area but did not know the reasoning for increasing the regulated area by 400 feet. G. Goeschel informed the members that it is not clear why the 500' as compared to a lesser amount. It was the consensus of the Planning Commission that they want to support empowering the IWA to enact their regulations. The Commission suggested the IWA watch the recording of their discussion and read the minutes.

E. Bylaws-tabled

F. Subdivision Regulations and Fees-tabled

XII. ADJOURNMENT MOTION: (Gordon/Davison) to adjourn at 9:08 Vote: Approved Unanimously.

Respectfully Submitted,
Sue Spang,
Recording Secretary

2020 Meeting dates: February 4, March 3, April 7, May 5, June 2, July 7, August 4, September 1, October 6, November 10*, December 1.
***Second Tuesday of the month**

EAST LYME PLANNING COMMISSION

Regular Meeting, July 7, 2020. 7:00 PM

East Lyme Town Hall, Upper Meeting Room
108 Pennsylvania Avenue, East Lyme, Connecticut

CHAIRMAN: Kirk Scott
SECRETARY:
PLANNING DIRECTOR: Gary Goeschel II
RECORDING SECRETARY: Sue Spang

CALL TO ORDER 7:02

I. ROLL CALL + PLEDGE OF ALLEGIANCE

Present: Kirk Scott, Michelle Williams, Nichole Davison, Richard Gordon, Elizabeth Allen, Alt.

Absent: Thomas Fitting, Mary Salvatore, Brian Bohmbach, Alt. Vacancy, Alt.

Also Present: G. Goeschel, M. Salerno,

II. CALL FOR ADDITIONS TO THE AGENDA-no additions

III. CALL FOR PUBLIC DELEGATIONS-No public delegations

FILED
July 10 2020 AT 3:25 AM/PM
EAST LYME TOWN CLERK

IV. REPORTS

A. Communications-no report

B. Zoning Representative-no report

C. Ex-Officio

Selectman Salerno informed the commission:

- town hall has fully opened this week
- there are no plans to have in person board and commission meetings at this time
- the BOS has approved additional funding for the Public Safety Building which will go to the BOF and referendum

D. Planning Director: Gary A. Goeschel II-no report

E. Sub-Committees

- **Walkability**- G. Goeschel suggested the walkability study compiled by a previous member D. Phimister be rolled into the POCD.
- **Plan of Conservation and Development (POCD) Steering Committee**-M. Williams stated they have not met since January due to COVID 19. She reported the public forum went well and they received good feedback. The draft POCD will go to the BOS in August and the Planning Commission will receive it at the same time. G. Goeschel stated the Governors 90-day extension does not apply to the POCD.
- **East Lyme Subdivision Regulations**-G. Goeschel suggested waiting until after the POCD is complete
- **Chairman**-K. Scott thanked the members of the POCD subcommittee for all their hard work. G. Goeschel read the rules for participating in a ZOOM meeting and informed the public and members that all information pertinent to tonight's meeting is on the town's website.

V. APPROVAL OF MINUTES

A. January 7, 2020 Regular Meeting Minutes
MSC (Williams/Gordon) to approve the January 7, 2020, Regular Meeting minutes as presented. Vote: Approved Unanimously.

EXHIBIT 8

MEMORANDUM

TO: GARY GOESCHEL, DIRECTOR OF PLANNING

FROM: MARK E. BLOCK, ESQ.

DATE: FEBRUARY 1, 2010

RE: OPEN SPACE DEDICATION - HERITAGE AT EAST LYME RESUBDIVISION

You have asked for an opinion in regards to open space dedication for the proposed resubdivision of Heritage at East Lyme. (the "Resubdivision")

The facts as related to me are that Heritage at East Lyme was, when first subdivided ("Original Subdivision"), an estimated 330 acre tract of land ("Original Tract"). The Original Subdivision contained one lot comprised of a 198 acre tract, which is the subject of the resubdivision application ("Subject Parcel"). At the time of the approval of the Original Subdivision, there was approximately 39.45 acres dedicated as open space as a condition of that approval.

The question presented is can the Planning Commission require a dedication of additional open space as part of the approval of the Resubdivision.

Conn. Gen. Stat. §8-25 provides that the Town's subdivision regulations may require the applicant by deed, payment of a fee or combination of the two, to provide the Town with open space of a value not to exceed 10% of the fair market value of the land to be subdivided "prior to the approval of the subdivision".

Section 10–5 of the Subdivision regulations is consistent with the General Statutes, and says that in arriving at the fee in lieu of the dedication of the land, the fee cannot equal more than 10% of the "fair market value of the land to be subdivided "prior to approval of the subdivision."

Further, Section 10-2-2 of the Subdivision Regulations says that if a parcel "is subdivided in stages, the open space dedication attributable to the subdivision of a portion of the entire tract" may be deferred to a later date. The critical language in this section is the reference to the subdivision being in stages and calculating open space based upon the entire tract.

There are no cases on this precise issue, so one must look to the language of the statue and the regulations. In this case the Original Tract that was submitted to the Commission for subdivision approval comprised 330 acres. The Commission required, per its regulations, that the Developer set aside open space calculated on the number of acres in the Original Tract, i.e., 300 acres. Both the Statute and the Regulations speak of the dedication for open space to be from the land to be subdivided . The Town's regulations also speak of a subdivision developed in stages, with provision for deferral of the open space.
In my opinion, since with original developer met the open space requirements at the time of the

Original Subdivision, and made that dedication out of the Original Tract, the Commission cannot require an additional dedication from the Subject Parcel, which is a resubdivision of a portion of the Original Tract/Subdivision.

M:\users\MEB\East Lyme\open space memo.wpd

PATTAGANSETT PRESERVE AT NOTTINGHAM HILLS

(ALSO KNOWN AS NOTTINGHAM HILLS SUBDIVISION PHASE 5)

MAP REFERENCES:

A. "MAP OF PROPERTY OF FREDERICK W. HARVEY LAKE PATTAGANSETT EAST LYME, CONN. SCALE 1" = 60' BENJ. H. CHALKER, SURVEYOR JULY 1925"

B. "MAP OF FREDERICK W. HARVEY PROPERTY ON PATTAGANSETT LAKE TOWN OF EAST LYME, CONN. DEC. 1933 SCALE 1" = 40' ERNEST DESHREY"

C. "MAP OF PROPERTY OF FREDERICK W. HARVEY OFF PATTAGANSETT ROAD EAST LYME, CONN. SCALE 1" = 60' AUG. 1934 ERNEST DESHEY"

D. "PLAN SHOWING PROPERTY OF NEW LONDON COUNCIL OF GIRL SCOUTS INC. ON PATTAGANSETT LAKE EAST LYME, CONN. SCALE 1" = 110' NOV. 1950 JOSEPH HOFFMAN LAND SURVEYOR"

E. "BOUNDARY SURVEY 191 UPPER PATTAGANSETT ROAD EAST LYME, CT. PROPERTY OF LEWIS S. & JEAN E. BULL SCALE 1" = 100' DEC. 10, 1986 DAVID M. CONRADO"

F. "PARCEL OF LAND CONVEYED TO CONNECTICUT TRAILS COUNCIL OF GIRL SCOUTS, INC. EAST LYME, CONN. 1" = 80' C. BANNING 3/30/69"

G. "PLAN OF PROPERTY OF J. C. PENNY COMPANY, INC. IN THE TOWN OF EAST LYME, CONN. SCALE 1" = 100ft. CHANDLER, PALMER & KING NORWICH, CONN. MARCH 12, 1972 SHEET 1 OF 2"

H. "SECTION No. 1 HUCKLEBERRY HILL UPPER PATTAGANSETT ROAD EAST LYME, CT. OWNED BY H. JENETTE BOOTH & SALLY MacIVER SCALE 1"= 40' MARCH 21, 1974 McKAY ENGINEERING"

I. "MAP SHOWING PROPERTY OF STANLEY J. & HELEN M. DRABIK DRABIK ROAD & CHESTERFIELD ROAD EAST LYME, CONN. SCALE 1" = 100' DATE AUG. 11, 1982 REV. SEPT. 8, 1982 J. ROBERT PFANNER & ASSOCIATES"

J. "SUBDIVISION PLAN PREPARED FOR FLANDERS VILLAGE ROUTE 161 CHESTERFIELD ROAD EAST LYME, CONNECTICUT SCALE 1" = 40' AUGUST 1985 REV. OCT. 1985 SHEETS 1, 2 & 3 OF 16 JESS McMINN"

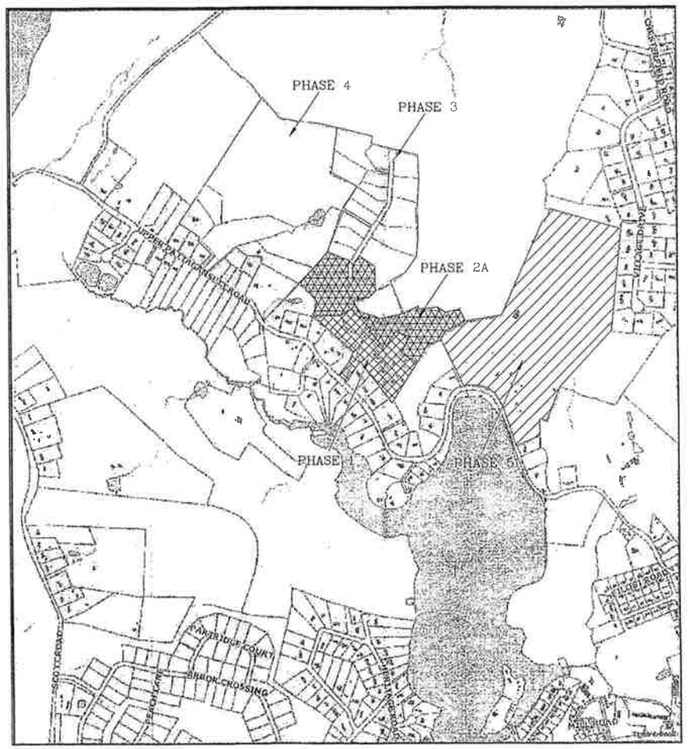
K. "NOTTINGHAM HILLS SUBDIVISION NIANTIC REAL ESTATE, LLC BOUNDARY PLAN DATE 5/4/01 SHEET No. L1 ANCHOR ENGINEERING"

L. "LAND TO BE CONVEYED TO BARROW POND LLC FROM NEW ENGLAND NATIONAL MOSTOWY ROAD EAST LYME, CONNECTICUT J. ROBERT PFANNER & ASSOCIATES P.C. 1" = 300' DATE 4-05-05 LAST REVISED 5-11-05"

3. TOPOGRAPHY IS BASED ON NAVD 88 DATUM.

4. BEARINGS ARE BASED ON THE CONNECTICUT GRID SYSTEM.

5. WETLANDS WERE DELINEATED BY RICHARDS SNARSKI CERTIFIED SOIL SCIENTIST AND FIELD LOCATED BY GERWICK MEREEN, LLC.



NOTTINGHAM HILLS SUBDIVISION
PHASE 5

PREPARED FOR

KRISTEN T. CLARKE, P.E.
ENGLISH HARBOR ASSET
MANAGEMENT LLC
1712 PIONEER AVENIE, SUITE 1939
CHEYENNE, WY. 82001

PROPERTY OWNER

COLD SPRING LOT MANAGEMENT LLC
18 DRABIK ROAD
EAST LYME CT. 06333

THIS DRAWING IS THE PROPERTY OF THE LAND SURVEYOR. THIS PLAN AND REPRODUCTIONS, ADDITIONS OR REVISIONS OF THIS PLAN ARE NOT VALID WITHOUT THE EMBOSSED SEAL AND SIGNATURE OF THE LAND SURVEYOR WHO PREPARED THIS PLAN.

DATE	REVISION

APPROVED BY THE EAST LYME PLANNING COMMISSION

CHAIRMAN/SECRETARY _____

APPROVAL DATE _____

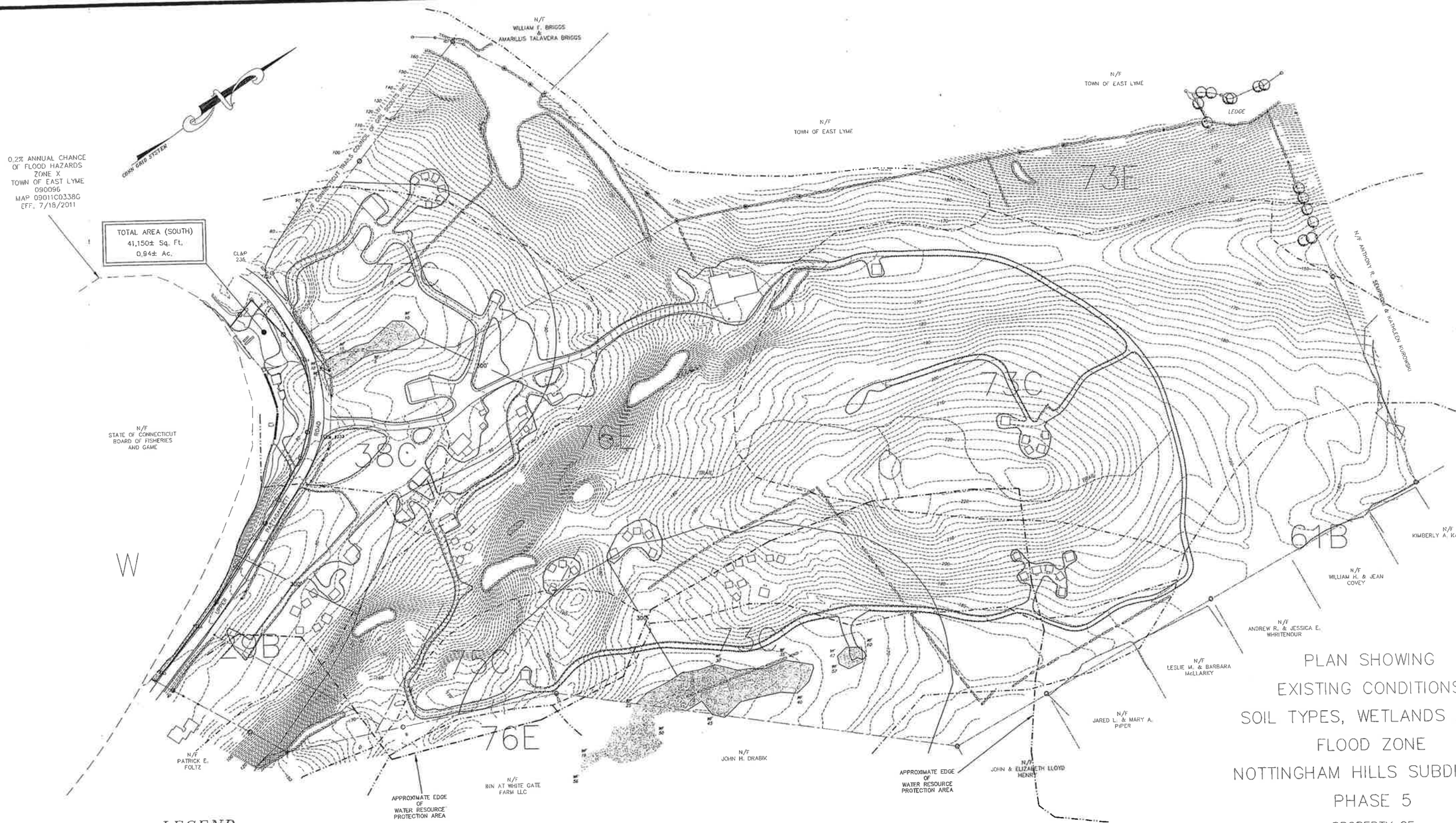
FILING DATE _____

EXPIRATION DATE _____

DATE: AUGUST 3, 2021

SHEET 1 OF 5
JOB NO. 18-036

GERWICK - MEREEN L.L.C.
191 BOSTON POST ROAD P.O. BOX 565
EAST LYME, CONNECTICUT 06333
TEL. (860)442-2201 FAX. (860)442-2205



PLAN SHOWING
EXISTING CONDITIONS
SOIL TYPES, WETLANDS AREA
FLOOD ZONE
NOTTINGHAM HILLS SUBDIVISION
PHASE 5

PROPERTY OF

COLD SPRING LOT MANAGEMENT LLC

121 UPPER PATTAGANNSETT ROAD

EAST LYME CT. 06333

SCALE: 1" = 100'

DATE: AUGUST 3, 2021

SHEET 2 OF 5

JOB NO. 18-036

LEGEND

- STONE WALL
- PROPERTY LINE
- STREET LINE
- EDGE OF WETLANDS & FLAG
- UTILITY POLE
- EXPOSED LEDGE

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)

1 inch = 100 ft.

APPROVED BY THE EAST LYME PLANNING COMMISSION

CHAIRMAN /SECRETARY _____

APPROVAL DATE _____

FILING DATE _____

EXPIRATION DATE _____

SOIL TYPES

29B	Agawam fine sandy loam, 3 to 8 percent slopes
38C	Hinckley loamy sand, 3 to 15 percent slopes
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes
W	Water

THIS DRAWING IS THE PROPERTY OF THE LAND SURVEYOR. THIS PLAN AND REPRODUCTIONS, ADDITIONS OR REVISIONS OF THIS PLAN ARE NOT VALID WITHOUT THE EMBOSSED SEAL AND SIGNATURE OF THE LAND SURVEYOR WHO PREPARED THIS PLAN.

STATE OF CONNECTICUT JOHN PAUL MEREEN No. 18859 LICENSED LAND SURVEYOR

JOHN P. MEREEN

TITLE: LAND SURVEYOR CT No. 18859

GERWICK - MEREEN L.L.C.
191 BOSTON POST ROAD P.O. BOX 565
EAST LYME, CONNECTICUT 06333
TEL. (860)442-2201 FAX. (860)442-2205

NOTES:

1. THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THROUGH 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES – "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS A PERIMETER SURVEY BASED ON A RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A-2.

   TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

2. MAP REFERENCES

   A. "MAP OF PROPERTY OF FREDERICK W. HARVEY LAKE PATTAGANSETT EAST LYME, CONN. SCALE 1" = 60' BENJ. H. GRUHLER, SURVEYOR JULY 1926"

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   F. "PARCEL OF LAND CONVEYED TO CONNECTICUT TRAILS COUNCIL OF GIRL SCOUTS, INC. EAST LYME, CONN. 1" = 80' C. BANNING 3/30/69"

   G. "PLAN OF PROPERTY OF J. C. PENNY COMPANY, INC. IN THE TOWN OF EAST LYME, CONN. SCALE 1" = 100ft. CHANDLER, PALMER & KING NORWICH, CONN. MARCH 12, 1972 SHEET 1 OF 2"

   H. "SECTION No. 1 HUCKLEBERRY HILL UPPER PATTAGANSETT ROAD EAST LYME, CT. OWNED BY H. JENETTE BOOTH & SALLY MacIVER SCALE 1"= 40' MARCH 21, 1974 McKAY ENGINEERING"

   I. "MAP SHOWING PROPERTY OF STANLEY J. & HELEN M. DRABIK DRABIK ROAD & CHESTERFIELD ROAD EAST LYME, CONN. SCALE 1" = 100' DATE AUG. 11, 1982 REV. SEPT. 8, 1982 J. ROBERT PFANNER & ASSOCIATES"

   J. "SUBDIVISION PLAN PREPARED FOR FLANDERS VILLAGE ROUTE 161 CHESTERFIELD ROAD EAST LYME, CONNECTICUT SCALE 1" = 40' AUGUST 1985 REV. OCT. 1985 SHEETS 1, 2 & 3 OF 16 JESS McMINN"

   K. "NOTTINGHAM HILLS SUBDIVISION NIANTIC REAL ESTATE, LLC BOUNDARY PLAN DATE: 5/4/01 SHEET No. L1 ANCHOR ENGINEERING"

   L. "LAND TO BE CONVEYED TO DARROW POND LLC FROM NEW ENGLAND NATIONAL MOSTOWY ROAD EAST LYME, CONNECTICUT J. ROBERT PFANNER & ASSOCIATES P.C. 1" = 300' DATE 4-05-05 LAST REVISED 5-11-05"

3. TOPOGRAPHY IS BASED ON NAVD 88 DATUM.

4. BEARINGS ARE BASED ON THE CONNECTICUT GRID SYSTEM.

5. WETLANDS WERE DELINEATED BY RICHARDS SNARSKI CERTIFIED SOIL SCIENTIST AND FIELD LOCATED BY GERWICK MEREEN, LLC.

PARCEL 2
LAKE SIDE PARCEL
41,150± Sq Ft
0.94± Ac.

PROPERTY LINE IS 874'± ALONG SHORE LINE OF PATTAGANSETT LAKE

8 — 121,319 Sq Ft, 2.79 Ac.
7 — 156,083 Sq Ft, 3.58 Ac.
9 — 50,803 Sq Ft, 1.17 Ac.
6 — AREA = 2,157,806 Sq Ft, 49.53 Ac.
5 — 42,623 Sq Ft, 0.98 Ac.
4 — 80,338 Sq Ft, 1.84 Ac.
3 — 58,911 Sq Ft, 1.35 Ac.
2 — 60,296 Sq Ft, 1.38 Ac.
1 — 54,127 Sq Ft, 1.24 Ac.

N/F WILLIAM F. BRIGGS & AMARILLIS TALAVERA BRIGGS
N/F TOWN OF EAST LYME
N/F CONNECTICUT TRAILS COUNCIL OF GIRL SCOUTS INC.
N/F JAMES ROBERT BOOTH
N/F STATE OF CONNECTICUT BOARD OF FISHERIES AND GAME
N/F PATRICK E. FOLTZ
N/F INN AT WHITE GATE FARM LLC
JOHN H. DRABIK
N/F JARED L. & MARY A. PIPER
N/F JOHN & ELIZABETH LLOYD HENRY
N/F ANTHONY R. SEMPRONE & KATHLEEN KUROWSKI
N/F KIMBERLY A. KALAJAINEN
N/F WILLIAM H. & JEAN COVEY
N/F LESLIE M. & BARBARA McLLARKY
N/F ANDREW R. & JESSICA E. WHITEMOUR

RB SET IN STONE PILE
CONN GRID SYSTEM
CEDAR FENCE POSTS AND TREES WITH WIRE (TYP.)
LEDGE
TREES WITH WIRE (TYP.)
CHAIN LINK FENCE
CONCRETE POST
CEDAR FENCE POSTS
TRAIL
APPROXIMATE EDGE OF WATER RESOURCE PROTECTION AREA

LINE TABLE		
LINE	LENGTH	BEARING
L1	221.29	N16°52'00"W
L2	202.28	N22°34'13"W
L3	162.52	N25°57'00"W
L4	58.61	N39°22'46"W
L5	103.35	S82°20'28"W

CURVE TABLE					
CURVE	DELTA	LENGTH	RADIUS	TANGENT	CORD
C1	58°16'46"	228.86	225.00	125.44	219.12
CORD BEARING = N68°31'09"W					

LEGEND

- STONE WALL
- PROPERTY LINE
- STREET LINE
- DRILL HOLE SET — • DH SET
- DRILL HOLE FOUND — ⊛ DH FND
- MONUMENT FOUND — □ MON FND
- IRON PIPE FOUND — ○ IP FND
- EDGE OF WETLANDS & FLAG — WF 57
- UTILITY POLE
- EXPOSED LEDGE

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

THIS DRAWING IS THE PROPERTY OF THE LAND SURVEYOR. THIS PLAN AND REPRODUCTIONS, ADDITIONS OR REVISIONS OF THIS PLAN ARE NOT VALID WITHOUT THE EMBOSSED SEAL AND SIGNATURE OF THE LAND SURVEYOR WHO PREPARED THIS PLAN.

DATE	REVISION

"TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON."

JOHN PAUL MEREEN
TITLE: LAND SURVEYOR CT No. 18859
DATE: OCTOBER 6, 2020

APPROVED BY THE EAST LYME PLANNING COMMISSION

CHAIRMAN/SECRETARY _____
APPROVAL DATE _____
FILING DATE _____
EXPIRATION DATE _____

PLAN SHOWING
PROPOSED LOT LAYOUT
NOTTINGHAM HILLS SUDDIVISION
PHASE 5

PROPERTY OF
COLD SPRING LOT MANAGEMENT LLC
121 UPPER PATTAGANNSETT ROAD
EAST LYME CT. 06333

SCALE: 1" = 100'
DATE: AUGUST 3, 2021

SHEET 3 OF 5
JOB NO. 18-036

STATE OF CONNECTICUT — JOHN PAUL MEREEN — No. 18859 — LICENSED LAND SURVEYOR
TITLE: LAND SURVEYOR CT No. 18859

GERWICK - MEREEN L.L.C.
191 BOSTON POST ROAD P.O. BOX 565
EAST LYME, CONNECTICUT 06333
TEL. (860)442-2201 FAX. (860)442-2205

MLSS

LOT 1

PROPOSED HOUSE IS A FOUR BEDROOM HOUSE. BASIS OF DESIGN IS FOR FOUR BEDROOMS WITH NO TUB OVER 100 GALLONS WITH A PERC RATE OF 1.6-10.0 MIN./IN. SYSTEM AREA REQUIRED IS 577.50 S.F. AND IS SUPPLIED AS FOLLOWS:

1 ROW OF 58 L.F. OF 62"X12" GEOMATRIX GST 6212 AT 10.0 S.F. PER L.F.=580 S.F.
TOTAL LEACHING AREA=580 S.F.

RESTRICTIVE LAYER =24" HYDRAULIC GRADIENT=8.1-10.0%
MLSS REQUIRED =HF(18) X PF(1.75) X PF(1.0)=31.5'
MLSS SUPPLIED = 58'

LOT 2

PROPOSED HOUSE IS A FOUR BEDROOM HOUSE. BASIS OF DESIGN IS FOR FOUR BEDROOMS WITH NO TUB OVER 100 GALLONS WITH A PERC RATE OF 1.6-10.0 MIN./IN. SYSTEM AREA REQUIRED IS 577.50 S.F. AND IS SUPPLIED AS FOLLOWS:

1 ROW OF 58 L.F. OF 62"X12" GEOMATRIX GST 6212 AT 10.0 S.F. PER L.F.=580 S.F.
TOTAL LEACHING AREA=580 S.F.

RESTRICTIVE LAYER =24" HYDRAULIC GRADIENT=10.1-10.0%
MLSS REQUIRED =HF(18) X PF(1.75) X PF(1.0)=31.5'
MLSS SUPPLIED = 58'

LOT 3

PROPOSED HOUSE IS A FOUR BEDROOM HOUSE. BASIS OF DESIGN IS FOR FOUR BEDROOMS WITH NO TUB OVER 100 GALLONS WITH A PERC RATE OF 1.6-10.0 MIN./IN. SYSTEM AREA REQUIRED IS 577.50 S.F. AND IS SUPPLIED AS FOLLOWS:

1 ROW OF 58 L.F. OF 62"X12" GEOMATRIX GST 6212 AT 10.0 S.F. PER L.F.=580 S.F.
TOTAL LEACHING AREA=580 S.F.

RESTRICTIVE LAYER =47" HYDRAULIC GRADIENT=8.1-10.0%
MLSS REQUIRED =HF(18) X PF(1.75) X PF(1.0)=31.5'
MLSS SUPPLIED = 58'

PROPOSED HOUSE IS A FOUR BEDROOM HOUSE. BASIS OF DESIGN IS FOR FOUR BEDROOMS WITH NO TUB OVER 100 GALLONS WITH A PERC RATE OF 1.6-10.0 MIN./IN. SYSTEM AREA REQUIRED IS 577.50 S.F. AND IS SUPPLIED AS FOLLOWS:

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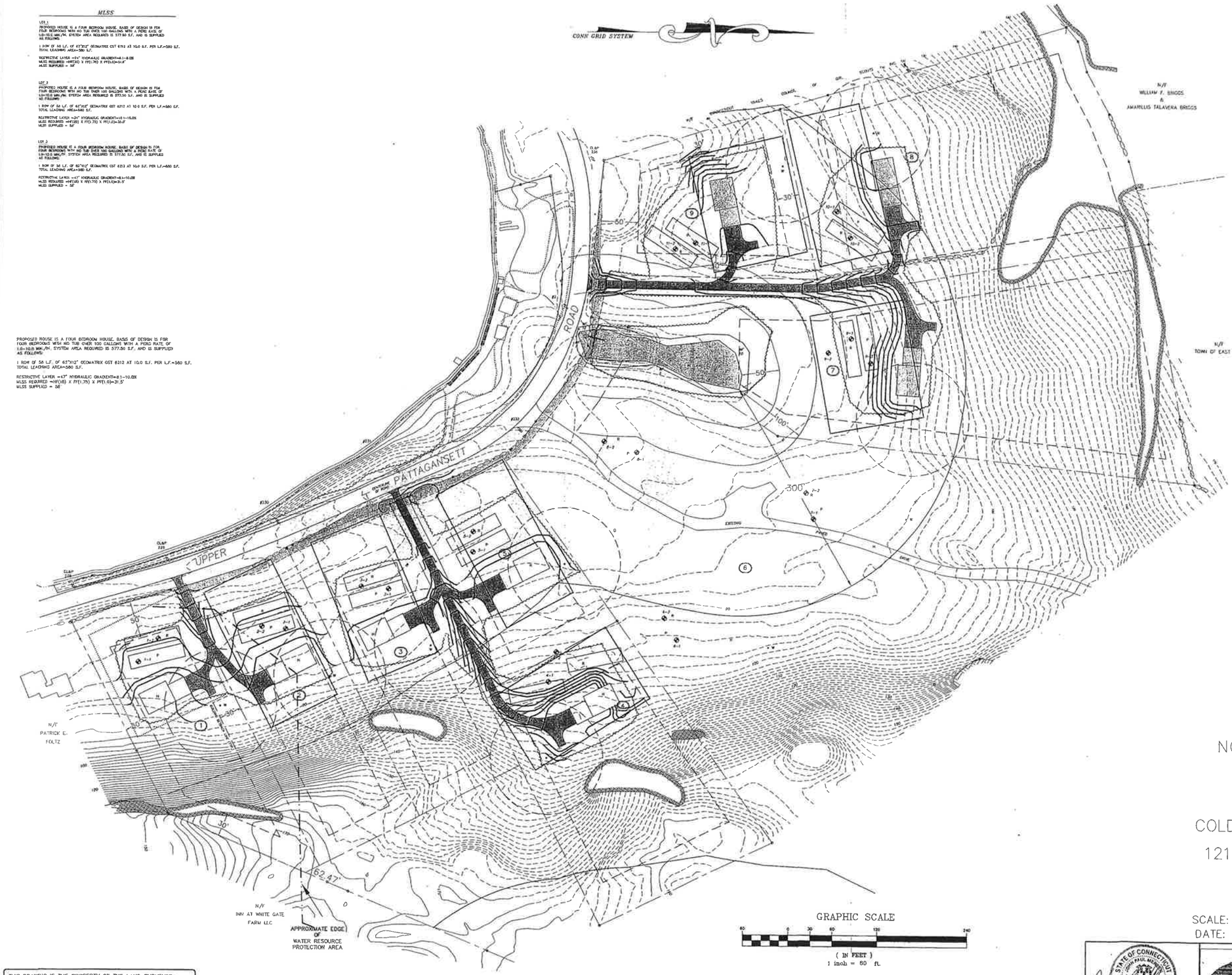
MLSS REQUIRED =HF(18) X PF(1.75) X PF(1.0)=31.5'
MLSS SUPPLIED = 58'



APPROVED BY THE EAST LYME PLANNING COMMISSION

CHAIRMAN/SECRETARY _____

APPROVAL DATE _____

FILING DATE _____

EXPIRATION DATE _____

PLAN SHOWING
GRADING AND E&S
NOTTINGHAM HILLS SUDDIVISION
PHASE 5

PROPERTY OF

COLD SPRING LOT MANAGEMENT LLC
121 UPPER PATTAGANNSETT ROAD
EAST LYME CT. 06333

SCALE: 1" = 60'
DATE: AUGUST 3, 2021

SHEET 4 OF 5
JOB NO. 18-036

THIS DRAWING IS THE PROPERTY OF THE LAND SURVEYOR. THIS PLAN AND REPRODUCTIONS, ADDITIONS OR REVISIONS OF THIS PLAN ARE NOT VALID WITHOUT THE EMBOSSED SEAL AND SIGNATURE OF THE LAND SURVEYOR WHO PREPARED THIS PLAN.

STATE OF CONNECTICUT
JOHN PAUL MEREEN
LICENSED
LAND SURVEYOR
JOHN PAUL MEREEN
TITLE: LAND SURVEYOR CT No. 18859

GERWICK - MEREEN L.L.C.
191 BOSTON POST ROAD P.O. BOX 565
EAST LYME, CONNECTICUT 06333
TEL. (860)442-2201 FAX. (860)442-2205

REFERENCE IS MADE TO

1. CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, MAY 2002.
2. NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY NATIONAL COOPERATIVE SOIL SURVEY , SOIL MAP--STATE OF CONNECTICUT

DEVELOPMENT

PROPOSED DEVELOPMENT WILL ALLOW FOR THE CREATION OF 1 ADDITIONAL BUILDING LOT ON 63.66 ACRES WITH ACCESS FROM UPPER PATTAGANSETT ROAD. THE LOTS WILL BE SERVED BY ON SITE WATER AND SEPTIC.

GENERAL DEVELOPMENT PLAN

PRIOR TO THE COMMENCEMENT OF OPERATIONS IN ACCORDANCE WITH ANY PERMIT ISSUES BY THE TOWN OF EAST LYME PLANNING AND ZONING COMMISSION, THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES. LOCATION OF THE EXTERIOR CLEARING LIMITS SHALL BE STAKED OUT BY A LICENSED SURVEYOR UNLESS OTHERWISE ALLOWED BY THE TOWN EROSION CONTROL AGENT.

THE CONTRACTOR SHALL OBTAIN A SITE INSPECTION FROM THE TOWN OF EAST LYME ZONING ENFORCEMENT OFFICER TO ENSURE THAT ALL EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED IN ACCORDANCE WITH THIS NARRATIVE, UPON CERTIFICATION WITH RESPECT TO THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES, THE CONTRACTOR MAY COMMENCE OPERATIONS PURSUANT TO THE PERMIT. EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE "FILTER BARRIER INSTALLATION & MAINTENANCE" AND THE "HAY BALE INSTALLATION & MAINTENANCE" SECTIONS OF THIS NARRATIVE.

ALL STRIPPING IS TO BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. TOPSOIL SHALL BE STOCKPILED SO THAT SLOPES DO NOT EXCEED 3 TO 1. A HAY BALE SEDIMENT BARRIER IS TO SURROUND EACH STOCKPILE AND A TEMPORARY VEGETATIVE COVER PROVIDED IF NECESSARY.

DUST CONTROL WILL BE ACCOMPLISHED BY SPRAYING WITH WATER.

THE PROPOSED PLANTING SCHEDULE IS TO BE ADHERED TO DURING THE PLANTING OF DISTURBED AREAS THROUGHOUT THE PROPOSED CONSTRUCTION SITE.

FINAL STABILIZATION OF THE SITE IS TO FOLLOW THE PROCEDURES OUTLINED IN PERMANENT VEGETATIVE COVER. IF NECESSARY A TEMPORARY VEGETATIVE COVER IS TO BE PROVIDED UNTIL A PERMANENT COVER CAN BE APPLIED.

DURING THE STABILIZATION PERIOD, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN PROPER WORKING ORDER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL EROSION AND SEDIMENT CONTROL ON A TWICE-WEEKLY BASIS DURING THE STABILIZATION PERIOD AND AFTER EACH STORM EVENT. DURING THE STABILIZATION PERIOD WITH RESPECT TO THE SITE, ANY EROSION WHICH OCCURS WITHIN DISTURBED AREAS SHALL BE IMMEDIATELY REPAIRED, RE-SEEDED AND REESTABLISHED.

ONCE STABILIZATION HAS BEEN COMPLETED AND CERTIFICATION THEREOF OBTAINED IN WRITING FROM THE ZONING ENFORCEMENT OFFICER OF THE TOWN OF EAST LYME, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED BY THE CONTRACTOR.

IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND ALL ASPECTS OF ALL CONSTRUCTION ELEMENTS/DESIGNS, AS WELL AS THE EROSION & SEDIMENTATION CONTROL PLANS. SHOULD THE CONTRACTOR NOT UNDERSTAND ANY ASPECTS IT IS HIS/HER RESPONSIBILITY TO SEEK CLARIFICATION FROM THE APPROPRIATE AUTHORITY.

ANY REQUIRED BLASTING FOR PUBLIC OR LOT DEVELOPMENT SHALL REQUIRE A PRE-BLAST CONDITION SURVEY FOR, AT A MINIMUM, FOR ALL PROPERTIES ABUTTING THE AREA TO BE BLASTED. PER CT. STATUTE, THE FIRE MARSHAL SHALL MAKE ALL FINAL DETERMINATIONS ON REQUIREMENTS FOR PRE-BLAST CONDITIONS SURVEY.

SEQUENCE OF CONSTRUCTION & CONTRACTORS RESONSIBILITY

IT IS ANTICIPATED THAT THE DEVELOPMENT WILL BEGIN SPRING/SUMMER OF 2019. PRIOR TO THE START OF CONSTRUCTION THE DEVELOPER IS TO SCHEDULE A PRE CONSTRUCTION MEETING WITH TOWN STAFF, THE CONTRACTOR AND PROJECT ENGINEER TO DISCUSS IMPORTANT SITE ISSUES INCLUDING SCHEDULING, SITE ACCESS, CONSTRUCTION METHODS, AND INSPECTIONS PROCEDURES.

