

2 LOT SUBDIVISION PLAN FOR

DUBE PLUS CONSTRUCTION

TAX MAP 283, LOT 11

HEMLOCK WAY, PORTSMOUTH, NH 03801

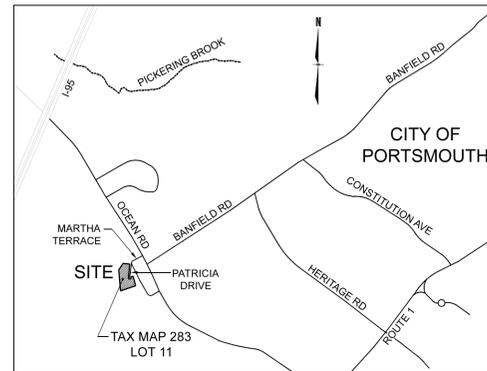
ROCKINGHAM CO.

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
4. THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
5. THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
6. DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:

MIN. ROAD FRONTAGE	=150'
MIN. LOT DEPTH	=200'
MIN. LOT SIZE	=43,560 SF (1 ACRE)
MIN. ROAD SETBACK	=30'
MIN. REAR SETBACK	=40'
MIN. SIDE SETBACK	=20'
WETLAND/WATERBODY SETBACK	=100'
WETLAND/LIMITED CUT	=50'
WETLAND/VEGETATED BUFFER STRIP	=25'
MAXIMUM STRUCTURE HEIGHT	=35'
SEPTIC SETBACK	=75' HYDRIC SOILS

 OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)
7. THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E. EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
18. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 83.
20. EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.



LOCATION PLAN

SCALE: 1"=2,000'

SHEET INDEX

DWG	SHT. NO.	DESCRIPTION
CVR	1 OF 10	COVER SHEET
ECP	2 OF 10	EXISTING CONDITIONS PLAN
DMP	3 OF 10	DEMOLITION PLAN
PGP	4 OF 10	PROPOSED GRADING PLAN
PDPP	5 OF 10	PROPOSED DRIVEWAY PLAN & PROFILE
PBIP	6 OF 10	PROPOSED BUFFER IMPACT PLAN
PUP	7 OF 10	PROPOSED UTILITY PLAN
PCP	8 OF 10	PROPOSED CONDITIONS PLAN
PSP	9 OF 10	PROPOSED SUBDIVISION
DET	10 OF 10	DETAIL SHEET

PROFESSIONAL CONSULTANTS LIST

- | | |
|------------------------|--|
| SURVEYOR: | NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
683C FIRST NH TURNPIKE (RT.4)
NORTHWOOD, NH 03261 PH: (603) 942-9220 |
| WETLAND/SOIL SCIENTIST | GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644 |
| CIVIL ENGINEER | RJB ENGINEERING, LLC
2 GLENDALE ROAD
CONCORD, NH 03301 |



OWNER:

FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
P.O. BOX 524, 50 SHORE DR.
NORTHWOOD, NH 03261
BK 3338 PG 0173

APPLICANT:

DUBE PLUS CONSTRUCTION,
10 BRICKETTS MILL ROAD,
HAMPSTEAD, NH 03841

AGENCY APPROVALS

NHDES SUBDIVISION : _____



CONTACT DIG SAFE 72 HOURS
PRIOR TO CONSTRUCTION

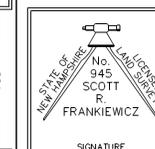
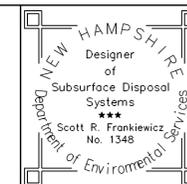
THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. NEW HAMPSHIRE LAND CONSULTANTS, PLLC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ANY UTILITIES WHETHER THEY BE ABOVE OR BELOW GROUND. PRIOR TO ANY EXCAVATION ON SITE THE CONTRACTOR SHALL CONTACT DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233).

NOTE:

ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE CITY OF PORTSMOUTH REGULATIONS AND THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", LATEST EDITION.

REVISIONS			
NO.	DATE	DESCRIPTION	BY
13	06/29/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS	TDB
14	07/08/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS	TDB

N.H. LAND Consultants
SURVEYING • LAND PLANNING • REAL ESTATE
A VETERAN OWNED COMPANY
683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH 603-942-9220 WEBSITE: NHLANDCONSULTANTS.COM

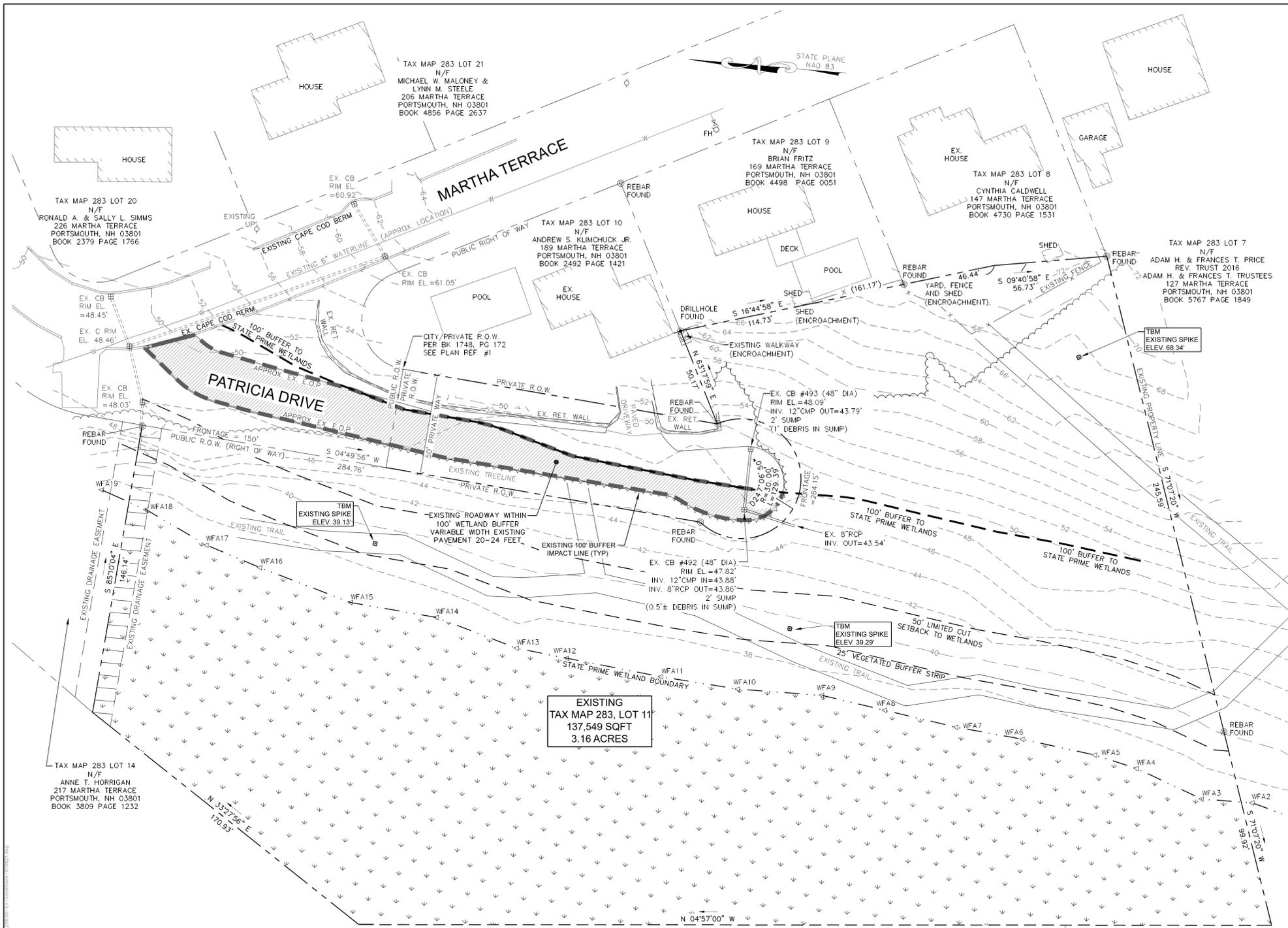


COVER SHEET
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
**FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE**
P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
BOOK 3338 PAGE 0173

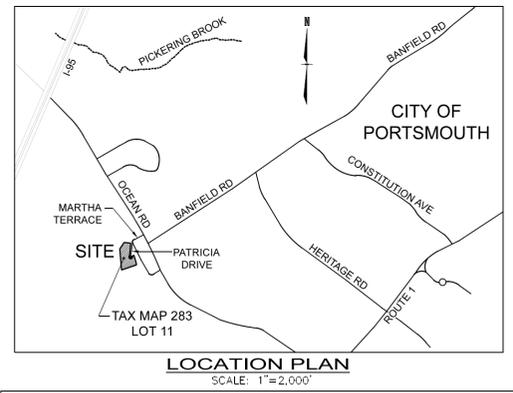
JOB NO: 258.00
ROCKINGHAM CO.
DATE: SEPTEMBER 23, 2020

CVR

SHT. 1 of 10



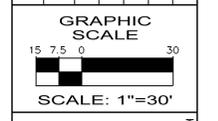
- ABUTTERS LIST:**
- N/F MAP 283 LOT 7 ADAM H. & FRANCES T. PRICE, 127 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 5767 PAGE 1849
 - N/F MAP 283 LOT 8 CYNTHIA CALDWELL, 147 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 4730 PAGE 1531
 - N/F MAP 283 LOT 9 BRIAN A FRITZ, 169 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 4491 PAGE 0051
 - N/F MAP 283 LOT 10 ANDREW S KLIMCHUCK JR, 189 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 2492 PAGE 1421
 - N/F MAP 283 LOT 11 ADAM H. & FRANCES T. PRICE, 127 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 5767 PAGE 1849
 - N/F MAP 283 LOT 12 RONALD A & SALLY L. SIMMS, 226 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 2379 PAGE 1766
 - N/F MAP 283 LOT 13 ANNE T. HERRIGAN, 217 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 3809 PAGE 1232
 - N/F MAP 283 LOT 14 ELIZABETH J. ROLSTON, 185 POST ROAD, GREENLAND, NH 03840 BOOK 2769 PAGE 2523



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REVISIONS

NO.	DATE	DESCRIPTION	BY
13	05/28/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS	TDB
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- PLAN REFERENCES:**
- R.C.R.D. PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
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 - R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
 - R.C.R.D. PLAN #D33328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 - LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH., SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

100' WETLAND BUFFER IMPACT AREAS

EXISTING IMPERVIOUS SURFACE (PAVEMENT AREA) = 5,718 SF

EXISTING OVERALL IMPACT = 5,718 SF



- LEGEND**
- EXISTING RETAINING WALL
 - ABUTTERS PROPERTY LINES
 - SUBJECT PROPERTY LINES
 - PROPOSED PROPERTY LINES
 - EXISTING TIE LINE
 - EDGE OF PAVEMENT
 - PROPOSED BLDG SETBACK
 - EXISTING CONTOUR (MNR)
 - EXISTING CONTOUR (M.R)
 - WETLANDS
 - DRILL HOLE FOUND
 - REBAR W/ CAP FOUND
 - STONE BOUND FOUND
 - EXISTING GATE VALVE & FIRE HYDRANT

STATE OF NEW HAMPSHIRE
LAND SURVEYORS
NO. 945
SCOTT R. FRANKIEWICZ
SIGNATURE

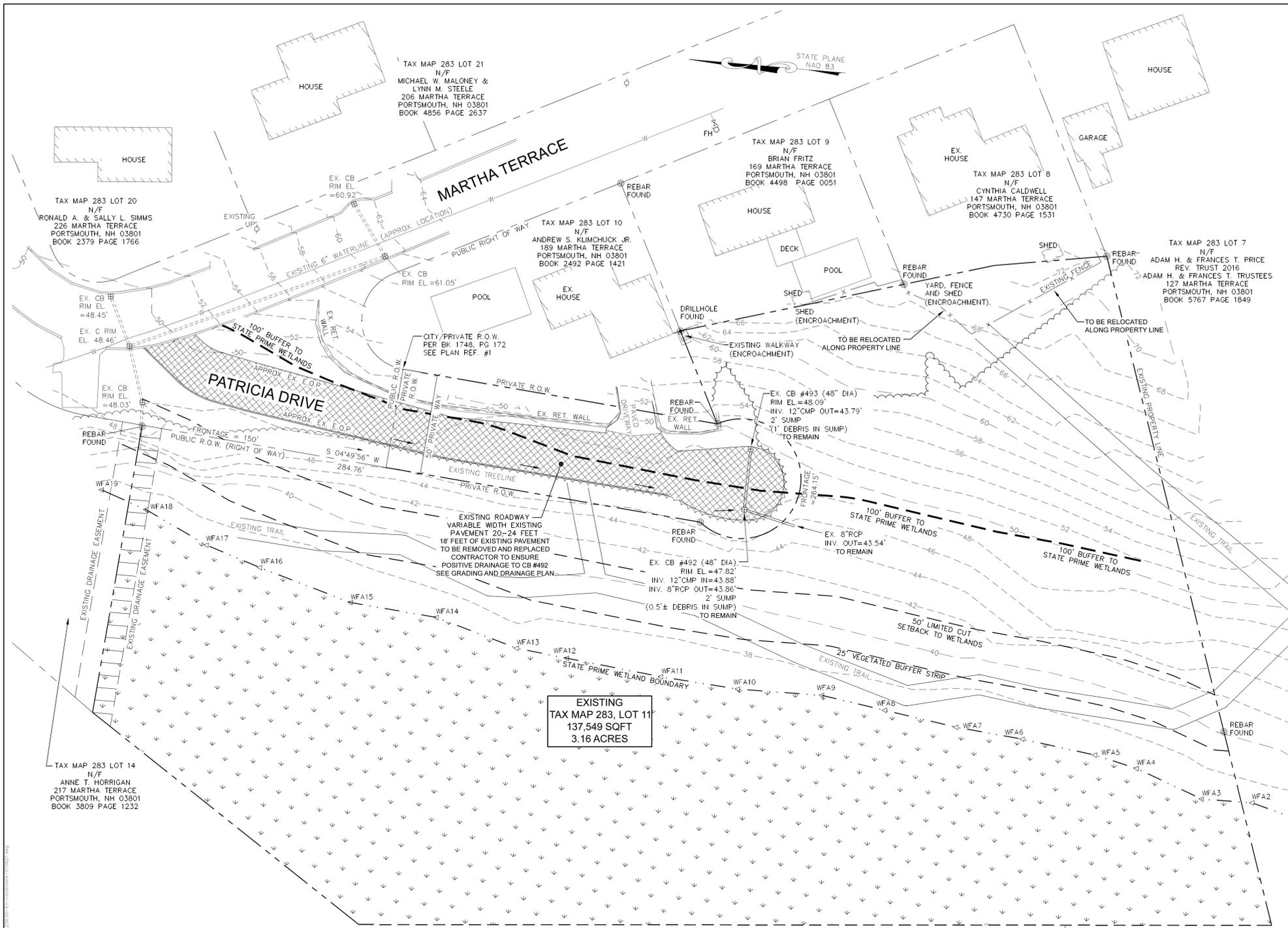
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SCOTT R. FRANKIEWICZ, LLS
DATE:

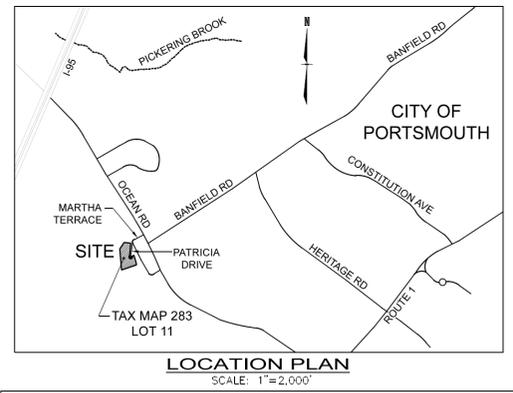
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BOOK 3338 PAGE 0173

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

ECP
SHT. 2 of 10



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PORTSMOUTH, NH 03801
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 - N/F
MAP 283 LOT 9
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BOOK 4491 PAGE 0051
 - N/F
MAP 283 LOT 10
ANDREW S KLIMCHUCK JR
189 MARTHA TERRACE
PORTSMOUTH, NH 03801
BOOK 2492 PAGE 1421
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RONALD A. & SALLY L. SIMMS
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PORTSMOUTH, NH 03801
BOOK 2379 PAGE 1766
 - N/F
MAP 283 LOT 13
CITY OF PORTSMOUTH, DPW
P.O. BOX 628
PORTSMOUTH, NH 03802
BOOK 2249 PAGE 0432
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 - R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
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LEGEND

EXISTING RETAINING WALL	=====	WETLANDS	~~~~~
ABUTTERS PROPERTY LINES	-----	DRILL HOLE FOUND	⊙
SUBJECT PROPERTY LINES	-----	REBAR W/ CAP FOUND	⊙
PROPOSED PROPERTY LINES	-----	STONE BOUND FOUND	⊙
EXISTING TIE LINE	-----	EXISTING GATE VALVE & HYDRANT	⊙
EDGE OF PAVEMENT	-----		
PROPOSED BLDG SETBACK	-----		
EXISTING CONTOUR (MNR)	-572- - - - -		
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STATE OF NEW HAMPSHIRE
 LAND SURVEYORS
 No. 945
 SCOTT
 FRANKIEWICZ
 SIGNATURE

I CERTIFY THAT THIS PLAN IS BASED UPON THE PLAN REFERENCES AND A FIELD SURVEY CONDUCTED ON THE GROUND IN SPRING OF 2020, MEETING THE MINIMUM REQUIREMENTS FOR ACCURACY, 1:10,000 AND COMPLETENESS PER THE STATE OF NEW HAMPSHIRE AND THE CITY OF PORTSMOUTH, NH.

SCOTT R. FRANKIEWICZ, LLS
 DATE: _____

ENGINEER

NO.	DATE	DESCRIPTION
13	05/28/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS
14	07/08/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS

GRAPHIC SCALE
 15 7.5 0 30
 SCALE: 1"=30'

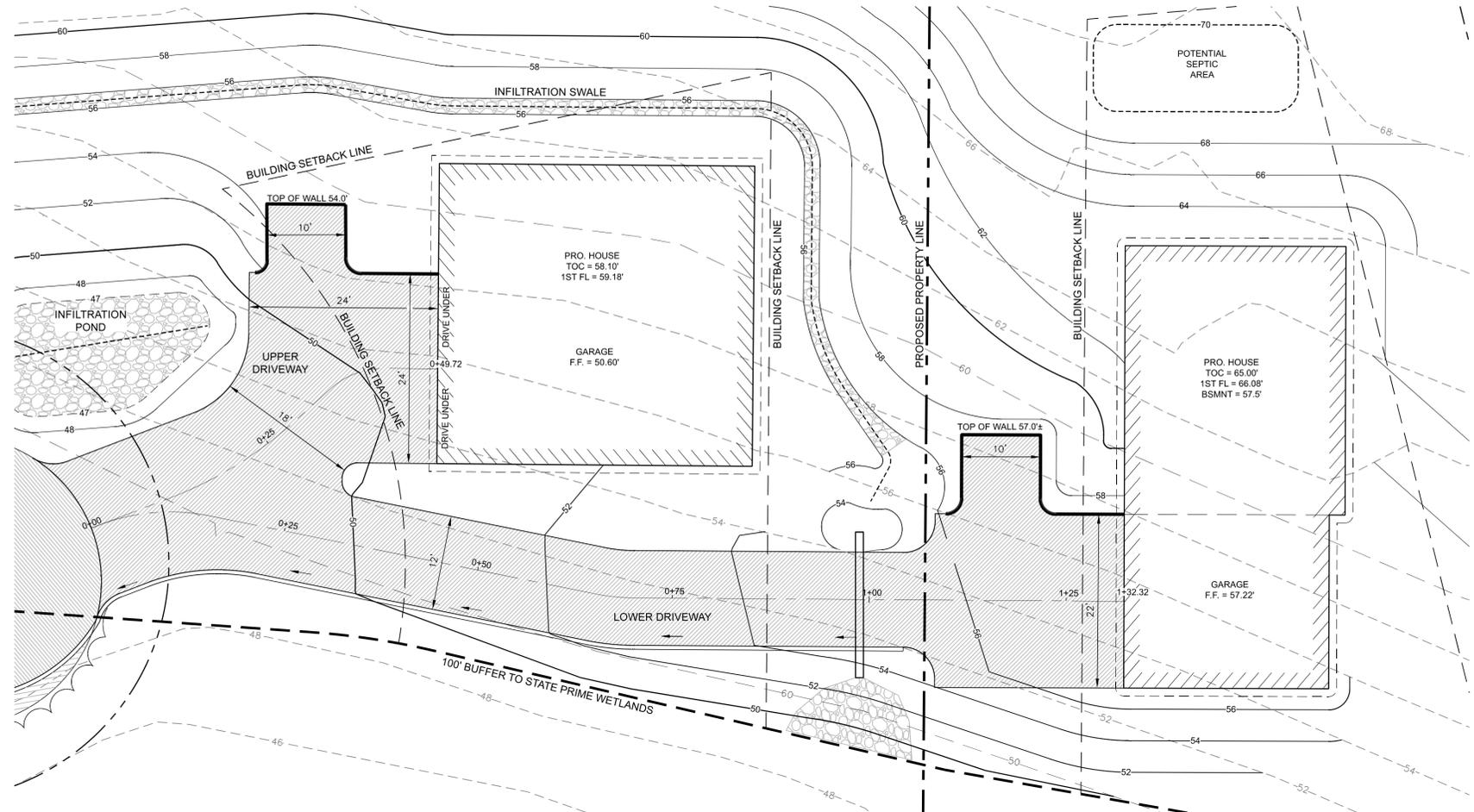
N.H. LAND Consultants
 SURVEYING • LAND PLANNING • REAL ESTATE
 A Veteran Owned Company

683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261
 PH. 603-942-9220
 WEBSITE: NH.LANDCONSULTANTS.COM

DEMOLITION PLAN
 TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
 HEMLOCK WAY, PORTSMOUTH NH 03801
 OWNED BY
FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
 P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
 BOOK 3338 PAGE 0173

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

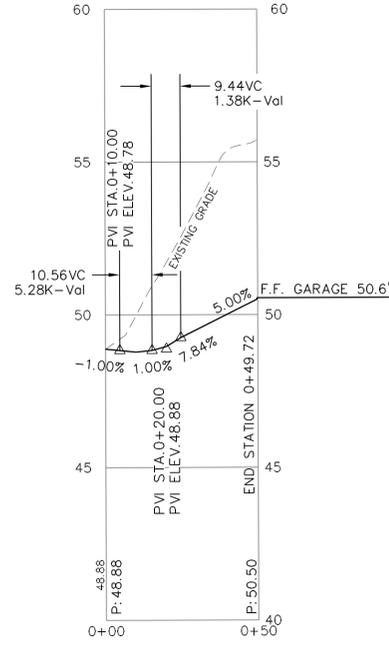
DMP
 SHT. 3 of 10



PROPOSED UPPER AND LOWER DRIVEWAY PLAN VIEW

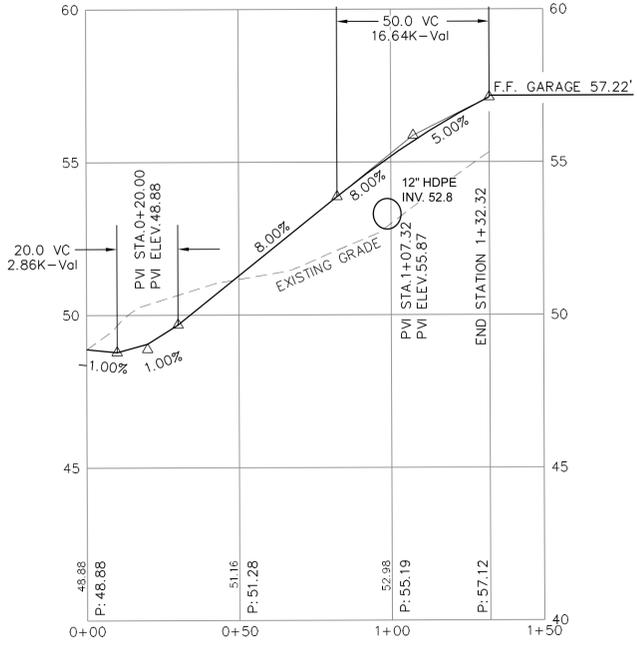
SCALE: 1"=10'

LARGER SCALE FORMAT FOR GRAPHICAL PURPOSES



PROFILE - UPPER DRIVEWAY

SCALE: 1"=30'H, 3' VERT.



PROFILE - LOWER DRIVEWAY

SCALE: 1"=30'H, 3' VERT.

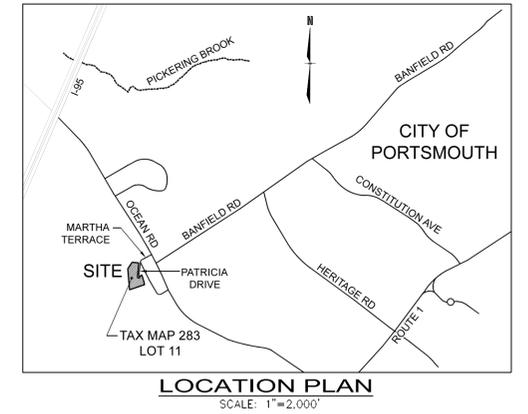
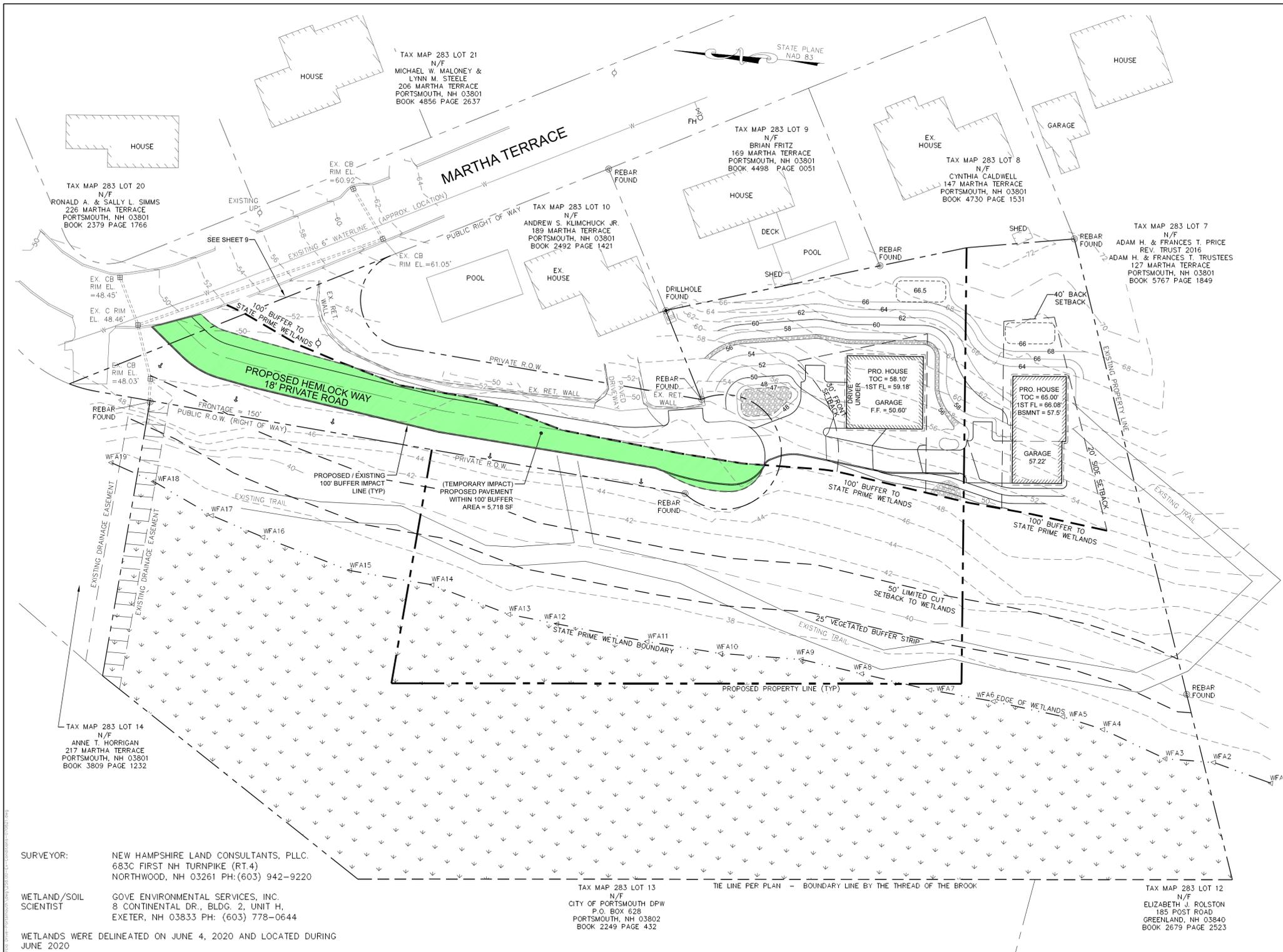
REVISIONS			
NO.	DATE	DESCRIPTION	BY
13	06/28/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS	TDB
14	07/08/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS	TDB

GRAPHIC SCALE AS SHOWN



PROPOSED DRIVEWAY PLAN & PROFILES
 TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
 HEMLOCK WAY, PORTSMOUTH NH 03801
 OWNED BY
FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
 P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
 BOOK 3338 PAGE 0173

ROCKINGHAM CO.
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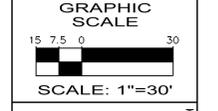
BUFFER NOTES:

1. THE 100' STATE PRIME WETLAND BUFFER TO BE MARKED EVERY 50' BY PLACARDS AS APPROVED BY CITY OF PORTSMOUTH CONVERSATION COMMISSION.
2. PROPOSED PRIVATE DRIVE WILL BE A "NO SALT ZONE" WITHIN THE 100' STATE PRIME WETLAND BUFFER.
3. LANDSCAPE LAWN MAINTENANCE PER "NORTH EAST ORGANIC FARMING ASSOCIATION (NOFA) OR OTHER SUITABLE ORGANIC STANDARDS. SEE CONSTRUCTION SEQUENCE ON SHEET 10 FOR ADDITIONAL SEEDING NOTES.
4. TOPSOIL USED ON LOTS SHALL NOT INCLUDE PESTICIDES AND FERTILIZERS.

DESIGNER OF
Subsurface Disposal
Systems

Scott R. Frankiewicz
No. 1348
Department of Environmental Services
NEW HAMPSHIRE

REVISIONS	
NO.	DESCRIPTION
13	05/28/2021 REVISED PER CITY OF PORTSMOUTH COMMENTS TOB
14	07/08/2021 REVISED PER CITY OF PORTSMOUTH COMMENTS TOB



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PROPOSED BUFFER IMPACT PLAN
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH, NH 03801
OWNED BY
FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
P.O. BOX 524, 50 SHORE DR., NORTHWOOD, NH, 03261
BOOK 3358 PAGE 0173

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

PBIP
SHT. 6 of 10

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
683C FIRST NH TURNPIKE (RT.4)
NORTHWOOD, NH 03261 PH: (603) 942-9220

WETLAND/SOIL SCIENTIST: COVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DR., BLDG. 2, UNIT H,
EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD-HOLLIS-CANTON COMPLEX
CHATFIELD - NHDES GROUP 4
HOLLIS - NHDES GROUP 4
CANTON - NHDES GROUP 2

LOT SIZE USING GROUP 4 SLOPE C = 48,000 SQ FT
WITH PUBLIC WATER = 24,000 SQ FT.