THE PROPOSED EROSION AND SEDIMENTATION CONTROLS HAVE BEEN DEVELOPED SPECIFICALLY WITH THE INTENT TO PRESERVE WATER QUALITY THROUGHOUT THE CONSTRUCTION PROCESS. ALL PROPOSED MEASURES SHOULD BE VIEWED BY THE CONTRACTOR AS A MINIMUM, AND IN NO CASE SHALL THEY BE TREATED AS A COMPLETE SOLUTION. ALL E&S PLANS ARE HIGHLY DEPENDENT ON CONSTRUCTION PRACTICES AND WEATHER EVENTS THAT ARE BEYOND THE CONTROL OF ANY PLAN. THE CONTRACTOR IS REQUIRED TO TAKE ANY AND ALL MEASURES TO CONTROL WATER QUALITY WITH RESPECT TO EROSION AND SEDIMENTATION THAT MAY AFFECT RESOURCES OR DOWN GRADIENT PROPERTIES. ALL CLEARING FOR PHASES INTENDED TO BE MINIMUM NEEDED FOR CURRENT CONSTRUCTION. THE CONTRACTOR SHALL BE ESPECIALLY CAREFUL TO AVOID SIGNIFICANT DISTURBANCE OF PROPOSED SEPTIC SYSTEM AREAS DURING CONSTRUCTION. SIGNIFICANT DISTURBANCE OF THESE AREAS MAY NEGATIVELY IMPACT THE VIABILITY OF THE LOT WHICH, IS DISTURBED SHALL BE THE CONTRACTORS LIABILITY. THE CONTRACTOR SHALL MAKE WEEKLY INSPECTIONS OF ALL DISTURBED AREAS AND CONTROL ELEMENTS AS WELL AS AFTER ANY RAINFALL OF ½" OR MORE AND SHALL MAINTAIN REPAIR OR REPLACE AS NEEDED.

CONSTRUCTION STAKE OUTS, AS-BUILTS AND INSPECTIONS

1. ALL UTILITIES, PUBLIC AND PRIVATE, AS WELL AS ALL STORM WATER BASINS AND STRUCTURES MUST BE STAKED OUT BE A LICENSED CT SURVEYOR.
2. AS-BUILTS ARE REQUIRED FOR ALL UTILITIES, BASINS AND STRUCTURES AND MUST BE COMPLETED BY A CT LICENSED SURVEYOR. UNDERGROUND UTILITIES ARE TO BE LOCATED PRIOR TO BEING BACK FILLED.
3. STORMWATER BASINS SHALL ALSO REQUIRE INSPECTION AND CERTIFICATION BY THE DESIGN ENGINEER.
4. THE TOWN OF EAST LYME WILL ALSO REQUIRE TOWN INSPECTIONS FOR MANY COMPONENTS WHICH THE CONTRACTOR AND OWNER MUST COORDINATE WITH THE TOWN

FILTER BARRIER INSTALLATION & MAINTENANCE

1. DIG A 6" TRENCH ON THE UPHILL SIDE OF THE BARRIER LOCATION.
2. POSITION THE POSTS ON THE DOWNHILL SIDE OF THE BARRIER AND DRIVE THE POST 1.5 FEET INTO THE GROUND.
3. LAY THE BOTTOM 6" OF THE FABRIC IN THE TRENCH TO PREVENT UNDERMINING AND BACKFILLED.
4. INSPECT AND REPAIR BARRIER AFTER HEAVY RAINFALL.
5. SEDIMENT DEPOSITS ARE TO BE REMOVED WHEN THEY REACH A HEIGHTS OF ONE FOOT BEHIND THE BARRIER AND ARE TO BE DEPOSITED IN AN AREA WHICH IS NOT REGULATED BY THE INLAND WETLANDS COMMISSION.
6. INSPECTIONS AND NECESSARY REPAIRS WILL BE MADE TWICE WEEKLY.

HAY BALE INSTALLATION & MAINTENANCE

1. BALES SHALL BE PLACED ARONUD ALL PROPOSED CATCH BASINS WITH THE ENDS TIGHTLY ABUTTING EACH OTHER.
2. EACH BALE SHALL BE SECURELY ANCHORED WITH AT LEAST 2 STAKES AND GAPS BETWEEN BALES SHALL BE WEDGED WITH STRAW TO PREVENT WATER FROM PASSING BETWEEN THE BALES.
3. INSPECT BALES AFTER EACH STORM AND REPAIR OR REPLACE PROMPTLY AS NEEDED. REMOVE SEDIMENT BEHIND THE BALES WHEN IT HAS REACHED HALF THE HEIGHT AND DEPOSIT IN AN AREA WHICH IS NOT REGULATED BY THE INLAND WETLAND COMMISSION.
4. INSPECTIONS AND NECESSARY REPAIRS WILL BE MADE TWICE WEEKLY.

TEMPORARY VEGETATIVE COVER

A TEMPORARY SEEDING OF RYE GRASS WILL BE COMPLETED WITHIN 15 DAYS OF THE FORMATION OF STOCKPILES. IF THE SOIL IN THE STOCKPILES HAS BEEN COMPACTED BY CONSTRUCTION OPERETAORS IT SHALL BE LOOSENED TO A DEPTH OF 2 INCHES BEFORE THE FERTILIZER, LIME AND SEED IS APPLIED. 10-10-10 FERTILIZER AT A RATE OF 7.5 POUNDS PER 1000 S.F. LIMESTONE AT A RATE OF 90 LBS PER 1000 S.F. SHALL BE USED. RYE GRASS COVER APPLIED AT A RATE OF 1 LB. PER 1000 S.F. SHALL PROVIDE THE TEMPORARY VEGETATIVE COVER. STRAW FREE FROM WEEDS AND COURSE MATTER SHALL BE USED AT A RATE OF 70-90 LBS. PER 1000 S.F. AS A TEMPORARY MULCH. APPLY MULCH AND DRIVE TRACKED EQUIPMENT UP AND DOWN SLOPE OVER ENTIRE SURFACE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS.

PERMANENT VEGETATIVE COVER

TOPSOIL WILL BE REPLACED ONCE THE EXCAVATION HAS BEEN COMPLETED AND THE SLOPES ARE GRADED TO A SLOPE NO GREATER THAN 2.5 TO 1. PROVIDE SLOPE PROTECTIONS ON ALL CUT SLOPES. TOPSOIL WILL BE SPREAD AT A MINIMUM COMPACTED DEPTH OF 4 INCHES. ONCE THE TOPSOIL HAS BEEN SPREAD, ALL STONES TWO INCHES OR LARGER IN ANY DIMENSION WILL BE REMOVED AS WELL AS DEBRIS. APPLY AGRICULTURAL GROUND LIMESTONE AT THE RATE OF TWO TONS PER ACRE OR 100 LBS. PER 1000 S.F. APPLY 10-10-10 FERTILIZER OR EQUIVALENT AT A RATE OF 300 LBS. PER ACRE OR 7.5 LBS. PER S.F. WORK LIMESTONE INTO THE SOIL TO A DEPTH OF 4 INCHES. INSPECT SEEDBED BEFORE SEEDING. IF TRAFFIC HAS COMPACTED THE SOIL, RETILL COMPACTED AREAS. APPLY THE FOLLOWING GRASS SEED MIX:

SEED MIXTURE	LB ./ACRE	LBS./1000 S.F.
KENTUCKY BLUEGRASS	20	0.45
CREEPING RED FESCUE	20	0.45
PERENNIAL RYEGRASS	5	0.10
	45	1.00

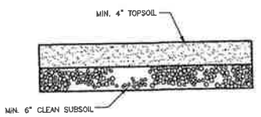
THE RECOMMENDED SEEDING DATES ARE:

APRIL 1 - JUNE 5 AND AUGUST 1 - SEPTEMBER 15

FOLLOWING SEEDING, FIRM SEED BED WITH A ROLLER, MULCH WITH WEED FREE STRAW IMMEDIATELY FOLLOWING SEEDING. IF A PERMANENT VEGETATIVE STAND CANNOT BE ESTABLISHED BY SEPTEMBER 30. APPLY A TEMPORARY COVER ON THE TOPSOIL.

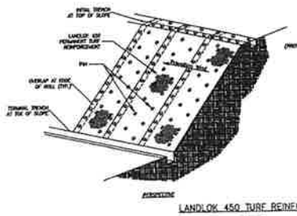
NOTES

1. ALL EXISTING UTILITIES ARE APPROXIMATE ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL LOCATIONS PRIOR TO CONSTRUCTION. "CALL BEFORE YOU DIG" SHALL BE NOTIFIED AT LEAST 5 DAYS PRIOR TO ANY CONSTRUCTION. (1-800-922-4455)
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS, PRIOR TO CONSTRUCTION. ARRANGEMENTS WITH THE TOWN PLANNING AND ZONING, AND CONSERVATION DEPARTMENTS SHALL BE MADE FOR A PRE-CONSTRUCTION MEETING. SAID MEETING SHALL BE AT LEAST 48 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITY. THE CONTRACTORS, ON SITE SUPERVISOR, AS WELL AS THE APPLICANT SHALL BE PRESENT AT SAID MEETING.
3. CONTRACTOR SHALL MEET ALL STATE AND LOCAL REQUIREMENTS FOR BLASTING
4. THE CONTRACTOR SHALL KEEP ALL ADJACENT PUBLIC ROADS FREE OF DIRT AND OTHER DEBRIS. ROADS SHALL BE INSPECTED AND CLEANED AT A MINIMUM OF ONCE DAILY. TRUCKS ENTERING OR LEAVING THE SITE WITH MATERIAL LOADS SHALL MAINTAIN COVERS OVER THEIR LOADS.

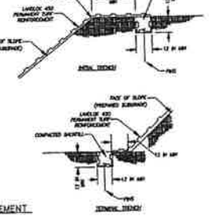


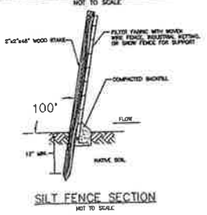
LOAM & SEED CROSS-SECTION DETAIL

HAY BALE BARRIER DETAIL
NOT TO SCALE

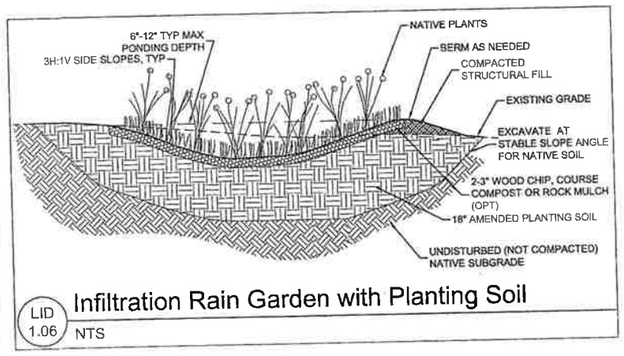


LANDLOK 450 TURF REINFORCEMENT



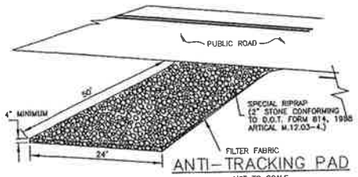


SILT FENCE SECTION
NOT TO SCALE

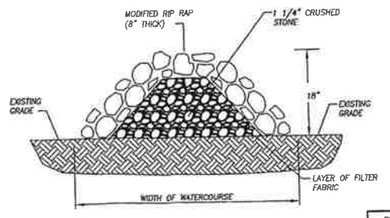


LID 1.06 Infiltration Rain Garden with Planting Soil
NTS

RAIN GARDEN IS TO BE SIZED TO ACCOMODATE THE RUN OFF FROM ONE INCH (1")(OF RAIN FALL FOR ALL IMPERVIOUS SURFACE AREA ON THE LOT



ANTI-TRACKING PAD
NOT TO SCALE



MODIFIED RIP RAP/STONE CHECK DAM
NOT TO SCALE

APPROVED BY THE EAST LYME PLANNING COMMISSION

CHAIRMAN/SECRETARY _____

APPROVAL DATE _____

FILING DATE _____

EXPIRATION DATE _____

DATE	REVISION

THIS DRAWING IS THE PROPERTY OF THE L.L.C. THIS PLAN AND REPRODUCTIONS, ADDITIONS OR REVISIONS OF THIS PLAN ARE NOT VALID WITHOUT THE EMBOSSED SEAL AND SIGNATURE OR BLUE COLORED STAMPED SEAL AND SIGNATURE OF THE LAND SURVEYOR OR ENGINEER WHO PREPARED THIS PLAN.

SITE TESTING APRIL 17 - 18, 2019
121 UPPER PATTAGANSETT ROAD EAST LYME
WITNESSED BY DANIELLE HOLMES SANITARIAN
LEDGE LIGHT HEALTH DISTRICT

TEST PIT 1-1 DEPTH 94"
0-8"LEAF LITTER & TOPSOIL
8-27" LIGHT YELLOW BROWN FINE SANDY LOAM
27-95" COARSE SAND & GRAVEL
NO GROUND WATER
NO REFUSAL
ROOTS TO 66"
REDOX @ 29" (NOT GROUND WATER)

TEST PIT 1-2 DEPTH 95"
0-9"LEAF LITTER & TOPSOIL
9-30" LIGHT YELLOW BROWN FINE SANDY LOAM
30-95" COARSE SAND & GRAVEL (APPROX. 25% GRAVEL)
ROOTS TO 70"
NO GROUND WATER
NO REFUSAL
REDOX @ 24-30" (NOT GROUND WATER)

TEST PIT 2-1 DEPTH 87"
0-6"TOPSOIL
6-41" YELLOW BROWN FINE SANDY LOAM
41-87" COARSE SAND & GRAVEL (APPROX 25% GRAVEL)
ROOTS TO 54"
NO GROUND WATER
NO REFUSAL
REDOX @ 34"

TEST PIT 2-2 DEPTH 93"
0-8"LEAF LITTER & TOPSOIL
8-27" LIGHT BROWN FINE SANDY LOAM
27-93" COARSE SAND & GRAVEL (APPROX. 60" GRAVEL)
ROOTS TO 60"
NO GROUND WATER
NO REFUSAL
NO REDOX

TEST PIT 3-1 DEPTH 87"
0-16" LEAF LITTER & TOPSOIL
16-52" YELLOW BROWN FINE SANDY LOAM
52-87" COARSE SAND & GRAVEL (APPROX 30% GRAVEL)
ROOTS TO 65"
NO GROUND WATER
NO REFUSAL
NO REDOX

TEST PIT 3-2 DEPTH 85"
0-10" LEAF LITTER & TOPSOIL
10-47" YELLOW BROWN FINE SILTY SAND
47-85" COARSE SAND & GRAVEL (APPROX. 25% GRAVEL)
ROOTS TO 78"
NO GROUND WATER
NO REFUSAL
REDOX @ 47"

TEST PIT 4-1 DEPTH 95"
0-7"LEAF LITTER & TOPSOIL
7-53" LIGHT YELLOW BROWN FINE SANDY LOAM
53-95" COMPACT GRAY BROWN MED-COARSE SAND TRACE GRAVEL
NO GROUND WATER
NO REFUSAL
COMPACT @ 60"
ROOTS TO 56"
REDOX @ 54"

TEST PIT 4-2 DEPTH 93"
0-6"LEAF LITTER & TOPSOIL
6-27" ORANGE BROWN SANDY LOAM
27-93" LIGHT YELLOW TO GRAY BROWN MED. COARSE SANDY LOAM
ROOTS TO 82"
NO GROUND WATER
NO REFUSAL
NO REDOX

TEST PIT 5-1 DEPTH 98"
0-9"LEAF LITTER & TOPSOIL
9-36" ORANGE BROWN VERY FINE SILTY LOAM
36-98" COARSE SAND & GRAVEL (APPROX. 40% GRAVEL)
NO REFUSAL
ROOTS TO 52"
NO GROUND WATER
NO REDOX

TEST PIT 5-2 DEPTH 100"
0-8"TOPSOIL
8-61" LIGHT YELLOW TO LIGHT GRAY BROWN VERY FINE SILTY SAND, MOTTLED
61-100"BROWN COARSE SAND & GRAVEL (APPROX. 25% GRAVEL)
ROOTS TO 70"
NO GROUND WATER
NO REFUSAL
REDOX @ 32"

TEST PIT 6-1 DEPTH 86"
0-6"LEAF LITTER & TOPSOIL
6-27" LIGHT ORANGE BROWN MED-COARSE SANDY LOAM
27-86" LIGHT YELLOW TO GRAY BROWN MED-COARSE SANDY LOAM
ROOTS TO 91"
NO REFUSAL
NO GROUND WATER
NO REDOX

TEST PIT 6-2 DEPTH 93"
0-6"LEAF LITTER & TOPSOIL
6-23" LIGHT ORANGE BROWN FIND SANDY LOAM
23-92" LIGHT YELLOW TO GRAY BROWN MED-COARSE SANDY LOAM, TRACE GRAVEL
NO GROUND WATER
NO REDOX

TEST PIT 7-1 DEPTH 78"
0-6"TOPSOIL
6-26" LIGHT BROWN FINE SANDY LOAM
26-78" COARSE SAND & GRAVEL (APPROX. 40% GRAVEL)
REFUSAL @ 78" (LARGE BOULDER ?)
ROOTS TO 53"
NO GROUND WATER
NO REDOX

TEST PIT 7-2 DEPTH 76"
0-7"TOPSOIL
7-25" LIGHT BROWN FINE SANDY LOAM
26-78" COARSE SAND & GRAVEL (APPROX. 40% GRAVEL)
ROOTS TO 50"
NO GROUND WATER
NO REDOX

TEST PIT 8-1 DEPTH 80"
0-7"LEAF LITTER & TOPSOIL
7-40" LIGHT YELLOW BROWN VERY FINE SILTY SAND
40-74" COARSE SAND & GRAVEL (APPROX. 40% GRAVEL)
STANDING WATER @ 74"
ROOTS TO 59"
NO REFUSAL
REDOX @ 33"

TEST PIT 8-2 DEPTH 75"
0-6"LEAF LITTER & TOPSOIL
6-41" YELLOW BROWN FINE SILTY SAND
41-65" COARSE SAND & GRAVEL (APPROX. 50% GRAVEL)
STANDING WATER @ 65"
ROOTS TO 43"
REDOX @ 34"

TEST PIT 9-1 DEPTH 65"
0-11" LEAF LITTER & TOPSOIL
11-50" LIGHT BROWN FINE SAND LOAM
NO REFUSAL
REDOX @ 37"

TEST PIT 9-2 DEPTH 50"
0-8"LEAF LITTER & TOPSOIL
9-28" YELLOW BROWN FINE SANDY LOAM
STANDING WATER @ 25"
ROOTS TO WATERLINE
NO REFUSAL
NO APPARANT REDOX ABOVE WATER LINE
*STAND PIPES OR ADDITIONAL TEST PITS IN ALT. LOCATION

TEST PIT 10-1 DEPTH 83"
0-9"LEAF LITTER & TOPSOIL
9-16" ORANGE BROWN FINE SANDY LOAM
16-32" YELLOW BROWN FINE SANDY LOAM
32-52" GRAY BROWN FINE SILTY SAND - MOTTLED
52-83" COMPACT YELLOW TO GRAY BROWN MED-COARSE SAND, TRACE-GRAVEL
MANY ROCKS
ROOTS TO 48"
NO REFUSAL
NO GROUND WATER
REDOX @ 36"

TEST PIT 10-2 DEPTH 78"
0-10" LEAF LITTER & TOPSOIL
10-23" ORANGE BROWN FINE SANDY LOAM
23-39" YELLOW BROWN FIND SANDY LOAM
39-78" YELLOW BROWN FIND SAND WITH GRAVEL
ROOTS TO 42"
NO GROUND WATER
NO REFUSAL
REDOX @ 39"

TEST PIT 11-1 DEPTH 68"
0-8"LEAF LITTER & TOPSOIL
8-22" ORANGE BROWN FINE SANDY LOAM
22-68" LIGHT YELLOW TO GRAY BROWN MED-COARSE SAND, TRACE GRAVEL
MANY ROCKS PRESENT
ROOTS TO 56"
REFUSAL @ 68" ?
NO REDOX

TEST PIT 11-2 DEPTH 69"
0-9"LEAF LITTER & TOPSOIL
9-23" ORANGE BROWN FINE SANDY LOAM
23-69" LIGHT YELLOW TO GRAY BROWN MED-COARSE SAND, TRACE GRAVEL
COMPACT @ 47" (RESTRICTIVE)
ROOTS TO 56"
NO GROUND WATER
NO REDOX
POSSIBLE REFUSAL @ 60"
MANY ROCKS PRESENT

DETAIL SHEET
NOTTINGHAM HILLS SUDDIVISION
PHASE 5

PROPERTY OF
COLD SPRING LOT MANAGEMENT LLC
121 UPPER PATTAGANNSETT ROAD
EAST LYME CT. 06333

SCALE: 1" = 100'
DATE: AUGUST 3, 2021

SHEET 5 OF 5
JOB NO. 18--036

GERWICK - MEREEN L.L.C.
P.O. BOX 565 191 BOSTON POST ROAD
EAST LYME, CONNECTICUT 06333
TEL. (860)442-2201 FAX. (860)442-2205

May
Engineering, LLC
Civil Engineering, Site Planning, and Consulting
1297 RT 163 Oakdale, CT 06370 Cell: 860 884-9671 Email: mayengineering@sbcglobal.net

DRAINAGE REPORT
Stormwater Mitigation Plan

September 08, 2021

Property Located at:

121 Upper Pattagansett Rd.
East Lyme, CT 06333

Prepared For:
Project: Nottingham Hills Subdivision Phase V

English Harbour Asset Management, LLC
38 Granite Street
New London, CT 06320

Prepared By:
Timothy A. May, P.E.
May Engineering, LLC
1297 Route 163
Oakdale, CT 03670

May
Engineering, LLC
Civil Engineering, Site Planning, and Consulting
1297 RT 163 Oakdale, CT 06370 Cell: 860 884-9671 Email: mayengineering@sbcglobal.net

SITE DESCRIPTION:

The site is a 64 acre wooded parcel located along the northern shore of Pattagansett Lake. Specifically, the site is located at 121 Upper Pattagansett Rd in the town of East Lyme, CT. The parcel was previously used as a camp for the Girl Scouts of America. The existing site is partially developed with paved/gravel roads and camp buildings. The site is wooded with mature deciduous trees with dense understory trees and brush. There are slopes ranging from 3% to 12%. The soil type is primarily a hydraulic soil group B consisting of Canton-Charlton, Hinkley gravel and Charlton-Hollis series. The soil types were evaluated for their permeability and have a moderate infiltration rate. The proposed site development is for 9 residential subdivision lots.

The drainage areas for the proposed site development is split into two drainage areas labeled Drainage Area A (27 ac) and Area B (14.0 ac). See drawing titled Drainage Areas. Drainage Area is 27.0 ac that flows into a wetland settling basin on the north side of Upper Pattagansett Rd, then through a 12" reinforced concrete pipe (rcp) culvert flowing into Pattagansett Lake. Primarily the stormwater flows are shallow concentrated flows that flow north to south across Drainage Area A, with limited channel flows for the last 250 ft, before entering a wetland settling basin before the 12 rcp culvert. There are some instances of intermittent channelized flows along the gravel road, then the flows returns back to shallow concentrated flows.

Drainage Area B is a 14.0 ac wooded drainage area that stormwater flows from northwest to the southeast. The stormwater flow is characterized as shallow concentrated with no observed channelized flows. It is noted in site walks and observations that due to the topography and physical natural boundaries along the northern side of Upper Pattagansett Rd, these limit the discharge across the road or to any down-stream collection system.

RATIONALE FOR DESIGN:

A drainage analysis is required to evaluate stormwater runoff associated with site development. A site evaluation along with a drainage analysis was conducted for estimating the stormwater runoff and for designing the proposed storm water biofilter pond, driveway swales and rain gardens for the roof runoff from residential houses. The proposed biofilter depicted on drawing titled Biofilter Detention Design Pond is designed to collect upland stormwater flows, and remove suspended soils and solids prior to discharging flows into Pattagansett Lake. The plant species are specifically selected to target and clean nutrient-overloaded stormwater to improve water quality. For each of the proposed 8 residential lots, the roof drains and portions of the impervious areas will be diverted to rain gardens to capture and infiltrate significant portions of that stormwater runoff. The driveway stormwater swales will capture stormwater to divert and reduce stomwater from flowing onto Upper Pattagansett Rd. The rain gardens are very effective in retaining storm water from impervious areas and infiltrate large quantities of the roof stormwater runoff. This reduction leads to overall reduction in the volume of storm water along with the reduction in the peak runoff that flows into Pattagansett Lake. Each Rain Garden is sized to receive and treat a 1" Water Quality Volume (WQV) from a residential house with a roof area of 1,800 sf. This was evaluated and determined that a typical rain garden with an area of 200 sf and a depth of 1.5 has the adequate WQV treatment volume.

METHODOLOGY AND RESULTS

Drainage Analysis. The SCS TR-20 drainage analysis method is used to determine the storm water runoff amount, which is used to design and size the proposed biofilter and rain gardens system. The storm frequency values used for the calculations herein include the 2-year, 10-year 25-year and 100-year storm rainfall events. The storm water model software used for this analysis is *HydroCAD® 10.00-22*, in which the SCS TR-20 method was used. Infiltration rate used for exfiltration is 0.5 ft/hr which is based on hydraulic soil group B permeability characteristics. In-sit-u peculation testing for septic systems along with *UNIFIED SOIL CLASSIFICATION SYSTEM* (USCS) verified infiltration used for storm water modeling purposes.

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Drainage area A is split into two sub-catchment areas (a 20 AC and 7 AC sub-catchment) to accurately size the detention pond because only the 20 AC area flows into the proposed detention pond.

Water Quality Volume (WQV) determination for Drainage Area A - sub-catchment area for stormwater renovation biofilter pond (20.0 AC) will provide pollutant reduction, runoff volume reduction, groundwater recharge, stream channel protection and peak flow control. WQV

Drainage Area A - sub-catchment area for stormwater renovation pond & Rain Gardens $WQV = \frac{(1")(R)(A)}{12}$
R = volumetric runoff coefficient = 0.05+0.009(I)
I = percent impervious cover = 8%
A = site area in acres = 20.0AC
WQV = **0.203 ac-ft**
Biofilter Retention Pond provides 20,837 cf or **0.48 ac-ft** (*2.4 times the required WQV for water quality improvement*)

The Following are the tabulated results for existing and proposed storm events:

Area A

Storm Event	**Existing** *(cfs)*	**Proposed***(cfs)*	**Reduction***(cfs)*	**% Change**
Q_2	5.64	3.19	2.45	43%
Q_{10}	17.27	12.29	4.9	39%
Q_{25}	26.54	23.97	2.57	35%
Q_{100}	42.75	32.3	10.45	24%

Area B

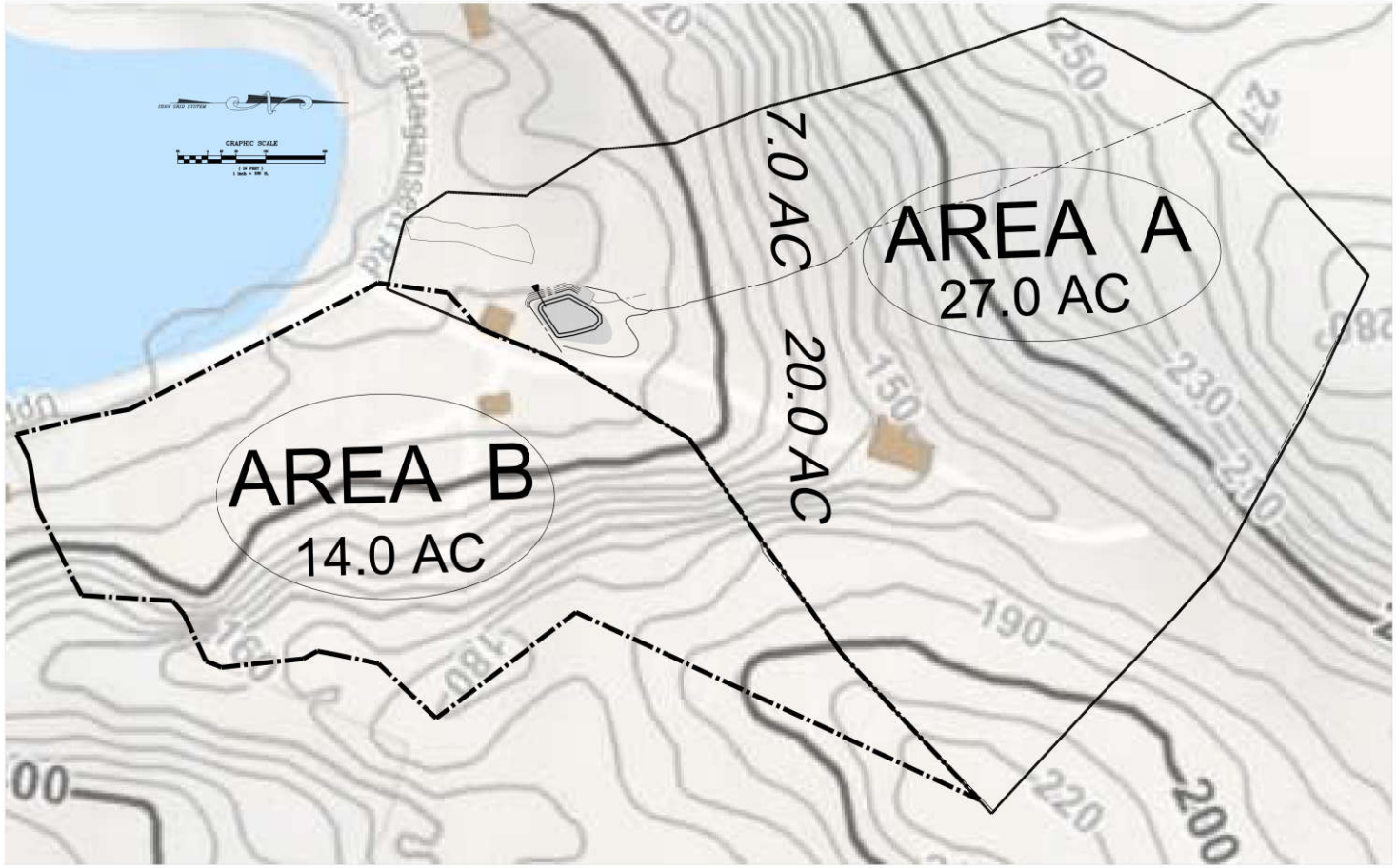
Storm Event	**Existing** *(cfs)*	**Proposed***(cfs)*	**Reduction***(cfs)*	**% Change**
Q_2	2.68	1.43	1.25	47%
Q_{10}	7.8	6.55	1.25	16%
Q_{25}	11.8	10.59	1.25	10%
Q_{100}	18.9	17.6	1.3	7%

SUMMARY

The stormwater calculations above for the “Proposed” subdivision including the biofilter and the rain gardens show that a reduction in peak storm water runoff volume and reduction in the amount of stormwater is possible. This stormwater flow reduction and retention along with infiltration will remove suspended solids, decreasing the nutrient loading that will improve the water quality of stormwater flowing into Pattagansett Lake. The best management practices used in the design for Nottingham Hills Subdivision Phase V storm water management plan are designs recommended by the State of Connecticut Storm Water de s.

APPENDIX

- Drawing DRAINAGE AREAS A & B
- Soils Map for 121 Upper Pattagansett
- Drainage Calculations for Area A Existing
- Drainage Calculations for Area A Proposed
- Drainage Calculations for Area B Existing
- Drainage Calculations for Area B Proposed



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Civil Engineering and Site Planning
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860 884-9671

For Property
Nottingham Hills
Subdivision Phase V
121 Upper Pattagansett Road
EAST LYME, CT 06333

DESCRIPTION: Drainage Area

DRAINAGE AREAS

SCALE: 1"=100' & as noted
DATE: 16 AUG 2021
JOB NUMBER
SHEET
1of 2

Soil Map—State of Connecticut
(121 Upper Pattagansett Rd East Lyme CT)

Map Scale: 1:6,180 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

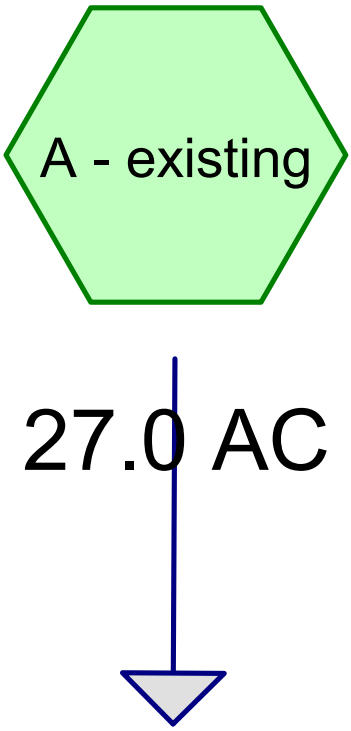
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2019—Mar 27, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
12	Raypol silt loam	2.5	1.3%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	3.6	2.0%
38C	Hinckley loamy sand, 3 to 15 percent slopes	6.6	3.6%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	0.0	0.0%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	1.2	0.6%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	18.1	9.9%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	0.2	0.1%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	51.6	28.2%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	36.5	20.0%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	24.9	13.6%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	29.5	16.2%
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes	3.8	2.1%
86D	Paxton and Montauk fine sandy loams, 15 to 35 percent slopes, extremely stony	1.2	0.6%
701B	Ninigret fine sandy loam, 3 to 8 percent slopes	0.1	0.0%
W	Water	3.2	1.7%
Totals for Area of Interest		**182.8**	**100.0%**



Subcat Reach Pond Link

Routing Diagram for Area A Existing Nottingham Hills Subdivision Phase V
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Area A Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
27.000	60	Woods, Fair, HSG B (A - existing)
27.000	**60**	**TOTAL AREA**

Area A Existing Nottingham Hills Subdivision Phase V

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
27.000	HSG B	A - existing
0.000	HSG C	
0.000	HSG D	
0.000	Other	
27.000		**TOTAL AREA**

Area A Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 9/8/2021

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	27.000	0.000	0.000	0.000	27.000	Woods, Fair	A - existing
0.000	**27.000**	**0.000**	**0.000**	**0.000**	**27.000**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

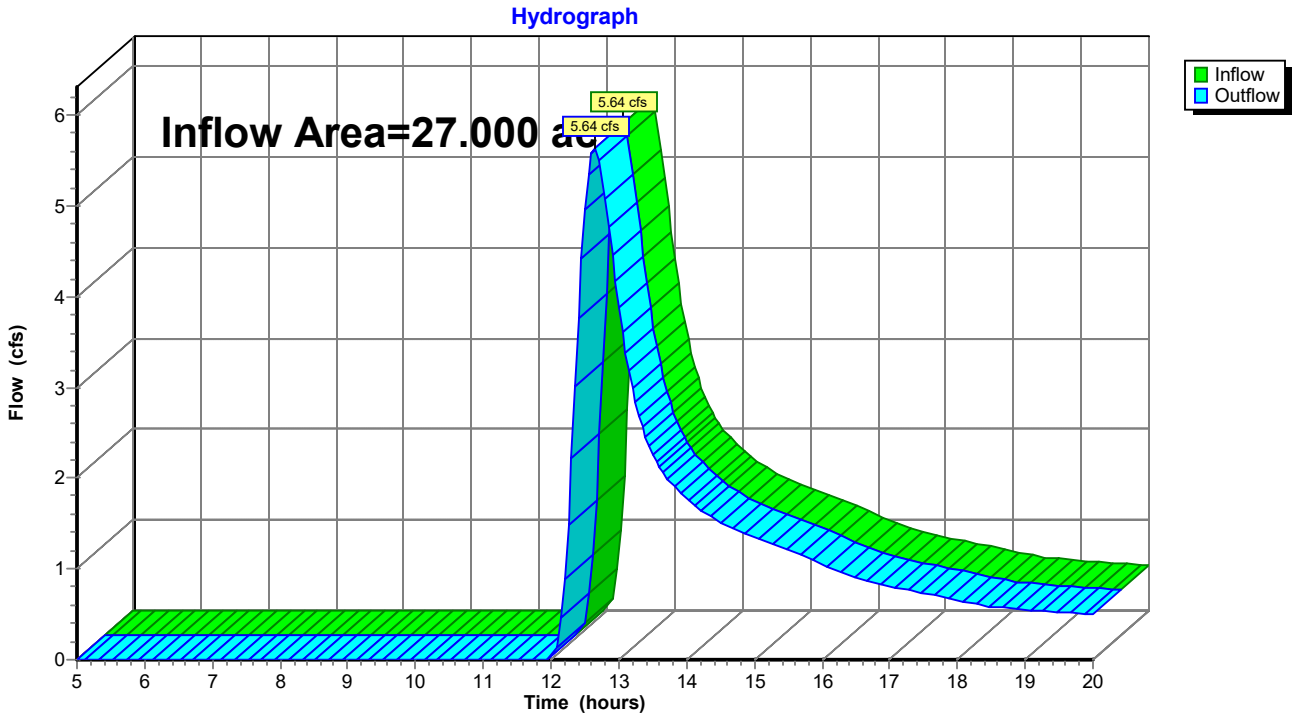
Reach 24R: Outfall Inflow=5.64 cfs 0.945 af
Outflow=5.64 cfs 0.945 af

Summary for Reach 24R: Outfall

Inflow Area = 27.000 ac, 0.00% Impervious, Inflow Depth > 0.42" for 2-year event
Inflow = 5.64 cfs @ 12.64 hrs, Volume= 0.945 af
Outflow = 5.64 cfs @ 12.64 hrs, Volume= 0.945 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