LEGEND

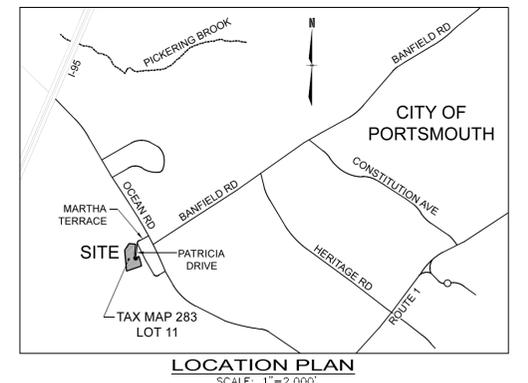
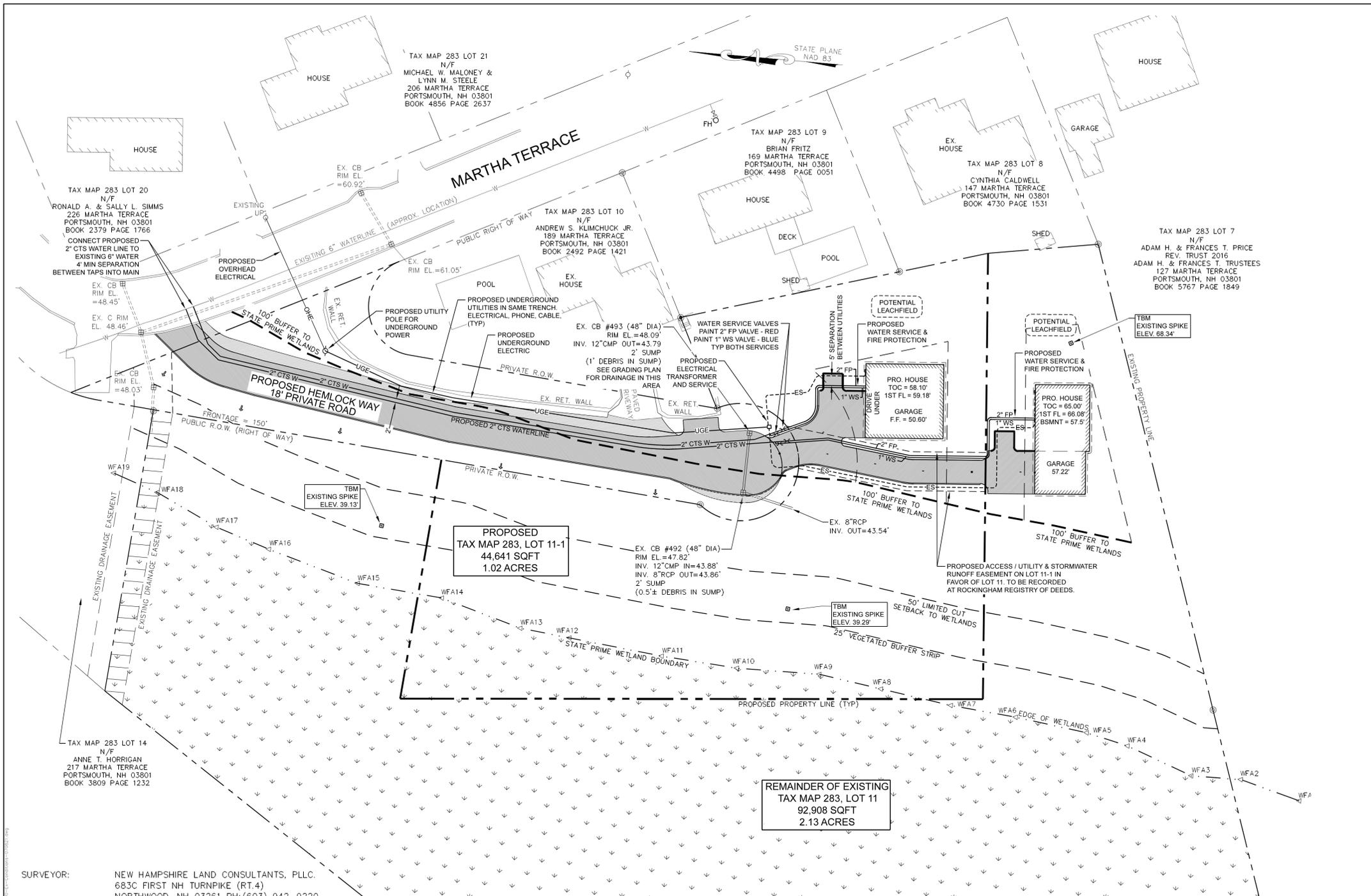
EXISTING RETAINING WALL	=====	WETLANDS	~~~~~
ABUTTERS PROPERTY LINES	-----	DRILL HOLE FOUND	⊙
SUBJECT PROPERTY LINES	-----	REBAR W/ CAP FOUND	⊙
PROPOSED PROPERTY LINES	-----	STONE BOUND FOUND	⊙
EXISTING TIE LINE	-----	EXISTING GATE VALVE & HYDRANT	FH
EDGE OF PAVEMENT	-----		
PROPOSED BLDG SETBACK	-----		
EXISTING CONTOUR (MNR)	-572-----		
EXISTING CONTOUR (MJP)	-570-----		

100' WETLAND BUFFER IMPACT AREAS (PERMANENT IMPACTS)

Temporary impacts (SF): (including all areas that will be restored to the current-existing condition) 5,718 SF

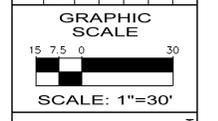


683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH: 603-942-9220 WEBSITE: NH.LANDCONSULTANTS.COM



- NOTES:**
- THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
 - THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
 - THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQFT.)
 - THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261. BK 3338 PG 173.
 - THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
 - DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:
 - MIN. ROAD FRONTAGE = 150'
 - MIN. LOT DEPTH = 200'
 - MIN. LOT SIZE = 43,560 SF (1 ACRE)
 - MIN. REAR SETBACK = 30'
 - MIN. REAR SETBACK = 40'
 - MIN. SIDE SETBACK = 20'
 - MIN. SIDE SETBACK = 100'
 - WETLAND/LIMITED CUT = 50'
 - WETLAND/VEGETATED BUFFER STRIP = 25'
 - MAXIMUM STRUCTURE HEIGHT = 35'
 - SEPTIC SETBACK = 75' HYDRIC SOILS
 - OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)
 - THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
 - THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
 - THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
 - SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
 - WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
 - RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
 - ADJUTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
 - SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
 - THE FEMA MAP NUMBER FOR THIS SITE IS 330150020706. EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X. AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
 - ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 - IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
 - IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
 - ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
 - EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.

REVISIONS	
NO.	DESCRIPTION
13	05/28/2021 REVISED PER CITY OF PORTSMOUTH COMMENTS TOB
14	07/08/2021 REVISED PER CITY OF PORTSMOUTH COMMENTS TOB



N.H. LAND Consultants
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PROPOSED UTILITY PLAN
 TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
 HEMLOCK WAY, PORTSMOUTH NH 03801
 OWNED BY
FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
 P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
 BOOK 3338 PAGE 0173

ROCKINGHAM CO.
 JOB NO: 258.00
 DATE: SEPTEMBER 23, 2020
PUP
 SHT. 7 of 10

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
 683C FIRST NH TURNPIKE (RT.4)
 NORTHWOOD, NH 03261 PH: (603) 942-9220

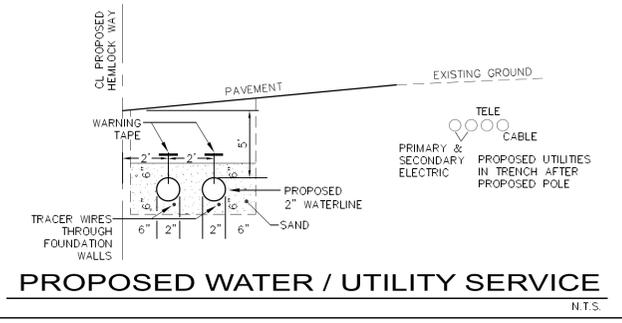
WETLAND/SOIL SCIENTIST: COVE ENVIRONMENTAL SERVICES, INC.
 8 CONTINENTAL DR., BLDG. 2, UNIT H,
 EXETER, NH 03833 PH: (603) 778-0644

WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

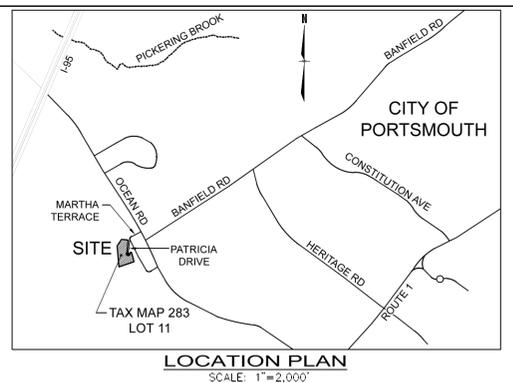
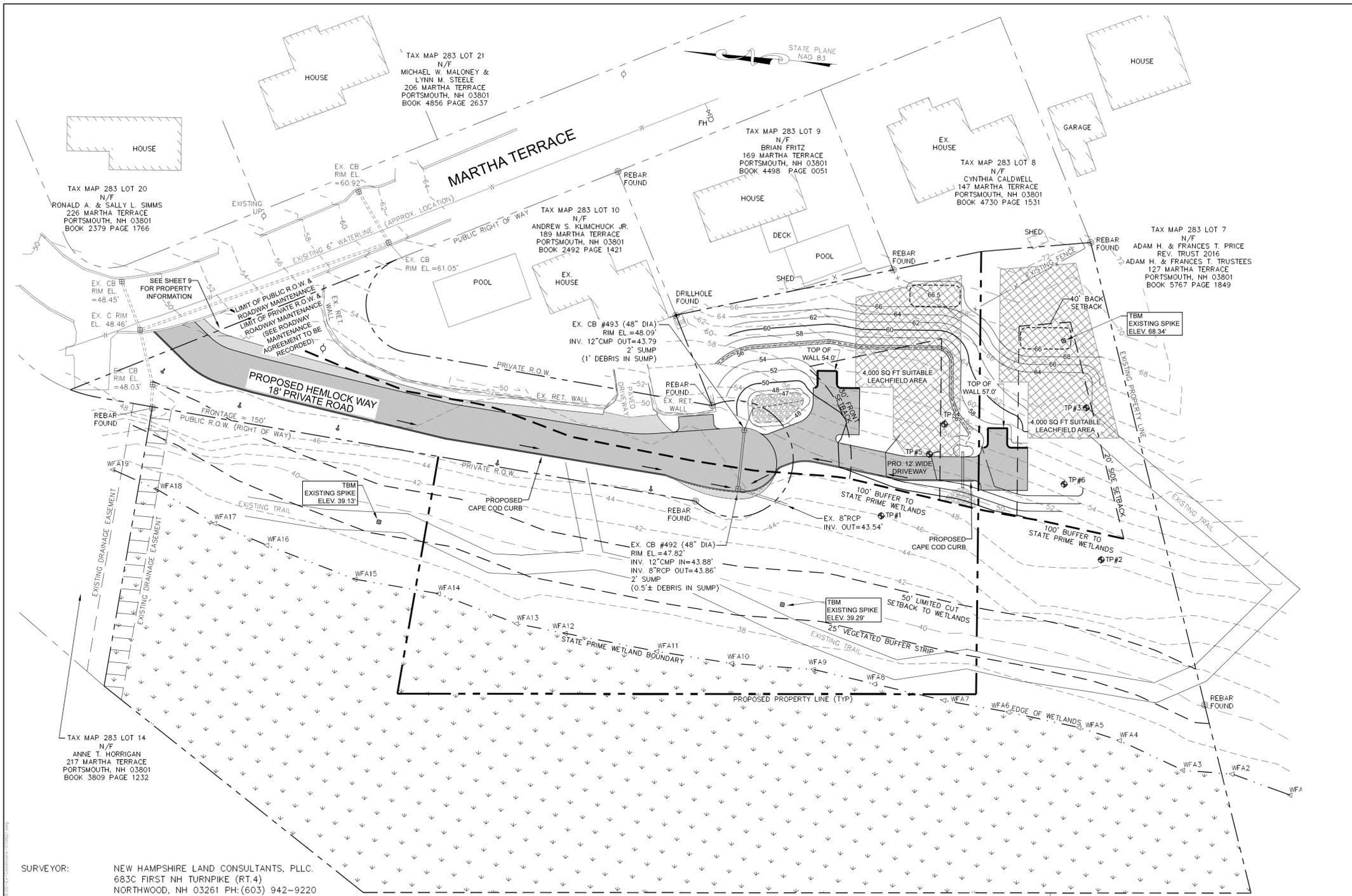
- UTILITY NOTES:**
- ALL PROPOSED UTILITY WORK WITH IN THE CITY RIGHT OF WAY SHALL BE COORDINATED WITH CITY OF PORTSMOUTH DPW.
 - PULL BOXES, ELECTRICAL EQUIPMENT TO BE SUPPLIED BY ELECTRICAL COMPANY.
 - CONTRACTOR TO COORDINATE W/ POWER COMPANY AND LOCAL UTILITIES FOR INSTALLATION OF POWER, PHONE AND CABLE.
 - CONTRACTOR TO COORDINATE THE CONNECTION AND INSTALLATION OF WATER SERVICE WITH CITY OF PORTSMOUTH DPW.
 - INSTALLATION OF WATERLINE SHALL BE (2) 2" CTS PIPE TAPPED FROM THE EXISTING 6" MAIN ON MARTHA TERRACE. EACH 2" PIPE W/ 4" SEPARATION, WILL BE DEDICATED TO EACH NEW HOME, PROVIDING WATER SERVICE AND FIRE PROTECTION.
 - NEAREST EXISTING FIRE HYDRANT IS LOCATED ON MARTHA TERRACE AND IS APPROXIMATELY 570' TO 585' TO THE FURTHEST PROPOSED HOUSE DEPENDING ON METHOD OF MEASUREMENT.
 - IF THE FIRE DEPARTMENT REQUIRES FIRE SUPPRESSION IN THE PROPOSED HOMES, THE ENGINEER OF RECORD SHALL REVIEW THE PROPOSED WATER SERVICE SHOWN, AND SHOW THAT THE DESIGN WILL BE SUFFICIENT FOR PRESSURE AND FLOW.
 - SEPTIC DESIGNS TO BE APPROVED BY NHDES.

LEGEND

EXISTING RETAINING WALL	PROPOSED 2" WATER MAIN	2" CTS W
ADJUTERS PROPERTY LINES	FIRE PROTECTION & WATER SERVICE SAME TRENCH	FP-WS
SUBJECT PROPERTY LINES		
PROPOSED PROPERTY LINES	WETLANDS	
EDGE OF PAVEMENT	DRILL HOLE FOUND	
PROPOSED BLDG SETBACK	REBAR W/ CAP FOUND	
PROPOSED ELECTRICAL SERVICE	STONE BOUND FOUND	
PROPOSED WATER SERVICE	EXISTING GATE VALVE & HYDRANT	



683C FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH: 603-942-9220 WEBSITE: NH.LANDCONSULTANTS.COM



NOTES:

1. THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
2. THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
3. THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQ. FT.).
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 MIN. ROAD FRONTAGE = 150'
 MIN. LOT DEPTH = 200'
 MIN. LOT SIZE = 43,560 SF (1 ACRE)
 MIN. ROAD SETBACK = 30'
 MIN. REAR SETBACK = 40'
 MIN. SIDE SETBACK = 20'
 WETLAND/WATERBODY SETBACK = 100'
 WETLAND/LIMITED CUT = 50'
 WETLAND/VEGETATED BUFFER STRIP = 25'
 MAXIMUM STRUCTURE HEIGHT = 35'
 SEPTIC SETBACK = 75' HYDRIC SOILS
 OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)
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8. THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
9. THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
10. SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
11. WATER TO BE PROVIDED BY MUNICIPAL PUBLIC WATER.
12. RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
13. ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY GRANITVIEW.UTNH.EDU.
14. SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
15. THE FEMA MAP NUMBER FOR THIS SITE IS 3301500270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
16. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
17. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
18. IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
19. ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
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PLAN REFERENCES:

1. R.C.R.D. PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCEL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED, JANUARY, 1964, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
2. R.C.R.D. PLAN #05967, RECORDED MAY 21, 1976, TITLED: "RESUBDIVISION OF OCEAN MANNER", PREPARED FOR: ANDREWS PROPERTIES, INC., PORTSMOUTH NH, DATED: MARCH 1976, REVISED MAY 1976, PREPARED BY: JOHN DURGIN CIVIL ENGINEERS, SCALE: 1"=50', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD DURING 1976.
3. R.C.R.D. PLAN #C8102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACI, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGIN ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
4. R.C.R.D. PLAN #033328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 - LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES T. PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIV TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING, INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH, SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

LEGEND

EXISTING RETAINING WALL	=====	WETLANDS	-----
ABUTTERS PROPERTY LINES	-----	DRILL HOLE FOUND	⊙
SUBJECT PROPERTY LINES	-----	REBAR W/ CAP FOUND	⊠
PROPOSED PROPERTY LINES	-----	STONE BOUND FOUND	⊡
EXISTING TIE LINE	-----	EXISTING GATE VALVE & HYDRANT	⊕
EDGE OF PAVEMENT	-----		
PROPOSED BLDG SETBACK	-----		
EXISTING CONTOUR (MNR)	-572-		
EXISTING CONTOUR (MJR)	-570-		

SURVEYOR: NEW HAMPSHIRE LAND CONSULTANTS, PLLC.
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WETLAND/SOIL SCIENTIST: COVE ENVIRONMENTAL SERVICES, INC.
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WETLANDS WERE DELINEATED ON JUNE 4, 2020 AND LOCATED DURING JUNE 2020

ZONE: SRA
LOT SIZE: 1 ACRES
FRONTAGE: 150'
LOT DEPTH: 200'
FRONT SETBACK: 30'
SIDE SETBACK: 20'
REAR SETBACK: 40'

SOILS: 140B/C CHATFIELD-HOLLIS-CANTON COMPLEX

CHATFIELD - NHDES GROUP 4
HOLLIS - NHDES GROUP 4
CANTON - NHDES GROUP 2

LOT SIZE USING GROUP 4 SLOPE C = 48,000 SQ FT
WITH PUBLIC WATER = 24,000 SQ FT.

TEST PIT #1	TEST PIT #2	TEST PIT #3	TEST PIT #4	TEST PIT #5	TEST PIT #6
DATE: 5-26-20 PERFORMED BY: SCOTT FRANKIEWICZ, PERMIT #1348	DATE: 9-18-20 PERFORMED BY: SCOTT FRANKIEWICZ, PERMIT #1348	DATE: 9-18-20 PERFORMED BY: SCOTT FRANKIEWICZ, PERMIT #1348			
0-6" Topsoil					
6-24" Loamy Sand Granular/Friable 7.5 YR 5/6 - Strong Brown	6-30" Loamy Sand Granular/Friable 7.5 YR 5/6 - Strong Brown	6-30" Loamy Sand Granular/Friable 7.5 YR 5/6 - Strong Brown	6-26" Loamy Sand Granular/Friable 7.5 YR 5/6 - Strong Brown	6-36" Loamy Sand Granular/Friable 7.5 YR 5/6 - Strong Brown	6-34" Gravelly Sand Granular/Friable 7.5 YR 5/6 - Strong Brown
24-60" Loam Sand Granular/Firm in place 2.5Y 5/6 - Light Olive Brown	30-56" Sand Granular/Firm in place 2.5Y 5/6 - Light Olive Brown	30-56" Sand Granular/Firm in place 2.5Y 5/6 - Light Olive Brown	26-70" Sand Granular/Firm in place 2.5Y 5/6 - Light Olive Brown	36-60" Gravelly Sand Granular/Firm in place 2.5Y 5/6 - Light Olive Brown	34-60" Gravelly Sand Granular/Firm in place 2.5Y 5/6 - Light Olive Brown
ESHW = 24" Roots to 24" No ledge observed No water observed Many stones throughout hole	ESHW = 30" Roots to 30" No ledge observed No water observed Many stones throughout hole	ESHW = 30" Roots to 30" No ledge observed No water observed Many stones throughout hole	ESHW = 26" Roots to 26" No ledge observed No water observed Many stones throughout hole	ESHW = 36" Roots to 36" No ledge observed No water observed Many stones throughout hole	ESHW = 34" Roots to 34" No ledge observed No water observed Many stones throughout hole

REVISIONS

NO.	DATE	DESCRIPTION
13	05/28/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS
14	07/08/2021	REVISED PER CITY OF PORTSMOUTH COMMENTS

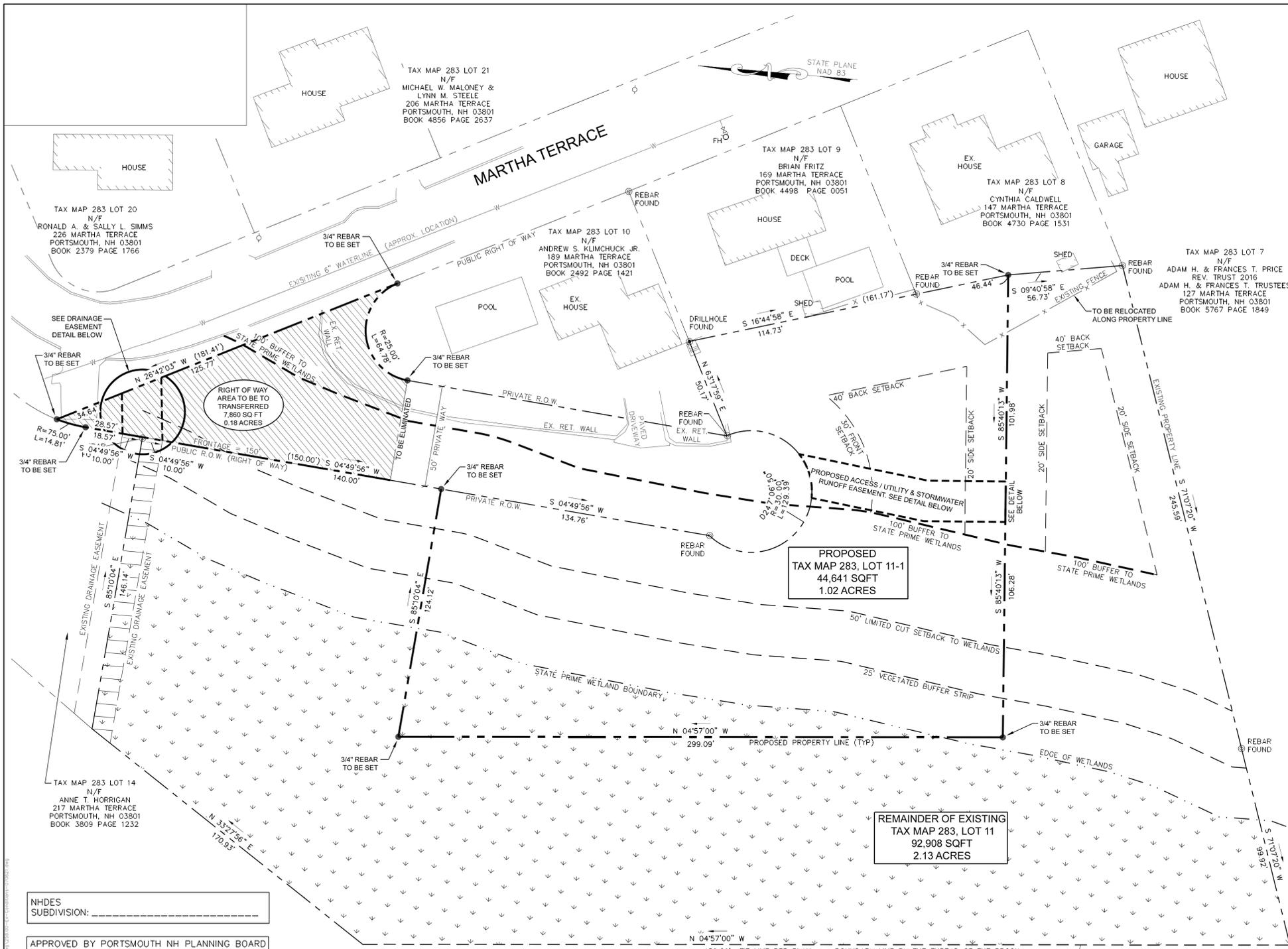
GRAPHIC SCALE
15 7.5 0 30
SCALE: 1"=30'

PROPOSED CONDITIONS PLAN
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801

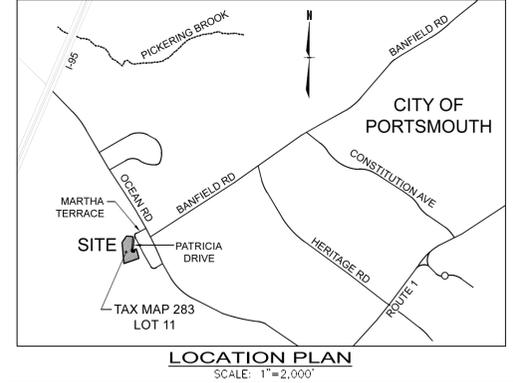
OWNED BY: FRITZ FAMILY REVOC LIV TRUST, EDGAR H FRITZ, TRUSTEE
P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
BOOK 3338 PAGE 0173

ROCKINGHAM CO.
JOB NO: 258.00
DATE: SEPTEMBER 23, 2020

PCP
SHT. 8 of 10

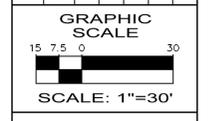


- ABUTTERS LIST:**
- N/F MAP 283 LOT 7 ADAM H. & FRANCES T. PRICE, 127 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 5767 PAGE 1849
 - N/F MAP 283 LOT 8 CYNTHIA CALDWELL, 147 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 4730 PAGE 1531
 - N/F MAP 283 LOT 9 BRIAN A FRITZ, 169 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 4498 PAGE 0051
 - N/F MAP 283 LOT 10 ANDREW S KLIMCHUCK JR., 189 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 2492 PAGE 1421
 - N/F MAP 283 LOT 11 MICHAEL W MALONEY & LYNN M STEELE, 206 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 4856 PAGE 2637
 - N/F MAP 283 LOT 12 ELIZABETH J ROLSTON, 185 POST ROAD, GREENLAND, NH 03840 BOOK 2789 PAGE 2523
 - N/F MAP 283 LOT 13 RONALD A. & SALLY L. SIMMS, 226 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 2379 PAGE 1766
 - N/F MAP 283 LOT 14 ANNE T. HERRIGAN, 217 MARTHA TERRACE, PORTSMOUTH, NH 03801 BOOK 3809 PAGE 1232



- NOTES:**
- THE PURPOSE OF THIS PLAN IS TO SUBDIVIDE TAX MAP 283, LOT 11 INTO 2 LOTS.
 - THE PROPERTY IS DESIGNATED AS TAX MAP 283, LOT 11.
 - THE AREA OF THE EXISTING LOT 11 IS 3.16 ACRES (137,549 SQ FT.).
 - THE CURRENT OWNER FOR TAX MAP 283, LOT 11: FRITZ FAMILY REVOC LIV TRUST, P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261.
 - THE ZONING DESIGNATION FOR THE PROPERTY IS (SRA) SINGLE RESIDENCE A DISTRICT.
 - DIMENSIONAL REQUIREMENTS PROVIDED FOR ZONE (SRA) DISTRICT:
 - MIN. ROAD FRONTAGE = 150'
 - MIN. LOT DEPTH = 200'
 - MIN. LOT SIZE = 43,560 SF (1 ACRE)
 - MIN. ROAD SETBACK = 30'
 - MIN. REAR SETBACK = 40'
 - MIN. SIDE SETBACK = 20'
 - WETLAND/WATERBODY SETBACK = 100'
 - WETLAND/LIMITED CUT = 50'
 - WETLAND/VEGETATED BUFFER STRIP = 25'
 - MAXIMUM STRUCTURE HEIGHT = 35'
 - SEPTIC SETBACK = 75' HYDRIC SOILS
 - OVERLAY DISTRICTS: (STEEP SLOPES, SOILS, WETLANDS, CONSERVATION)
 - THE PROPOSED GRADING PLANS ARE CONCEPTUAL AND FINAL LOCATION OF DRIVEWAYS, LEACHFIELDS, STRUCTURES, ETC. SHALL BE SUBJECT TO BUILDING PERMIT APPLICATION.
 - THE EXISTING USE OF TM 283 LOT 11 IS VACANT LAND.
 - THE PROPOSED USE OF TM 283 LOT 11 WILL BE 2 LOT SUBDIVISION.
 - SEWER TO BE PROVIDED BY ON-SITE SEPTIC SYSTEMS.
 - WATER TO BE PROVIDED BY MUNICIPAL WATER.
 - RIGHT OF WAY WIDTH DETERMINED BY SURVEY, FIELD INVESTIGATION, RECORDED DEEDS AND PLANS OF REFERENCE.
 - ABUTTING PROPERTY INFORMATION PROVIDED BY A COMBINATION OF ON-LINE TAX MAP DATA AND DATA PROVIDED BY granitview.unh.edu.
 - SHEET 9 OF 10 THIS SET WILL BE RECORDED, A COMPLETE PLAN SET WILL BE FILED AT THE CITY OF PORTSMOUTH.
 - THE FEMA MAP NUMBER FOR THIS SITE IS 33015C0270E, EFFECTIVE DATE: MAY 17, 2005. SITE IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
 - ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO CITY OF PORTSMOUTH SUBDIVISION PLAN REGULATIONS AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
 - IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DESIGN DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
 - IF DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE DUE TO ACTUAL SITE CONDITIONS, THE OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
 - ELEVATIONS AND COORDINATES ARE BASED ON STATE PLANE COORDINATES FROM A SOLUTION GENERATED BY NGS OPUS ON JUNE 18, 2020 FROM DATA COLLECTED BY THIS OFFICE ON JUNE 18, 2020. THE OPUS SOLUTION IS BASED ON THE NAD 83 (2011) REF. FRAME AND THE NAVD 88.
 - EASEMENT TO BE PROVIDED TO THE CITY OF PORTSMOUTH OVER THE ENTIRE PRIVATE R.O.W. AREA FOR THE PURPOSES OF ACCESSING WATER VALVES AND LEAK DETECTION OF WATER LINES. TO BE RECORDED AT ROCKINGHAM REGISTRY OF DEEDS.

REVISIONS	
NO.	DESCRIPTION
13	05/28/2021 REVISED PER CITY OF PORTSMOUTH COMMENTS TOB
14	07/08/2021 REVISED PER CITY OF PORTSMOUTH COMMENTS TOB



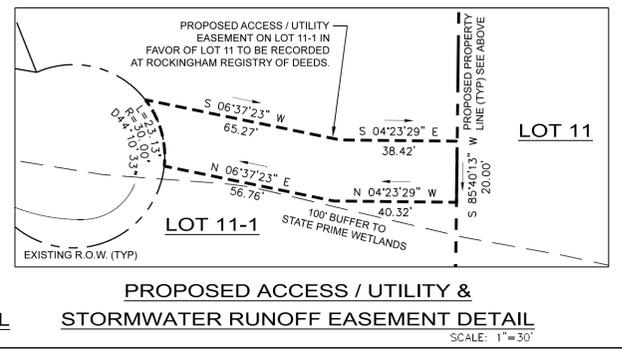
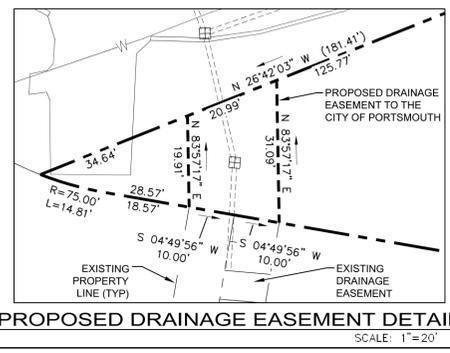
N.H. LAND Consultants
 SURVEYING • LAND PLANNING • REAL ESTATE
 A VETERAN OWNED COMPANY

6832 FIRST NH TURNPIKE, NORTHWOOD, NH 03261 PH: 603-942-9220 REGIST. N.H.LANDCONSULTANTS.COM

NHDES SUBDIVISION: _____

APPROVED BY PORTSMOUTH NH PLANNING BOARD

CHAIRMAN _____ DATE _____



MONUMENTS AND BOUNDS SHOWN ON PLAN HAVE OR WILL BE SET UNDER HIS/HER SUPERVISION PRIOR TO CONVEYANCE OF ANY PROPOSED LOTS.

THE SUBDIVISION REGULATIONS OF THE CITY OF PORTSMOUTH ARE A PART OF THIS PLAN, AND APPROVAL OF THIS PLAN IS CONTINGENT ON COMPLETION OF ALL THE REQUIREMENTS OF SAID SUBDIVISION REGULATIONS, EXCEPTING ONLY ANY VARIANCES OR MODIFICATIONS AND SUBJECT TO ANY CONDITIONS MADE IN WRITING BY THE BOARD AND ATTACHED HERETO.

I CERTIFY THAT THIS PLAN IS BASED UPON THE PLAN REFERENCES AND A FIELD SURVEY CONDUCTED ON THE GROUND IN SPRING OF 2020, MEETING THE MINIMUM REQUIREMENTS FOR ACCURACY, 1:10,000 AND COMPLETENESS PER THE STATE OF NEW HAMPSHIRE AND THE CITY OF PORTSMOUTH, NH.