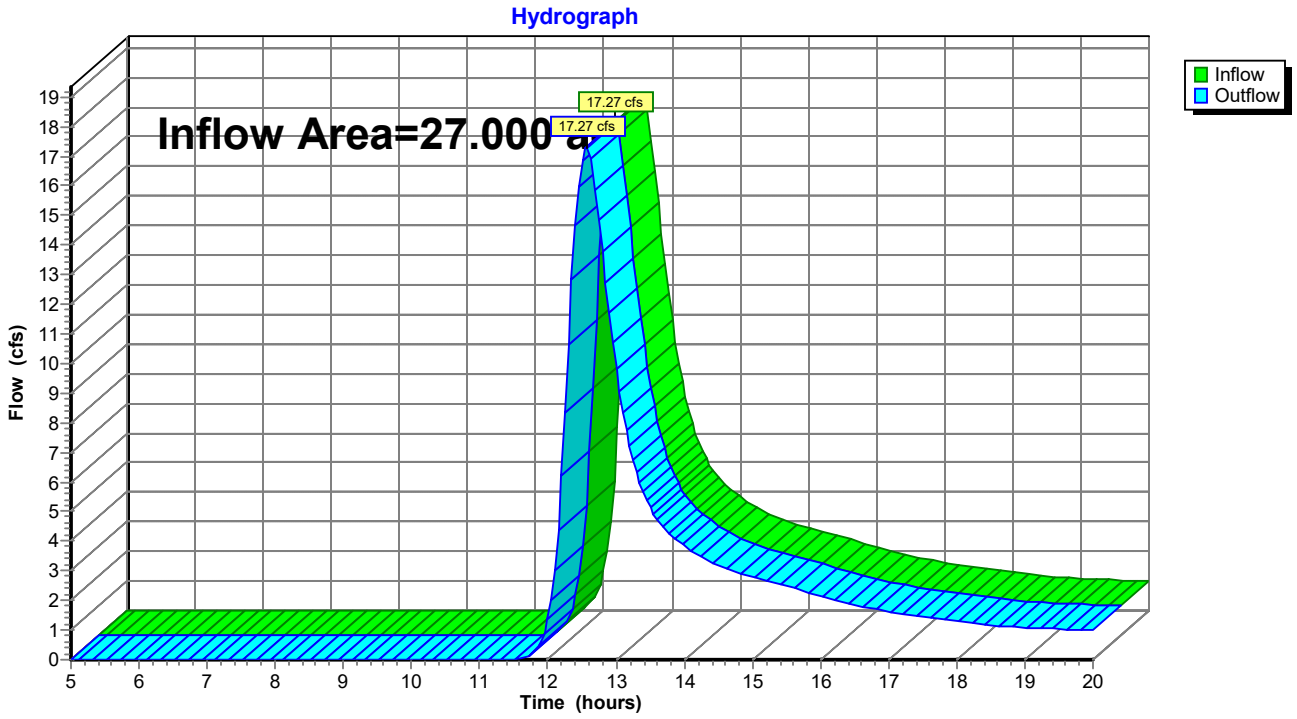
Reach 24R: Outfall Inflow=17.27 cfs 2.367 af
Outflow=17.27 cfs 2.367 af

Summary for Reach 24R: Outfall

Inflow Area = 27.000 ac, 0.00% Impervious, Inflow Depth > 1.05" for 10 year event
Inflow = 17.27 cfs @ 12.57 hrs, Volume= 2.367 af
Outflow = 17.27 cfs @ 12.57 hrs, Volume= 2.367 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

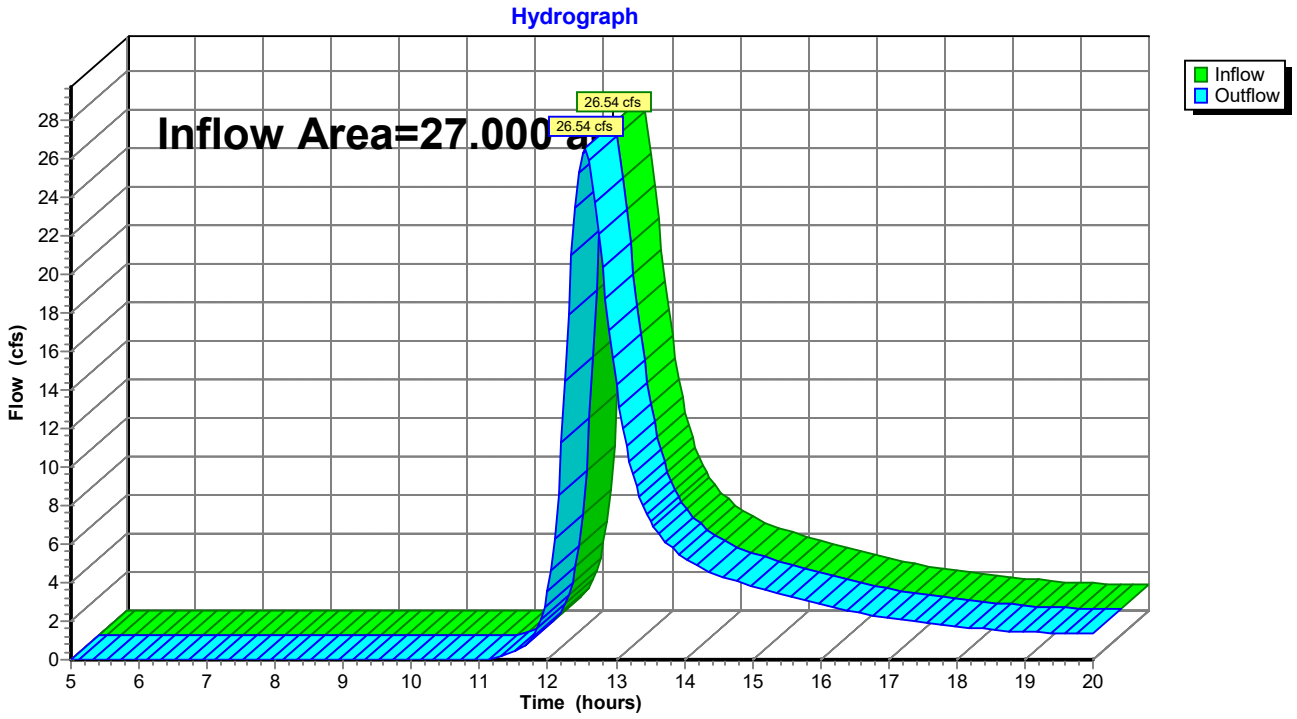
Reach 24R: Outfall Inflow=26.54 cfs 3.487 af
Outflow=26.54 cfs 3.487 af

Summary for Reach 24R: Outfall

Inflow Area = 27.000 ac, 0.00% Impervious, Inflow Depth > 1.55" for 25 year event
Inflow = 26.54 cfs @ 12.54 hrs, Volume= 3.487 af
Outflow = 26.54 cfs @ 12.54 hrs, Volume= 3.487 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

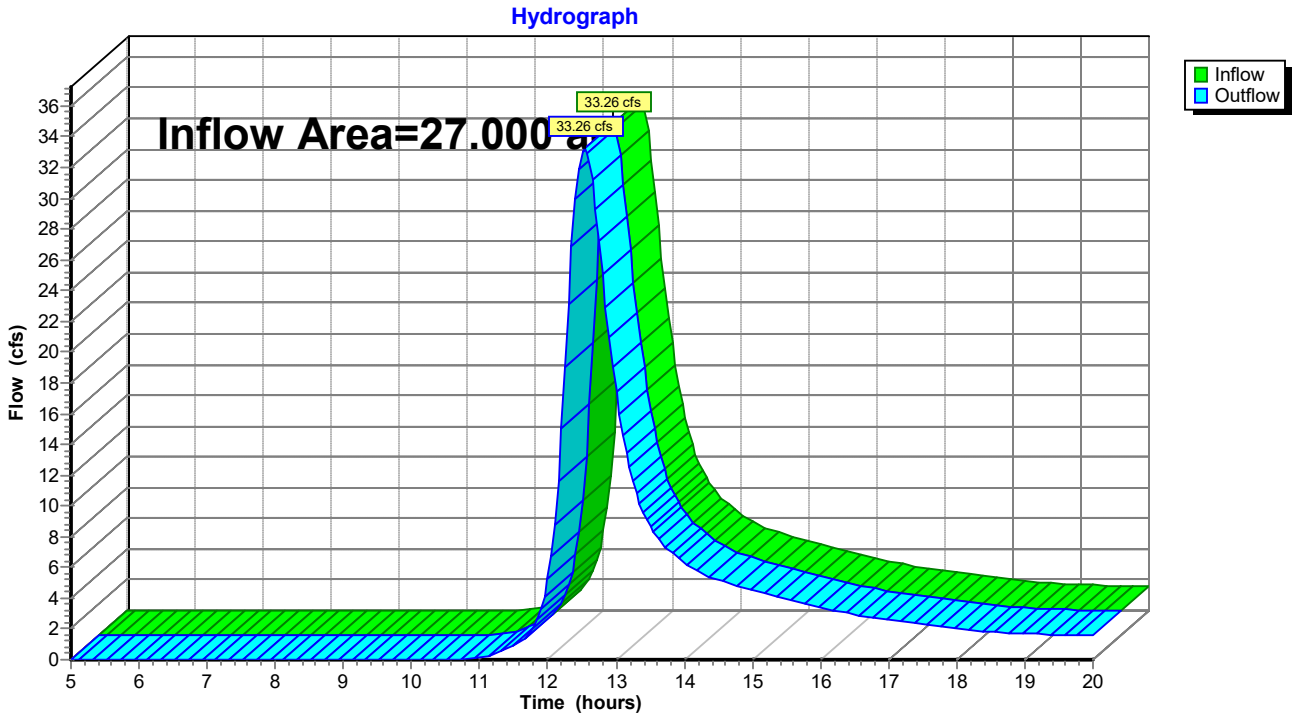
Reach 24R: Outfall Inflow=33.26 cfs 4.301 af
Outflow=33.26 cfs 4.301 af

Summary for Reach 24R: Outfall

Inflow Area = 27.000 ac, 0.00% Impervious, Inflow Depth > 1.91" for 50 year event
Inflow = 33.26 cfs @ 12.53 hrs, Volume= 4.301 af
Outflow = 33.26 cfs @ 12.53 hrs, Volume= 4.301 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

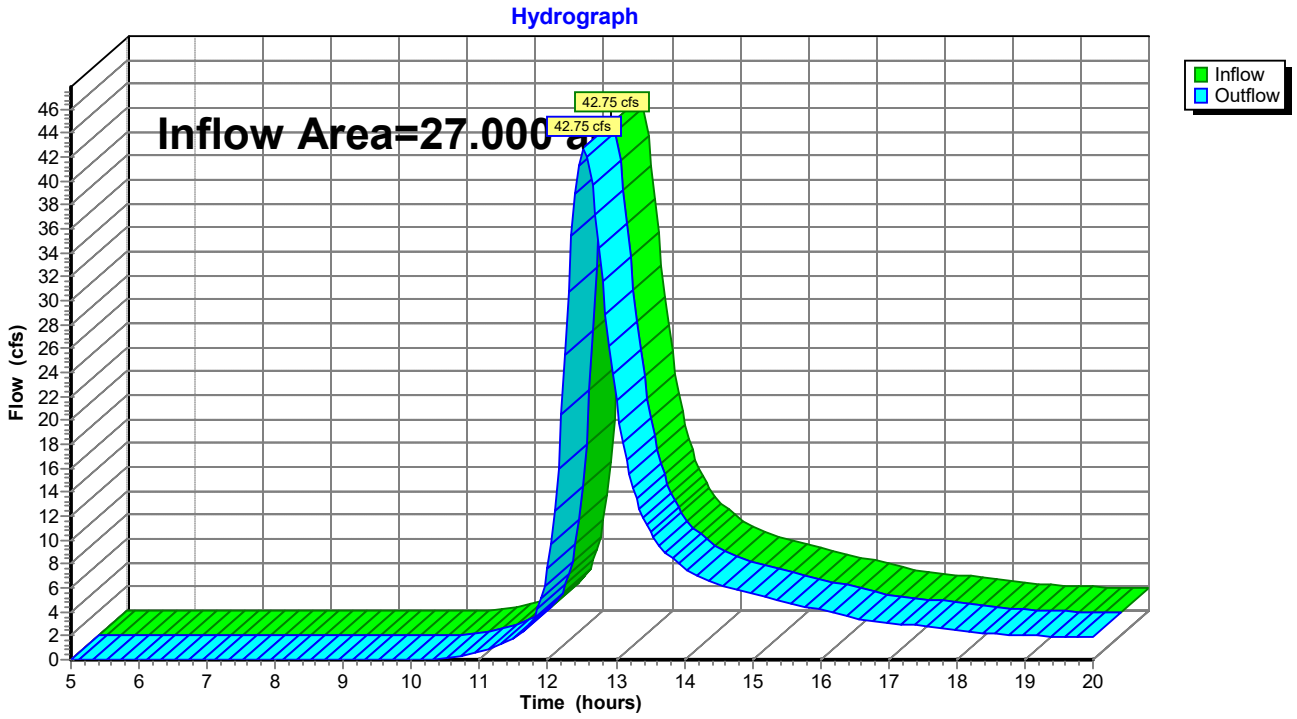
Reach 24R: Outfall Inflow=42.75 cfs 5.454 af
Outflow=42.75 cfs 5.454 af

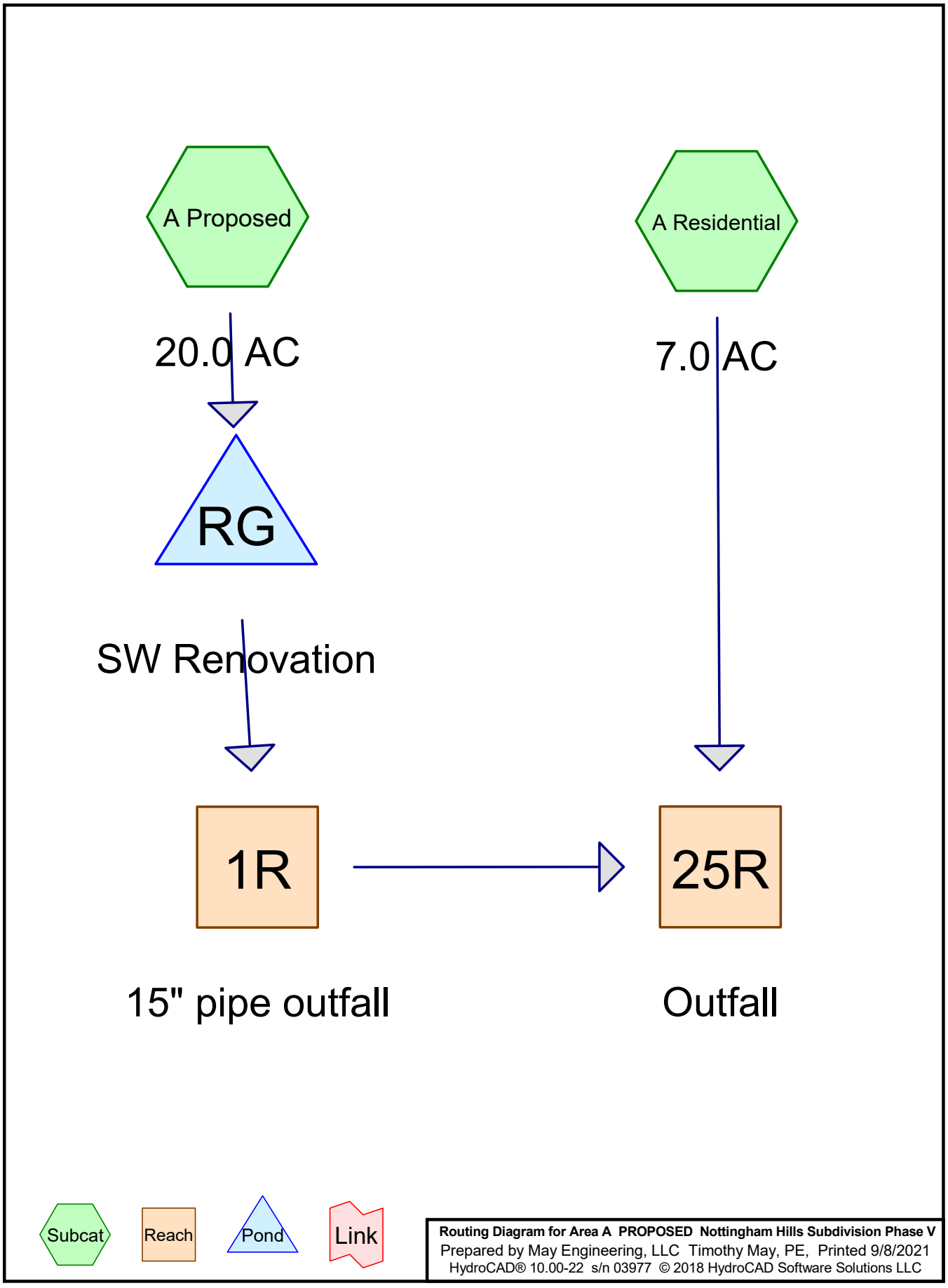
Summary for Reach 24R: Outfall

Inflow Area = 27.000 ac, 0.00% Impervious, Inflow Depth > 2.42" for 100 year event
Inflow = 42.75 cfs @ 12.52 hrs, Volume= 5.454 af
Outflow = 42.75 cfs @ 12.52 hrs, Volume= 5.454 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall





Routing Diagram for Area A PROPOSED Nottingham Hills Subdivision Phase V
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Area A PROPOSED Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 9/8/2021

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.500	65	2 acre lots, 12% imp, HSG B (A Proposed, A Residential)
18.500	60	Woods, Fair, HSG B (A Proposed)
27.000	**62**	**TOTAL AREA**

Area A PROPOSED Nottingham Hills Subdivision Phase V

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
27.000	HSG B	A Proposed, A Residential
0.000	HSG C	
0.000	HSG D	
0.000	Other	
27.000		**TOTAL AREA**

Area A PROPOSED Nottingham Hills Subdivision Phase V

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	8.500	0.000	0.000	0.000	8.500	2 acre lots, 12% imp	A Proposed, A Residential
0.000	18.500	0.000	0.000	0.000	18.500	Woods, Fair	A Proposed
0.000	**27.000**	**0.000**	**0.000**	**0.000**	**27.000**	**TOTAL AREA**	

Time span=5.00-24.00 hrs, dt=0.10 hrs, 191 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach 1R: 15" pipe outfall Avg. Flow Depth=0.31' Max Vel=9.72 fps Inflow=2.27 cfs 0.717 af
15.0" Round Pipe n=0.010 L=31.0' S=0.0419 '/' Capacity=17.20 cfs Outflow=2.28 cfs 0.716 af

Reach 25R: Outfall Inflow=3.19 cfs 1.121 af
Outflow=3.19 cfs 1.121 af

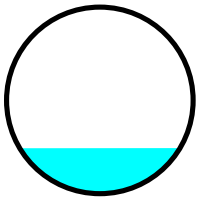
Summary for Reach 1R: 15" pipe outfall

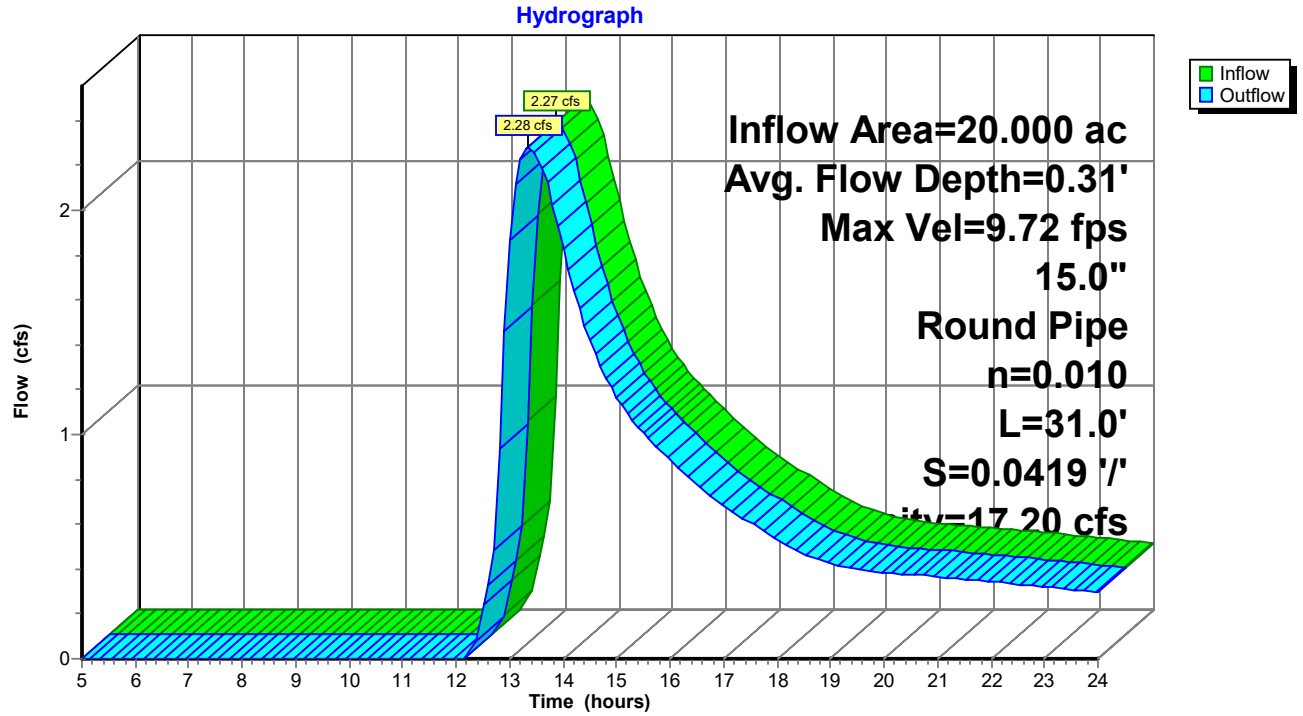
Inflow Area = 20.000 ac, 0.90% Impervious, Inflow Depth > 0.43" for 2-year event
Inflow = 2.27 cfs @ 13.35 hrs, Volume= 0.717 af
Outflow = 2.28 cfs @ 13.34 hrs, Volume= 0.716 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 9.72 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 6.62 fps, Avg. Travel Time= 0.1 min

Peak Storage= 7 cf @ 13.34 hrs
Average Depth at Peak Storage= 0.31'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.20 cfs

15.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 31.0' Slope= 0.0419 '/'
Inlet Invert= 79.80', Outlet Invert= 78.50'



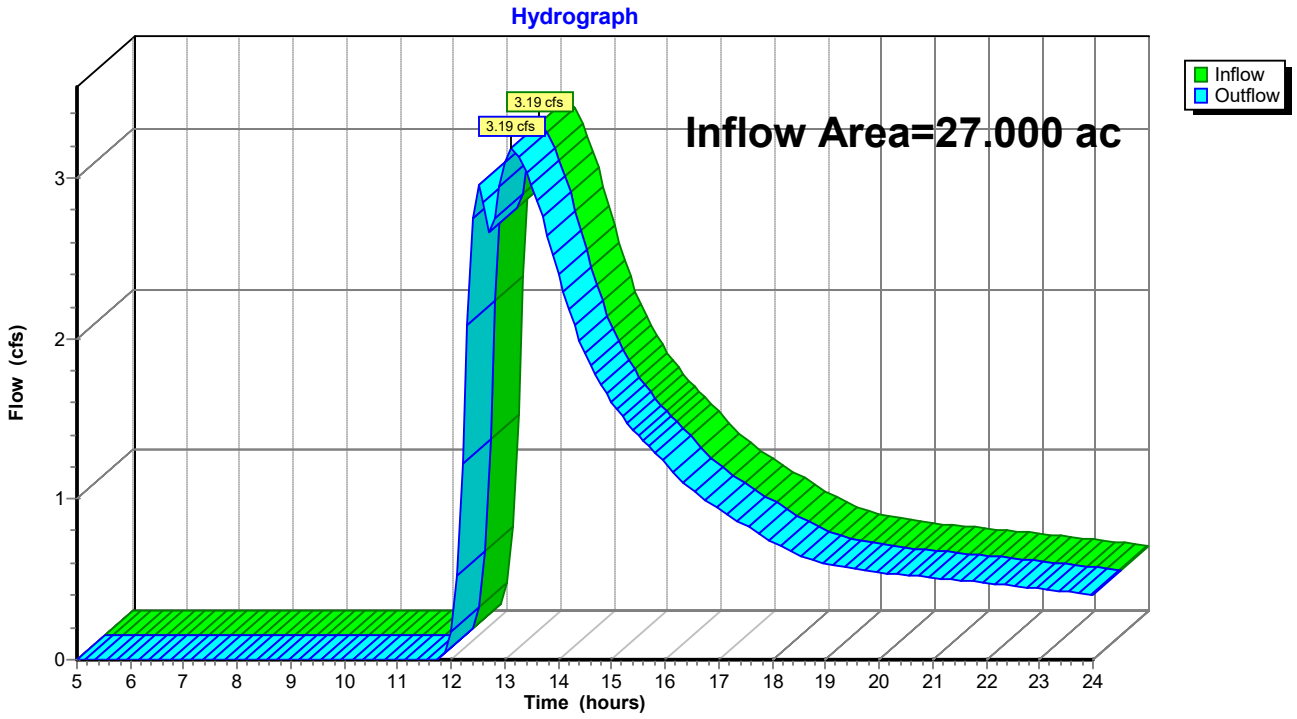


Summary for Reach 25R: Outfall

Inflow Area = 27.000 ac, 3.78% Impervious, Inflow Depth > 0.50" for 2-year event
Inflow = 3.19 cfs @ 13.13 hrs, Volume= 1.121 af
Outflow = 3.19 cfs @ 13.13 hrs, Volume= 1.121 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs

Reach 25R: Outfall



Time span=5.00-24.00 hrs, dt=0.10 hrs, 191 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach 1R: 15" pipe outfall Avg. Flow Depth=0.67' Max Vel=14.37 fps Inflow=9.52 cfs 1.823 af
15.0" Round Pipe n=0.010 L=31.0' S=0.0419 '/' Capacity=17.20 cfs Outflow=9.54 cfs 1.823 af

Reach 25R: Outfall Inflow=12.29 cfs 2.705 af
Outflow=12.29 cfs 2.705 af

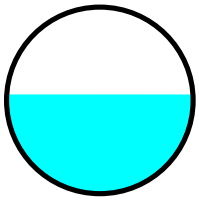
Summary for Reach 1R: 15" pipe outfall

Inflow Area = 20.000 ac, 0.90% Impervious, Inflow Depth > 1.09" for 10 year event
Inflow = 9.52 cfs @ 12.99 hrs, Volume= 1.823 af
Outflow = 9.54 cfs @ 12.99 hrs, Volume= 1.823 af, Atten= 0%, Lag= 0.1 min

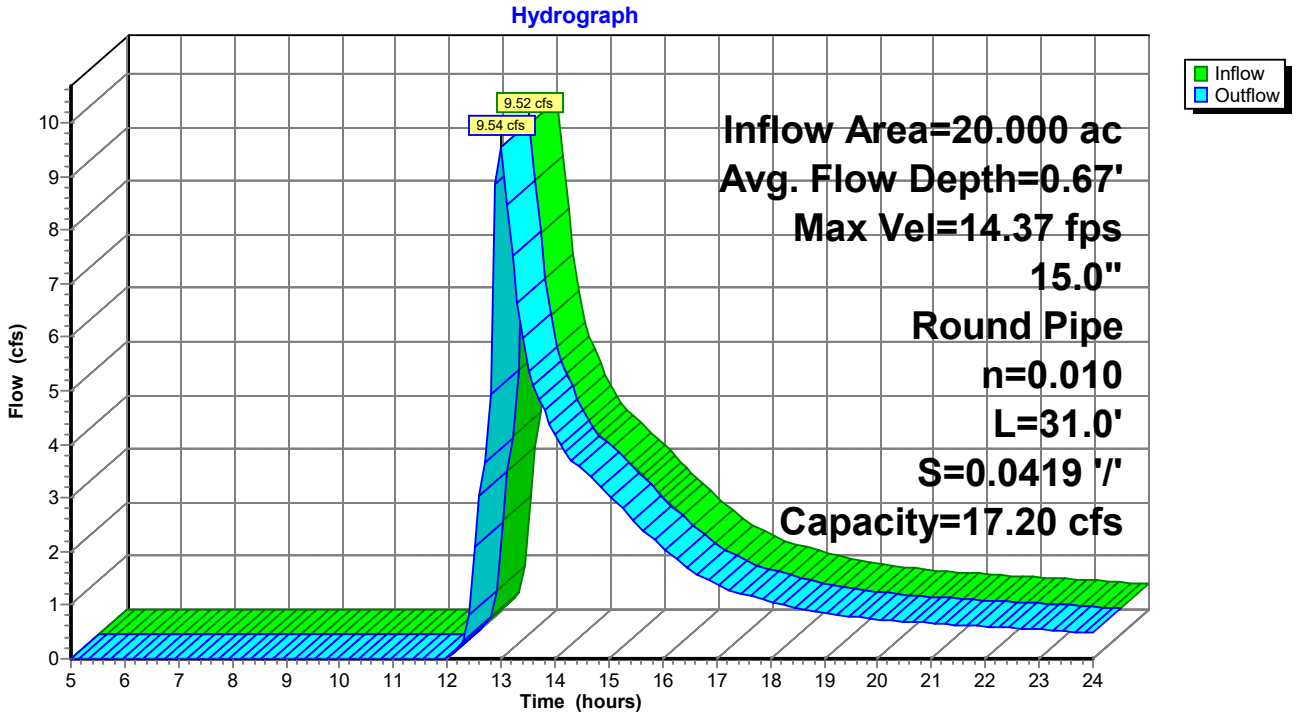
Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 14.37 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 8.38 fps, Avg. Travel Time= 0.1 min

Peak Storage= 21 cf @ 12.99 hrs
Average Depth at Peak Storage= 0.67'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.20 cfs

15.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 31.0' Slope= 0.0419 '/'
Inlet Invert= 79.80', Outlet Invert= 78.50'



Reach 1R: 15" pipe outfall

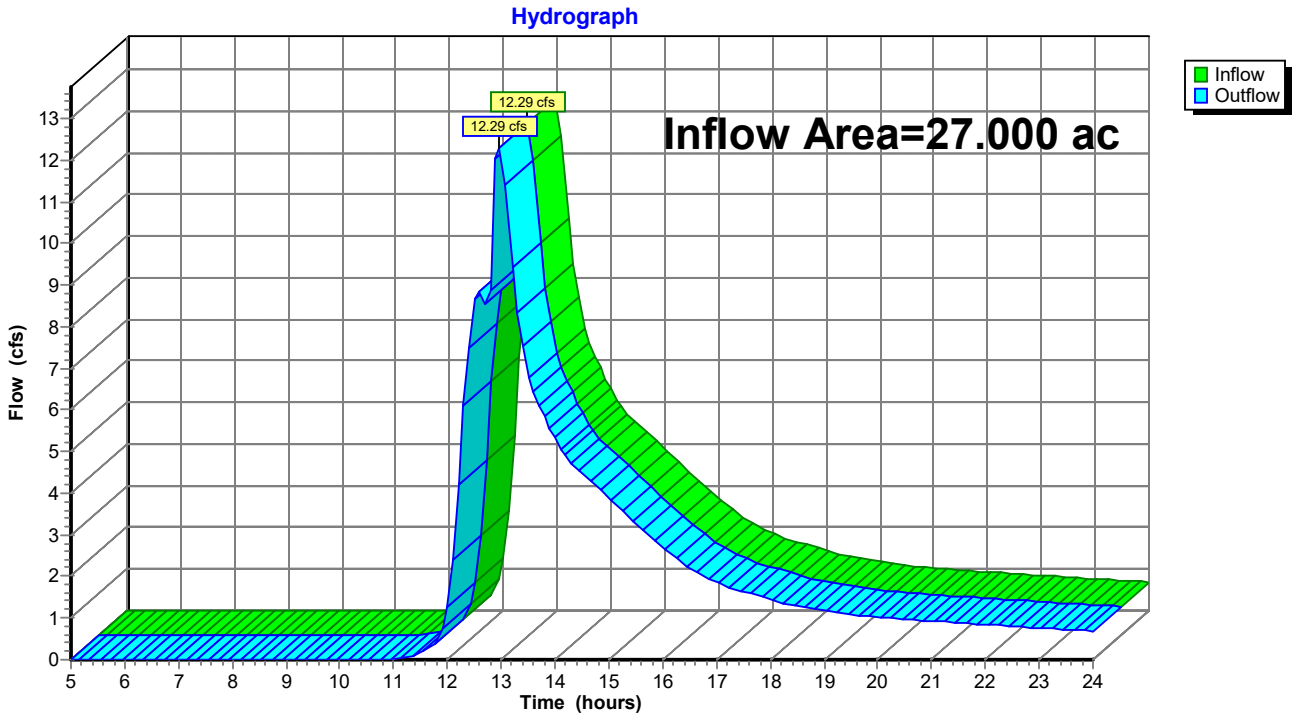


Summary for Reach 25R: Outfall

Inflow Area = 27.000 ac, 3.78% Impervious, Inflow Depth > 1.20" for 10 year event
Inflow = 12.29 cfs @ 12.96 hrs, Volume= 2.705 af
Outflow = 12.29 cfs @ 12.96 hrs, Volume= 2.705 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs

Reach 25R: Outfall



Time span=5.00-24.00 hrs, dt=0.10 hrs, 191 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach 1R: 15" pipe outfall Avg. Flow Depth=1.04' Max Vel=15.96 fps Inflow=17.78 cfs 2.704 af
15.0" Round Pipe n=0.010 L=31.0' S=0.0419 '/' Capacity=17.20 cfs Outflow=17.72 cfs 2.704 af

Reach 25R: Outfall Inflow=23.97 cfs 3.942 af
Outflow=23.97 cfs 3.942 af

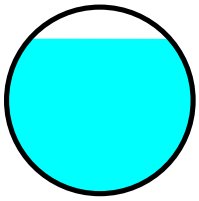
Summary for Reach 1R: 15" pipe outfall

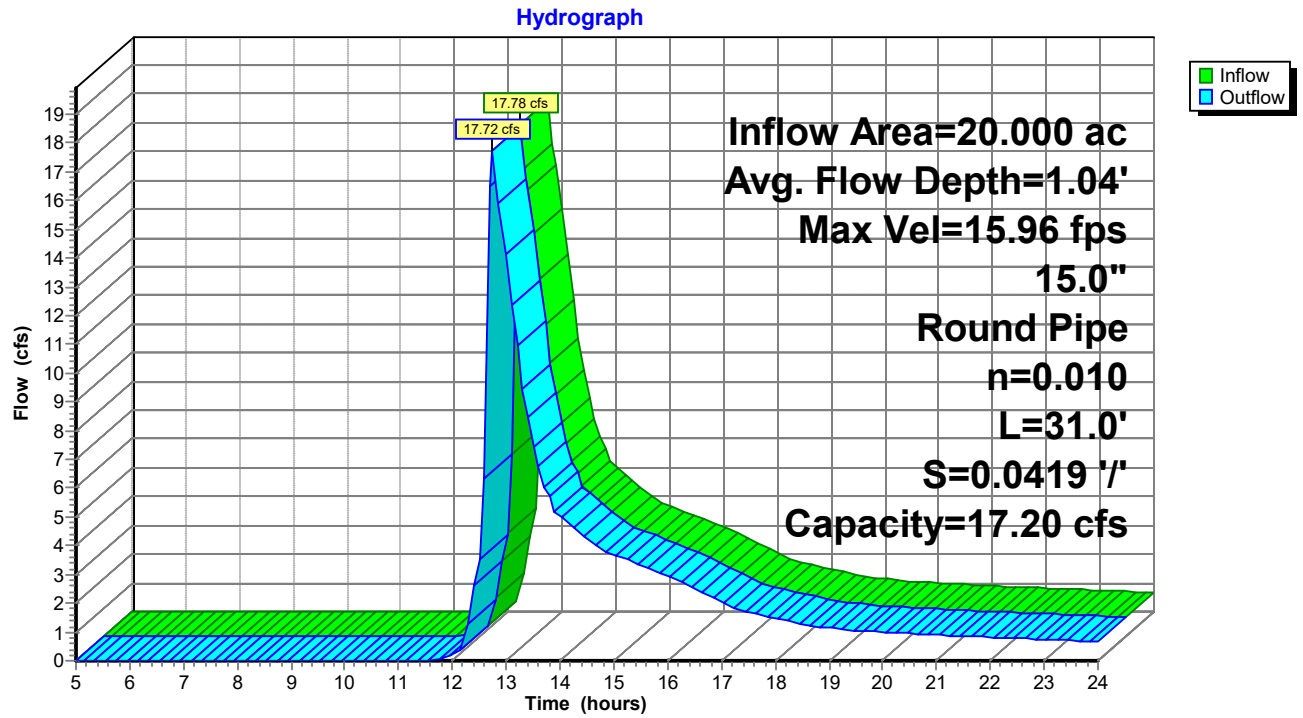
Inflow Area = 20.000 ac, 0.90% Impervious, Inflow Depth > 1.62" for 25 year event
Inflow = 17.78 cfs @ 12.75 hrs, Volume= 2.704 af
Outflow = 17.72 cfs @ 12.75 hrs, Volume= 2.704 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 15.96 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 9.08 fps, Avg. Travel Time= 0.1 min

Peak Storage= 34 cf @ 12.75 hrs
Average Depth at Peak Storage= 1.04'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.20 cfs

15.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 31.0' Slope= 0.0419 '/'
Inlet Invert= 79.80', Outlet Invert= 78.50'