SCOTT R. FRANKIEWICZ, LLS DATE: _____

- LEGEND**
- EXISTING RETAINING WALL
 - ABUTTERS PROPERTY LINES
 - SUBJECT PROPERTY LINES
 - PROPOSED PROPERTY LINES
 - EXISTING TIE LINE
 - EDGE OF PAVEMENT
 - PROPOSED BLDG SETBACK
 - WETLANDS
 - DRILL HOLE FOUND
 - REBAR W/ CAP FOUND
 - STONE BOUND FOUND
 - 3/4" REBAR TO BE SET
 - EXISTING GATE VALVE & HYDRANT

- PLAN REFERENCES:**
- R.C.R.D. PLAN #195, RECORDED APRIL 10, 1964, TITLED: "PARCIAL PLAN OF OCEAN MANOR, PORTSMOUTH, NH", PREPARED FOR: HILTON HOMES, INC., GREENLAND NH, DATED: JANUARY, 1964, PREPARED BY: JOHN DURGON CIVIL ENGINEERS, SCALE: 1"=40', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD ON MARCH 20, 1964.
 - R.C.R.D. PLAN #05967, RECORDED MAY 21, 1976, TITLED: "RESUBDIVISION OF ANDREWS PROPERTIES, INC., PORTSMOUTH NH, DATED: MARCH 1976, REVISED MAY 1976, PREPARED BY: JOHN DURGON CIVIL ENGINEERS, SCALE: 1"=50', PLAN APPROVED BY PORTSMOUTH PLANNING BOARD DURING 1976.
 - R.C.R.D. PLAN #08102, RECORDED SEPTEMBER 18, 1978, TITLED: "LOT LINE REVISION, LAND OF LEVESQUE AND GERACL, PORTSMOUTH NH", PREPARED BY: JOHN W. DURGON ASSOCIATES INC., ENGINEERS, SURVEYORS & DESIGNERS OF PORTSMOUTH AND ROCHESTER, DATED SEPTEMBER 1978, SCALE: 1"=50', APPROVED BY PORTSMOUTH PLANNING BOARD ON SEPTEMBER 18, 1978.
 - R.C.R.D. PLAN #033328, RECORDED DECEMBER 6, 2005, TITLED: "SUBDIVISION AND LOT LINE RELOCATION PLAN, MAP 283 - LOTS 7 & 11", PREPARED FOR: ADAM H. & FRANCES PRICE AND ADAM H. PRICE & FRITZ FAMILY REV. LIVING TRUST, 127 MARTHA TERRACE & PATRICIA DRIVE, PORTSMOUTH NH, PREPARED BY: AMBIT ENGINEERING INC., CIVIL ENGINEERS & LAND SURVEYORS, PORTSMOUTH NH, SCALE: 1"=50', DATED MARCH 2005, APPROVED BY PORTSMOUTH PLANNING BOARD ON OCTOBER 24, 2005.

- REQUIRED NOTES:**
- THE DUMPING OF ANY KIND IS PROHIBITED IN THE WETLAND BUFFER.
 - SALTING OF ROAD IS PROHIBITED DUE TO CLOSE PROXIMITY TO A PRIME WETLAND.

PROPOSED SUBDIVISION PLAN
 TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
 HEMLOCK WAY, PORTSMOUTH NH 03801
 OWNED BY
FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
 P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
 BOOK 3338 PAGE 0173

ROCKINGHAM CO.
 JOB NO: 258.00
 DATE: SEPTEMBER 23, 2020

PSP
 SHT. 9 of 10

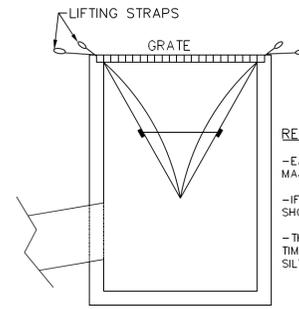
CONSTRUCTION SEQUENCE:

- CUT AND CLEAR TREES, REMOVE EXISTING PAVEMENT WITHIN LIMIT OF WORK (PROPOSED TREE LINE), UNLESS OTHERWISE NOTED. ALL STUMPS, BRANCHES, TOPS AND BRUSH TO BE PROPERLY DISPOSED OF, PREFERABLY OFF SITE.
- CONSTRUCT TEMPORARY AND PERMANENT EROSION CONTROL FACILITIES (DETENTION BASIN, DIVERSION BERM, GRASS SWALE) PRIOR TO ANY EARTH MOVING OPERATION.
- ALL AREAS SHALL BE PROTECTED FROM EROSION. SIDE SLOPES AND DETENTION POND SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- POND SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE (BEFORE ROUGH GRADING THE SITE).
- ALL STORM DRAINAGE SYSTEMS SUCH AS DETENTION/RETENTION BASINS, LEVEL SPREADERS SHALL BE PROTECTED FROM EROSION. ALL STORM DRAINAGE SYSTEMS SHALL BE STABILIZED PRIOR TO DIRECTING FLOW INTO THEM.
- CONSTRUCT TEMPORARY CULVERTS, DIVERSION DITCHES/SWALES OR BERMS AS REQUIRED TO MINIMIZE THE EROSION AFFECTS OF STORMWATER RUNOFF DURING ALL CONSTRUCTION ACTIVITIES. TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC.) MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
- ALL MATERIAL SUITABLE FOR USE AS TOPSOIL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SEEDED WITH WINTER RYE AND IF NECESSARY, SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO PREVENT OR CONTAIN SOIL EROSION.
- ALL MATERIAL SUITABLE FOR FILL OR SELECT MATERIAL SHALL BE STOCKPILED IN UPLANDS AREAS. ALL STOCKPILES SHALL BE SURROUNDED WITH SILT FENCE, AND/OR STRAW BALES, IN ORDER TO CONTAIN SOIL EROSION.
- REMOVE ALL IMPROPER ROADWAY MATERIAL WITHIN 18" OF SUBGRADE. REPLACE WITH COMPACTED GRANULAR FILL ACCEPTABLE TO THE STATE/TOWN SPECIFICATIONS. ALL SUITABLE FILL MATERIAL SHALL BE COMPACTED TO AT LEAST 95% OF THE DRY WEIGHT AS DETERMINED BY MODIFIED PROCTOR TESTING (ASTM D-1556) REQUIREMENTS.
- CONSTRUCT ALL UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO DRAIN, DATA, CABLE AND POWER.
- ROUGH GRADE SITE WITHIN LIMIT OF WORK AND COMMENCE CONSTRUCTION OF ROADWAY.
- SITE SHALL BE STABILIZED WITHIN 72 HOURS OF FINISHED GRADE.
- COMPLETE ROADWAY SLOPE GRADING/EMBANKMENT CONSTRUCTION. ALL SLOPES SHALL BE STABILIZED AND SEEDING IMMEDIATELY AFTER GRADING. THE CONTRACTOR SHALL STABILIZE SLOPES WITH APPROPRIATE SEEDING PROGRAM OR JUTE MAT, WHEREVER SPECIFIED. ALL CUT AND FILL SLOPES SHALL BE SEEDING/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- APPLY TOPSOIL TO SITE SLOPES AND OTHER AREAS DISTURBED BY CONSTRUCTION. TOPSOIL USED SHALL BE NATIVE ORGANIC MATERIAL SCREENED AS TO BE FREE FROM ROOTS, BRANCHES, STONES, AND OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL BE APPLIED SO AS TO PROVIDE A MINIMUM OF A 4-INCH COMPACTED THICKNESS. UPON COMPLETION OF TOPSOILING, FINISHED SECTIONS ARE TO BE LIMED, SEEDED, AND MULCHED. CONSERVATION SEED MIX SHALL BE USED ALONG "PROPOSED PRIVATE DRIVE" AND WILDFLOWER MIX TO BE USED IN DETENTION BASIN AND OTHER OPEN AREAS. THE CONTRACTOR SHALL INSPECT COMPLETED SECTIONS OF WORK ON A REGULAR BASIS AND REMEDY ANY PROBLEM AREAS UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
- MAINTAIN, REPAIR, AND REPLACE TEMPORARY EROSION CONTROL MEASURES AS NECESSARY FOR A MINIMUM PERIOD OF 12 MONTHS FOLLOWING SUBSTANTIAL COMPLETION.
- AFTER STABILIZATION (12 MONTHS FOLLOWING SUBSTANTIAL COMPLETION), REMOVE AND PROPERLY DISPOSE OF TEMPORARY EROSION CONTROL MEASURES, PREFERABLY OFF SITE.
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.

DEFINITION OF THE WORD STABLE: AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:

- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
- A MINIMUM OF 85 PERCENT VEGETATED GROWTH HAS BEEN ESTABLISHED.
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
- OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

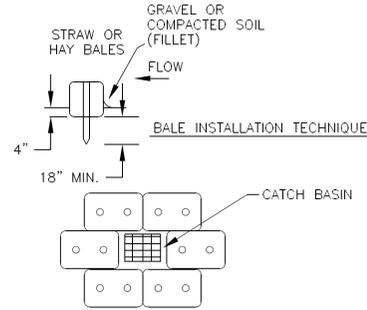


RECOMMENDED MAINTENANCE SCHEDULE

- EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT
- IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACK SHOULD BE INSPECTED EVERY 2-3 WEEKS
- THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.

SILTSACK DETAIL

NOT TO SCALE



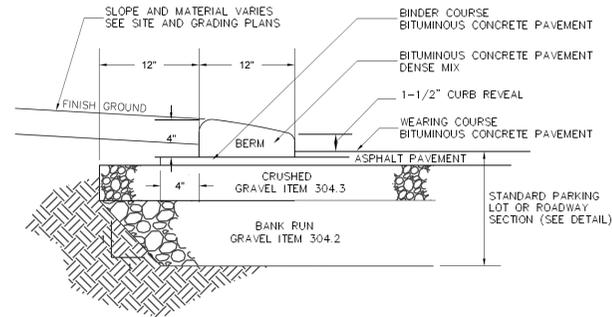
EROSION PROTECTION

TYPE "E"

NORMAL USE AROUND CATCH BASINS
NOT TO SCALE

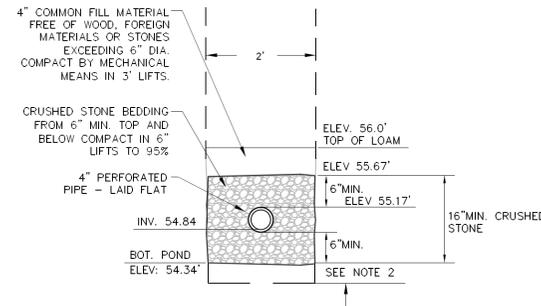
CONSTRUCTION SPECIFICATIONS FOR STRAW OR HAY BALE BARRIERS

- STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE PLANS AT THE APPROPRIATE SPACING.
- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.
- WHEN HAY BALES ARE USED, THE BALES SHALL BE EMBEDDED AT LEAST 4 INCHES INTO THE SOIL. WHEN TIMBER STRUCTURES ARE USED, THE TIMBER SHALL EXTEND AT LEAST 18 INCHES INTO THE SOIL.
- HAY OR STRAW BALES SHALL BE ANCHORED INTO THE SOIL USING 2" X 2" STAKES DRIVEN THROUGH THE BALES AND AT LEAST 18 INCHES INTO THE SOIL.
- SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS IN THE APPROPRIATE VEGETATIVE BMP.
- STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.



CAPE COD CURB (ASPHALT) DETAIL

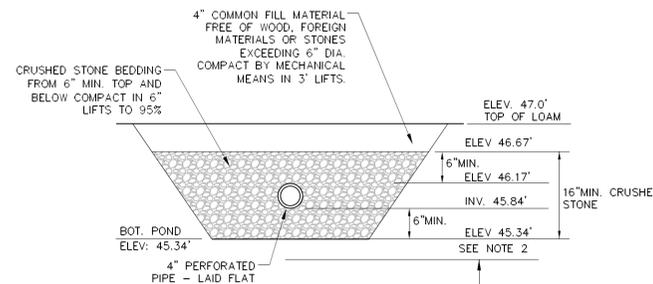
NOT TO SCALE



- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- ORDERED EXCAVATION OF UNSUITED MATERIAL BELOW GRADE. RE-FILL WITH BEDDING MATERIAL.

INFILTRATION SWALE WITH 4" UNDERDRAIN DETAIL

NOT TO SCALE



- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- ORDERED EXCAVATION OF UNSUITED MATERIAL BELOW GRADE. RE-FILL WITH BEDDING MATERIAL.

INFILTRATION POND WITH 4" UNDERDRAIN PIPE DETAIL

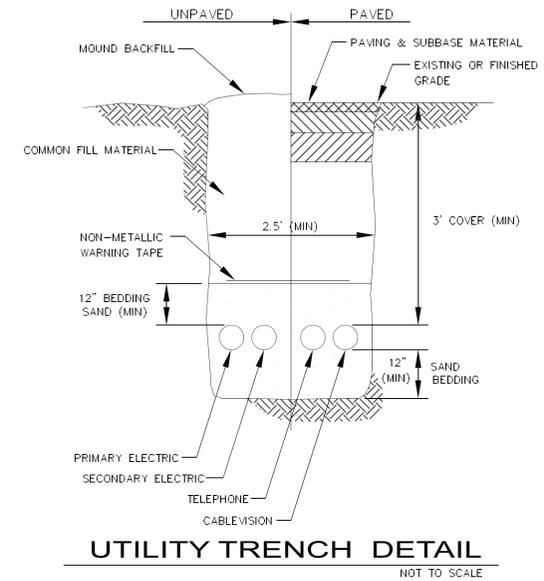
NOT TO SCALE

MAINTENANCE

THE LEVEL SPREADER SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND TO DETERMINE THAT THE DESIGN CONDITIONS HAVE NOT CHANGED. ANY DETRIMENTAL SEDIMENT ACCUMULATION SHOULD BE REMOVED. IF FILLING HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED AND REVEGETATED. THE VEGETATION SHOULD BE MOWED OCCASIONALLY TO CONTROL WEEDS AND THE ENCROACHMENT OF WOODY VEGETATION. CLIPPINGS SHOULD BE REMOVED AND DISPOSED OF OUTSIDE THE SPREADER AND AWAY FROM THE OUTLET AREA. FERTILIZATION SHOULD BE DONE AS NECESSARY TO KEEP THE VEGETATION HEALTHY AND DENSE.

CONSTRUCTION SPECIFICATIONS

- CONSTRUCT THE LEVEL SPREADER LIP ON A ZERO GRADE TO INSURE UNIFORM SPREADING RUNOFF.
- LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL AND NOT ON FILL.
- AN EROSION STOP SHALL BE PLACED VERTICALLY A MINIMUM OF SIX INCHES DEEP IN A SILT TRENCH ONE FOOT BACK OF THE LEVEL LIP AND PARALLEL TO THE LIP. THE EROSION STOP SHALL EXTEND THE ENTIRE LENGTH OF THE LEVEL LIP.
- THE ENTIRE LIP AREA SHALL BE PROTECTED BY PLACING TWO STRIPS OF JUTE OR EXCELSTOR MATTING ALONG THE LIP. EACH STRIP SHALL OVERLAP THE EROSION STOP BY AT LEAST SIX INCHES.
- THE ENTRANCE CHANNEL TO THE LEVEL SPREADER SHALL NOT EXCEED A 1 PERCENT GRADE FOR AT LEAST 50 FEET BEFORE ENTERING INTO THE SPREADER.
- THE FLOW FROM THE LEVEL SPREADER SHALL OUTLET ONTO STABILIZED AREAS. WATER SHOULD NOT RE-CONCENTRATE IMMEDIATELY BELOW THE SPREADER.
- PERIODIC INSPECTION AND REQUIRED MAINTENANCE SHALL BE PERFORMED.



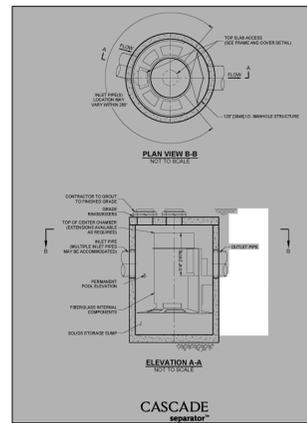
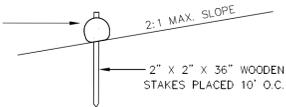
UTILITY TRENCH DETAIL

NOT TO SCALE

FILTER SOCK DETAIL

FILTREXX OR APPROVED EQUAL

NOT TO SCALE



The Cascade Separator® OR APPROVED EQUAL

NOT TO SCALE

Advanced Sediment Capture Technology

The Cascade Separator® is the most innovative in sediment treatment from CorTech. The Cascade Separator was developed by CorTech's innovative experts using advanced modeling tools and CorTech's industry leading sediment science.

This innovative hydrodynamic separator results in sediment capture and retention while also removing hydrocarbons, trash, and debris from stormwater runoff. What makes the Cascade Separator unique is the use of opposing vertical flow and unique settings and unique inlet design that allow for sediment transport into the sump while reducing turbulence and momentum of particles captured. These two factors allow the Cascade Separator to treat high flow rates in a small footprint, resulting in an efficient and economical solution for any site.

FEATURE BENEFIT

Unique inlet design & opposing vertical flow

Separates 75% sediment, reduced system size and costs

Wider area accepts wide range of inlet pipe angle

Design and installation flexibility

Accepts multiple inlet pipes

Eliminates the need for separate junction structure

Gate inlet option

Eliminates the need for a separate gate inlet structure

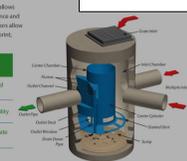
Internal bypass

Eliminates the need for a separate bypass structure

Clear access to sump and float pollutants

Fast, easy maintenance

CorTech provides professional services to assist with installation and maintenance of the unit.



CASCADE MAINTENANCE

CorTech provides professional services to assist with installation and maintenance of the unit.

CorTech provides professional services to assist with installation and maintenance of the unit.

CorTech provides professional services to assist with installation and maintenance of the unit.

STORM WATER FILTER DETAILS

NOT TO SCALE

REVISIONS		NO.	DATE	DESCRIPTION
BY	DESCRIPTION	NO. <td>DATE</td> <td>DESCRIPTION</td>	DATE	DESCRIPTION
BY	DESCRIPTION	NO. <td>DATE</td> <td>DESCRIPTION</td>	DATE	DESCRIPTION
BY	DESCRIPTION	NO. <td>DATE</td> <td>DESCRIPTION</td>	DATE	DESCRIPTION

SCALE AS SHOWN

N.H. LAND Consultants
A Veteran Owned Company
SURVEYING • LAND PLANNING • REAL ESTATE

DETAIL SHEET
TAX MAP 283 LOT 11
DUBE PLUS CONSTRUCTION
HEMLOCK WAY, PORTSMOUTH NH 03801
OWNED BY
FRITZ FAMILY REVOC LIV TRUST,
EDGAR H FRITZ, TRUSTEE
P.O. BOX 524, 50 SHORE DR., NORTHWOOD NH, 03261
BOOK 3338 PAGE 0173

ROCKINGHAM CO.
JOB NO: 258.00

DATE: SEPTEMBER 23, 2020

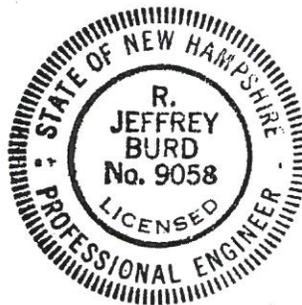
DET
SHT. 10 of 10

DRAINAGE ANALYSIS

Prepared for:
DUBE PLUS CONSTRUCTION
TAX MAP 283 LOT 11
PATRICIA DRIVE
PORTSMOUTH, NH

Prepared by:
NEW HAMPSHIRE LAND CONSULTANTS, PLLC
683C FIRST NH TURNPIKE
NORTHWOOD, NH 03261
&
RJB ENGINEERING
JEFFREY BURD, P.E.

Project Number:
258.00



RJ Burd

PROJECT NARATIVE

1. Table of Contents

1. Narrative of the project with summary table of peak discharge rates
2. Drainage analysis-Full Pre & Post summary of the 50-YR
3. Conclusion

Narrative

Introduction

This drainage analysis details the surface water drainage patterns on a parcel located at Patricia Drive in Portsmouth, NH. Using HydroCAD to model storm events this analysis estimates the amount of storm water surface runoff from this site before and after the proposed parking lot and sidewalk. The design of this project will decrease the runoff.

The proposed improvements are on Patricia Drive and Tax Map 283 Lot 11. The applicant, Dube Plus Construction, wishes to rebuild Patricia Drive and construct 2 single family homes. We are proposing 1 detention basin and one treatment/detention system to control, pre-treat and treat the stormwater runoff from the reconstructed road, driveways and yards. The houses will be constructed with drip edges and all roof runoff will be infiltrated via the drip edge. The roadway stormwater runoff is directed to a detention/infiltration area that is equipped with a sediment forebay, a bio-retention system and detention area. The stormwater the isn't infiltrated will leave this detention/infiltration/filtration system will be directed to a rip rap slope to a level spreader and directed to 75' natural filter strip, which will provide additional overland treatment prior to reaching the prime wetland.

The area that has been analyzed is all upland, Chatfield-Hollis-Canton, Sandy Loam soils (Hydro group B soils) as categorized by the Soil Conservation District.

The following section explains the methods used to determine the runoff quantities generated by the existing conditions site. The objective of this analysis is to obtain surface storm water runoff flow data. This information is compared to evaluate whether there may be an impact to existing drainage system in the area.

Methodology

The drainage analysis performed utilizes nationally recognized techniques developed by the USDA, Soil Conservation Service (SCS). The techniques and models used for this analysis are described in "Urban Hydrology for Small Watersheds, Technical Release Number 55" dated 1986 and in USDOT Federal Highway Administration (FHWA) "Hydraulic Design of Highway Culverts" dated September 1985.

Design computations were based on a Type III 24-hour storm event as recommended for New Hampshire. 10 year – 24-hour event of 4.92 inches of precipitation respectively was analyzed. Pre and Post-development conditions were analyzed by the same method. An investigation was conducted to confirm published watershed soil and vegetative characteristics that were used for the input program "HydroCAD Storm water Modeling System, Version 10.00-25". Tabulated summaries of the results are shown in the results section of this report.

Procedure

To begin the stormwater study, the limits and areas of the watershed for this development were identified. The existing watershed area is treated as 1 sub-catchment. The proposed development watershed area is treated as 5 sub-catchments. Weighted runoff curve numbers (CN) were calculated for each sub-catchment watershed area. Runoff curve numbers were chosen based on site investigation, TR-55, USDA Agriculture Handbook 590 (1997), and USDA Soil Conservation

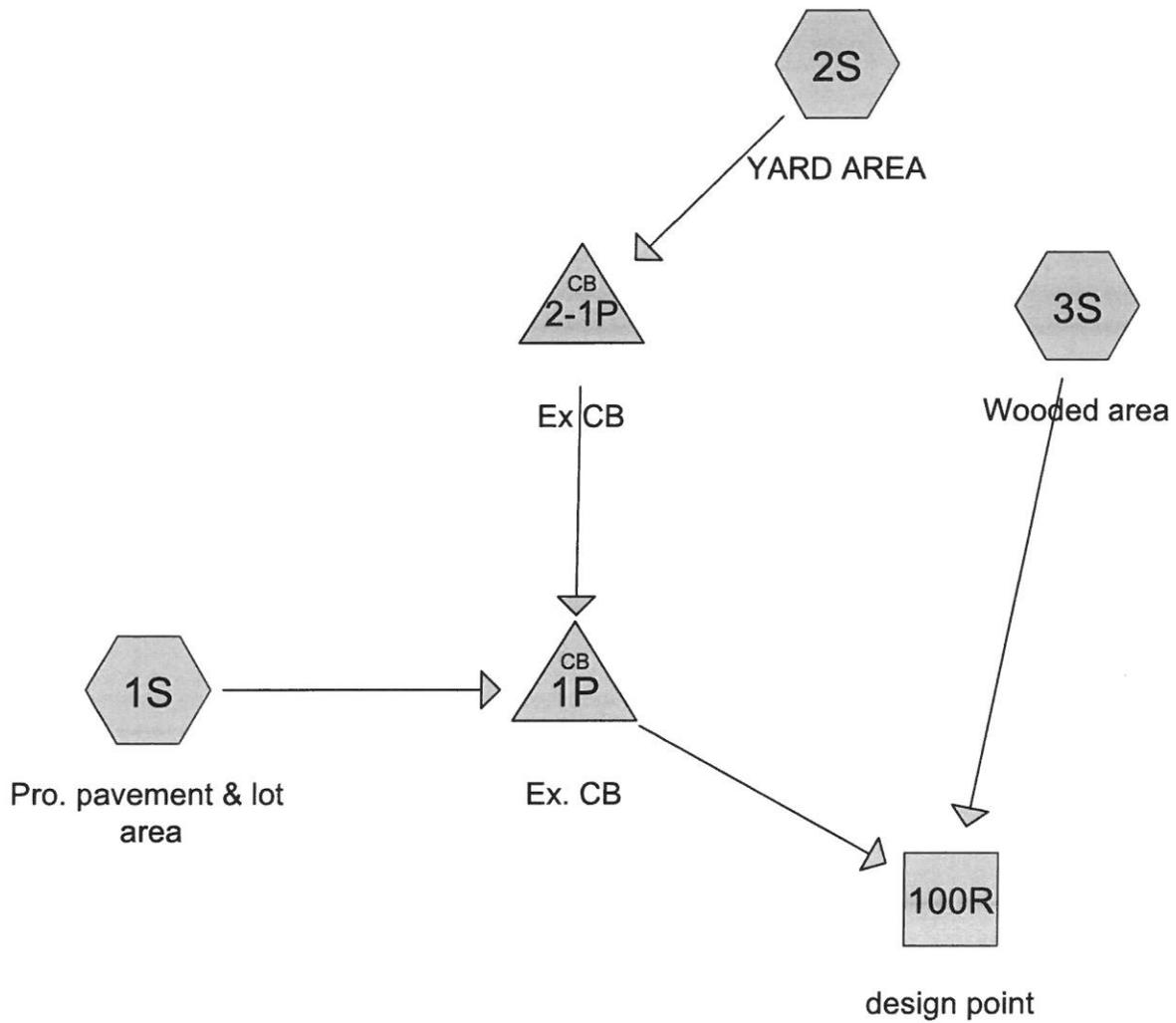
Service Soil Survey, issued October 1994. The value of CN depends on soil type, vegetative cover and hydraulic conditions of the land surface. Surface water run off rate and total volume during and after a storm event is also influenced by: slope of the land, area of the watershed, hydraulic length of watershed, and ponds and swamps. In addition, the amount of surface runoff produced by a given storm event is a function of the duration and intensity of the storm.

Pre-development and post-development conditions for the watershed were analyzed by the method outlined in USDA Soil Conservation Service Soil Survey, issued October 1994. Using this post-development information, computer generated hydrographs were calculated and peak runoff rates determined for each specific storm event.

The entire area to be developed will disturb approximately 34,000 square feet. Re-graded areas along the edge of construction will ultimately become stabilized and generally resume their pre-development characteristics.

DRAINAGE ANALYSIS PRE & POST

Pre-Conditions Drainage Analysis
Full summary
50 YR – 24 HR rainfall = 7.48”



Routing Diagram for Ex drainage rev 7-5-21
 Prepared by New Hampshire Land Consultants, PLLC, Printed 7/7/2021
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.261	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S)
0.261	98	Impervious (1S, 2S, 3S)
0.508	55	Woods, Good, HSG B (2S, 3S)
1.030	67	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.769	HSG B	1S, 2S, 3S
0.000	HSG C	
0.000	HSG D	
0.261	Other	1S, 2S, 3S
1.030		TOTAL AREA

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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	0.261	0.000	0.000	0.000	0.261	>75% Grass cover, Good	1S, 2S, 3S
0.000	0.000	0.000	0.000	0.261	0.261	Impervious	1S, 2S, 3S
0.000	0.508	0.000	0.000	0.000	0.508	Woods, Good	2S, 3S
0.000	0.769	0.000	0.000	0.261	1.030	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	43.86	43.54	25.0	0.0128	0.013	8.0	0.0	0.0
2	2-1P	43.79	43.88	28.0	-0.0032	0.013	12.0	0.0	0.0

Ex drainage rev 7-5-21

Type III 24-hr 50 yr 24 hr Rainfall=7.48"

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Time span=5.00-60.00 hrs, dt=0.05 hrs, 1101 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 1S: Pro. pavement & lot area Runoff Area=10,927 sf 76.95% Impervious Runoff Depth>6.16"
Tc=5.0 min CN=89 Runoff=1.73 cfs 0.129 af

Subcatchment 2S: YARD AREA Runoff Area=10,031 sf 17.32% Impervious Runoff Depth=3.48"
Tc=5.0 min CN=65 Runoff=0.94 cfs 0.067 af

Subcatchment 3S: Wooded area Runoff Area=23,910 sf 5.06% Impervious Runoff Depth=2.74"
Tc=5.0 min CN=58 Runoff=1.72 cfs 0.125 af

Reach 100R: design point Inflow=4.36 cfs 0.321 af
Outflow=4.36 cfs 0.321 af

Pond 1P: Ex. CB Peak Elev=46.75' Inflow=2.66 cfs 0.195 af
8.0" Round Culvert n=0.013 L=25.0' S=0.0128 '/ Outflow=2.66 cfs 0.195 af

Pond 2-1P: Ex CB Peak Elev=44.50' Inflow=0.94 cfs 0.067 af
12.0" Round Culvert n=0.013 L=28.0' S=-0.0032 '/ Outflow=0.94 cfs 0.067 af

Total Runoff Area = 1.030 ac Runoff Volume = 0.321 af Average Runoff Depth = 3.74"
74.69% Pervious = 0.769 ac 25.31% Impervious = 0.261 ac

Ex drainage rev 7-5-21

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Type III 24-hr 50 yr 24 hr Rainfall=7.48"

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Summary for Subcatchment 1S: Pro. pavement & lot area

[49] Hint: $T_c < 2dt$ may require smaller dt

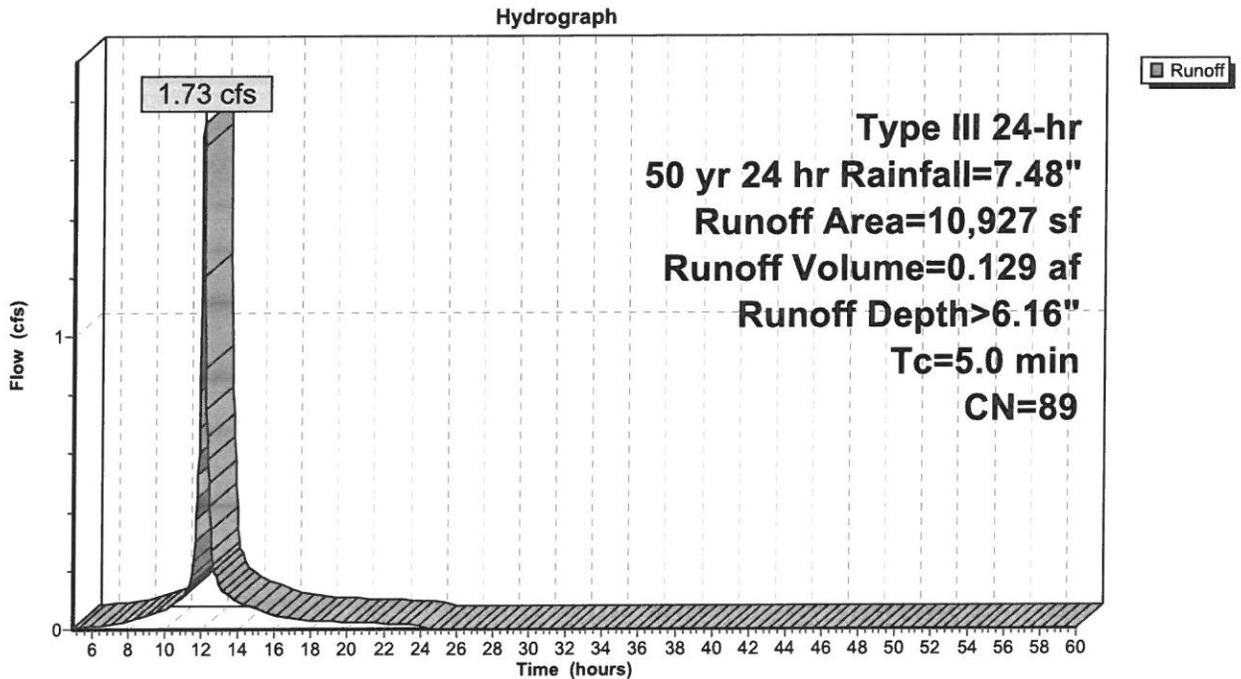
Runoff = 1.73 cfs @ 12.07 hrs, Volume= 0.129 af, Depth> 6.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr 50 yr 24 hr Rainfall=7.48"

Area (sf)	CN	Description
* 8,408	98	Impervious
2,519	61	>75% Grass cover, Good, HSG B
10,927	89	Weighted Average
2,519		23.05% Pervious Area
8,408		76.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 1

Subcatchment 1S: Pro. pavement & lot area



Summary for Subcatchment 2S: YARD AREA

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.94 cfs @ 12.08 hrs, Volume= 0.067 af, Depth= 3.48"