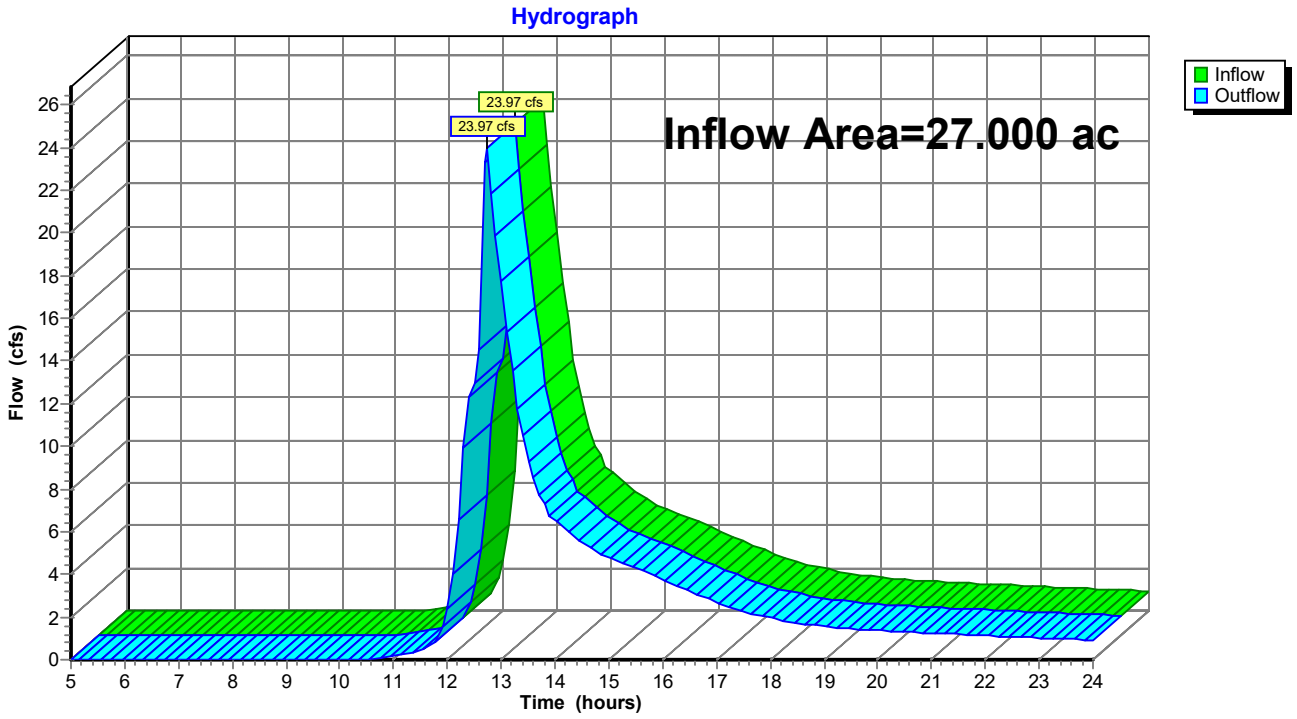


Summary for Reach 25R: Outfall

Inflow Area = 27.000 ac, 3.78% Impervious, Inflow Depth > 1.75" for 25 year event
Inflow = 23.97 cfs @ 12.74 hrs, Volume= 3.942 af
Outflow = 23.97 cfs @ 12.74 hrs, Volume= 3.942 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs

Reach 25R: Outfall



Time span=5.00-24.00 hrs, dt=0.10 hrs, 191 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach 1R: 15" pipe outfall Avg. Flow Depth=1.25' Max Vel=15.30 fps Inflow=26.57 cfs 4.247 af
15.0" Round Pipe n=0.010 L=31.0' S=0.0419 '/' Capacity=17.20 cfs Outflow=17.20 cfs 4.247 af

Reach 25R: Outfall Inflow=32.03 cfs 6.091 af
Outflow=32.03 cfs 6.091 af

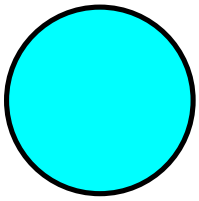
Summary for Reach 1R: 15" pipe outfall

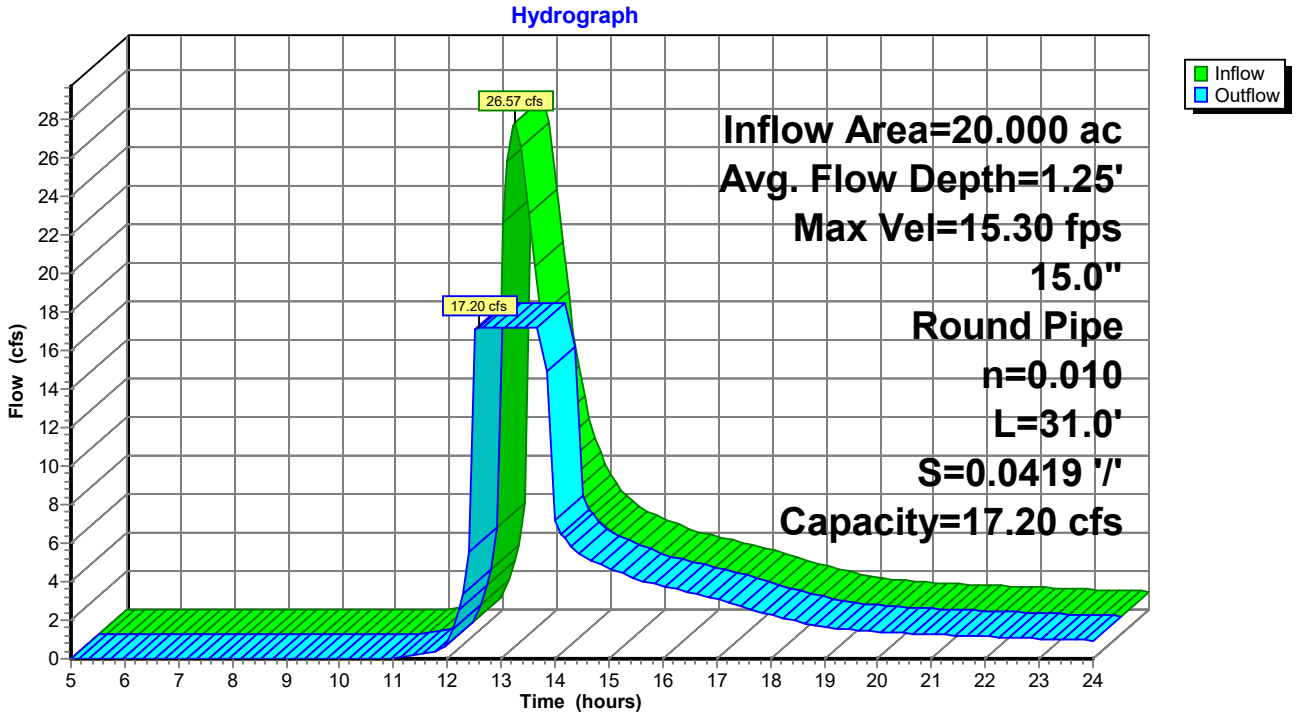
Inflow Area = 20.000 ac, 0.90% Impervious, Inflow Depth > 2.55" for 100 year event
Inflow = 26.57 cfs @ 12.74 hrs, Volume= 4.247 af
Outflow = 17.20 cfs @ 12.60 hrs, Volume= 4.247 af, Atten= 35%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs
Max. Velocity= 15.30 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 9.69 fps, Avg. Travel Time= 0.1 min

Peak Storage= 38 cf @ 12.50 hrs
Average Depth at Peak Storage= 1.25'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 17.20 cfs

15.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 31.0' Slope= 0.0419 '/'
Inlet Invert= 79.80', Outlet Invert= 78.50'



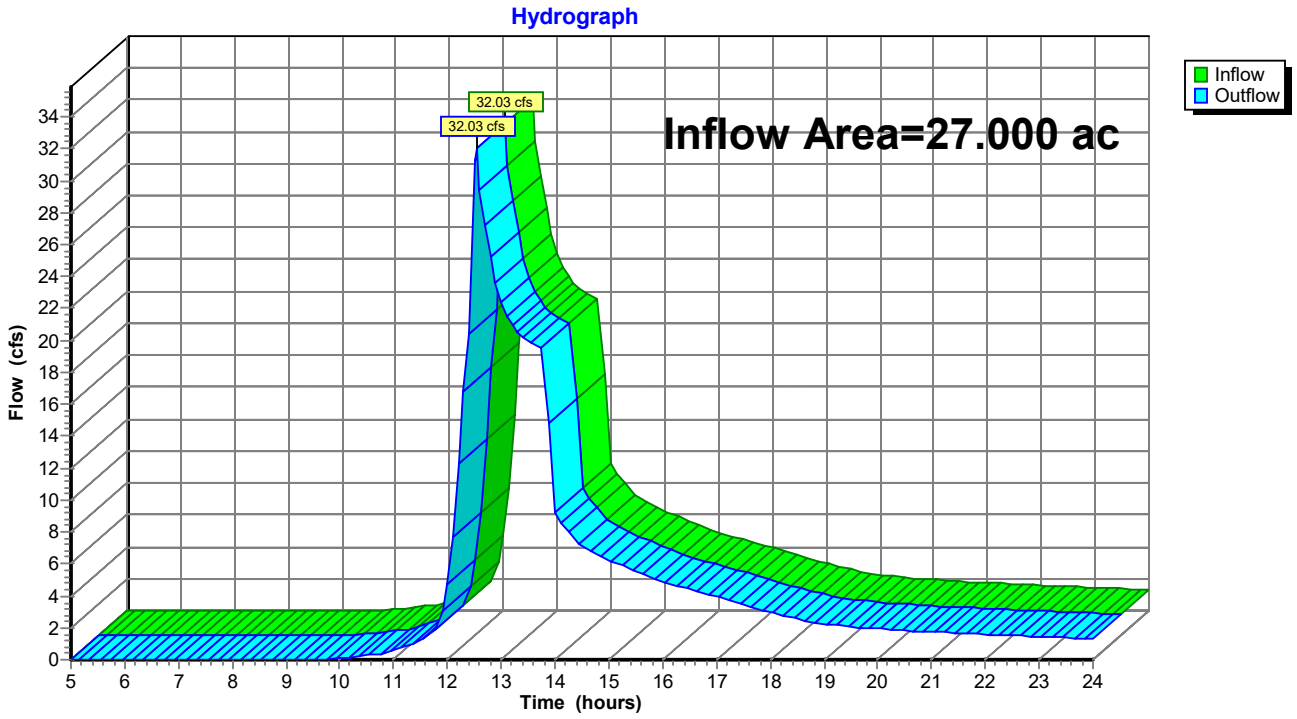


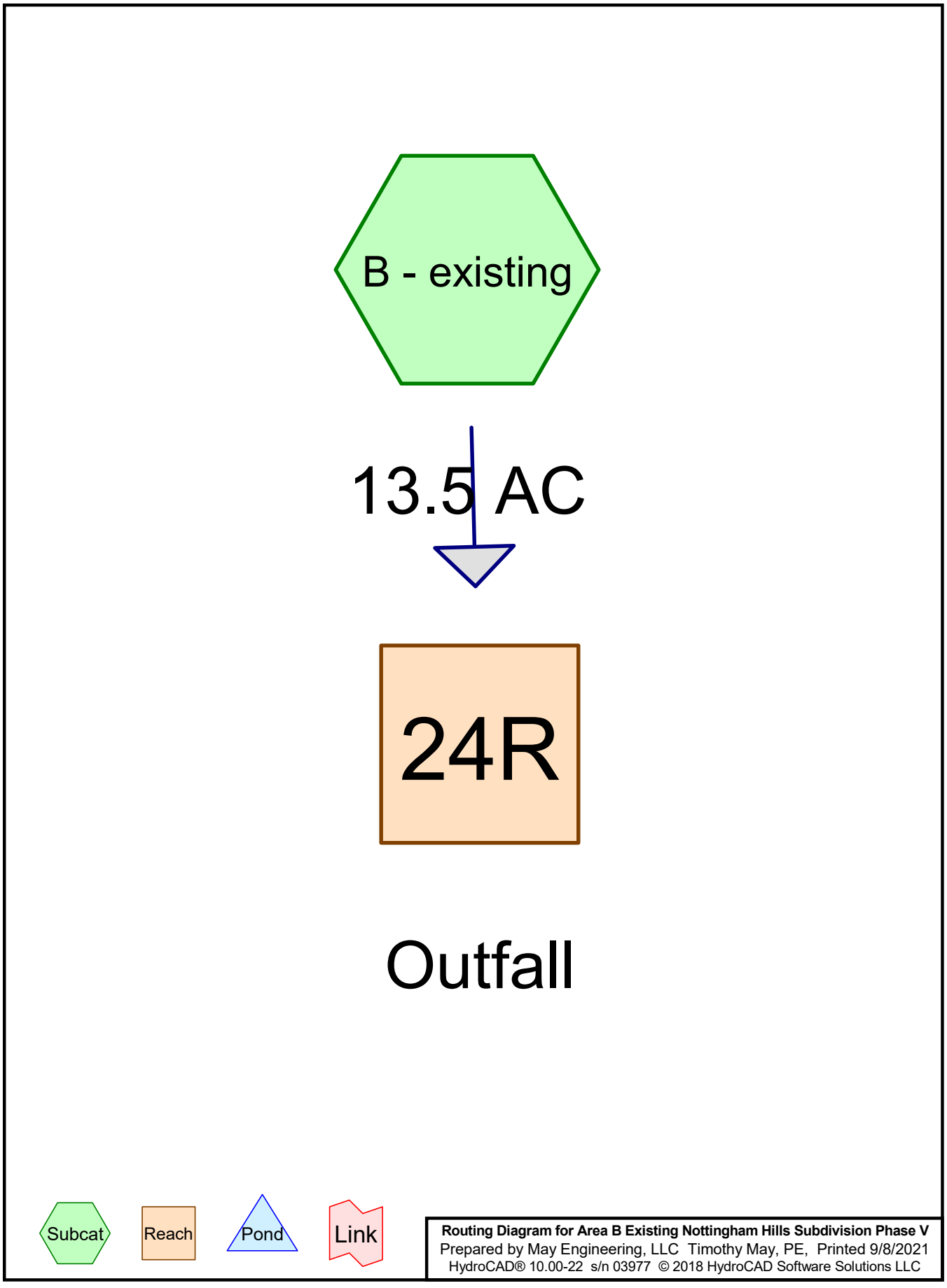
Summary for Reach 25R: Outfall

Inflow Area = 27.000 ac, 3.78% Impervious, Inflow Depth > 2.71" for 100 year event
Inflow = 32.03 cfs @ 12.54 hrs, Volume= 6.091 af
Outflow = 32.03 cfs @ 12.54 hrs, Volume= 6.091 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-24.00 hrs, dt= 0.10 hrs

Reach 25R: Outfall





Routing Diagram for Area B Existing Nottingham Hills Subdivision Phase V
Prepared by May Engineering, LLC Timothy May, PE, Printed 9/8/2021
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Area B Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
12.500	60	Woods, Fair, HSG B (B - existing)
1.000	73	Woods/grass comb., Poor, HSG B (B - existing)
13.500	**61**	**TOTAL AREA**

Area B Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
13.500	HSG B	B - existing
0.000	HSG C	
0.000	HSG D	
0.000	Other	
13.500		**TOTAL AREA**

Area B Existing Nottingham Hills Subdivision Phase V

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	12.500	0.000	0.000	0.000	12.500	Woods, Fair	B - existing
0.000	1.000	0.000	0.000	0.000	1.000	Woods/grass comb., Poor	B - existing
0.000	**13.500**	**0.000**	**0.000**	**0.000**	**13.500**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

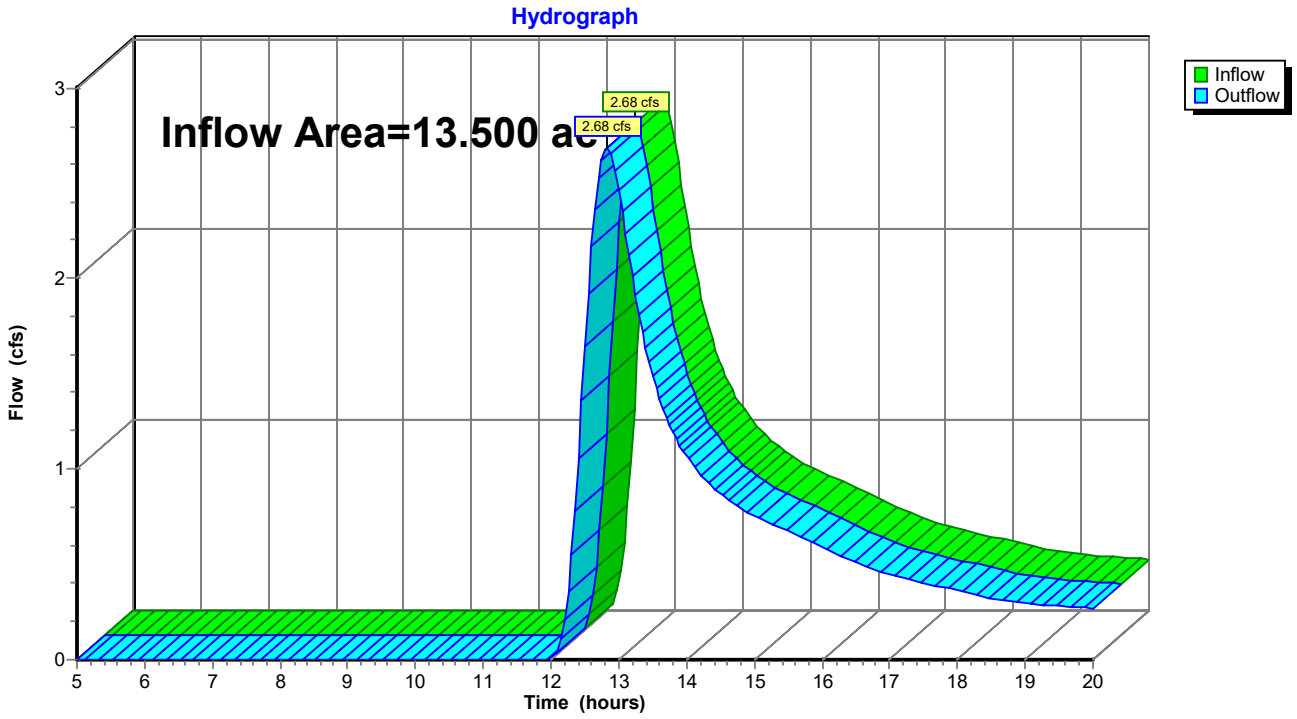
Reach 24R: Outfall Inflow=2.68 cfs 0.509 af
Outflow=2.68 cfs 0.509 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 0.00% Impervious, Inflow Depth > 0.45" for 2-year event
Inflow = 2.68 cfs @ 12.83 hrs, Volume= 0.509 af
Outflow = 2.68 cfs @ 12.83 hrs, Volume= 0.509 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

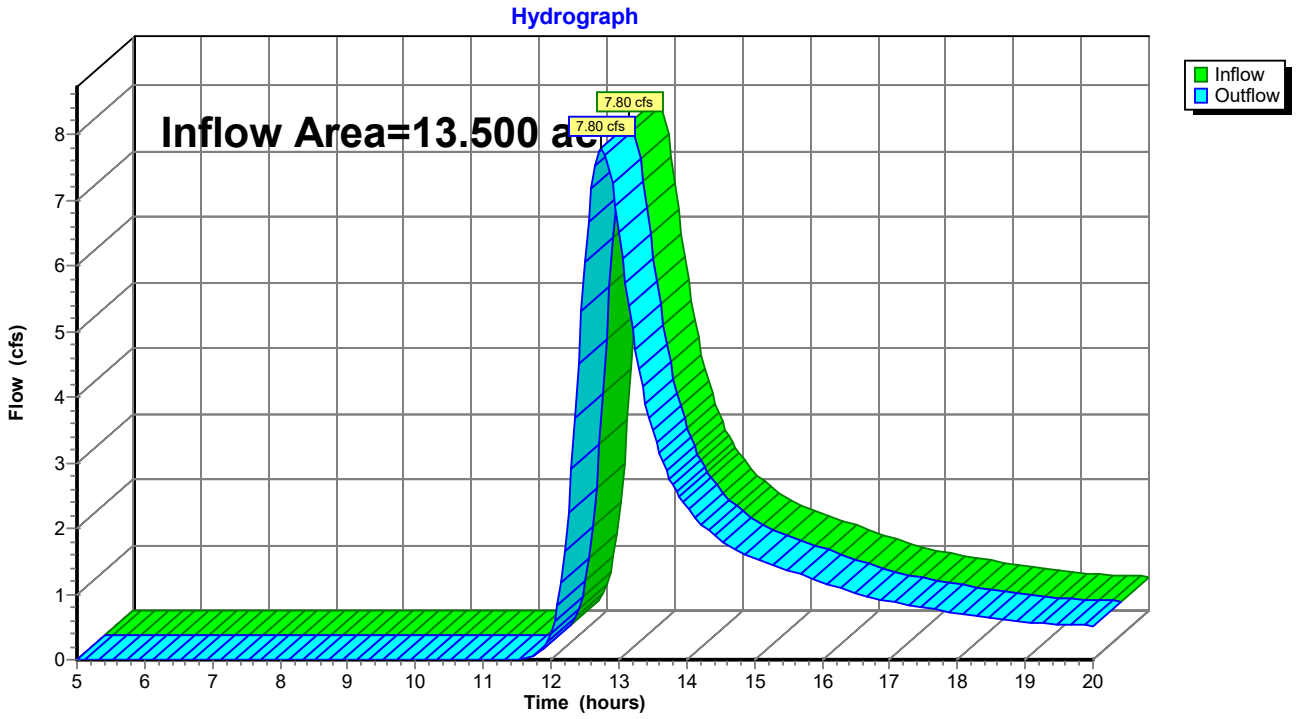
Reach 24R: Outfall Inflow=7.80 cfs 1.243 af
Outflow=7.80 cfs 1.243 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 0.00% Impervious, Inflow Depth > 1.10" for 10 year event
Inflow = 7.80 cfs @ 12.75 hrs, Volume= 1.243 af
Outflow = 7.80 cfs @ 12.75 hrs, Volume= 1.243 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

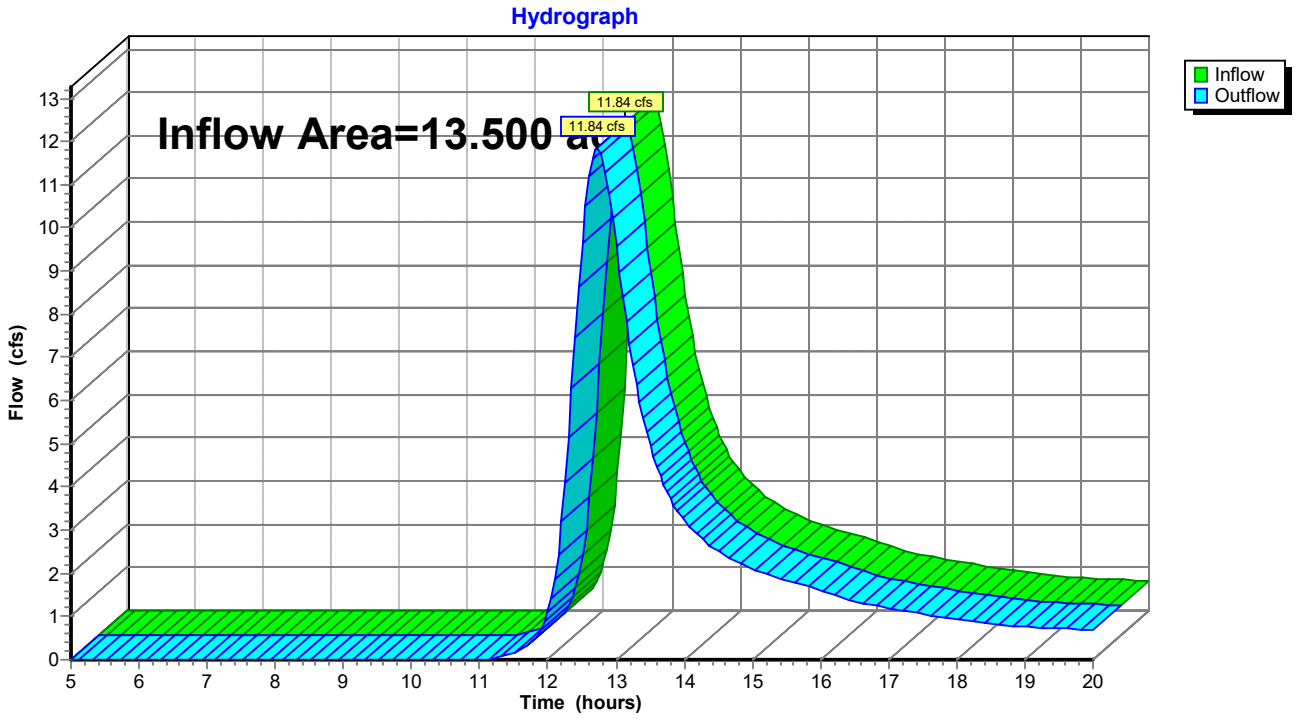
Reach 24R: Outfall Inflow=11.84 cfs 1.816 af
Outflow=11.84 cfs 1.816 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 0.00% Impervious, Inflow Depth > 1.61" for 25 year event
Inflow = 11.84 cfs @ 12.72 hrs, Volume= 1.816 af
Outflow = 11.84 cfs @ 12.72 hrs, Volume= 1.816 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

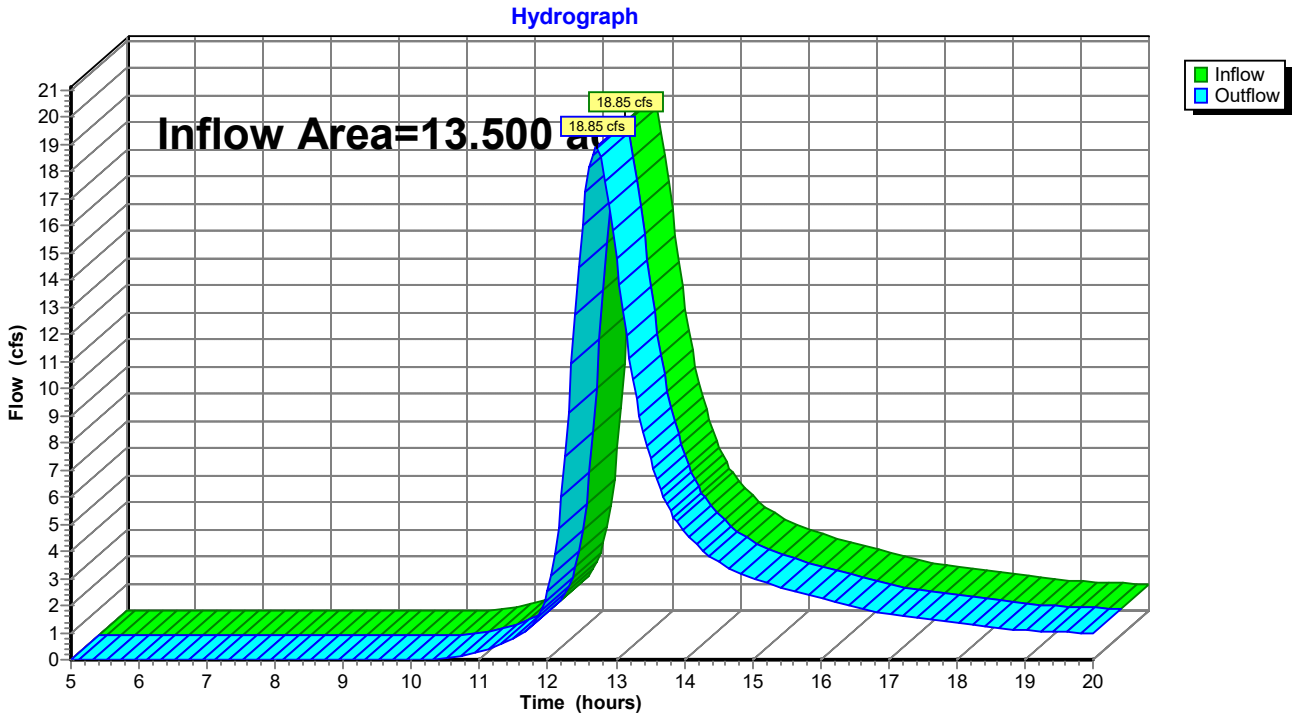
Reach 24R: Outfall Inflow=18.85 cfs 2.817 af
Outflow=18.85 cfs 2.817 af

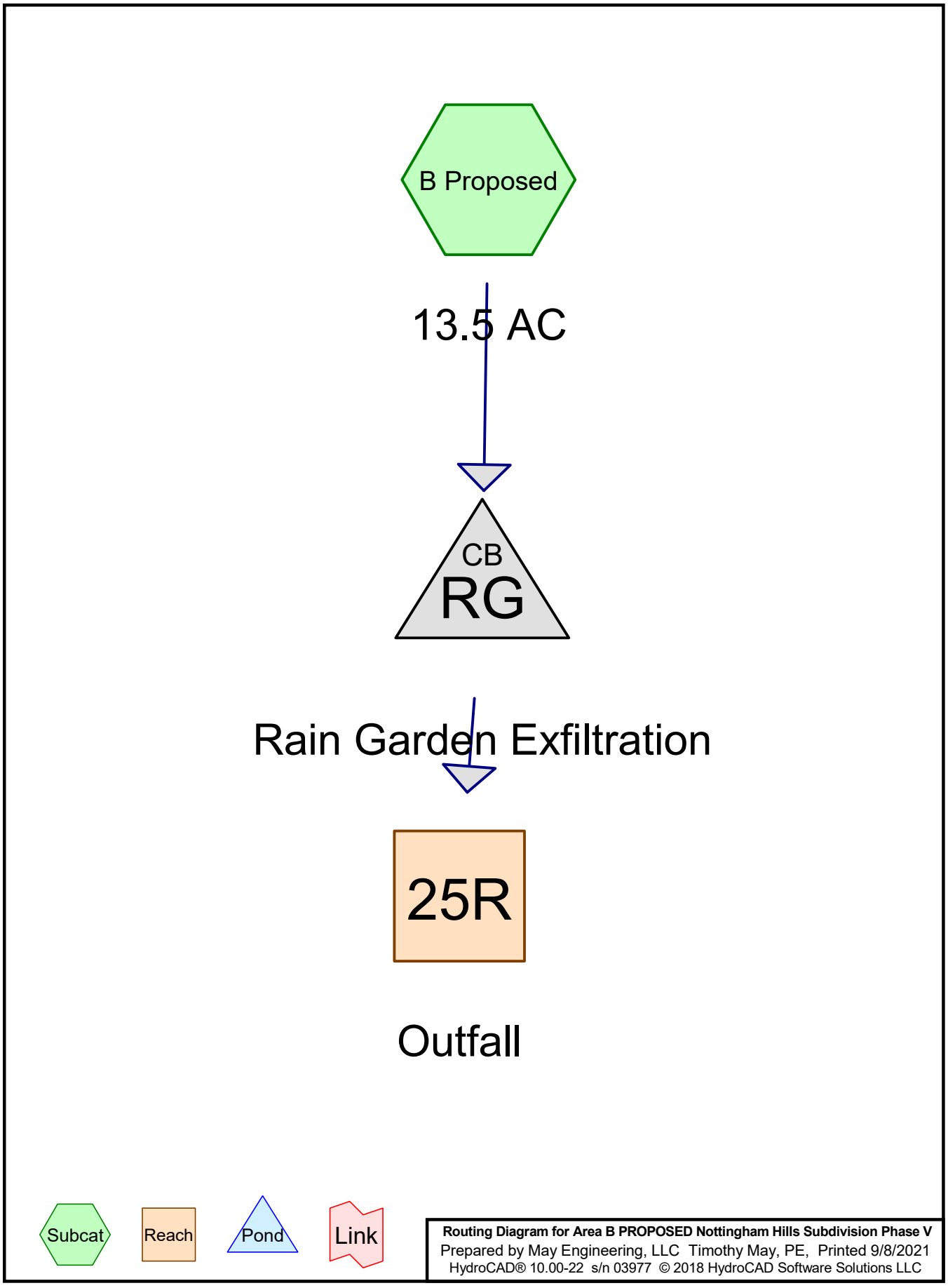
Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 0.00% Impervious, Inflow Depth > 2.50" for 100 year event
Inflow = 18.85 cfs @ 12.71 hrs, Volume= 2.817 af
Outflow = 18.85 cfs @ 12.71 hrs, Volume= 2.817 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall





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Area (acres)	CN	Description (subcatchment-numbers)
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10.000	60	Woods, Fair, HSG B (B Proposed)
13.500	**61**	**TOTAL AREA**

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
13.500	HSG B	B Proposed
0.000	HSG C	
0.000	HSG D	
0.000	Other	
13.500		**TOTAL AREA**

Area B PROPOSED Nottingham Hills Subdivision Phase V

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	3.500	0.000	0.000	0.000	3.500	2 acre lots, 12% imp	B Proposed
0.000	10.000	0.000	0.000	0.000	10.000	Woods, Fair	B Proposed
0.000	**13.500**	**0.000**	**0.000**	**0.000**	**13.500**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

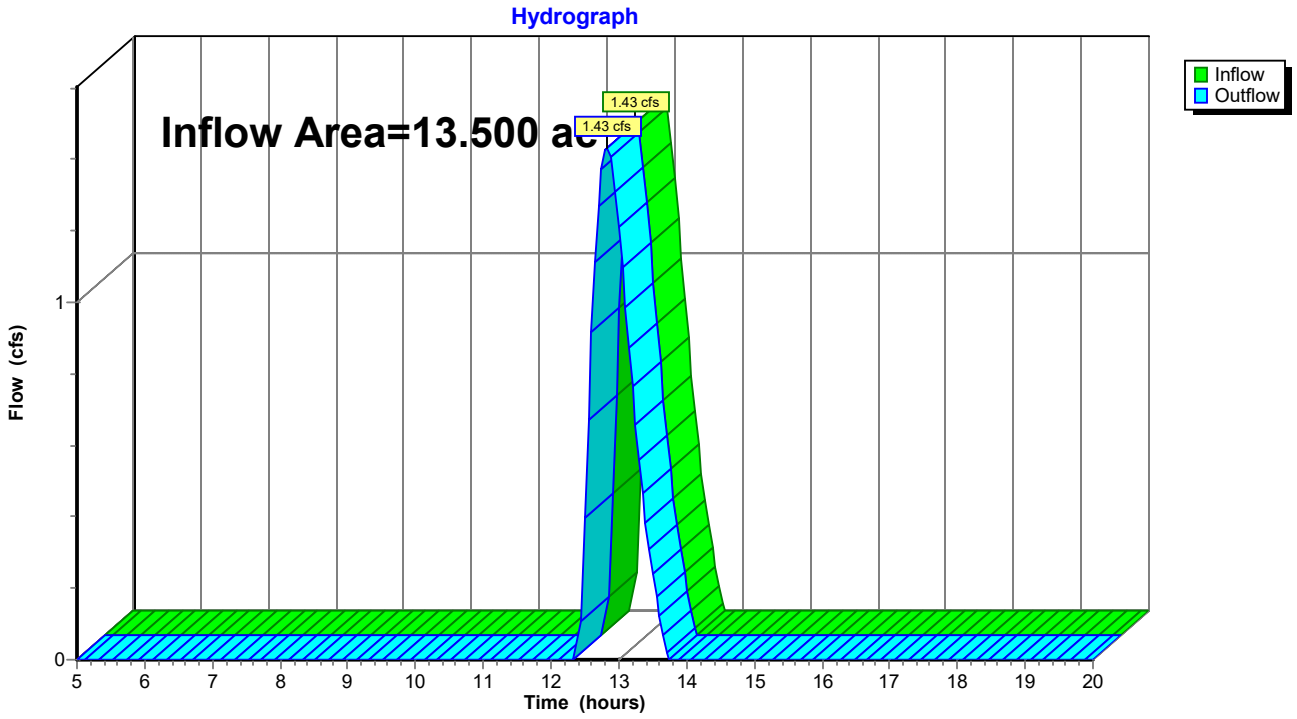
Reach 25R: Outfall Inflow=1.43 cfs 0.080 af
Outflow=1.43 cfs 0.080 af

Summary for Reach 25R: Outfall

Inflow Area = 13.500 ac, 3.11% Impervious, Inflow Depth = 0.07" for 2-year event
Inflow = 1.43 cfs @ 12.83 hrs, Volume= 0.080 af
Outflow = 1.43 cfs @ 12.83 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 25R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

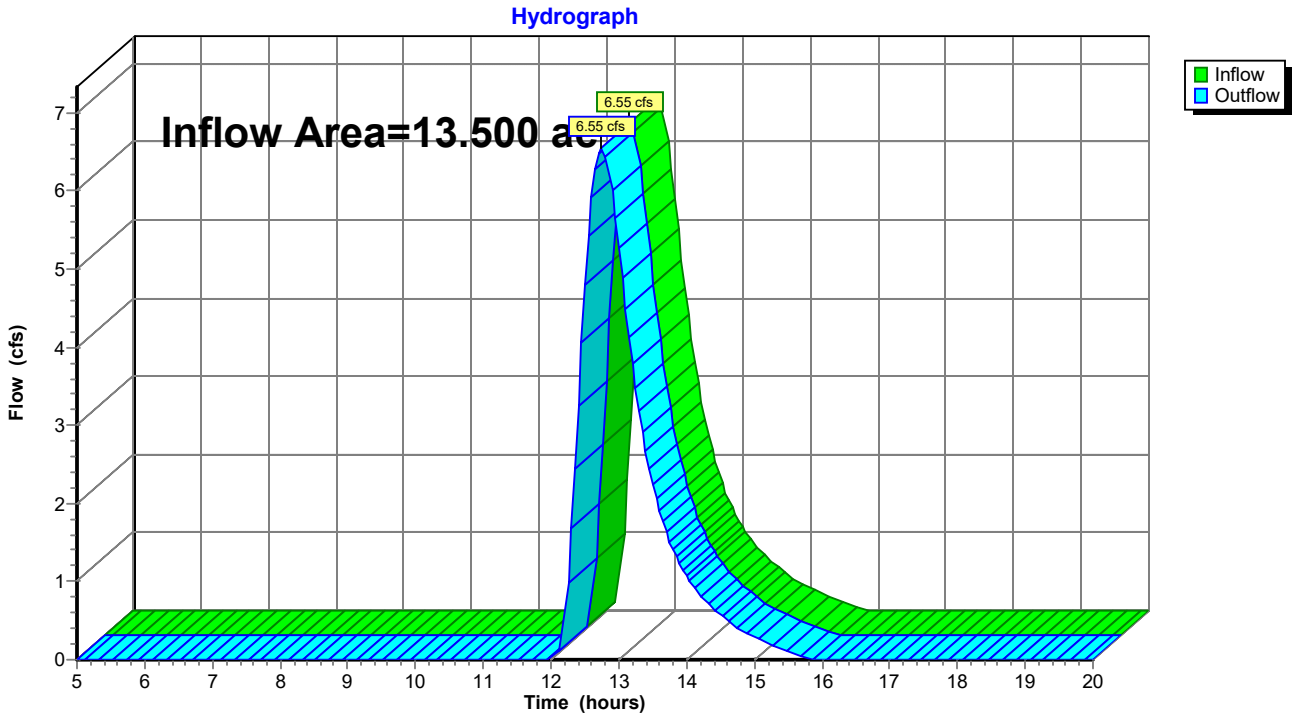
Reach 25R: Outfall Inflow=6.55 cfs 0.584 af
Outflow=6.55 cfs 0.584 af