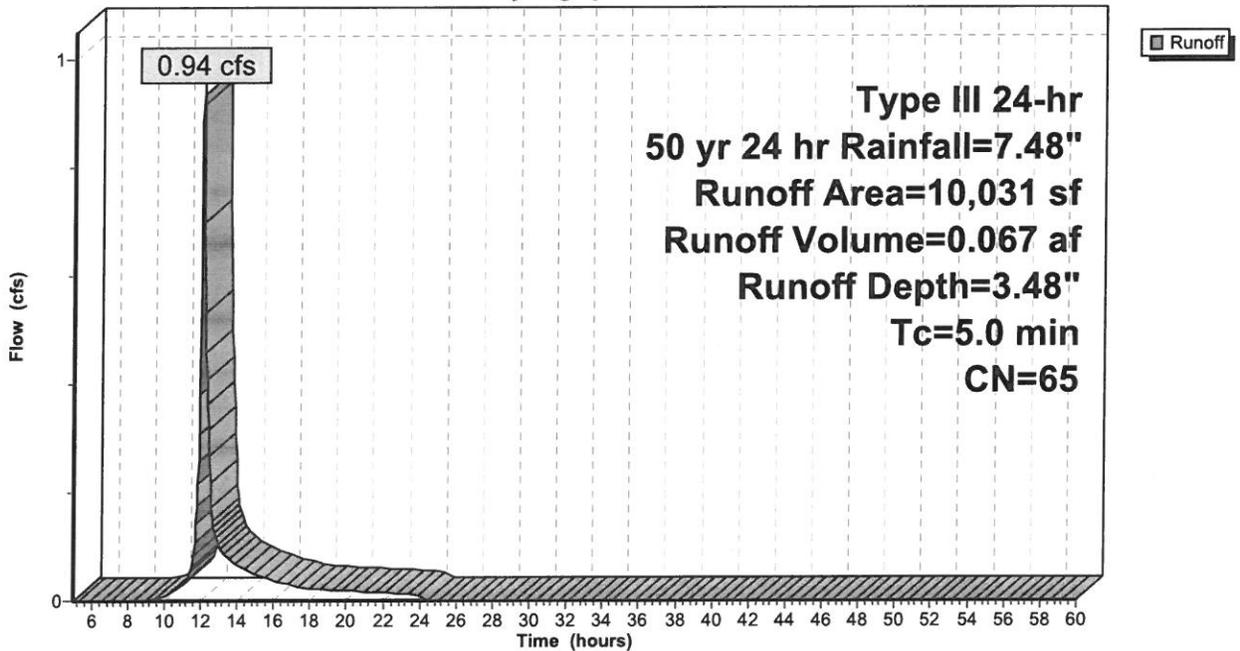
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr 50 yr 24 hr Rainfall=7.48"

Area (sf)	CN	Description
4,143	55	Woods, Good, HSG B
* 1,737	98	Impervious
4,151	61	>75% Grass cover, Good, HSG B
10,031	65	Weighted Average
8,294		82.68% Pervious Area
1,737		17.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2S: YARD AREA

Hydrograph



Summary for Subcatchment 3S: Wooded area

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.72 cfs @ 12.08 hrs, Volume= 0.125 af, Depth= 2.74"

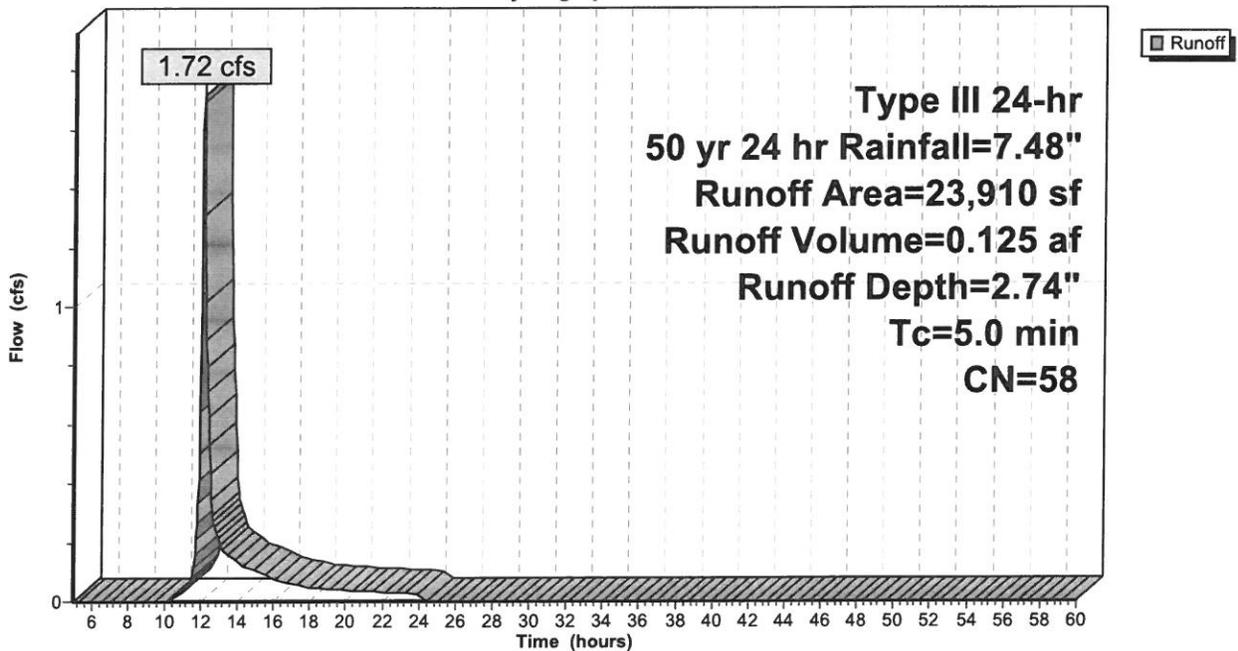
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr 50 yr 24 hr Rainfall=7.48"

Area (sf)	CN	Description
17,990	55	Woods, Good, HSG B
* 1,210	98	Impervious
4,710	61	>75% Grass cover, Good, HSG B
23,910	58	Weighted Average
22,700		94.94% Pervious Area
1,210		5.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 3S: Wooded area

Hydrograph



Summary for Reach 100R: design point

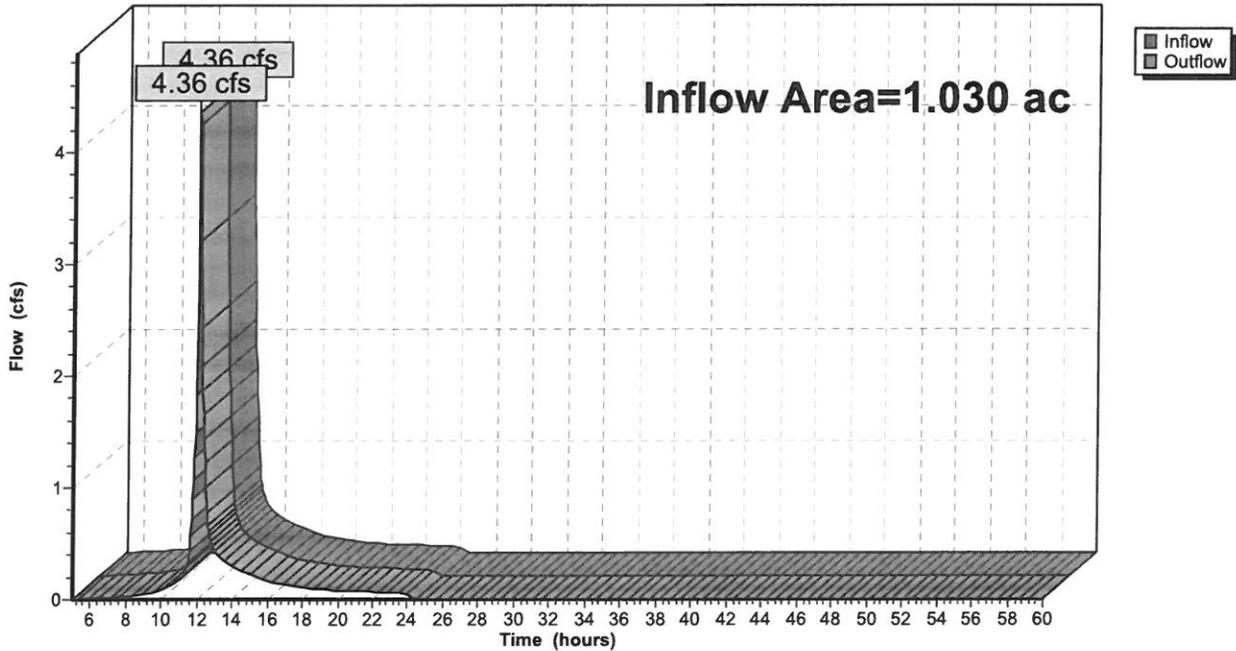
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.030 ac, 25.31% Impervious, Inflow Depth > 3.74" for 50 yr 24 hr event
Inflow = 4.36 cfs @ 12.08 hrs, Volume= 0.321 af
Outflow = 4.36 cfs @ 12.08 hrs, Volume= 0.321 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs

Reach 100R: design point

Hydrograph



Summary for Pond 1P: Ex. CB

[82] Warning: Early inflow requires earlier time span
 [81] Warning: Exceeded Pond 2-1P by 2.12' @ 12.05 hrs

Inflow Area = 0.481 ac, 48.41% Impervious, Inflow Depth > 4.88" for 50 yr 24 hr event
 Inflow = 2.66 cfs @ 12.07 hrs, Volume= 0.195 af
 Outflow = 2.66 cfs @ 12.07 hrs, Volume= 0.195 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.66 cfs @ 12.07 hrs, Volume= 0.195 af

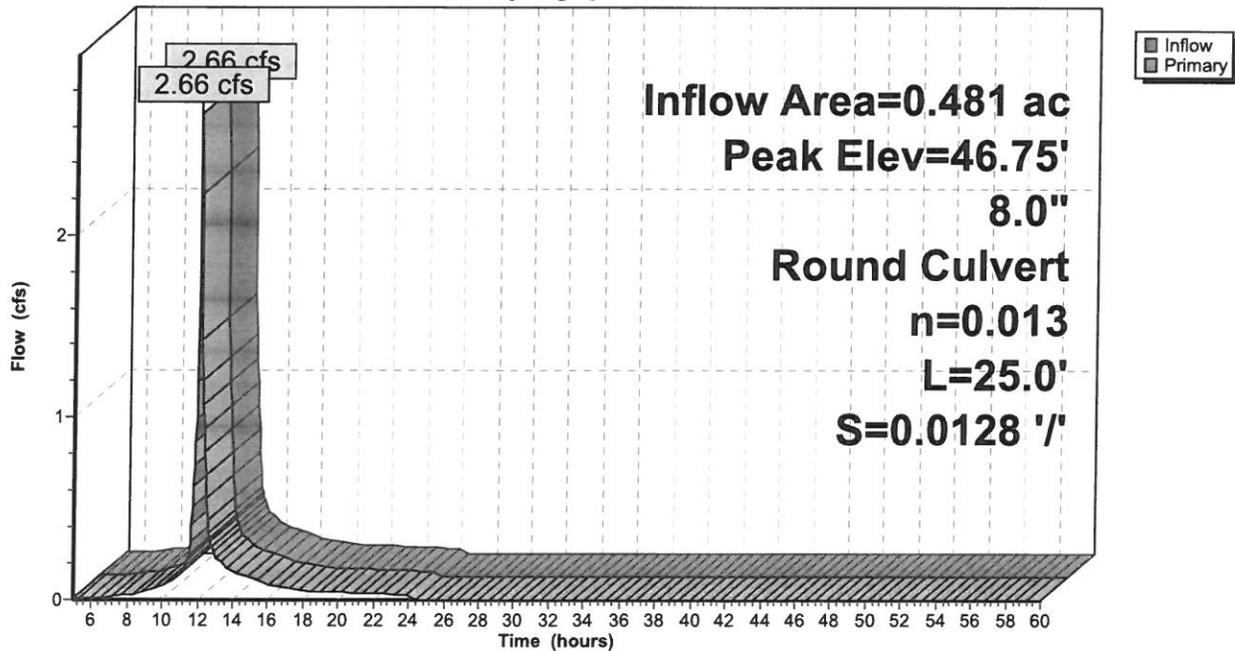
Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 46.75' @ 12.07 hrs
 Flood Elev= 47.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.86'	8.0" Round Culvert L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 43.86' / 43.54' S= 0.0128 '/' Cc= 0.900 n= 0.013, Flow Area= 0.35 sf

Primary OutFlow Max=2.57 cfs @ 12.07 hrs HW=46.60' (Free Discharge)
 ←1=Culvert (Barrel Controls 2.57 cfs @ 7.35 fps)

Pond 1P: Ex. CB

Hydrograph



Ex drainage rev 7-5-21

Type III 24-hr 50 yr 24 hr Rainfall=7.48"

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Summary for Pond 2-1P: Ex CB

Inflow Area = 0.230 ac, 17.32% Impervious, Inflow Depth = 3.48" for 50 yr 24 hr event
 Inflow = 0.94 cfs @ 12.08 hrs, Volume= 0.067 af
 Outflow = 0.94 cfs @ 12.08 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.94 cfs @ 12.08 hrs, Volume= 0.067 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 44.50' @ 12.08 hrs

Flood Elev= 48.09'

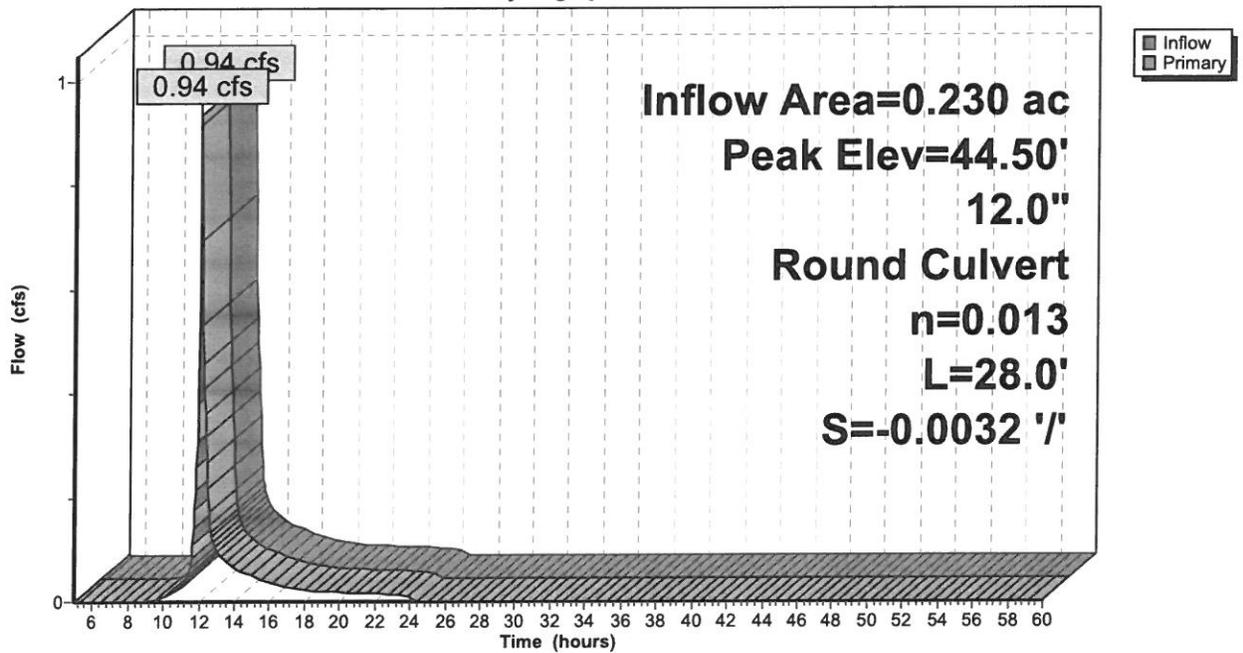
Device	Routing	Invert	Outlet Devices
#1	Primary	43.88'	12.0" Round Culvert L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 43.79' / 43.88' S= -0.0032 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.91 cfs @ 12.08 hrs HW=44.49' (Free Discharge)

←1=Culvert (Barrel Controls 0.91 cfs @ 2.18 fps)

Pond 2-1P: Ex CB

Hydrograph



Ex drainage rev 7-5-21

Type III 24-hr First flush Rainfall=1.00"

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Time span=5.00-60.00 hrs, dt=0.05 hrs, 1101 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 1S: Pro. pavement & lot area Runoff Area=10,927 sf 76.95% Impervious Runoff Depth=0.28"
Tc=5.0 min CN=89 Runoff=0.08 cfs 0.006 af

Subcatchment 2S: YARD AREA Runoff Area=10,031 sf 17.32% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=65 Runoff=0.00 cfs 0.000 af

Subcatchment 3S: Wooded area Runoff Area=23,910 sf 5.06% Impervious Runoff Depth=0.00"
Tc=5.0 min CN=58 Runoff=0.00 cfs 0.000 af