Summary for Reach 25R: Outfall

Inflow Area = 13.500 ac, 3.11% Impervious, Inflow Depth = 0.52" for 10 year event
Inflow = 6.55 cfs @ 12.75 hrs, Volume= 0.584 af
Outflow = 6.55 cfs @ 12.75 hrs, Volume= 0.584 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 25R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

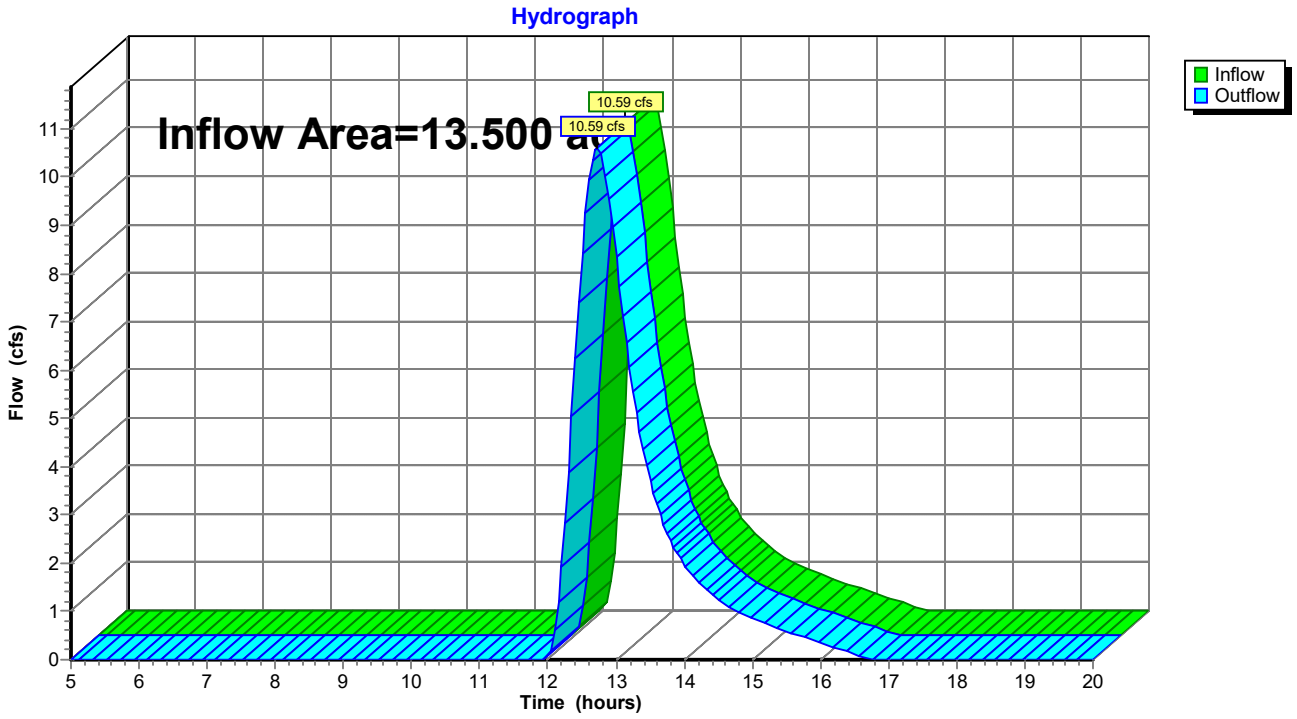
Reach 25R: Outfall Inflow=10.59 cfs 1.059 af
Outflow=10.59 cfs 1.059 af

Summary for Reach 25R: Outfall

Inflow Area = 13.500 ac, 3.11% Impervious, Inflow Depth = 0.94" for 25 year event
Inflow = 10.59 cfs @ 12.72 hrs, Volume= 1.059 af
Outflow = 10.59 cfs @ 12.72 hrs, Volume= 1.059 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 25R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

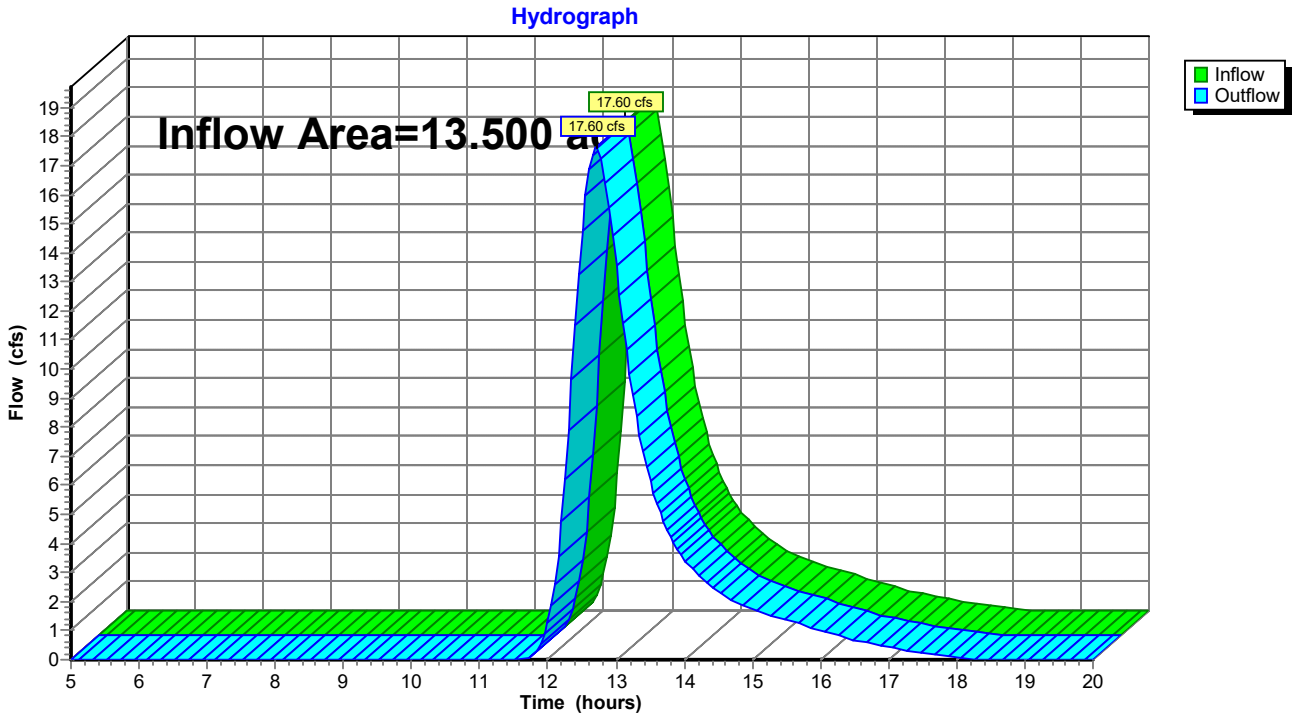
Reach 25R: Outfall Inflow=17.60 cfs 1.940 af
Outflow=17.60 cfs 1.940 af

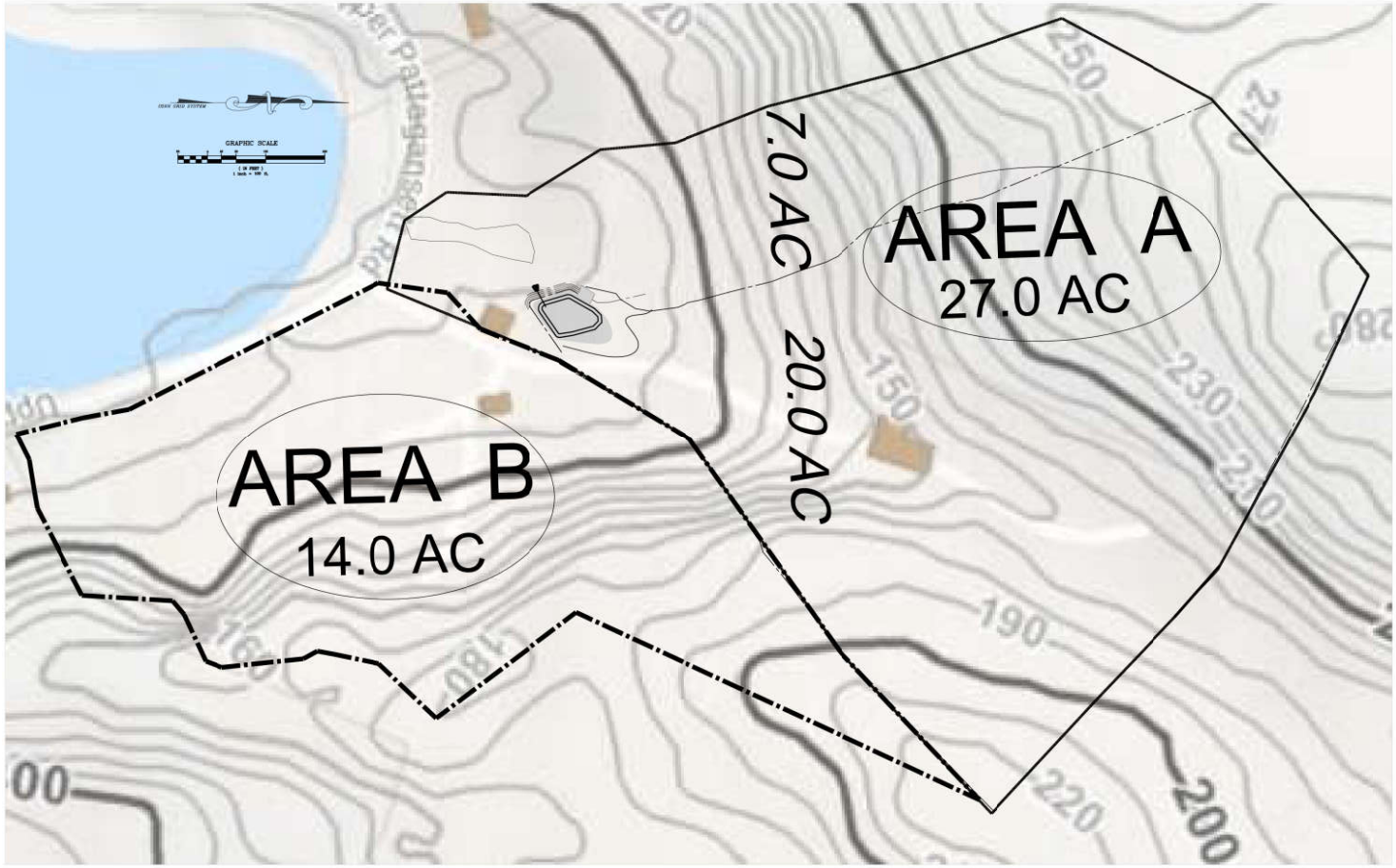
Summary for Reach 25R: Outfall

Inflow Area = 13.500 ac, 3.11% Impervious, Inflow Depth = 1.72" for 100 year event
Inflow = 17.60 cfs @ 12.71 hrs, Volume= 1.940 af
Outflow = 17.60 cfs @ 12.71 hrs, Volume= 1.940 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 25R: Outfall





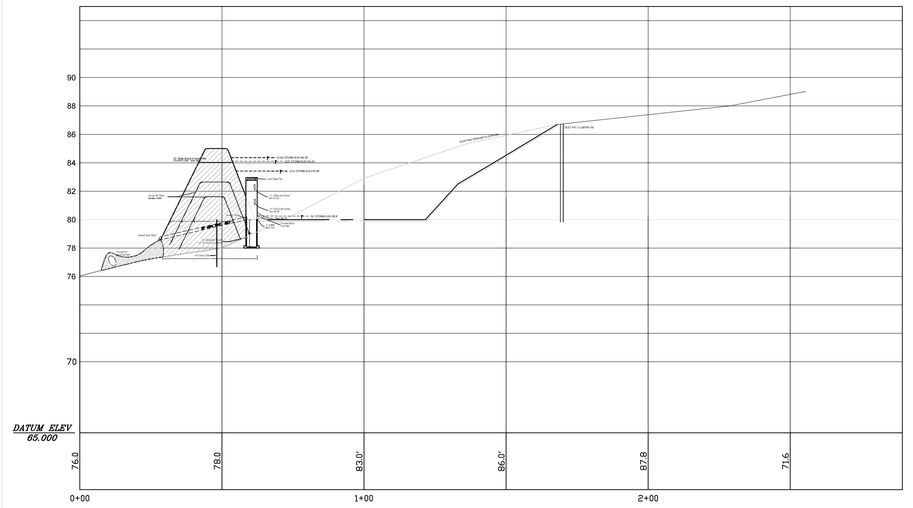
May Engineering LLC
Civil Engineering and Site Planning
1297 RT 163 Oakdale, CT 06370
860 884-9671

For Property
Nottingham Hills
Subdivision Phase V
121 Upper Pattagansett Road
EAST LYME, CT 06333

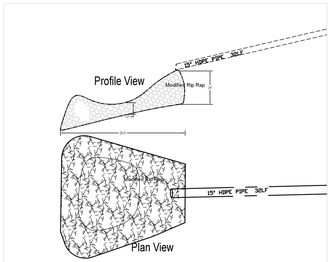
DESCRIPTION: Drainage Area

DRAINAGE AREAS

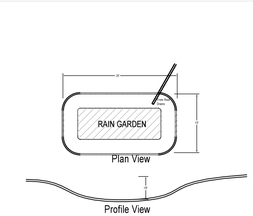
SCALE: 1"=100' & as noted
DATE: 16 AUG 2021
JOB NUMBER
SHEET 1of 2



PROFILE OF STORMWATER RETENTION AND OUTLET CONTROL



Rip Rap Lined Velocity Dissipator
Level Spreader



RAIN GARDEN DETAIL

EMBANKMENT GRANULAR BACKFILL MATERIAL

All backfill material used shall be reasonably free (maximum of 0.1%) from organic and otherwise deleterious materials, and it shall be approved by the Engineer prior to use. The material shall conform to the following gradation limits:

Gradation as determined by AASHTO T 27.

SIEVE SIZE	PERCENT PASSING
4 inches	100
No. 40	0-60
No. 200	0-15

In addition, the backfill must conform to all of the following requirements:

1. Soundness - The material shall be substantially free from shale or other soft, poor durability particles.
2. The Plasticity Index (P.I.), as determined by AASHTO T 90, shall not exceed 6.
3. The material shall exhibit an angle of internal friction of not less than 34 degrees as determined by the standard direct shear test AASHTO T 236. No testing is required for backfills where 80 percent of sizes are greater than 3/4 inch.

STATE OF CONNECTICUT
TIMOTHY A. MAY
No. 23200
LICENSED
PROFESSIONAL ENGINEER

May Engineering LLC
Civil Engineering and Site Planning
1297 RT 163 Oakdale, CT 06370
860 884-9671

For Property
Nottingham Hills
Subdivision Phase V
121 Upper Pattagansett Road
EAST LYME, CT 06333

BIOFILTER RETENTION POND
RAIN GARDEN LAYOUT

SCALE: 1"=20' & as noted
DATE: 06 SEPT 2021
JOB NUMBER
SHEET 2of 2

DESCRIPTION: BIOFILTER DESIGN, OUTLET CONTROL & CROSS SECTION

Geraghty & Bonnano, LLC
Attorneys at Law

PAUL M. GERAGHTY*
MICHAEL S. BONNANO
JOHANNA McCORMICK
MARK A. DUBOIS†
PATRICIA A. KING**
JONATHAN E. FRIEDLER††

*Also Admitted in New York
† Board Certified, Trial Advocate
**Se habla español
†† Also Admitted in Massachusetts and North Dakota

Via email and regular mail

September 20, 2021

Gary Goeschel, Planner
Town of East Lyme
108 Pennsylvania Avenue
East Lyme, CT, 06357

Re: Subdivision Application- Nottingham Hills Phase 5
121 Upper Pattagansett Road

Dear Gary,

As you are aware my client submitted a subdivision plan and design report for the above referenced Subdivision to the East Lyme Planning Commission on August 6, 2021. Subsequent to this date on September 8, 2021 we submitted a Storm Water Management Plan/ Report and drainage calculations.

As of today's date we have yet to receive a single staff comment on our plans. My client and I are extremely concerned with the lack of attention to our submissions from Town staff will result in further delays.

As you also know from last week's Planning Commission meeting the submitted storm water documents identified earlier herein have yet to be uploaded on the Planning Commission's website which appeared to cause concern from at least some of the Planning Commission members. These facts are also of concern to my client and me.

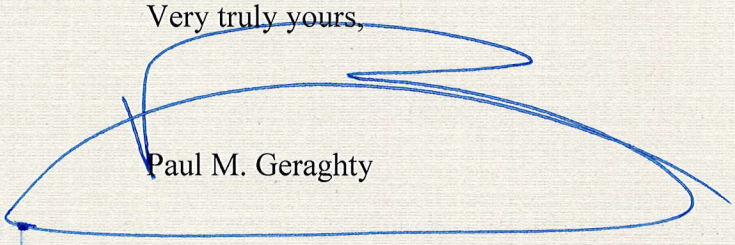
Because the hearing scheduled for this application, October 12, 2021 falls on the last possible statutory date the for hearing given it must closed that night, it is imperative, if not critical, that Town staff provide their comments forthwith so that any changes, corrections, additions or deletions be addressed in a final set of suitable plans.

Replies to New London only at:
38 GRANITE STREET, PO BOX 231
NEW LONDON, CONNECTICUT 06320
131 DWIGHT STREET
NEW HAVEN, CONNECTICUT 06511
WWW.GERAGHTYBONNANO.COM
TELEPHONE (860) 447-8077 / FAX (860) 447-9833

I would also request we schedule a meeting to meet with you, Mr. Mulholland and the Town Engineer together with members of the applicant's professional team next week to review the plans and application submissions.

I look forward to hearing from you at your earliest convenience to schedule the requested meeting.

Very truly yours,



Paul M. Geraghty

Cc: client

Town of East Lyme

P.O. Drawer 519
Town Engineer
Alexander T. Klose, P.E.

108 Pennsylvania Ave
Niantic, Connecticut 06357
Phone: (860) 691-4112
AKlose@eltownhall.com

To: Gary Goeschel II, Director of Planning & Wetlands Enforcement Officer

From: Alex Klose P.E., Town Engineer

Date: September 23, 2021

Re: Nottingham Hills Subdivision Phase V
121 Upper Pattagansett Road
Planning Commission Application
Wetlands Application for Permit

Information submitted by the Applicant which was considered in this review:

-Planning Commission Application for Subdivision / Re-Subdivision, Subdivision Modification, POCD and Subdivision Regulation Amendment
-Design Report, Nottingham Hills Subdivision Phase 5, 121 Upper Pattagansett Road, East Lyme, Connecticut, August 4, 2021
-Application for Permit East Lyme Inland Wetlands Agency
-Wetland Report, 121 Upper Pattagansett Road, East Lyme, Connecticut, Prepared by: New England Environmental Services
-Drainage Report, Stormwater Mitigation Plan, Property Located at: 121 Upper Pattagansett Road, East Lyme, Connecticut, September 8, 2021, Prepared by: May Engineering, LLC
-Pattagensett Preserve at Nottingham Hills (Also Known as Nottingham Hills Subdivision Phase 5) Plan Set, August 3, 2021, Prepared by: Gerwick – Merren L.L.C.

This office has reviewed the above referenced information and provides the following comments:

1. Site lines should be provided to ensure visibility at the proposed drives.
2. Per the Town of East Lyme Subdivision Regulations Section 6-8-2 calculations should be provided for the 2, 5, 10, 25, 50 & 100-year storms. The applicant has only provided an analysis of the 2, 10, 25 & 100-year storms.
3. The Drainage Report, Stormwater Mitigation Plan is missing hydrograph information for some nodes. Each node including subcatchment and pond nodes should be provided to conduct a thorough review of the information presented in the summary tables.
4. The Time of Concentration calculations used for the TR-20 modeling in the Drainage Report, Stormwater Mitigation Plan should be provided.

5. Per the Town of East Lyme Subdivision Regulations Section 6-8-2 (B) a volume comparison from existing to proposed conditions should be provided. The applicant has only provided a comparison summary for the reduction in peak flow rate. I note that it appears that the proposed volume at the outfall from drainage area A is greater in the proposed condition. The applicant should clarify this.
6. In the Drainage Report, Stormwater Mitigation Plan the applicant states that an infiltration rate of 0.5 ft/hr was used in the analysis for the proposed stormwater Best Management Practices (BMPs). The 2004 Connecticut Stormwater Quality Manual, Volume II, Chapter 8, Table 8-3 states that a maximum infiltration rate of 5.0 in/hr should be used, and pretreatment is required for infiltration practices designed with rates greater than 3.0 in/hr. The applicant also states that a percolation test verifies the infiltration rate used, this is not an acceptable testing measure to evaluate stormwater BMP infiltration rates. Acceptable infiltration testing parameters are described in the Town of East Lyme Subdivision Regulations Section 6-8-5.
7. Test pit 7-2 was referenced in the design of the proposed storm water biofilter detention pond, however this test pit was performed just upgradient to the BMP and, from the data provided, appears to only reach a depth of elevation ±79.5, where the bottom of the pond is proposed at elevation ±80. Testing to at least 3 feet below the proposed bottom of pond to understand seasonal high groundwater characteristics or ledge (if any) should be conducting in the immediate vicinity of the BMP.
8. The primary stormwater BMP pond is referred to as different things throughout the report and plans, including both a biofilter detention pond and retention pond. The intended function of the pond should be clarified and uniform throughout. A detail of how the BMP will be landscaped should be provided.
9. Sizing calculations for the driveway treatment swale BMPs should be provided.
10. I note that the reserve septic leaching areas are upgradient of the driveway swale BMPs. I recommend Ledge Light Health District reviewer provide comment on this proximity.
11. The plans generally are difficult to read. Proposed and additional existing contour labels should be provided, more callouts to prominent site features should be provided and text height in plans and profiles should be revised and uniform.
12. The scale on the Bioretention Pond Rain Garden Layout plan in the Stormwater Mitigation Plan does not appear to be correct, please clarify.
13. A detail should be provided for the proposed outlet control structure for the biofilter BMP.
14. Calculations for the sizing of the rip-rap scour protection from the biofilter BMP outlet should be provided.
15. Additional detail on the construction of the berm on the outlet (southwestern) side of the biofilter BMP should be provided. If this berm is to be constructed with fill, an impervious core may need to be considered.

Town of East Lyme

P.O. Drawer 519
Department of Planning & Inland Wetlands
Gary A. Goeschel II, Director of Planning / Inland Wetlands Agent

108 Pennsylvania Ave
Niantic, Connecticut 06357
Phone: (860) 691-4114
Fax: (860) 860-691-0351

MEMORANDUM

To: **East Lyme Inland Wetlands Agency and East Lyme Planning Commission**

From: **Gary A. Goeschel II, Director of Planning**

Date: **September 23, 2021**

RE: **English Harbor Asset Management, LLC c/o Kristen Clarke, P.E., Applicant; Cold Spring Lot Management, LLC c/o John Drabik, Owner;** Application for an 8-lot subdivision of land located at 121 upper Pattagansett Road, East Lyme Assessor's Map 35.0, Lot 44 (aka Nottingham Hills - Phase 5).

Upon review of the above referenced application, supporting documentation, and proposed 5 sheet plan set entitled "Nottingham Hills Subdivision Phase 5, prepared for Kristen T. Clarke, P.E., English Harbor Asset Management, LLC of 1712 Pioneer Avenue, Suite 1939, Cheyenne, WY 82001; Property Owner Cold Spring Lot Management, LLC, of 18 Drabik Road, East Lyme, CT 06333, dated August 3, 2021," prepared by John Paul Mereen, L.S. of Gerwick-Mereen LLC, 191 Boston Post Road, P.O. Box 565, East Lyme, Connecticut, 0633" ; and plan sheet 2 of 2 entitled "Biofilter Retention Pond Rain Garden Layout, prepared for Nottingham Hills Subdivision Phase V, 121 Upper Pattagansett Road, East Lyme, CT 0633, dated September 6, 2021," by Timothy A. May, P.E. of May Engineering, LLC, 1297 Route 163, Oakdale, CT 06370, I offer the following findings:

Section 3-4 Plan of Development: As the proposed Subdivision is located within an R40 and an R40/20 zoning district adjacent to existing residential lots zoned R-40 and R40/20 respectively, the proposed subdivision continues to follow the pattern of development characteristic of the existing residential development. As such, the proposed subdivision conforms to the comprehensive Plan of Development for the Town of East Lyme (POCD) as adopted by the East Lyme Planning Commission.

Section 4-2-11 Easements and Deeds: Requires copies of all easements and deeds necessary to carry the subdivision plan into effect, conforming to the requirements of these Regulations, including instruments proposed to be executed or delivered after approval of the application shall be submitted. As such, any shared driveway, utility, drainage, or open space easements need to be provided.

Section 5-2-2(E) and 6-8 Stormwater Management Plan: The Drainage Report prepared by Timothy May, P.E. was received September 8, 2021. Based on the memorandum from Alex Klose, P.E., Town Engineer dated September 23, 2021, suggest the plans and design report lack sufficient information to adequately demonstrate the proposed plans meet the Subdivision Regulations. In addition, pursuant to Section 5-2-2(E) xii, if applicable, properly executed legal documents , including warranty deeds for and transfers of titles to the party designated to maintain and operate the stormwater management system shall be submitted with the final subdivision plan to filed. All such documents shall be acceptable to the Town Attorney and Planning Commission.

Section 5-2-2(G) Erosion and Sedimentation Control Plan: The proposed Erosion and Sedimentation Control plan needs to show the proper provisions to adequately control accelerated erosion and sedimentation and reduce the danger from stormwater runoff on the proposed site base on the best available technology. The proposed Grading and Erosion and Sedimentation Control Plan doesn't show any erosion controls associated with construction of the driveways or the proposed homes. Therefore, the Planning Commission may not be able to certify that the Soil Erosion and Sediment Control Plan complies with the requirements and objectives of this Subdivision Regulations.

Section 5-3 Construction Sequence Report: The report and plan on sheet 5 of 5 of the plan set provides a general schedule for the development of the proposed lots. The Design report indicates there are no proposed public improvements required and the paving of the common driveways and construction of the rain gardens identified in the stormwater management plan will occur during the construction of the proposed homes.

Section 5-4 Sanitation Report: No report has yet been submitted.

Section 5-5 Water Supply Report: No report has yet been submitted.

Section 5-6 Pesticide Report: The Design Report does not indicate whether the land was ever classified as farmland in accordance with Sec. 12-107c of the CGS or other commercial use involving regular application of pesticides.

Section 5-7 Coastal Are management (CAM) Site Plan Review: The subject property is not within the Coastal boundary of the Town of East Lyme.

Section 5-8 Archeological Survey: Archaeological Survey (the Design Report indicates it is in process and will be submitted upon completion). Section 5-8 states a survey shall be conducted and a report sent to the State Historic Preservation Office (SHPO) a minimum of 35-days prior to the submission of the subdivision application to the Planning Commission.

Section 6-2 Lot Design Specifications: The proposed lots appear to be laid out in a manner generally consistent with the specifications of section 6-2 of the East Lyme Subdivision Regulations. However, the proposed plans do not provide a 40-foot wooded or otherwise landscaped buffer along the perimeter of the Conservation Design Development to screen development of the proposed lots from existing contiguous lots pursuant to Section 23.5B 1 of the Zoning Regulations. In addition, Section 23.5B 2 B. of the Zoning Regulations requires in wooded areas where the sense of enclosure is a feature that should be maintained a, a deep "no-build, no-plant" buffer of a minimum of 200-feet shall be respected to preserve existing vegetation. The plans nor the Design Report indicate how the proposed subdivision meets these requirements.

Section 6-2-6 Energy Efficiency and Conservation: The applicant shall demonstrate to the Commission that in developing the subdivision plan, the use of passive solar energy techniques which would not significantly increase the cost of the housing to the buyer, after any available tax credits, subsidies, and exemptions, has been considered. Such techniques shall maximize solar heat gain, minimize heat loss, and provide natural ventilation during the cooling season. The site design techniques shall include, but not be limited to: (1) house orientation; (2) street and lot layout; (3) vegetation; (4) natural and manmade topographical features; and (5) protection of solar access within the development. A written statement outlining how this requirement has been adhered to has not been submitted.

Section 6-7 Open Spaces: As the subdivision is being proposed as a Conservation Design Development (CDD), in order to take advantage of the dimensional flexibility offered by the regulations applicants must provide Open Space in accordance with Section 23.6 of the Zoning Regulations. The proposed Subdivision doesn't propose the dedication of Open Space in accordance with Section 23.6 of the Zoning Regulations. As such, the proposed subdivision does not meet the requirements of Section 7-2-1 of the Subdivision Regulations. The proposed application indicates the Open Space requirement has been met through the previous dedication of open space associated with Phase 1, 2, 3,& 4 of the Nottingham Hills Subdivision. However, what is referred to as Phase 4 of the Subdivision, was not

part of any proposed subdivision but, rather it was a part of a zone change and site development plan approval for a multi-family development, not a subdivision. In addition, the subject parcel has never been previously subdivided, is under different ownership than that of the applicant as well as any of the landowners at the time Phases 1, 2, & 3 of the Nottingham Hills Subdivision were made. Further, 121 Upper Pattagansett Road was never shown on any proposed or approved plan as being a part of the Nottingham Hills Subdivision at the time Phases 1, 2 & 3 were proposed. Further, the subject parcel never abutted any of the parcels of land in the previous 3 phases of the Nottingham Hills Subdivision. As such, the Open Space previously provided as a part of the Nottingham Hills Subdivision phases 1, 2, & 3, does not meet the requirements of Section 7-2-1 of the East Lyme Subdivision Regulations to provide Open Space in the subdivision of any parcel of 10 acres or more in area or any subdivision of 4 or more lots for the proposed subdivision of 121 Upper Pattagansett Road referenced above.

Section 6-8 Stormwater Management and Section 6-9 Requirements Regarding Flooding: Based on the memorandum from Alex Klose, P.E., Town Engineer dated September 23, 2021, the proposed plans and Drainage Report lack sufficient information to adequately demonstrate the proposed plans meet the requirements of Sections 6-8 and 6-9 of the Subdivision Regulations.

Section 6-10 Street and Roadway Design Specifications: Pursuant to Section 6-10-6 of the Regulations, where a subdivision borders an existing street with less than adequate right-of-way, and the Commission determines that there may be a need to realign or widen the street, the Commission may require the applicant to dedicate land for such future realignment or widening. The proposed plans show a "Parcel 2, Lake Side Parcel of 41,150+/- square feet" in addition to the proposed 8 new lots. However, the plans do not provide a 25-ft right-of-way from the centerline of the existing street, Upper Pattagansett Road (a public Right-of-Way across the subject property) along the frontage of the land to be subdivided pursuant to Section 6-10-7 of the Subdivision Regulations.

Section 6-17 Underground Utilities: Requires underground electric transmission lines, telephone lines and cable television lines to be installed in each proposed subdivision, unless a waiver is granted in accordance with Section 4-13 of these Regulations. A note should be added to the plans indicating the same. Pursuant to Section 4-2-11, copies or drafts of the proposed easements for the installation of underground utilities need to be provided.

Section 6-18 Surety: As the Planning Commission may require surety (e.g. performance and maintenance financial guarantees or letters of credit), sufficient to ensure compliance and completion of site improvements with an approved subdivision or resubdivision and any conditions placed thereon, and pursuant to Section 4-2-12 Bond or Cost Estimate-an estimate for the cost of erosion and sedimentation control measures, driveways, rain gardens, and bio-filter/detention/retention pond should be provide. Pursuant to Section 6-18, financial guarantee improvements may include but are not limited to, erosion and sedimentation control measures, drainage, landscaping buffers, utilities, parking, recreational facilities, streets, private streets or roadways, driveways, and sidewalks, or other elements as approved by the subdivision or resubdivision plan. Surety requirements shall conform to the requirements of Section 8 of the East Lyme Subdivision Regulations.

May Engineering, LLC
Civil Engineering, Site Planning, and Consulting
1297 RT 163 Oakdale, CT 06370 Cell: 860 884-9671 Email: mayengineering@sbcglobal.net

DRAINAGE REPORT
Stormwater Mitigation Plan
October 11, 2021

Property Located at:

121 Upper Pattagansett Rd.
East Lyme, CT 06333

Prepared For:
Project: Nottingham Hills Subdivision Phase V

English Harbor Asset Management, LLC
38 Granite Street
New London, CT 06320

Prepared By:
Timothy A. May, P.E.
May Engineering, LLC
1297 Rte 163
Oakdale, CT 03670

May
Engineering, LLC
Civil Engineering, Site Planning, and Consulting
1297 RT 163 Oakdale, CT 06370 Cell: 860 884-9671 Email: mayengineering@sbcglobal.net

SITE DESCRIPTION:

The site is a 64-acre wooded parcel located along the northern shore of Pattagansett Lake. Specifically, the site is located at 121 Upper Pattagansett Rd in the town of East Lyme, CT. The parcel was previously used as a camp for the Girl Scouts of America. The existing site is partially developed with paved/gravel roads and camp buildings. The site is wooded with mature deciduous trees. There are slopes ranging from 3% to 12% The soil type is primarily a hydraulic soil group B consisting of Canton-Charlton, Hinkley gravel and Charlton-Hollis series. The soil types were evaluated for their permeability and have a moderate to fast infiltration rate. The proposed site development is for 8 residential subdivision parcels, and one parcel to remain as-is.

The drainage areas for the proposed site development is split into two drainage areas labeled Drainage Area A (30.8 ac) and Drainage Area B (13.5 ac)(see drawing titled Drainage Areas). Drainage Area A is a 30.8 ac drainage area where water flows into a wetland settling basin on the north side of Upper Pattagansett Rd, then through a 12" re-enforced concrete culvert, then into Pattagansett Lake. Primarily, the stormwater flows are shallow concentrated flows that flow north to south across Drainage Area A, with limited channel flows for the last 250 ft before the wetland settling basin. There are some instances of intermittent channelized flows along the paved/gravel road, then the flows change back to shallow concentrated flows. Drainage Area B is a 13.5 ac drainage area that is primarily overland flow and water does not typically flow off the property due to topographic features along Upper Pattagansett Rd that contain stormwater on site.

RATIONALE FOR DESIGN:

A drainage analysis is required to evaluate stormwater run-off associated with site development A site evaluation along with a drainage analysis were conducted for estimating the storm water run-off. The site currently has 18 buildings in total with roofs, along with 45 wooden platform (tents/decks) which have a high run-off coefficient. There are packed gravel roads throughout Drainage Areas A & B, which have a high run-off coefficient. The proposed development for Drainage Area A removes 7 buildings, 10 tent platforms (8,830 sf impervious area) and gravel roads (46,472 sf). For proposed Drainage Area B, 2 buildings, 6 tent platforms (4,750 sf of impervious area) and 13,000 sf of gravel roads are to be removed.

The proposed development for Drainage Area A involves constructing 3 residential building lots and Drainage Area B involves constructing 5 residential lots, each with a 2,400 sf (roof area) home. Each home's roof drains are piped to a rain garden sized for 1" water quality volume. The paved driveways are sloped to drain down gradient through check dams to slow velocities, then into the woods.

The stormwater drainage analysis will compare the existing developed land to the proposed developed parcels which have the proposed buildings added and the old structures removed. Limits of clearing calculated for the proposed parcels will factor the change from wooded area to lawn area. Also, the extensive gravel drives and parking areas once removed will be seeded with grass to change the semi impervious area to a more pervious area. The rain gardens are very effective at retaining storm water from impervious areas and infiltrating large quantities of the roof stormwater run-off. This reduction in run-off leads to overall reduction in the amount of storm water and these BMPs increase water quality for water that flows into Pattagansett Lake.

May
Engineering, LLC
Civil Engineering, Site Planning, and Consulting
1297 RT 163 Oakdale, CT 06370 Cell: 860 884-9671 Email: mayengineering@sbcglobal.net

METHODOLOGY AND RESULTS

Drainage Analysis. The SCS TR-20 drainage analysis method is used to determine the storm water runoff flow amounts. The storm frequency values used for the calculations herein include the 2-year, 5-year 10-year, 25-year, 50-year and 100-year storm rainfall event. The storm water model software used for this analysis is *HydroCAD® 10.00-22* in which the SCS TR-20 method was used.

The following are the tabulated results for existing and proposed storm events:

Drainage Area A

Events for Subcatchment A - existing: 30.8 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	4.34	0.972	0.38
5-year	4.20	9.34	1.791	0.70
10 year	4.80	13.94	2.516	0.98
25 year	5.70	21.78	3.745	1.46
50-year	6.35	28.00	4.719	1.84
100 year	**7.10**	**35.62**	**5.919**	**2.31**

Events for Subcatchment A - Proposed: 30.8 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	2.82	0.728	0.28
5-year	4.20	6.92	1.439	0.56
10 year	4.80	10.93	2.084	0.81
25 year	5.70	18.03	3.200	1.25
50-year	6.35	23.76	4.098	1.60
100 year	**7.10**	**30.88**	**5.214**	**2.03**

Stormwater Reduction for Drainage Area A

Q_2 Peak Flows 35% - Volume 25%
Q_{10} Peak Flows 21% - Volume 20%
Q_{100} Peak Flows 13% - Volume 11%

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1297 RT 163 Oakdale, CT 06370 Cell: 860 884-9671 Email: mayengineering@sbcglobal.net

Drainage Area B

Events for Subcatchment B - existing: 13.5 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	3.55	0.596	0.53
5 year	4.30	7.15	1.080	0.96
10 year	4.80	9.45	1.387	1.23
25 year	5.70	13.97	1.992	1.77
50 year	6.30	17.19	2.427	2.16
100 year	**7.10**	**21.68**	**3.039**	**2.70**

Events for Subcatchment B - Proposed: 13.5 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	2.54	0.470	0.42
5 year	4.30	5.67	0.900	0.80
10 year	4.80	7.75	1.178	1.05
25 year	5.70	11.94	1.736	1.54
50 year	6.30	14.97	2.142	1.90
100 year	**7.10**	**19.23**	**2.717**	**2.42**

Stormwater Reduction for Drainage Area B

Q_2 Peak Flows 28% - Volume 21%
Q_{10} Peak Flows 21% - Volume 16%
Q_{100} Peak Flows 11% - Volume 11%

SUMMARY

The proposed Nottingham Hills Subdivision Phase V development plan results in a significant reduction of both storm water peak flows and volumes for Drainage Areas A and B. The plan of development for the 8 residential homes introduces storm water BMPs such as rain gardens and check dams along driveways. Removal of impervious areas such as buildings and tent platforms, along with gravel roads and parking areas, will increase the water quality significantly.

May Engineering LLC
Civil Engineering and Site Planning
1297 RT 163 Oakdale, CT 06370
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Project
Nottingham Hills Subdivision Phase V
121 Upper Pattagansett Rd.
East Lyme, CT. 06333

DESCRIPTION:

DRAINAGE AREAS

SCALE: 1"=400' & as noted

DATE: 16 AUG 2021

JOB NUMBER	SHEET
	1 of 1

Existing Buildings Impervious Areas & Gravel Roads

Drainage Area A - 30.8 ac -(Parcels 56, 57 & 58)

2 Building to be removed roof area	1,750 sf
6 Deck/Tent Platforms to be removed	3,000 sf
Impervious Area	**4,750 sf**
Gravel Roads to be removed	13,000 sf

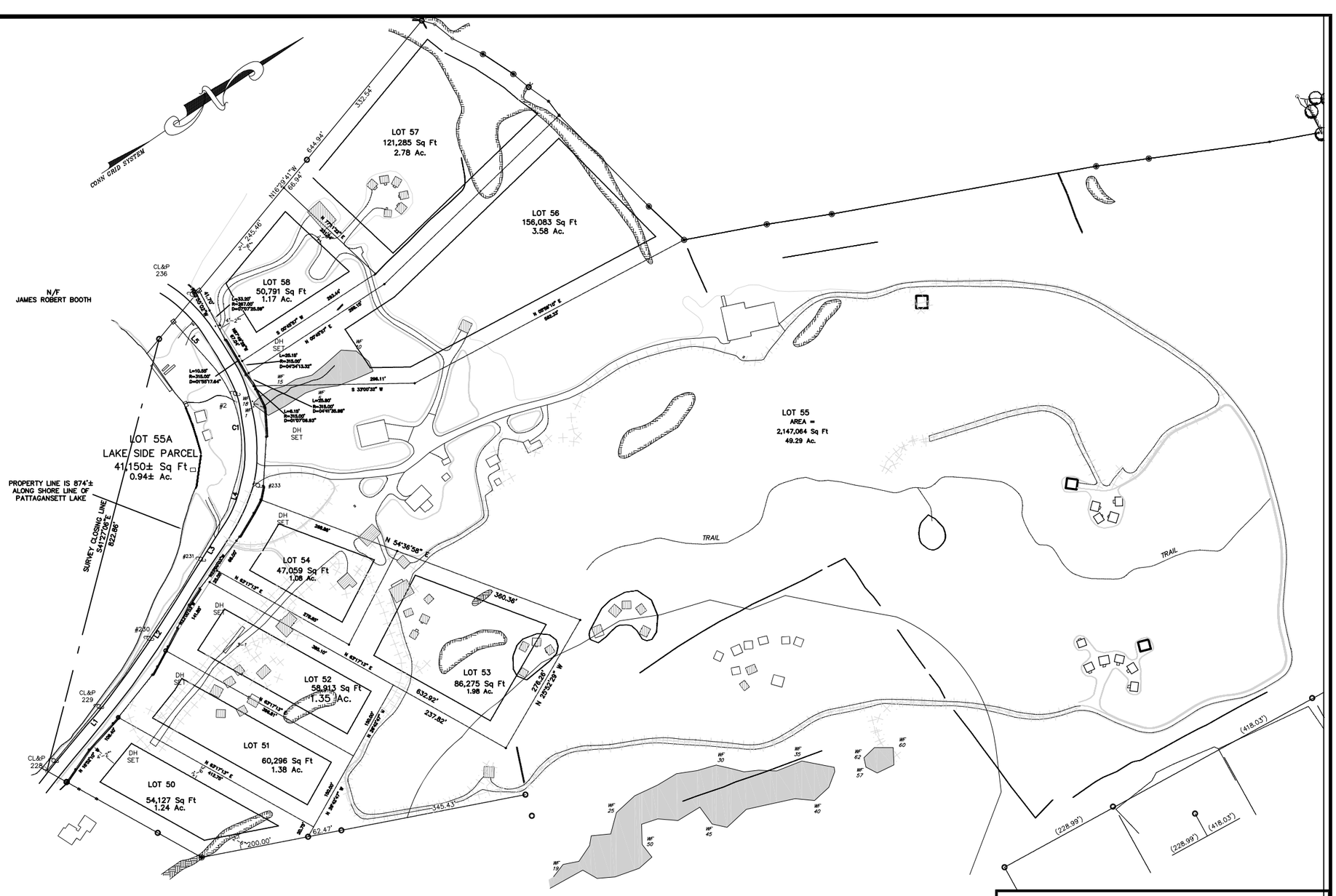
Buildings to remain Parcel 55

7 building Roof Area	9,654 sf
19 Deck/Tent Platforms Area	4,550 sf

Drainage Area B 13.5 ac -(Parcels 50, 51, 52, 53, & 54)

7 Building to be removed roof area	3,681 sf
10 Deck/Tent Platforms to be removed	5,144 sf
Impervious Area	**8,830 sf**
Gravel Road area to be removed	46,472 sf

NOTE Shaded Building are planned to be removed



LEGEND

STONE WALL	
PROPERTY LINE	
STREET LINE	
DRILL HOLE SET	DH SET
DRILL HOLE FOUND	DH FND
MONUMENT FOUND	MON FND
IRON PIPE FOUND	IP FND
EDGE OF WETLANDS & FLAG	WF 57
UTILITY POLE	
EXPOSED LEDGE	

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

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860 884-9671

Project
Nottingham Hills Subdivision Phase V
121 Upper Pattagansett Rd.
East Lyme, CT. 06333

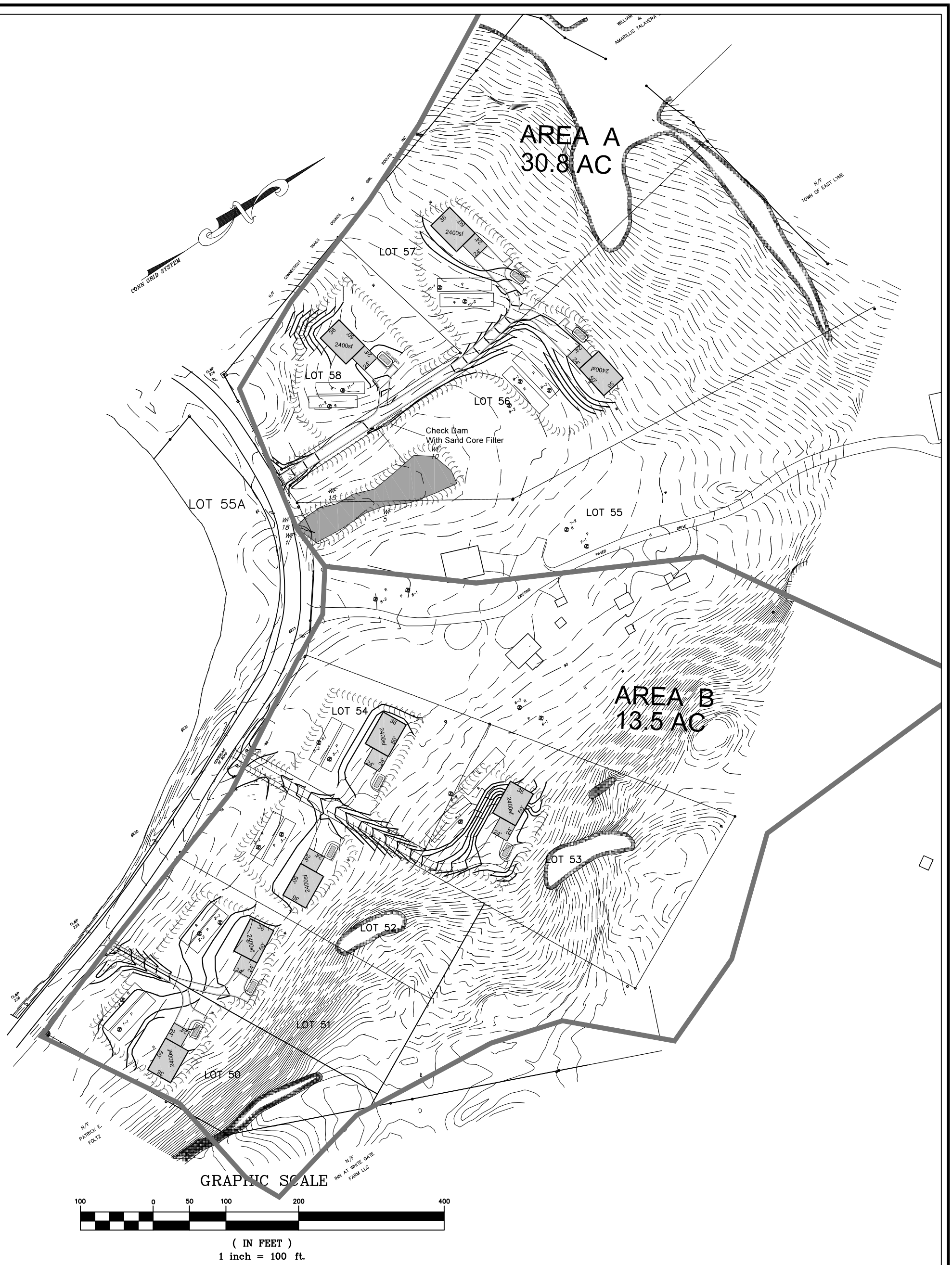
DESCRIPTION:

Plan of Subdivsion Showing Existing Buildings and Roads

SCALE: as noted

DATE: 11 October 2021

JOB NUMBER	SHEET
	1 of 1



May Engineering LLC
Civil Engineering and Site Planning
1297 RT 163 Oakdale, CT 06370
860 884-9671

Project
Nottingham Hills Subdivision Phase V
121 Upper Pattagansett Rd.
East Lyme, CT. 06333

DESCRIPTION: Building Lot Development and Grading
Rain Garden Location and Drainage

PROPOSED BUILDING

SCALE: as noted

DATE: 10 OCT 2021

JOB NUMBER	SHEET
	1 of 1

Soil Map—State of Connecticut
(121 Upper Pattagansett Rd East Lyme CT)

Map Scale: 1:6,180 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 20, Jun 9, 2020

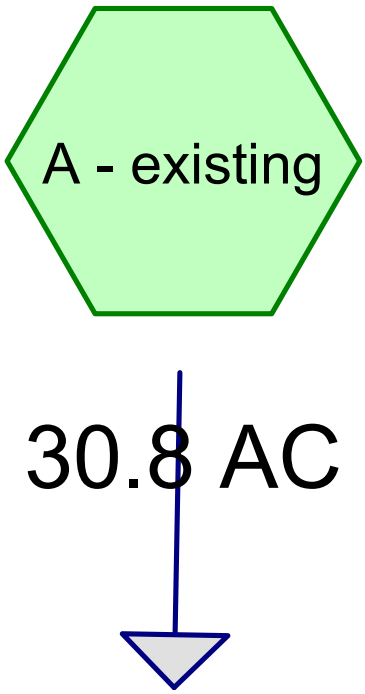
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 20, 2019—Mar 27, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
12	Raypol silt loam	2.5	1.3%
29B	Agawam fine sandy loam, 3 to 8 percent slopes	3.6	2.0%
38C	Hinckley loamy sand, 3 to 15 percent slopes	6.6	3.6%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	0.0	0.0%
51B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	1.2	0.6%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	18.1	9.9%
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	0.2	0.1%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	51.6	28.2%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	36.5	20.0%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	24.9	13.6%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	29.5	16.2%
76E	Rock outcrop-Hollis complex, 3 to 45 percent slopes	3.8	2.1%
86D	Paxton and Montauk fine sandy loams, 15 to 35 percent slopes, extremely stony	1.2	0.6%
701B	Ninigret fine sandy loam, 3 to 8 percent slopes	0.1	0.0%
W	Water	3.2	1.7%
Totals for Area of Interest		**182.8**	**100.0%**



Outfall from Area A

Subcat Reach Pond Link

Routing Diagram for Area A Existing Nottingham Hills Subdivision Phase V
Prepared by May Engineering, LLC Timothy May, PE, Printed 10/10/2021
HydroCAD® 10.00-22 s/n 03977 © 2018 HydroCAD Software Solutions LLC

Summary for Subcatchment A - Proposed: 30.8 AC

Runoff = 30.88 cfs @ 12.85 hrs, Volume= 5.214 af, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=7.10"

	Area (ac)	CN	Description
*	0.576	98	Paved parking Driveways, HSG B
*	0.173	30	Rain Garden, HSG B
*	5.624	58	Lawn, HSG B
	24.430	55	Woods, Good, HSG B
	30.803	56	Weighted Average
	30.227		98.13% Pervious Area
	0.576		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.2	40	0.0100	0.03		**Sheet Flow, sheet flow upper** Woods: Dense underbrush n= 0.800 P2= 3.35"
12.9	1,650	0.1810	2.13		**Shallow Concentrated Flow, sloped woodland** Woodland Kv= 5.0 fps
9.7	400	0.0750	0.68		**Shallow Concentrated Flow, woodland gental slope** Forest w/Heavy Litter Kv= 2.5 fps
12.5	348	0.0086	0.46		**Shallow Concentrated Flow, level ground** Woodland Kv= 5.0 fps
58.3	2,438	Total			

Events for Subcatchment A - existing: 30.8 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	4.34	0.972	0.38
5-year	4.20	9.34	1.791	0.70
10 year	4.80	13.94	2.516	0.98
25 year	5.70	21.78	3.745	1.46
50-year	6.35	28.00	4.719	1.84
100 year	**7.10**	**35.62**	**5.919**	**2.31**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A - existing: 30.8 AC Runoff Area=30.800 ac 1.72% Impervious Runoff Depth>2.31"
Flow Length=2,438' Tc=58.3 min CN=59 Runoff=35.62 cfs 5.919 af

Reach 24R: Outfall from Area A Inflow=35.62 cfs 5.919 af
Outflow=35.62 cfs 5.919 af

Total Runoff Area = 30.800 ac Runoff Volume = 5.919 af Average Runoff Depth = 2.31"
98.28% Pervious = 30.271 ac 1.72% Impervious = 0.529 ac

Area A Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 10/10/2021

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.591	67	Brush, Poor, HSG B (A - existing)
1.870	85	Gravel roads, HSG B (A - existing)
0.529	98	Roofs, HSG B (A - existing)
23.810	55	Woods, Good, HSG B (A - existing)
30.800	**59**	**TOTAL AREA**

Area A Existing Nottingham Hills Subdivision Phase V

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
30.800	HSG B	A - existing
0.000	HSG C	
0.000	HSG D	
0.000	Other	
30.800		**TOTAL AREA**

Area A Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 10/10/2021

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	4.591	0.000	0.000	0.000	4.591	Brush, Poor	A - existing
0.000	1.870	0.000	0.000	0.000	1.870	Gravel roads	A - existing
0.000	0.529	0.000	0.000	0.000	0.529	Roofs	A - existing
0.000	23.810	0.000	0.000	0.000	23.810	Woods, Good	A - existing
0.000	**30.800**	**0.000**	**0.000**	**0.000**	**30.800**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

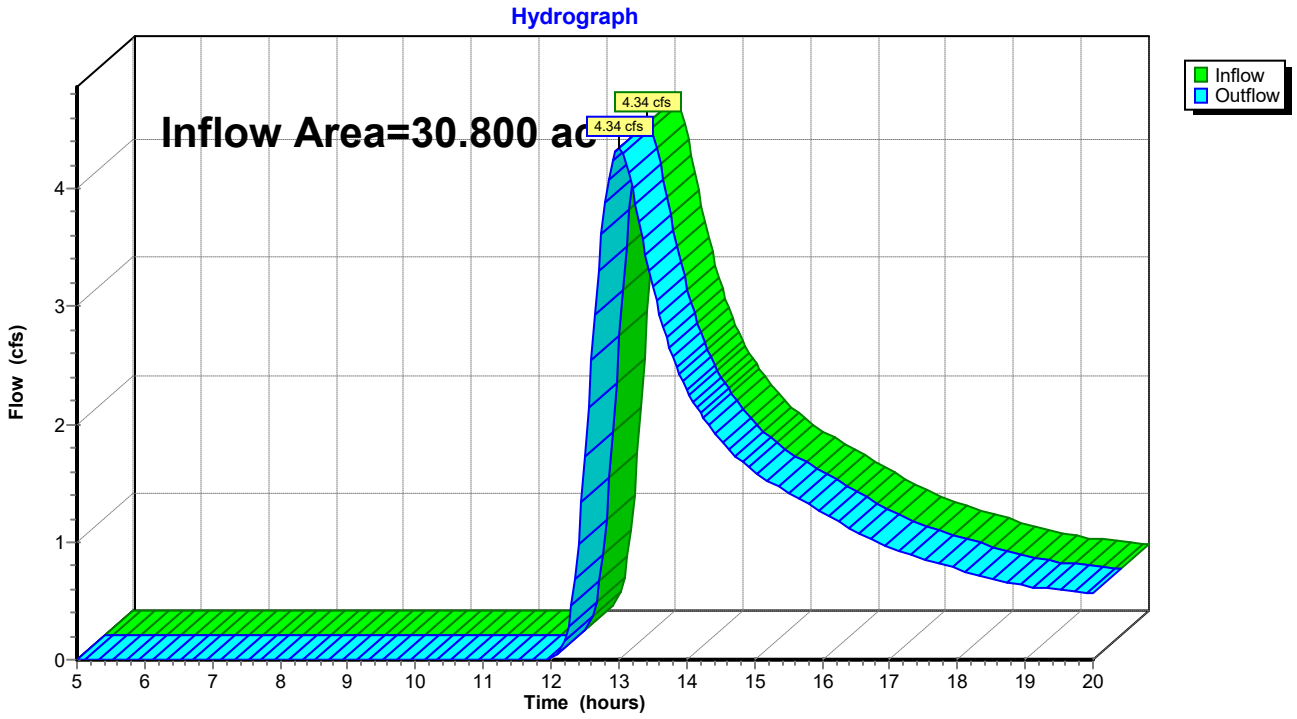
Reach 24R: Outfall from Area A Inflow=4.34 cfs 0.972 af
Outflow=4.34 cfs 0.972 af

Summary for Reach 24R: Outfall from Area A

Inflow Area = 30.800 ac, 1.72% Impervious, Inflow Depth > 0.38" for 2-year event
Inflow = 4.34 cfs @ 13.00 hrs, Volume= 0.972 af
Outflow = 4.34 cfs @ 13.00 hrs, Volume= 0.972 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

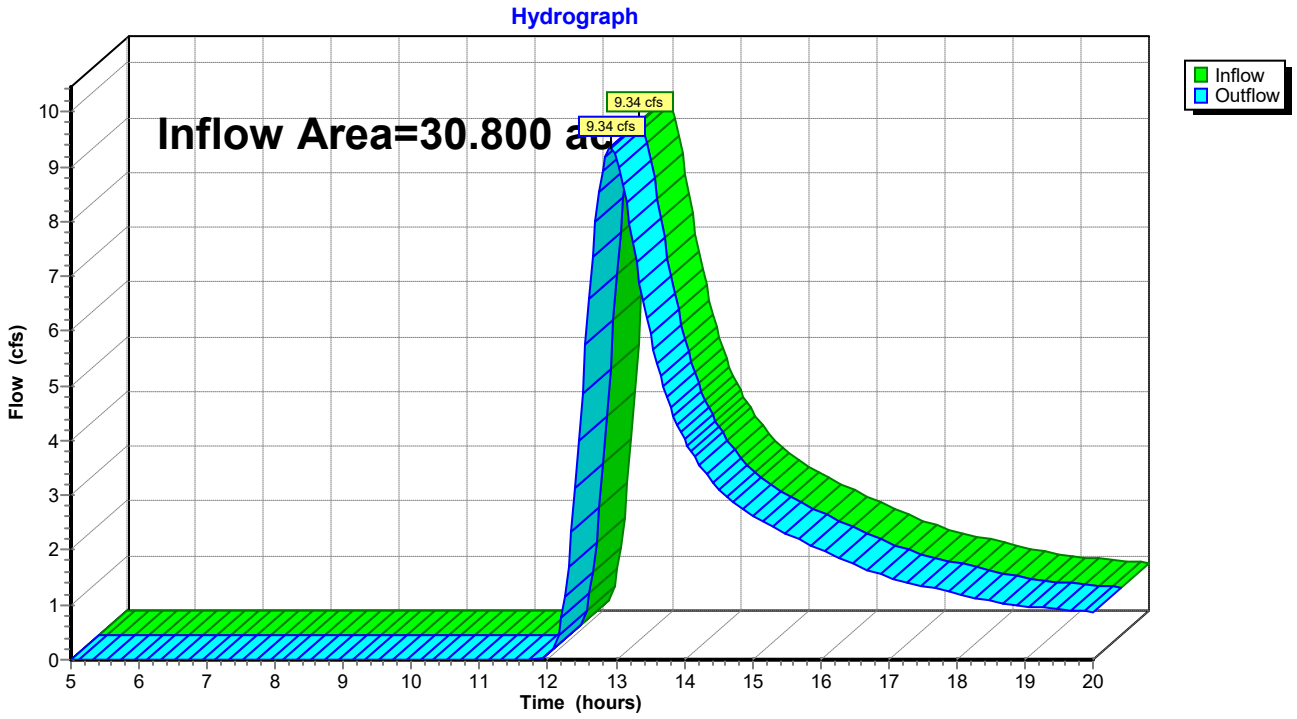
Reach 24R: Outfall from Area A Inflow=9.34 cfs 1.791 af
Outflow=9.34 cfs 1.791 af

Summary for Reach 24R: Outfall from Area A

Inflow Area = 30.800 ac, 1.72% Impervious, Inflow Depth > 0.70" for 5-year event
Inflow = 9.34 cfs @ 12.92 hrs, Volume= 1.791 af
Outflow = 9.34 cfs @ 12.92 hrs, Volume= 1.791 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

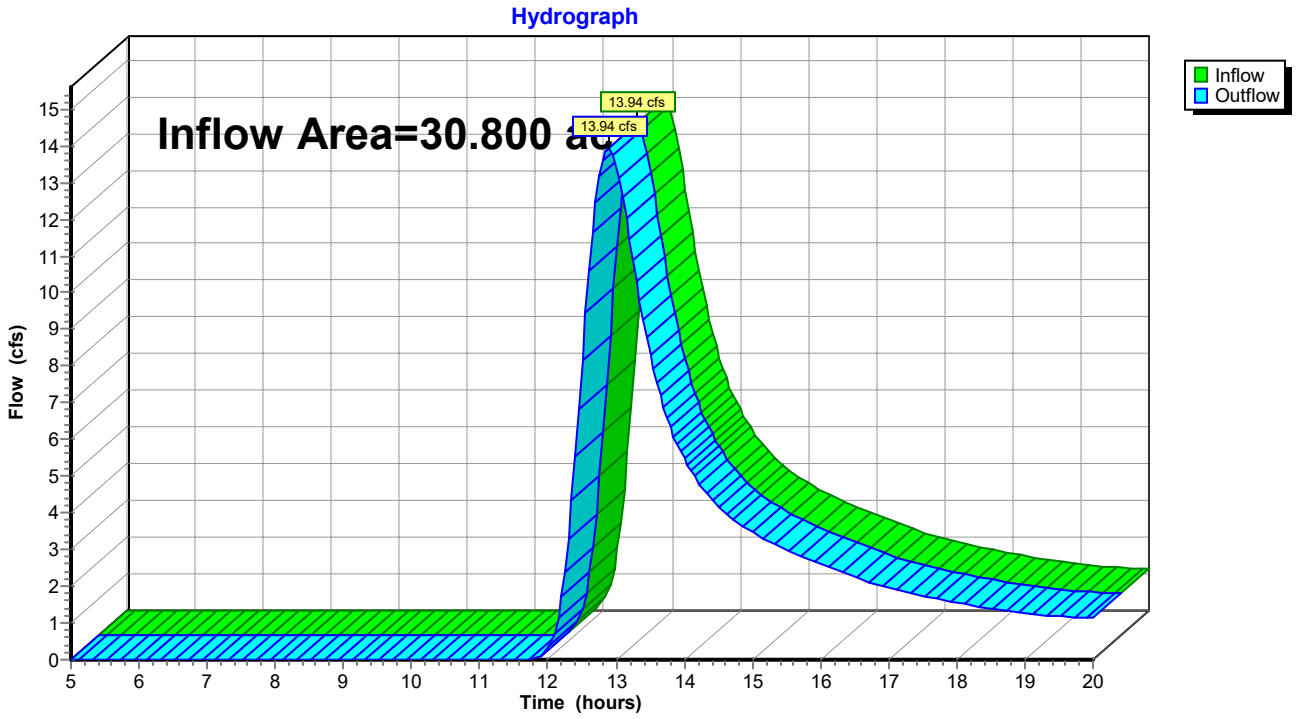
Reach 24R: Outfall from Area A Inflow=13.94 cfs 2.516 af
Outflow=13.94 cfs 2.516 af

Summary for Reach 24R: Outfall from Area A

Inflow Area = 30.800 ac, 1.72% Impervious, Inflow Depth > 0.98" for 10 year event
Inflow = 13.94 cfs @ 12.90 hrs, Volume= 2.516 af
Outflow = 13.94 cfs @ 12.90 hrs, Volume= 2.516 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

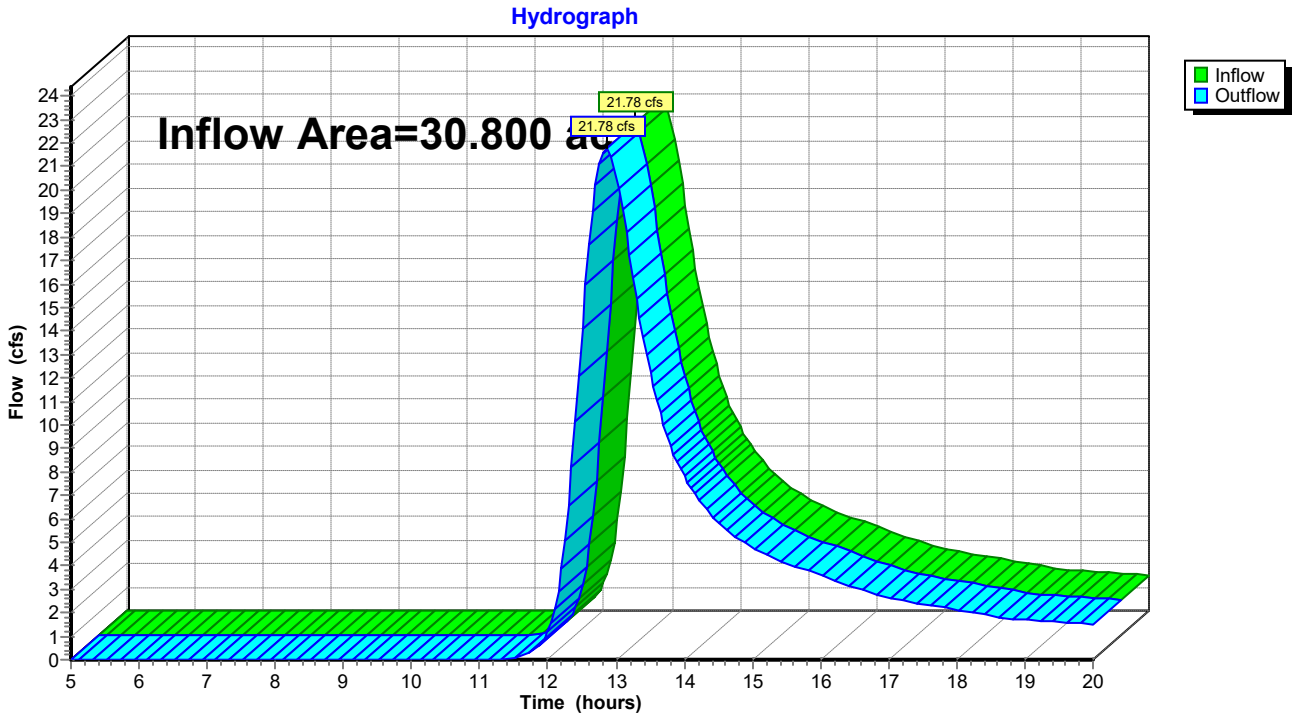
Reach 24R: Outfall from Area A Inflow=21.78 cfs 3.745 af
Outflow=21.78 cfs 3.745 af

Summary for Reach 24R: Outfall from Area A

Inflow Area = 30.800 ac, 1.72% Impervious, Inflow Depth > 1.46" for 25 year event
Inflow = 21.78 cfs @ 12.87 hrs, Volume= 3.745 af
Outflow = 21.78 cfs @ 12.87 hrs, Volume= 3.745 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

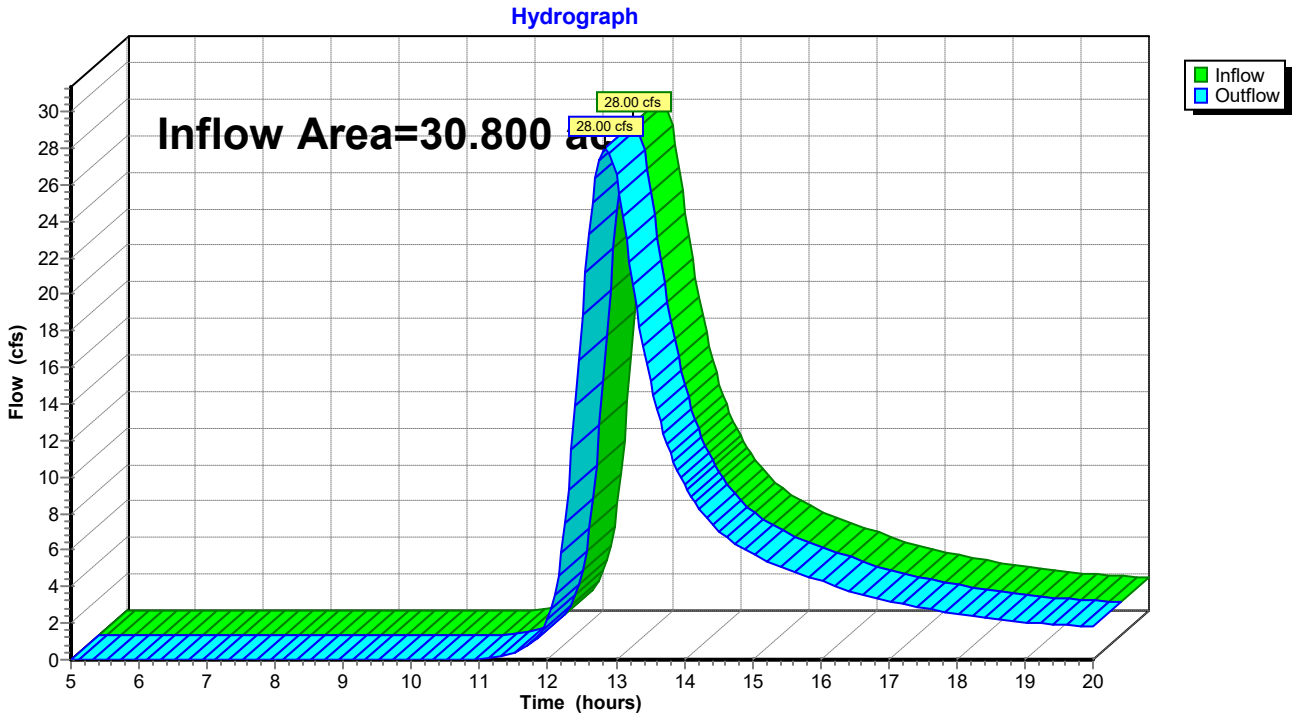
Reach 24R: Outfall from Area A Inflow=28.00 cfs 4.719 af
Outflow=28.00 cfs 4.719 af

Summary for Reach 24R: Outfall from Area A

Inflow Area = 30.800 ac, 1.72% Impervious, Inflow Depth > 1.84" for 50-year event
Inflow = 28.00 cfs @ 12.85 hrs, Volume= 4.719 af
Outflow = 28.00 cfs @ 12.85 hrs, Volume= 4.719 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

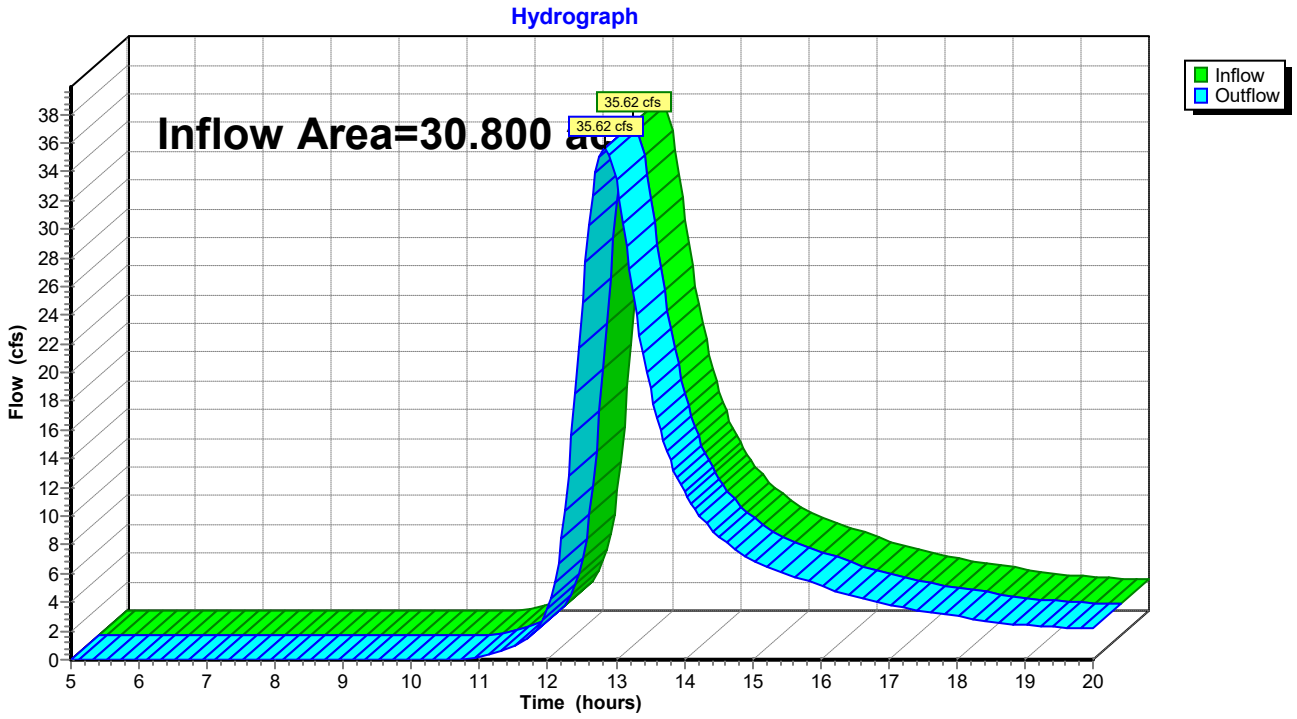
Reach 24R: Outfall from Area A Inflow=35.62 cfs 5.919 af
Outflow=35.62 cfs 5.919 af

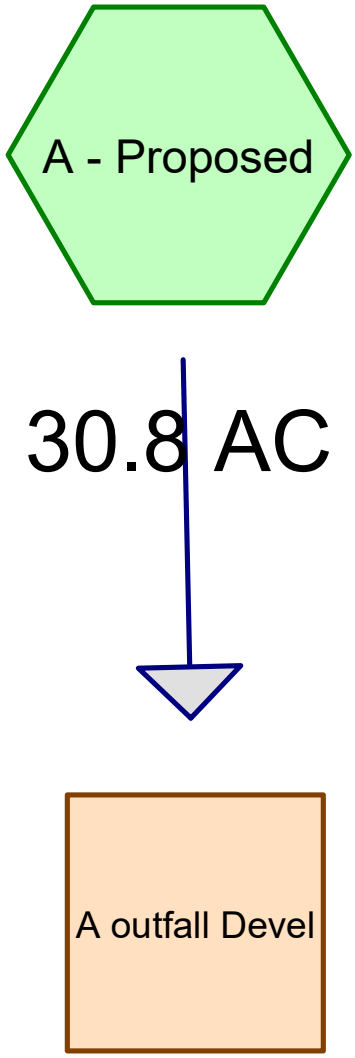
Summary for Reach 24R: Outfall from Area A

Inflow Area = 30.800 ac, 1.72% Impervious, Inflow Depth > 2.31" for 100 year event
Inflow = 35.62 cfs @ 12.84 hrs, Volume= 5.919 af
Outflow = 35.62 cfs @ 12.84 hrs, Volume= 5.919 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall from Area A





Outfall from Area A

Subcat Reach Pond Link

Routing Diagram for Area A Proposed Nottingham Hills Subdivision Phase V
Prepared by May Engineering, LLC Timothy May, PE, Printed 10/10/2021
HydroCAD® 10.00-22 s/n 03977 © 2018 HydroCAD Software Solutions LLC

Summary for Subcatchment A - Proposed: 30.8 AC

Runoff = 30.88 cfs @ 12.85 hrs, Volume= 5.214 af, Depth> 2.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=7.10"

	Area (ac)	CN	Description
*	0.576	98	Paved parking Driveways, HSG B
*	0.173	30	Rain Garden, HSG B
*	5.624	58	Lawn, HSG B
	24.430	55	Woods, Good, HSG B
	30.803	56	Weighted Average
	30.227		98.13% Pervious Area
	0.576		1.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.2	40	0.0100	0.03		**Sheet Flow, sheet flow upper** Woods: Dense underbrush n= 0.800 P2= 3.35"
12.9	1,650	0.1810	2.13		**Shallow Concentrated Flow, sloped woodland** Woodland Kv= 5.0 fps
9.7	400	0.0750	0.68		**Shallow Concentrated Flow, woodland gental slope** Forest w/Heavy Litter Kv= 2.5 fps
12.5	348	0.0086	0.46		**Shallow Concentrated Flow, level ground** Woodland Kv= 5.0 fps
58.3	2,438	Total			

Events for Subcatchment A - Proposed: 30.8 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	2.82	0.728	0.28
5-year	4.20	6.92	1.439	0.56
10 year	4.80	10.93	2.084	0.81
25 year	5.70	18.03	3.200	1.25
50-year	6.35	23.76	4.098	1.60
100 year	**7.10**	**30.88**	**5.214**	**2.03**

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment A - Proposed: 30.8 AC Runoff Area=30.803 ac 1.87% Impervious Runoff Depth>2.03"
Flow Length=2,438' Tc=58.3 min CN=56 Runoff=30.88 cfs 5.214 af

Reach A outfall Devel: Outfall from Area A Inflow=30.88 cfs 5.214 af
Outflow=30.88 cfs 5.214 af

Total Runoff Area = 30.803 ac Runoff Volume = 5.214 af Average Runoff Depth = 2.03"
98.13% Pervious = 30.227 ac 1.87% Impervious = 0.576 ac

Area A Proposed Nottingham Hills Subdivision Phase V

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.624	58	Lawn, HSG B (A - Proposed)
0.576	98	Paved parking Driveways, HSG B (A - Proposed)
0.173	30	Rain Garden, HSG B (A - Proposed)
24.430	55	Woods, Good, HSG B (A - Proposed)
30.803	**56**	**TOTAL AREA**

Area A Proposed Nottingham Hills Subdivision Phase V

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
30.803	HSG B	A - Proposed
0.000	HSG C	
0.000	HSG D	
0.000	Other	
30.803		**TOTAL AREA**

Area A Proposed Nottingham Hills Subdivision Phase V

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	5.624	0.000	0.000	0.000	5.624	Lawn	A - Proposed
0.000	0.576	0.000	0.000	0.000	0.576	Paved parking Driveways	A - Proposed
0.000	0.173	0.000	0.000	0.000	0.173	Rain Garden	A - Proposed
0.000	24.430	0.000	0.000	0.000	24.430	Woods, Good	A - Proposed
0.000	**30.803**	**0.000**	**0.000**	**0.000**	**30.803**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

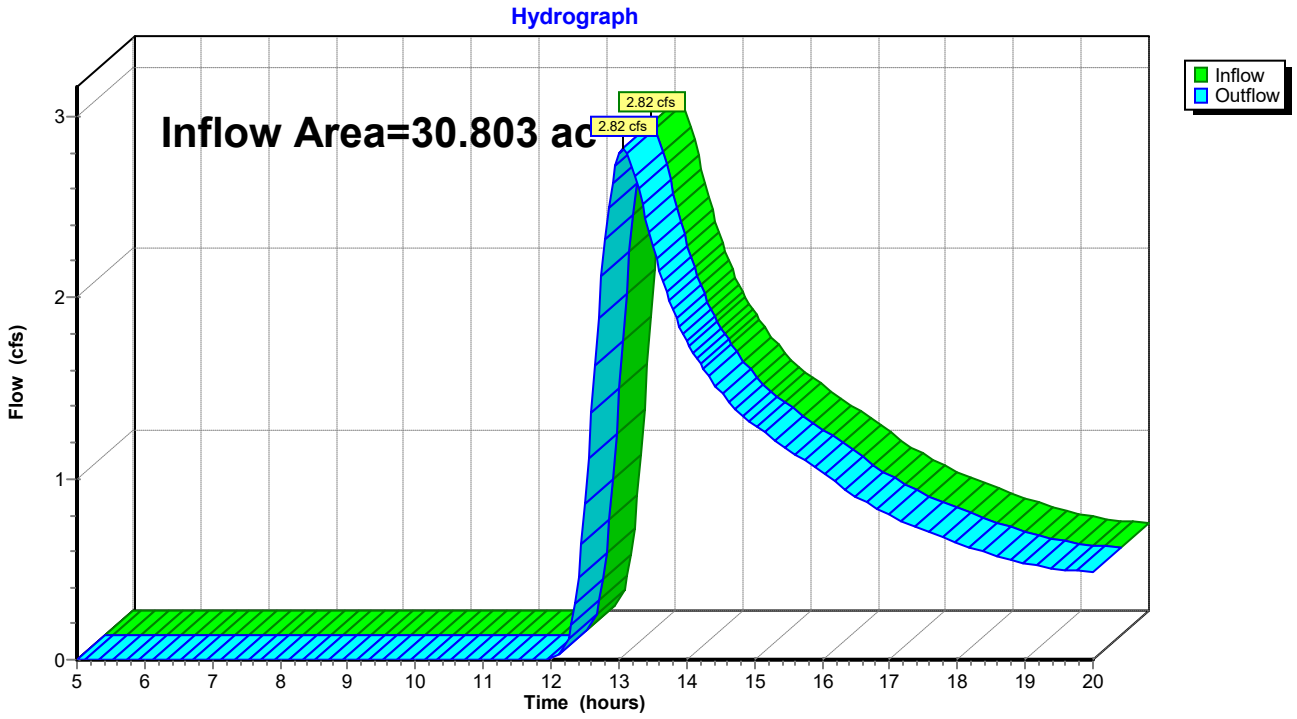
Reach A outfall Devel: Outfall from Area A Inflow=2.82 cfs 0.728 af
Outflow=2.82 cfs 0.728 af

Summary for Reach A outfall Devel: Outfall from Area A

Inflow Area = 30.803 ac, 1.87% Impervious, Inflow Depth > 0.28" for 2-year event
Inflow = 2.82 cfs @ 13.07 hrs, Volume= 0.728 af
Outflow = 2.82 cfs @ 13.07 hrs, Volume= 0.728 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A outfall Devel: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

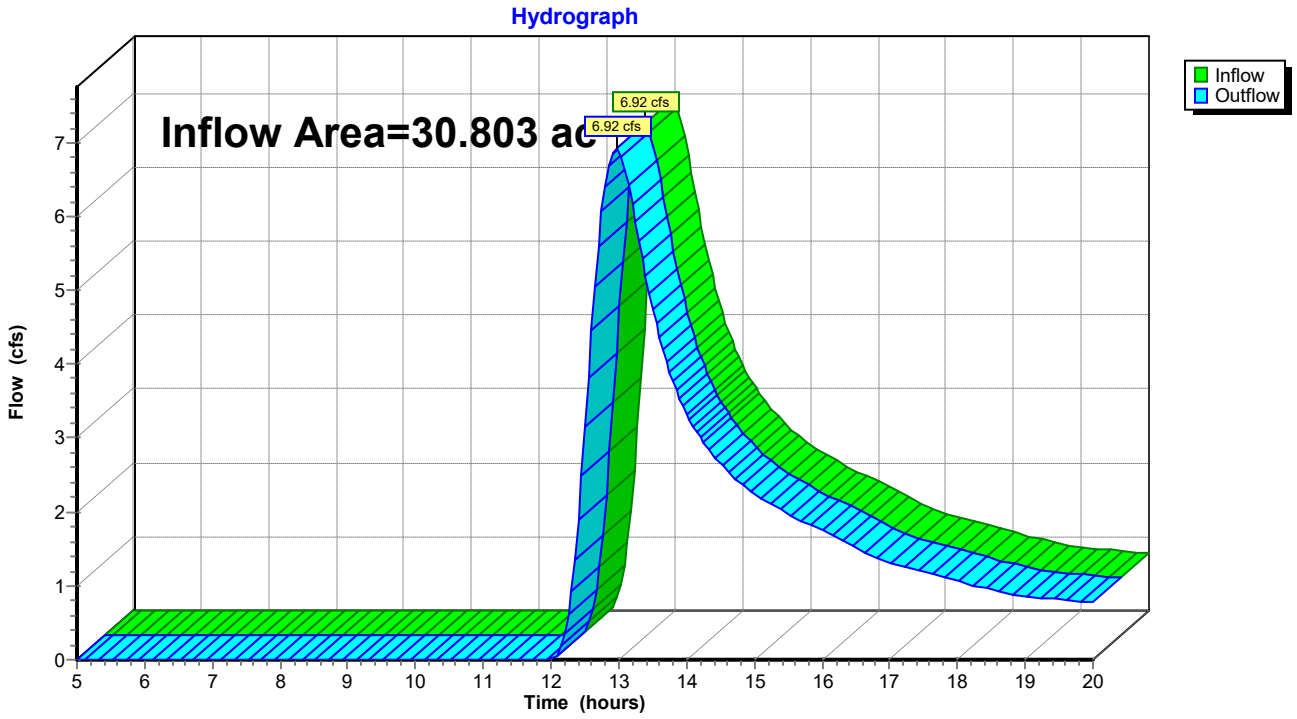
Reach A outfall Devel: Outfall from Area A Inflow=6.92 cfs 1.439 af
Outflow=6.92 cfs 1.439 af

Summary for Reach A outfall Devel: Outfall from Area A

Inflow Area = 30.803 ac, 1.87% Impervious, Inflow Depth > 0.56" for 5-year event
Inflow = 6.92 cfs @ 12.97 hrs, Volume= 1.439 af
Outflow = 6.92 cfs @ 12.97 hrs, Volume= 1.439 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A outfall Devel: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

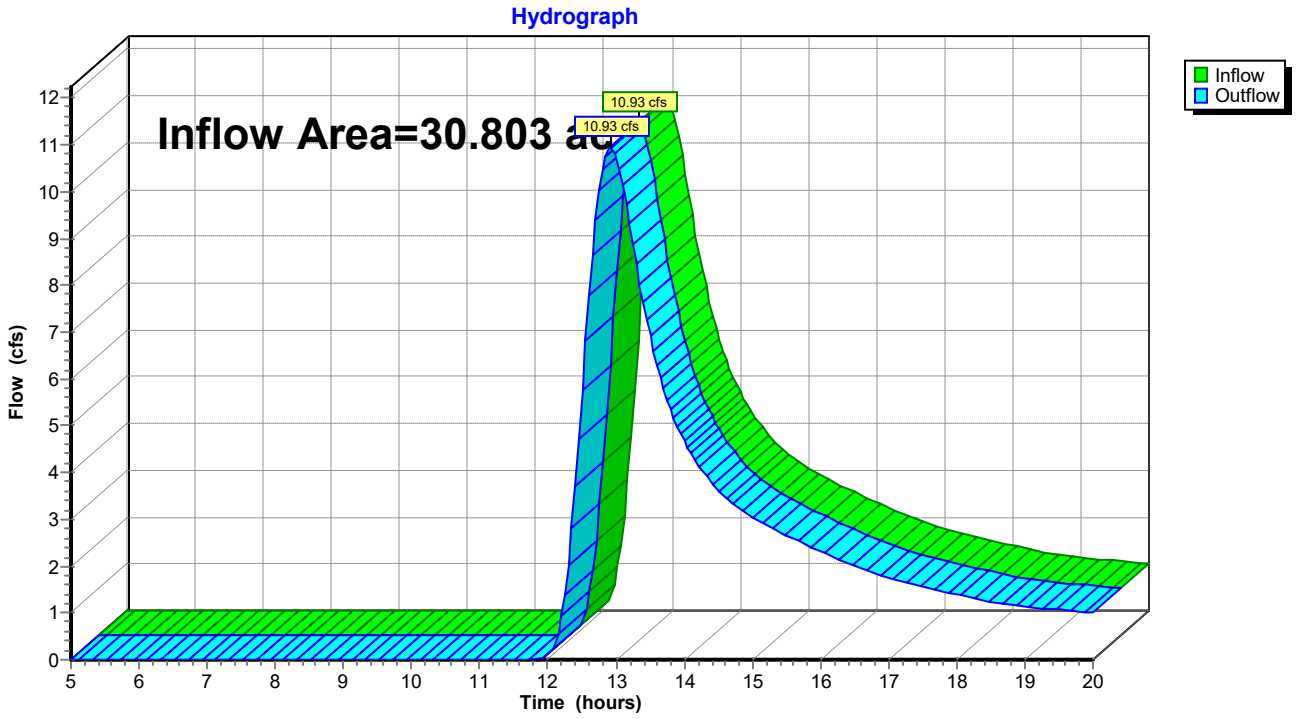
Reach A outfall Devel: Outfall from Area A Inflow=10.93 cfs 2.084 af
Outflow=10.93 cfs 2.084 af

Summary for Reach A outfall Devel: Outfall from Area A

Inflow Area = 30.803 ac, 1.87% Impervious, Inflow Depth > 0.81" for 10 year event
Inflow = 10.93 cfs @ 12.92 hrs, Volume= 2.084 af
Outflow = 10.93 cfs @ 12.92 hrs, Volume= 2.084 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A outfall Devel: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

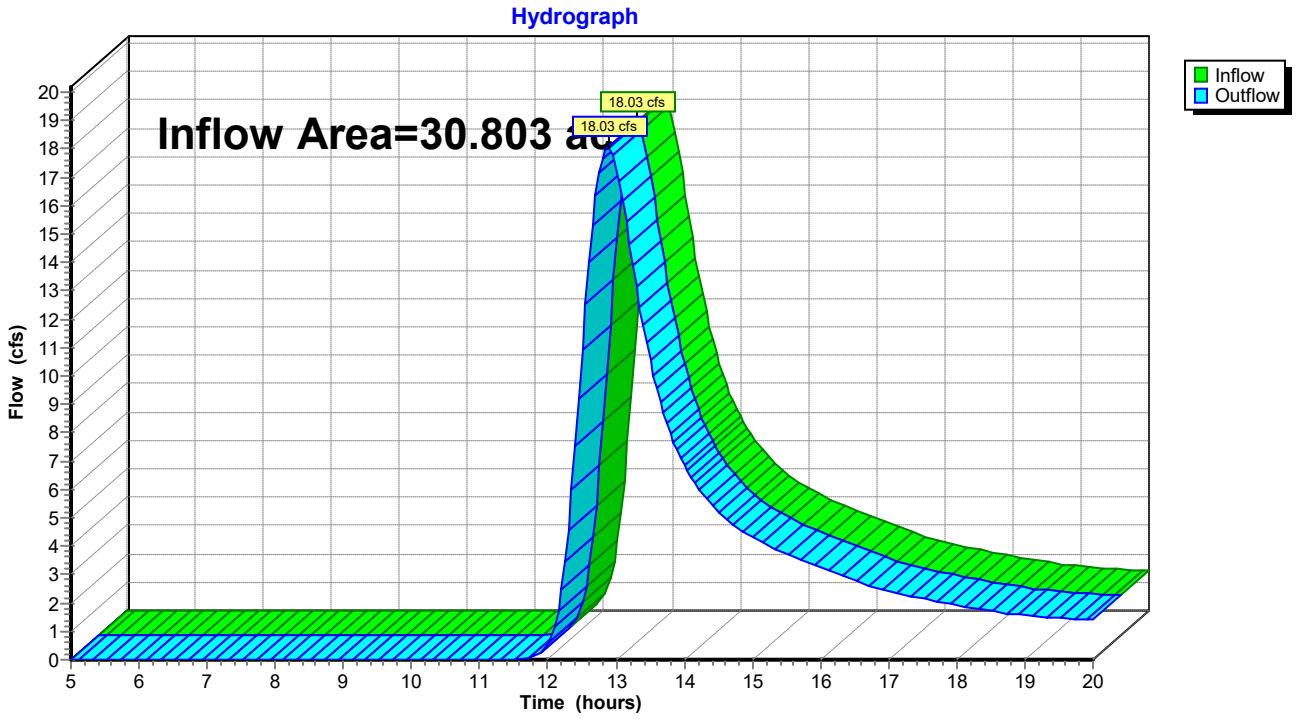
Reach A outfall Devel: Outfall from Area A Inflow=18.03 cfs 3.200 af
Outflow=18.03 cfs 3.200 af

Summary for Reach A outfall Devel: Outfall from Area A

Inflow Area = 30.803 ac, 1.87% Impervious, Inflow Depth > 1.25" for 25 year event
Inflow = 18.03 cfs @ 12.89 hrs, Volume= 3.200 af
Outflow = 18.03 cfs @ 12.89 hrs, Volume= 3.200 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A outfall Devel: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

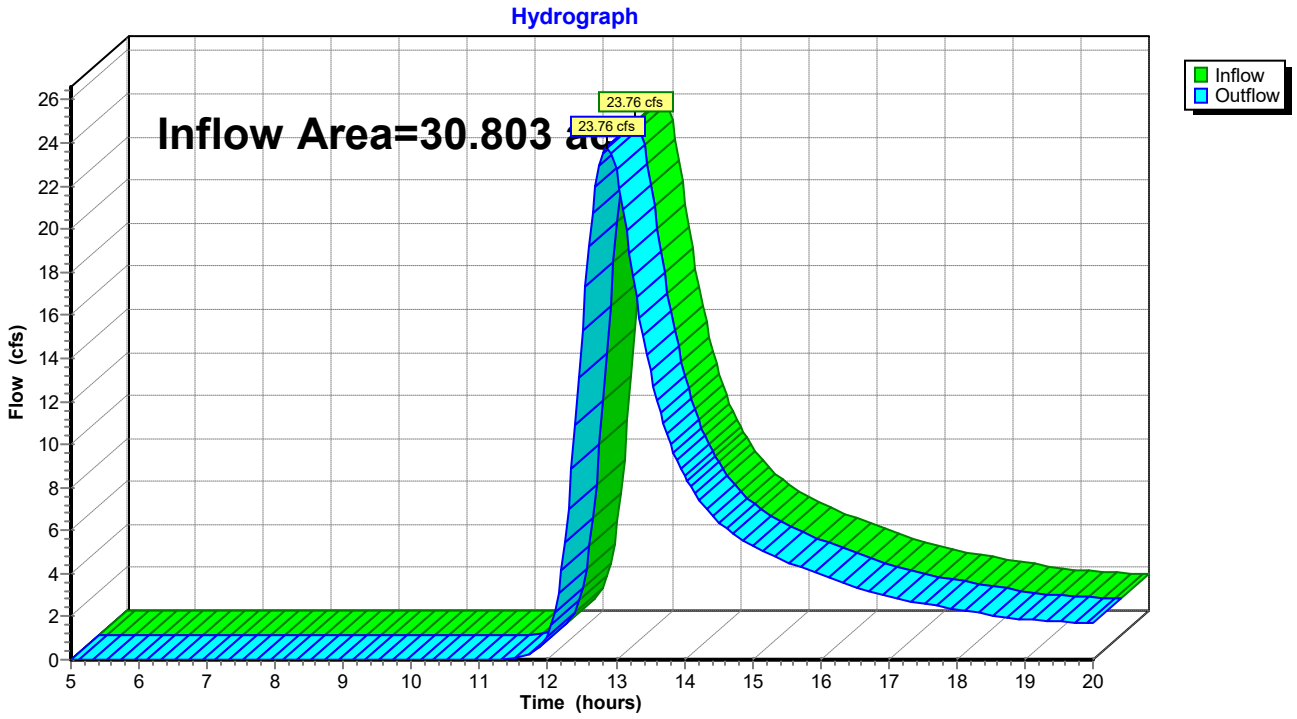
Reach A outfall Devel: Outfall from Area A Inflow=23.76 cfs 4.098 af
Outflow=23.76 cfs 4.098 af

Summary for Reach A outfall Devel: Outfall from Area A

Inflow Area = 30.803 ac, 1.87% Impervious, Inflow Depth > 1.60" for 50-year event
Inflow = 23.76 cfs @ 12.87 hrs, Volume= 4.098 af
Outflow = 23.76 cfs @ 12.87 hrs, Volume= 4.098 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A outfall Devel: Outfall from Area A



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

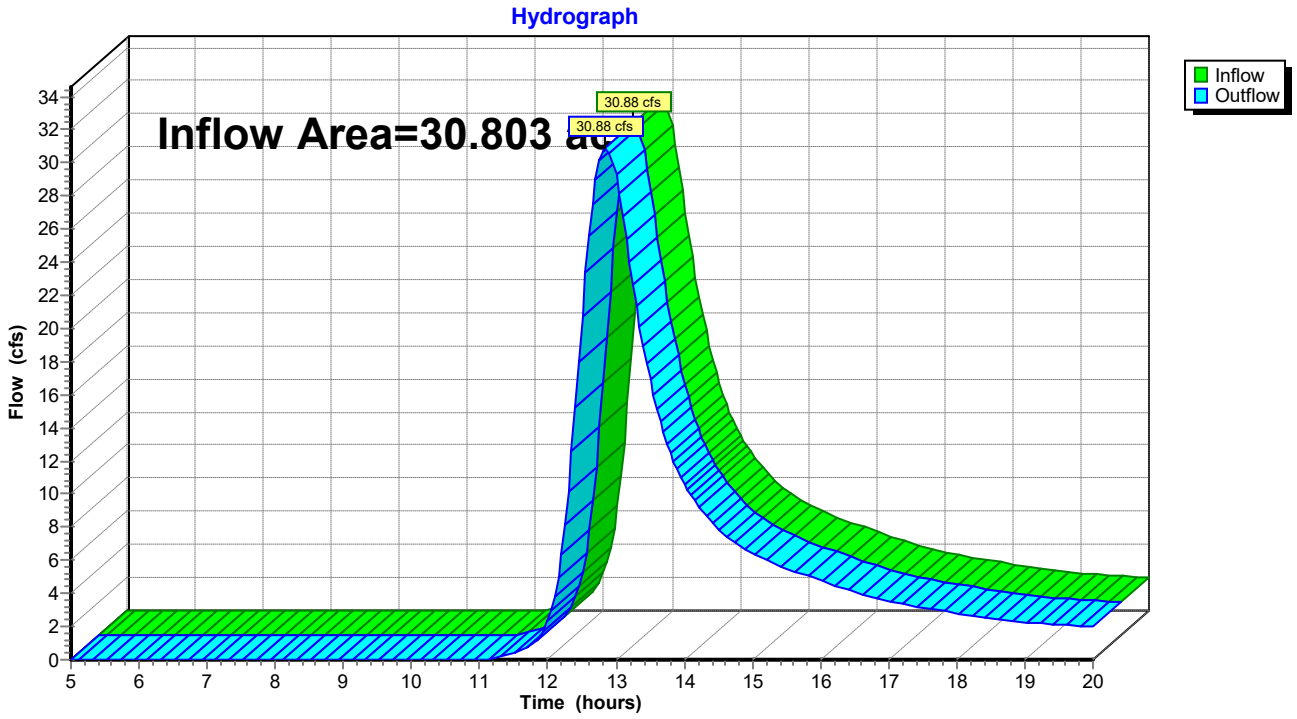
Reach A outfall Devel: Outfall from Area A Inflow=30.88 cfs 5.214 af
Outflow=30.88 cfs 5.214 af

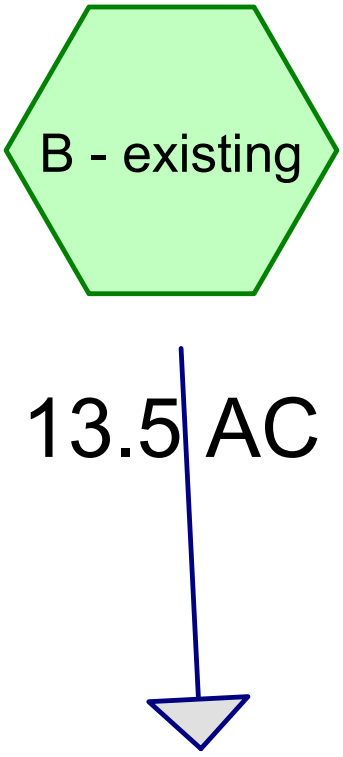
Summary for Reach A outfall Devel: Outfall from Area A

Inflow Area = 30.803 ac, 1.87% Impervious, Inflow Depth > 2.03" for 100 year event
Inflow = 30.88 cfs @ 12.85 hrs, Volume= 5.214 af
Outflow = 30.88 cfs @ 12.85 hrs, Volume= 5.214 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A outfall Devel: Outfall from Area A





Subcat Reach Pond Link

Routing Diagram for Area B Existing Nottingham Hills Subdivision Phase V
Prepared by May Engineering, LLC Timothy May, PE, Printed 10/10/2021
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Summary for Subcatchment B - existing: 13.5 AC

Runoff = 21.68 cfs @ 12.63 hrs, Volume= 3.039 af, Depth> 2.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=7.10"

	Area (ac)	CN	Description
*	0.203	98	Roofs tent decks , HSG B
	1.067	85	Gravel roads, HSG B
	12.230	60	Woods, Fair, HSG B
	13.500	63	Weighted Average
	13.297		98.50% Pervious Area
	0.203		1.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	30	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.35"
3.1	326	0.1200	1.73		**Shallow Concentrated Flow, sloped woodland** Woodland Kv= 5.0 fps
22.4	600	0.0080	0.45		**Shallow Concentrated Flow, level ground** Woodland Kv= 5.0 fps
43.9	956	Total			

Events for Subcatchment B - existing: 13.5 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	3.55	0.596	0.53
5 year	4.30	7.15	1.080	0.96
10 year	4.80	9.45	1.387	1.23
25 year	5.70	13.97	1.992	1.77
50 year	6.30	17.19	2.427	2.16
100 year	**7.10**	**21.68**	**3.039**	**2.70**

Area B Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 10/10/2021

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.067	85	Gravel roads, HSG B (B - existing)
0.203	98	Roofs tent decks , HSG B (B - existing)
12.230	60	Woods, Fair, HSG B (B - existing)
13.500	**63**	**TOTAL AREA**

Area B Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 10/10/2021

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
13.500	HSG B	B - existing
0.000	HSG C	
0.000	HSG D	
0.000	Other	
13.500		**TOTAL AREA**

Area B Existing Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 10/10/2021

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.067	0.000	0.000	0.000	1.067	Gravel roads	B - existing
0.000	0.203	0.000	0.000	0.000	0.203	Roofs tent decks	B - existing
0.000	12.230	0.000	0.000	0.000	12.230	Woods, Fair	B - existing
0.000	**13.500**	**0.000**	**0.000**	**0.000**	**13.500**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

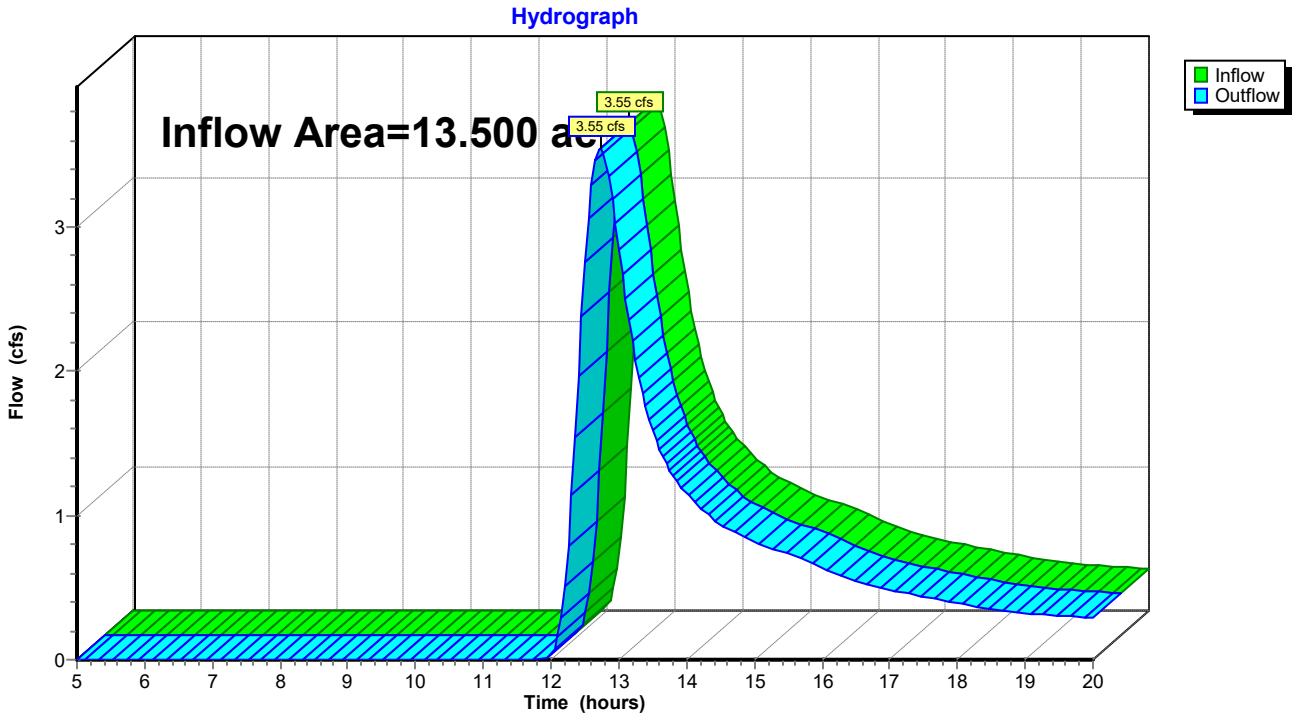
Reach 24R: Outfall Inflow=3.55 cfs 0.596 af
Outflow=3.55 cfs 0.596 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 1.50% Impervious, Inflow Depth > 0.53" for 2-year event
Inflow = 3.55 cfs @ 12.73 hrs, Volume= 0.596 af
Outflow = 3.55 cfs @ 12.73 hrs, Volume= 0.596 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

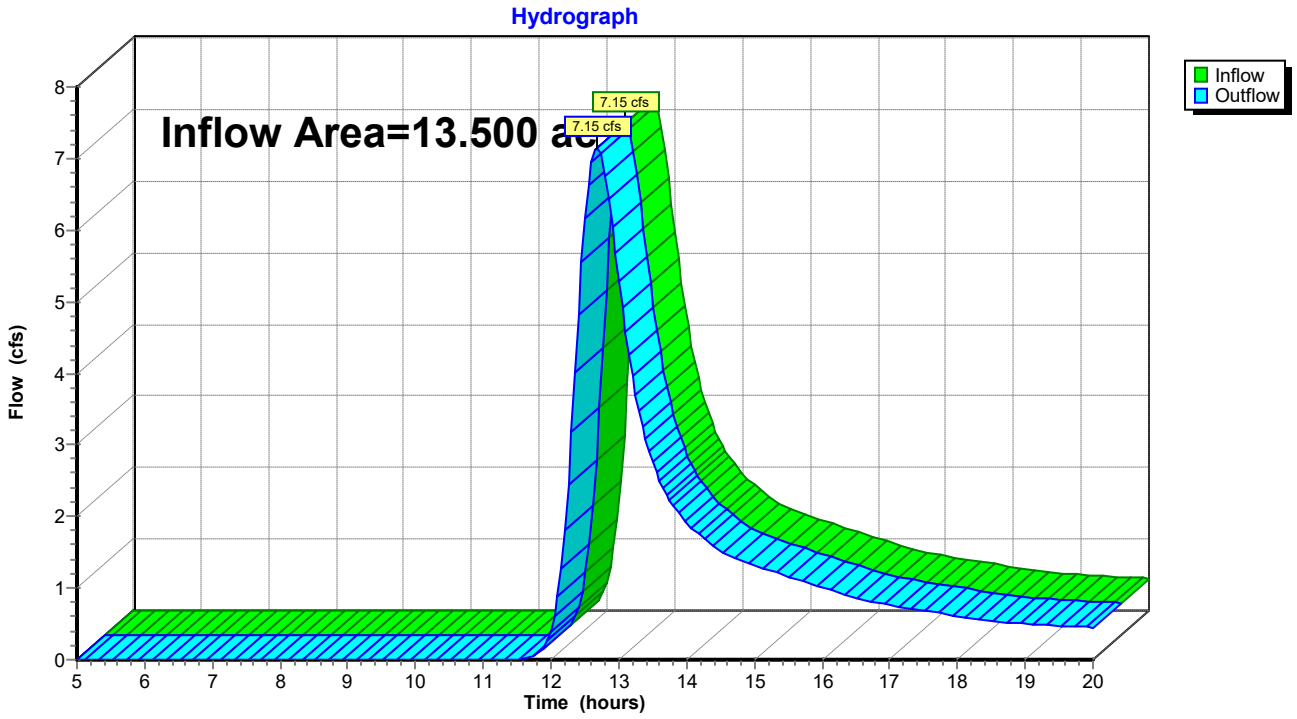
Reach 24R: Outfall Inflow=7.15 cfs 1.080 af
Outflow=7.15 cfs 1.080 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 1.50% Impervious, Inflow Depth > 0.96" for 5 year event
Inflow = 7.15 cfs @ 12.68 hrs, Volume= 1.080 af
Outflow = 7.15 cfs @ 12.68 hrs, Volume= 1.080 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

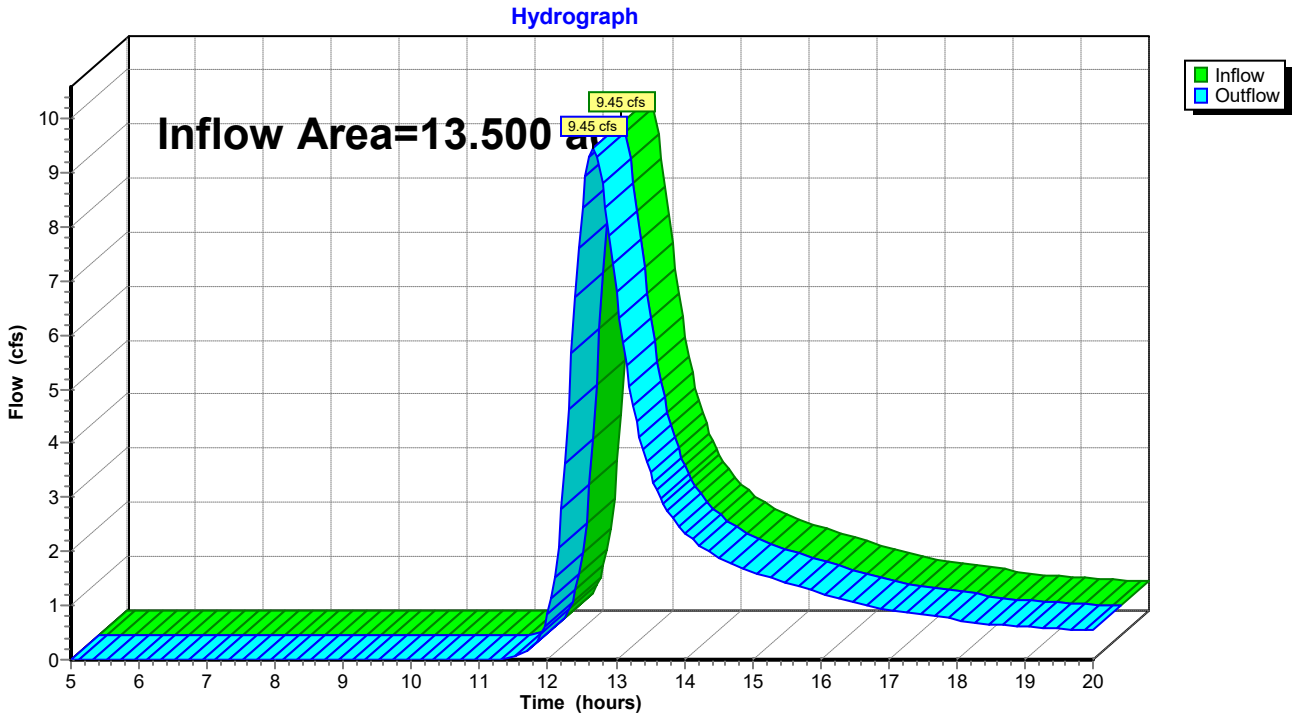
Reach 24R: Outfall Inflow=9.45 cfs 1.387 af
Outflow=9.45 cfs 1.387 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 1.50% Impervious, Inflow Depth > 1.23" for 10 year event
Inflow = 9.45 cfs @ 12.66 hrs, Volume= 1.387 af
Outflow = 9.45 cfs @ 12.66 hrs, Volume= 1.387 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

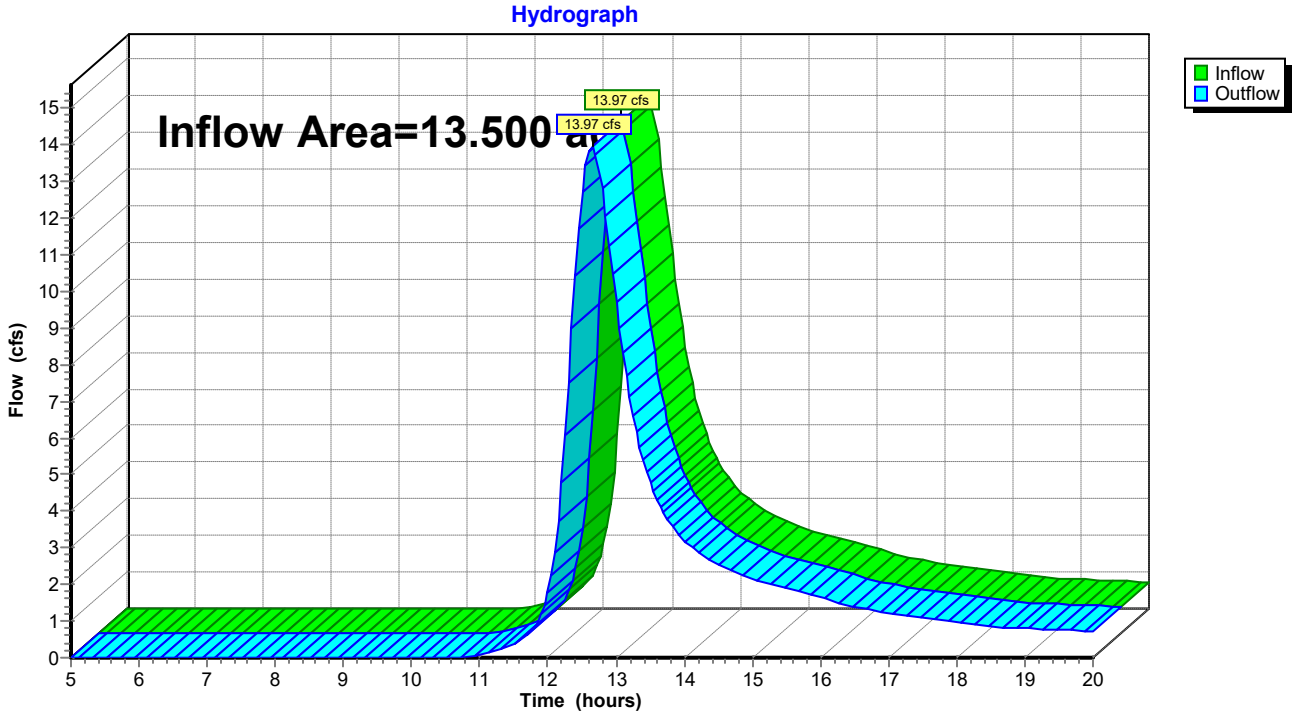
Reach 24R: Outfall Inflow=13.97 cfs 1.992 af
Outflow=13.97 cfs 1.992 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 1.50% Impervious, Inflow Depth > 1.77" for 25 year event
Inflow = 13.97 cfs @ 12.65 hrs, Volume= 1.992 af
Outflow = 13.97 cfs @ 12.65 hrs, Volume= 1.992 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

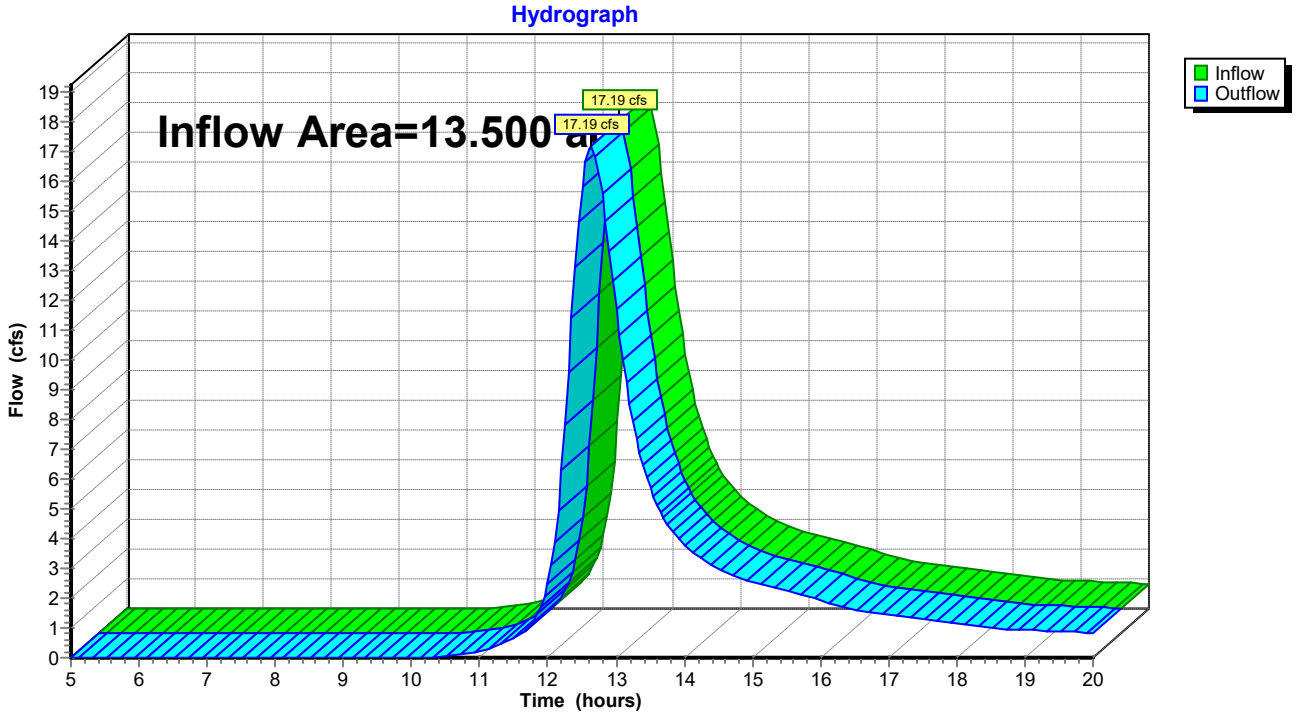
Reach 24R: Outfall Inflow=17.19 cfs 2.427 af
Outflow=17.19 cfs 2.427 af

Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 1.50% Impervious, Inflow Depth > 2.16" for 50 year event
Inflow = 17.19 cfs @ 12.64 hrs, Volume= 2.427 af
Outflow = 17.19 cfs @ 12.64 hrs, Volume= 2.427 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

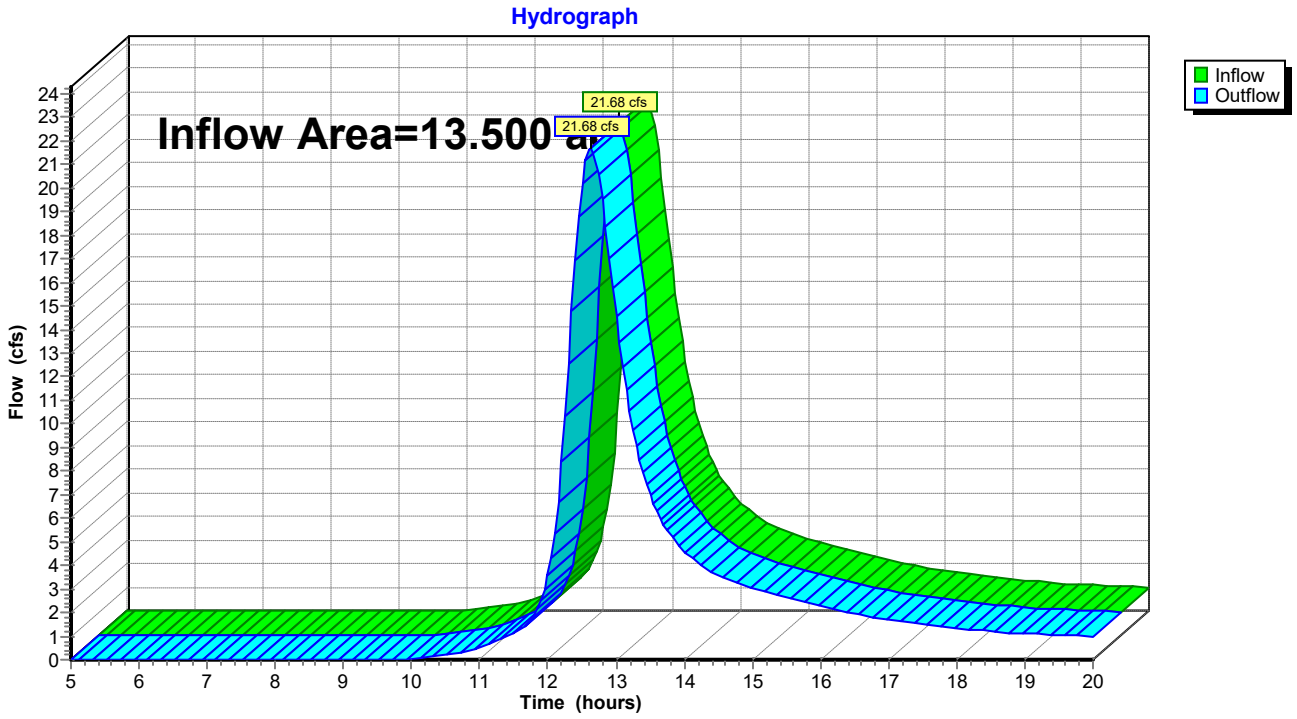
Reach 24R: Outfall Inflow=21.68 cfs 3.039 af
Outflow=21.68 cfs 3.039 af

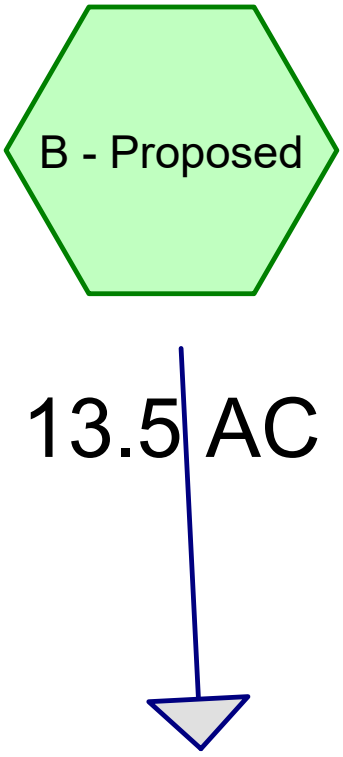
Summary for Reach 24R: Outfall

Inflow Area = 13.500 ac, 1.50% Impervious, Inflow Depth > 2.70" for 100 year event
Inflow = 21.68 cfs @ 12.63 hrs, Volume= 3.039 af
Outflow = 21.68 cfs @ 12.63 hrs, Volume= 3.039 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 24R: Outfall





Subcat Reach Pond Link

Routing Diagram for Area B Proposedg Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE, Printed 10/10/2021

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Summary for Subcatchment B - Proposed: 13.5 AC

Runoff = 19.23 cfs @ 12.64 hrs, Volume= 2.717 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=7.10"

	Area (ac)	CN	Description
*	0.275	30	roof to Rain gardens
*	0.264	98	Driveways Paved, HSG B
*	1.200	60	Lawns grass, HSG B
	11.761	60	Woods, Fair, HSG B
	13.500	60	Weighted Average
	13.236		98.04% Pervious Area
	0.264		1.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.4	30	0.0100	0.03		**Sheet Flow,** Woods: Dense underbrush n= 0.800 P2= 3.35"
3.1	326	0.1200	1.73		**Shallow Concentrated Flow, sloped woodland** Woodland Kv= 5.0 fps
22.4	600	0.0080	0.45		**Shallow Concentrated Flow, level ground** Woodland Kv= 5.0 fps
43.9	956	Total			

Events for Subcatchment B - Proposed: 13.5 AC

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-year	3.40	2.54	0.470	0.42
5 year	4.30	5.67	0.900	0.80
10 year	4.80	7.75	1.178	1.05
25 year	5.70	11.94	1.736	1.54
50 year	6.30	14.97	2.142	1.90
100 year	**7.10**	**19.23**	**2.717**	**2.42**

Area B Proposedg Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.264	98	Driveways Paved, HSG B (B - Proposed)
1.200	60	Lawns grass, HSG B (B - Proposed)
11.761	60	Woods, Fair, HSG B (B - Proposed)
0.275	30	roof to Rain gardens (B - Proposed)
13.500	**60**	**TOTAL AREA**

Area B Proposedg Nottingham Hills Subdivision Phase V

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
13.225	HSG B	B - Proposed
0.000	HSG C	
0.000	HSG D	
0.275	Other	B - Proposed
13.500		**TOTAL AREA**

Area B Proposedg Nottingham Hills Subdivision Phase V

Prepared by May Engineering, LLC Timothy May, PE Printed 10/10/2021

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.264	0.000	0.000	0.000	0.264	Driveways Paved	B - Proposed
0.000	1.200	0.000	0.000	0.000	1.200	Lawns grass	B - Proposed
0.000	11.761	0.000	0.000	0.000	11.761	Woods, Fair	B - Proposed
0.000	0.000	0.000	0.000	0.275	0.275	roof to Rain gardens	B - Proposed
0.000	**13.225**	**0.000**	**0.000**	**0.275**	**13.500**	**TOTAL AREA**	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

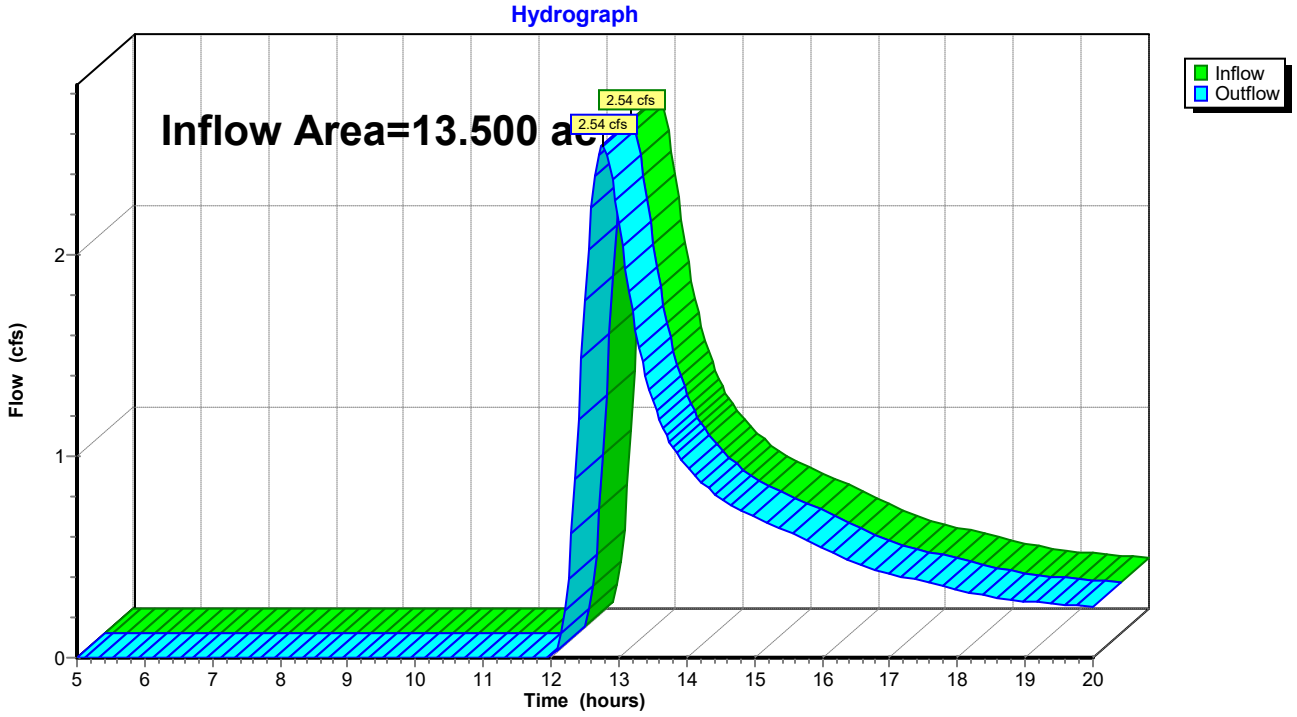
Reach B prop Outfall: Outfall Inflow=2.54 cfs 0.470 af
Outflow=2.54 cfs 0.470 af

Summary for Reach B prop Outfall: Outfall

Inflow Area = 13.500 ac, 1.96% Impervious, Inflow Depth > 0.42" for 2-year event
Inflow = 2.54 cfs @ 12.76 hrs, Volume= 0.470 af
Outflow = 2.54 cfs @ 12.76 hrs, Volume= 0.470 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach B prop Outfall: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

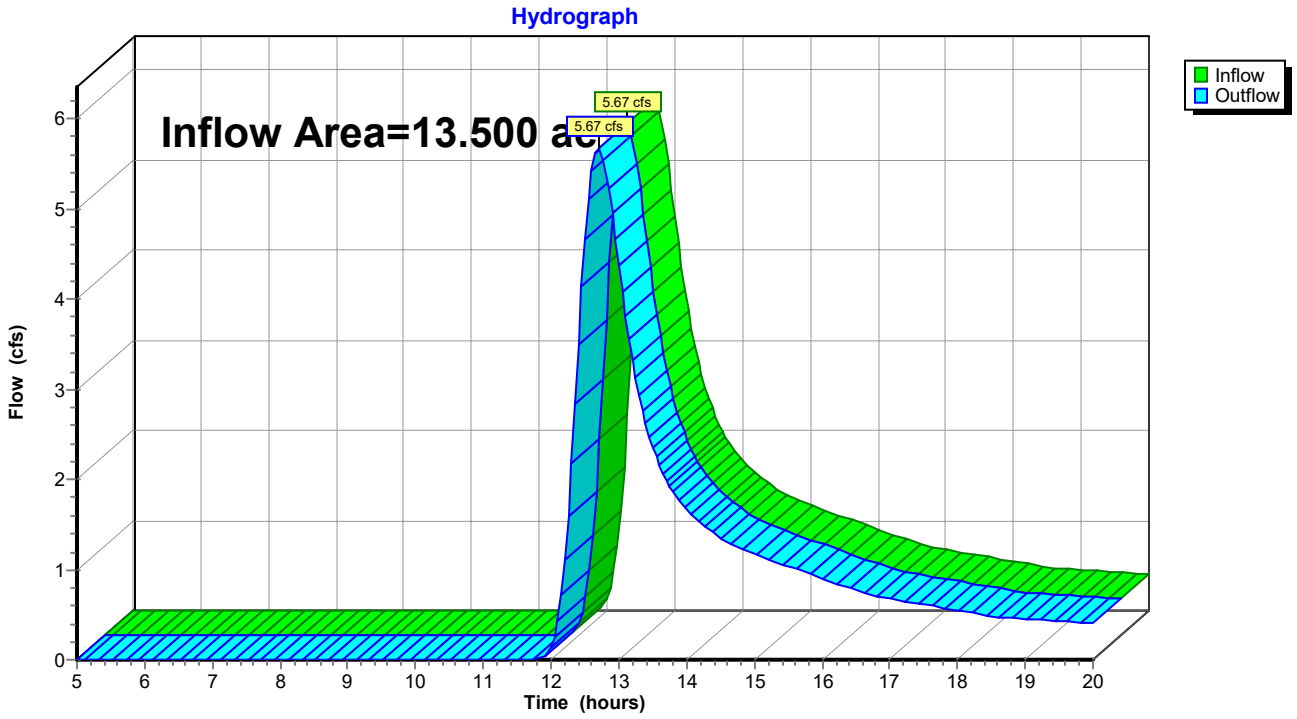
Reach B prop Outfall: Outfall Inflow=5.67 cfs 0.900 af
Outflow=5.67 cfs 0.900 af

Summary for Reach B prop Outfall: Outfall

Inflow Area = 13.500 ac, 1.96% Impervious, Inflow Depth > 0.80" for 5 year event
Inflow = 5.67 cfs @ 12.70 hrs, Volume= 0.900 af
Outflow = 5.67 cfs @ 12.70 hrs, Volume= 0.900 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach B prop Outfall: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

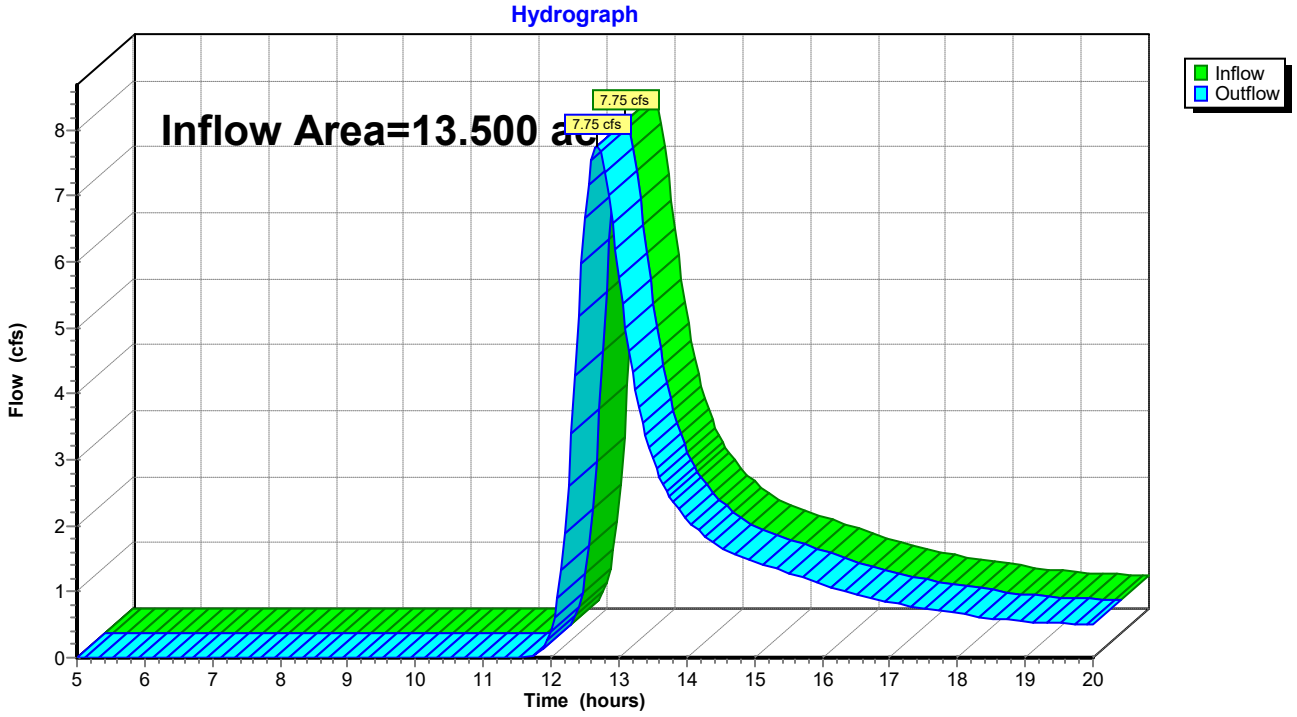
Reach B prop Outfall: Outfall Inflow=7.75 cfs 1.178 af
Outflow=7.75 cfs 1.178 af

Summary for Reach B prop Outfall: Outfall

Inflow Area = 13.500 ac, 1.96% Impervious, Inflow Depth > 1.05" for 10 year event
Inflow = 7.75 cfs @ 12.68 hrs, Volume= 1.178 af
Outflow = 7.75 cfs @ 12.68 hrs, Volume= 1.178 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach B prop Outfall: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

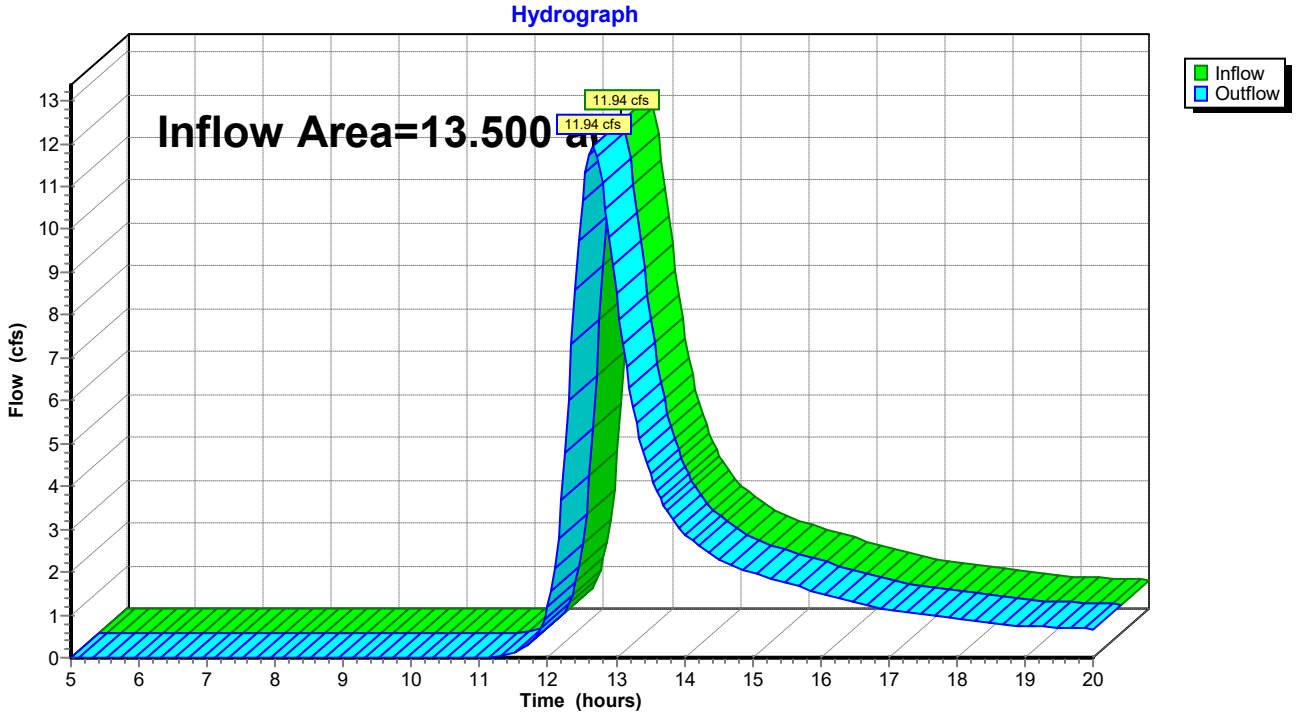
Reach B prop Outfall: Outfall Inflow=11.94 cfs 1.736 af
Outflow=11.94 cfs 1.736 af

Summary for Reach B prop Outfall: Outfall

Inflow Area = 13.500 ac, 1.96% Impervious, Inflow Depth > 1.54" for 25 year event
Inflow = 11.94 cfs @ 12.66 hrs, Volume= 1.736 af
Outflow = 11.94 cfs @ 12.66 hrs, Volume= 1.736 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach B prop Outfall: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

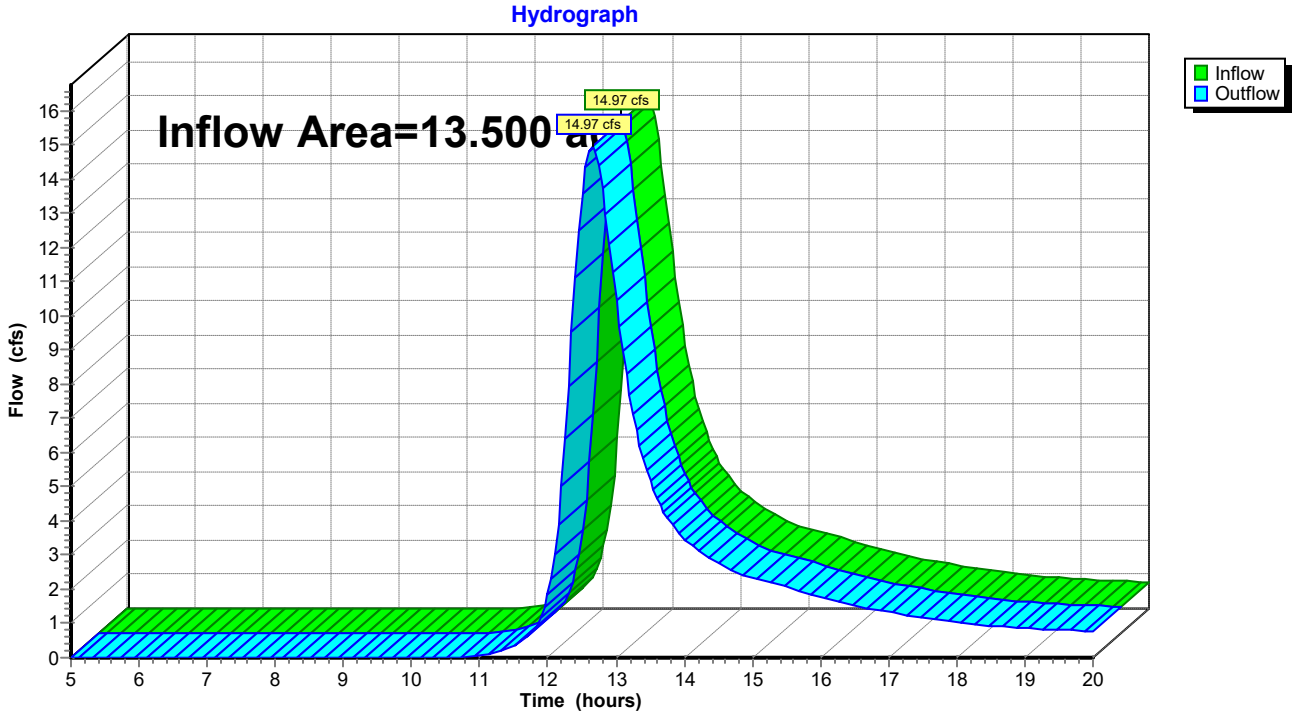
Reach B prop Outfall: Outfall Inflow=14.97 cfs 2.142 af
Outflow=14.97 cfs 2.142 af

Summary for Reach B prop Outfall: Outfall

Inflow Area = 13.500 ac, 1.96% Impervious, Inflow Depth > 1.90" for 50 year event
Inflow = 14.97 cfs @ 12.65 hrs, Volume= 2.142 af
Outflow = 14.97 cfs @ 12.65 hrs, Volume= 2.142 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach B prop Outfall: Outfall



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

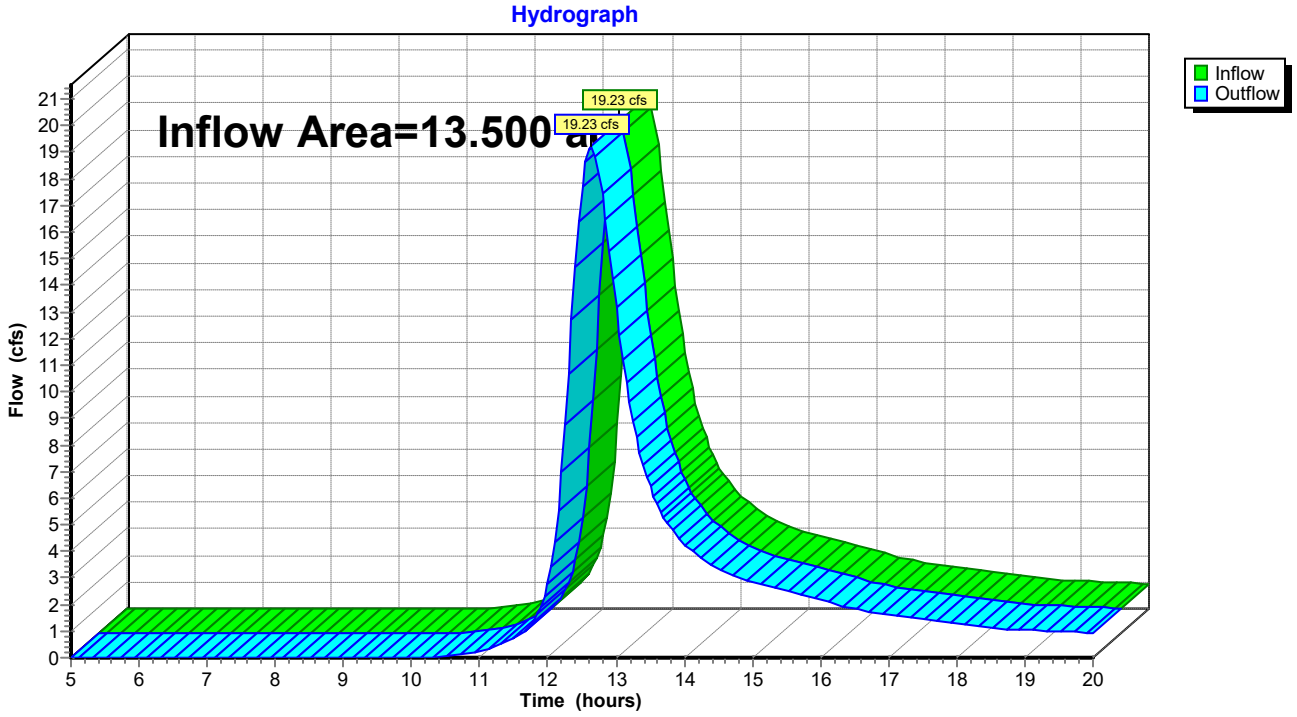
Reach B prop Outfall: Outfall Inflow=19.23 cfs 2.717 af
Outflow=19.23 cfs 2.717 af

Summary for Reach B prop Outfall: Outfall

Inflow Area = 13.500 ac, 1.96% Impervious, Inflow Depth > 2.42" for 100 year event
Inflow = 19.23 cfs @ 12.64 hrs, Volume= 2.717 af
Outflow = 19.23 cfs @ 12.64 hrs, Volume= 2.717 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach B prop Outfall: Outfall



Rain Gardens

Water Quality Volume rainfall event 1” WQV rainfall

where:

P = design precipitation, inches (1” for water quality storm)
A = drainage area (*acres*) roof area 2,400 sf >> 0.055 ac
V = runoff volume CF
V= (1”/12)ft x 2400 sf = ***200 CF***

Rain Garden size 10-feet wide X 20 -feet long x 1-foot deep= 200CF

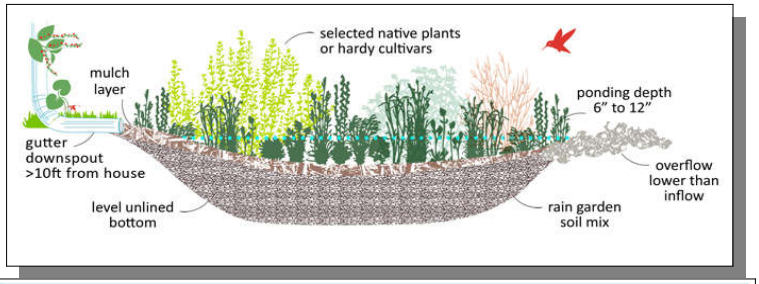
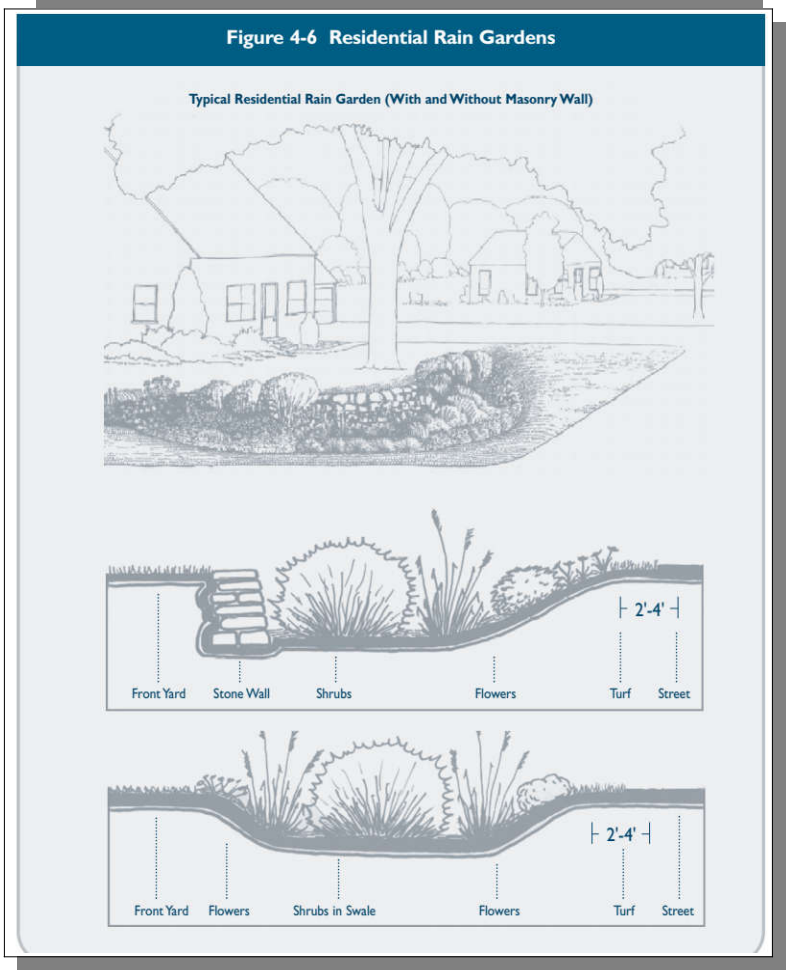


Figure 4-6 Residential Rain Gardens



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October 12, 2021

Kirk Scott, Chairman
Town of East Lyme
Planning Commission
108 Pennsylvania Avenue
Niantic, CT 06357

Re: Nottingham Hills Subdivision/Phase IV

Dear Chairman Scott:

Pursuant to Connecticut General Statue 8-7d(b) this correspondence shall serve as the applicant's, Kristen T. Clarke P.E. and English Harbour Asset Management LLC, consent to extend the public hearing to its November 2021 regularly scheduled meeting. Responses to staff comments were submitted today.

Sincerely,

Paul Geraghty, Esq.

Ex K

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