Reach 100R: design point Inflow=0.08 cfs 0.006 af
Outflow=0.08 cfs 0.006 af

Pond 1P: Ex. CB Peak Elev=44.01' Inflow=0.08 cfs 0.006 af
8.0" Round Culvert n=0.013 L=25.0' S=0.0128 '/ Outflow=0.08 cfs 0.006 af

Pond 2-1P: Ex CB Peak Elev=43.88' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=28.0' S=-0.0032 '/ Outflow=0.00 cfs 0.000 af

Total Runoff Area = 1.030 ac Runoff Volume = 0.006 af Average Runoff Depth = 0.07"
74.69% Pervious = 0.769 ac 25.31% Impervious = 0.261 ac

Summary for Subcatchment 1S: Pro. pavement & lot area

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth= 0.28"

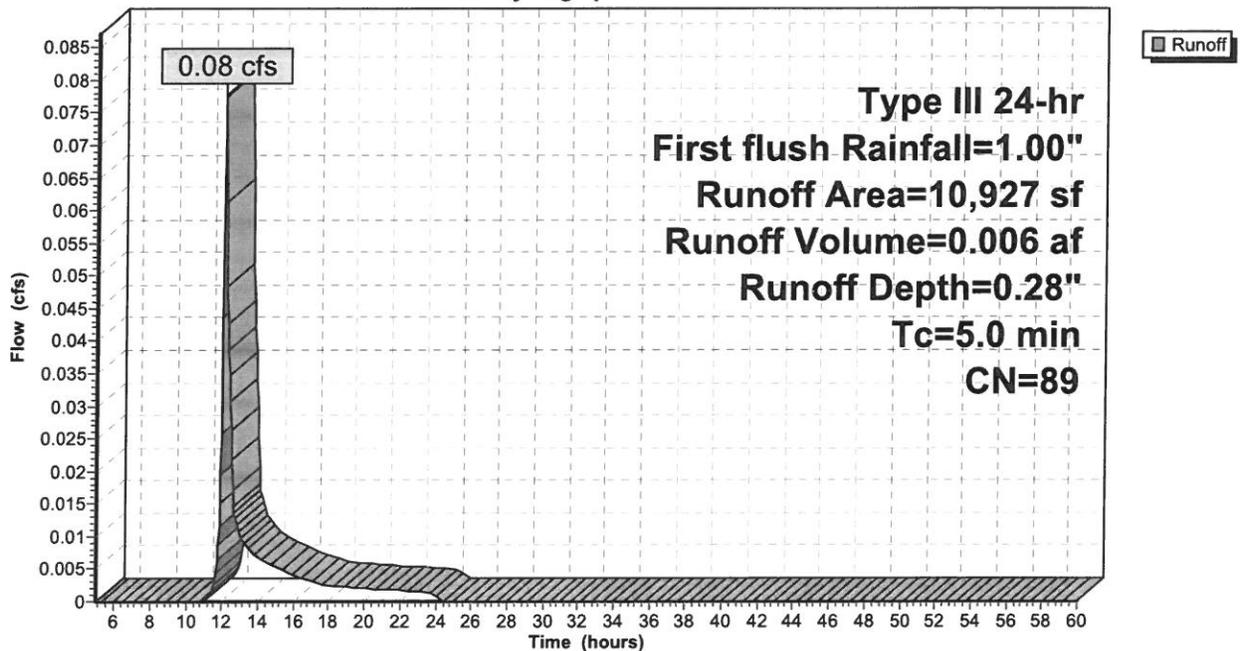
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr First flush Rainfall=1.00"

Area (sf)	CN	Description
* 8,408	98	Impervious
2,519	61	>75% Grass cover, Good, HSG B
10,927	89	Weighted Average
2,519		23.05% Pervious Area
8,408		76.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 1

Subcatchment 1S: Pro. pavement & lot area

Hydrograph



Summary for Subcatchment 2S: YARD AREA

[49] Hint: Tc<2dt may require smaller dt

[45] Hint: Runoff=Zero

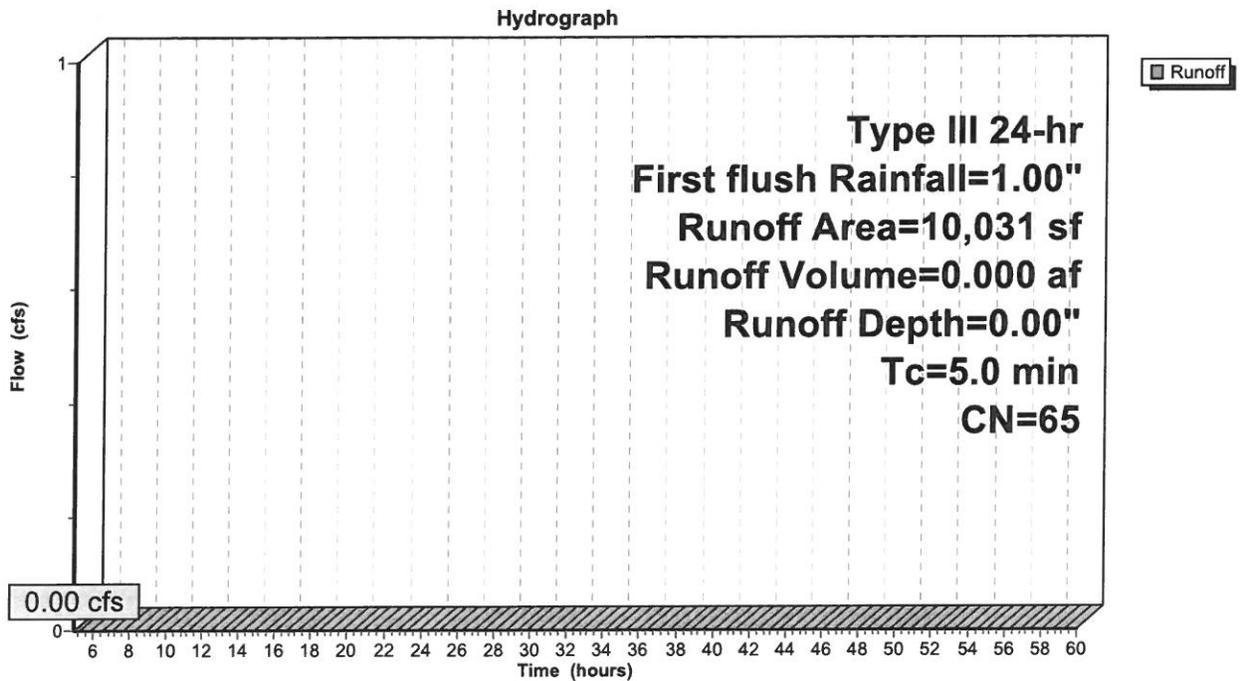
Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr First flush Rainfall=1.00"

Area (sf)	CN	Description
4,143	55	Woods, Good, HSG B
* 1,737	98	Impervious
4,151	61	>75% Grass cover, Good, HSG B
10,031	65	Weighted Average
8,294		82.68% Pervious Area
1,737		17.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 2S: YARD AREA



Summary for Subcatchment 3S: Wooded area

[49] Hint: Tc<2dt may require smaller dt

[45] Hint: Runoff=Zero

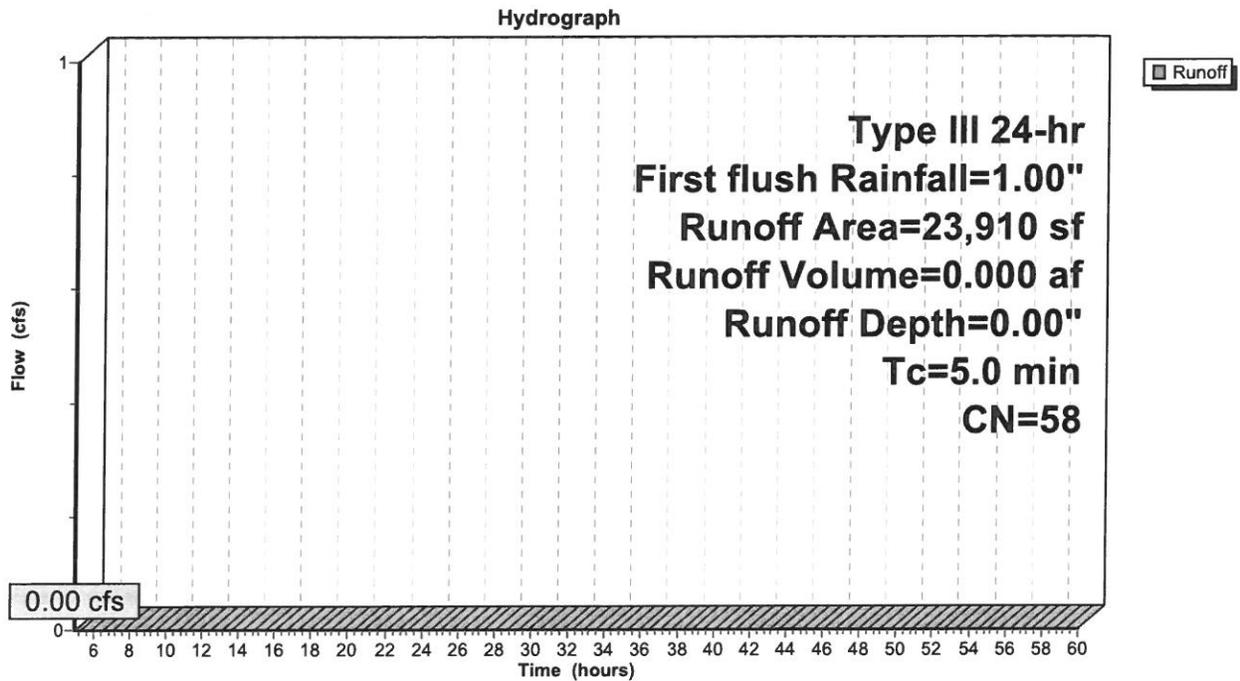
Runoff = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr First flush Rainfall=1.00"

Area (sf)	CN	Description
17,990	55	Woods, Good, HSG B
* 1,210	98	Impervious
4,710	61	>75% Grass cover, Good, HSG B
23,910	58	Weighted Average
22,700		94.94% Pervious Area
1,210		5.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 3S: Wooded area



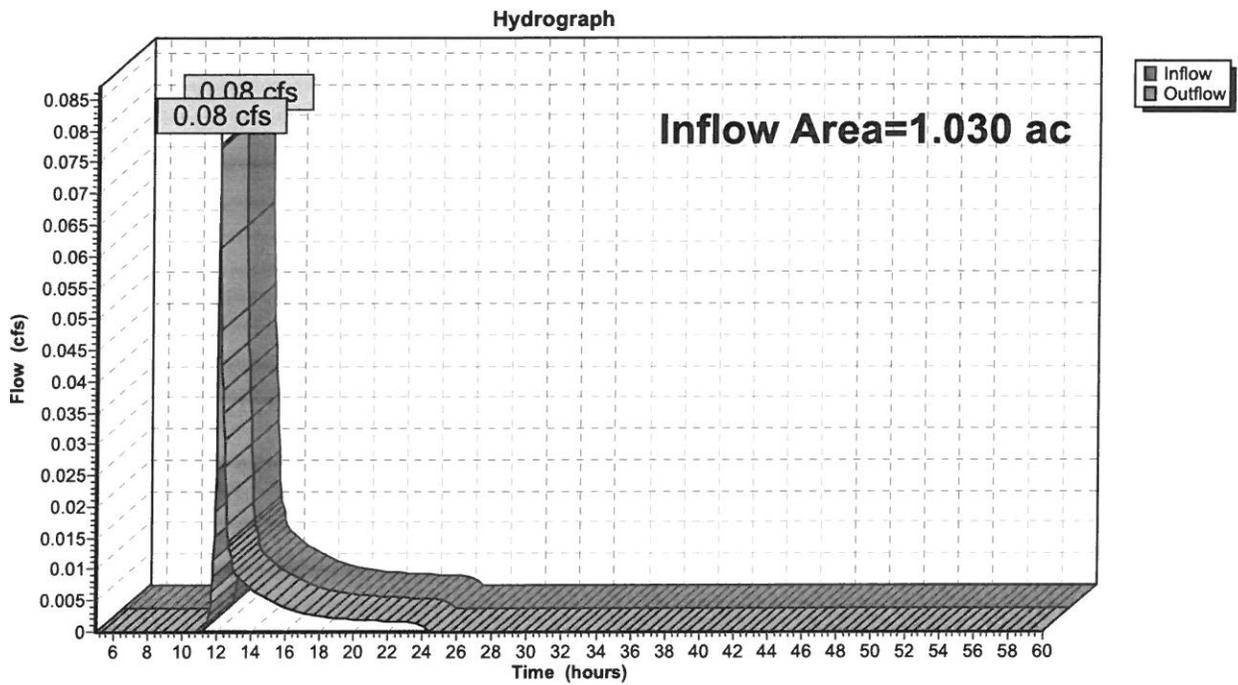
Summary for Reach 100R: design point

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.030 ac, 25.31% Impervious, Inflow Depth = 0.07" for First flush event
Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs

Reach 100R: design point



Summary for Pond 1P: Ex. CB

[81] Warning: Exceeded Pond 2-1P by 0.13' @ 12.10 hrs

Inflow Area = 0.481 ac, 48.41% Impervious, Inflow Depth = 0.15" for First flush event
 Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
 Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af

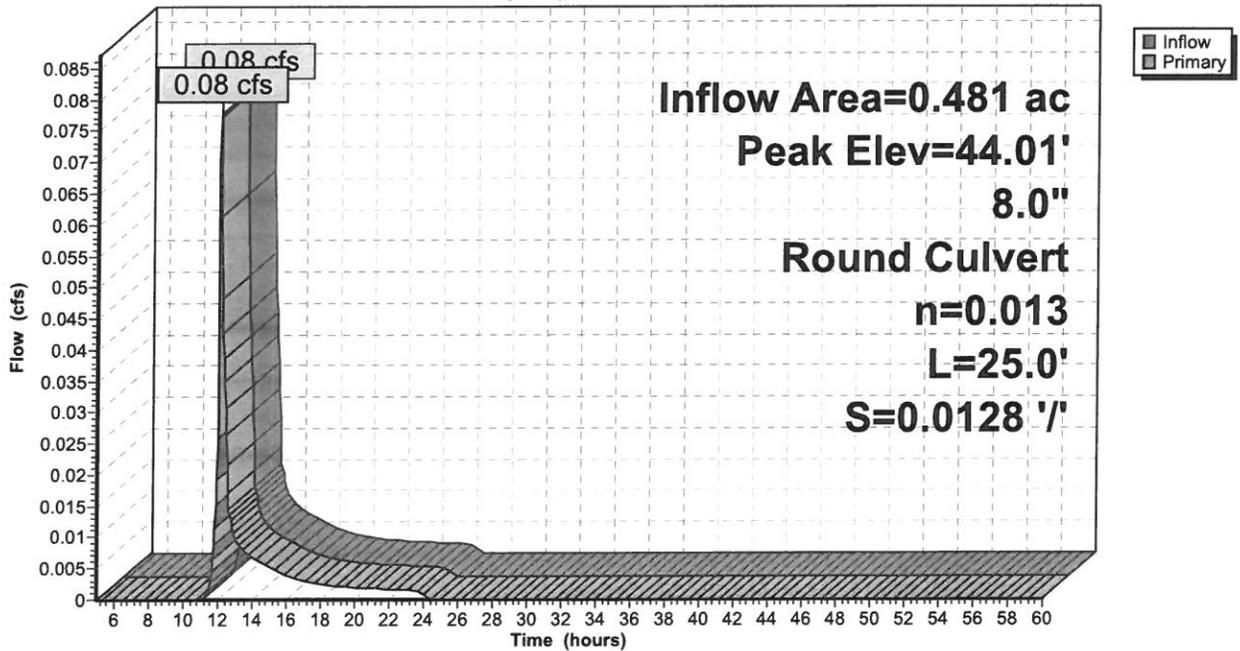
Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 44.01' @ 12.09 hrs
 Flood Elev= 47.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.86'	8.0" Round Culvert L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 43.86' / 43.54' S= 0.0128 '/' Cc= 0.900 n= 0.013, Flow Area= 0.35 sf

Primary OutFlow Max=0.08 cfs @ 12.09 hrs HW=44.01' (Free Discharge)
 ↑1=Culvert (Barrel Controls 0.08 cfs @ 1.97 fps)

Pond 1P: Ex. CB

Hydrograph



Ex drainage rev 7-5-21

Type III 24-hr First flush Rainfall=1.00"

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Summary for Pond 2-1P: Ex CB

Inflow Area = 0.230 ac, 17.32% Impervious, Inflow Depth = 0.00" for First flush event
 Inflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 43.88' @ 5.00 hrs

Flood Elev= 48.09'

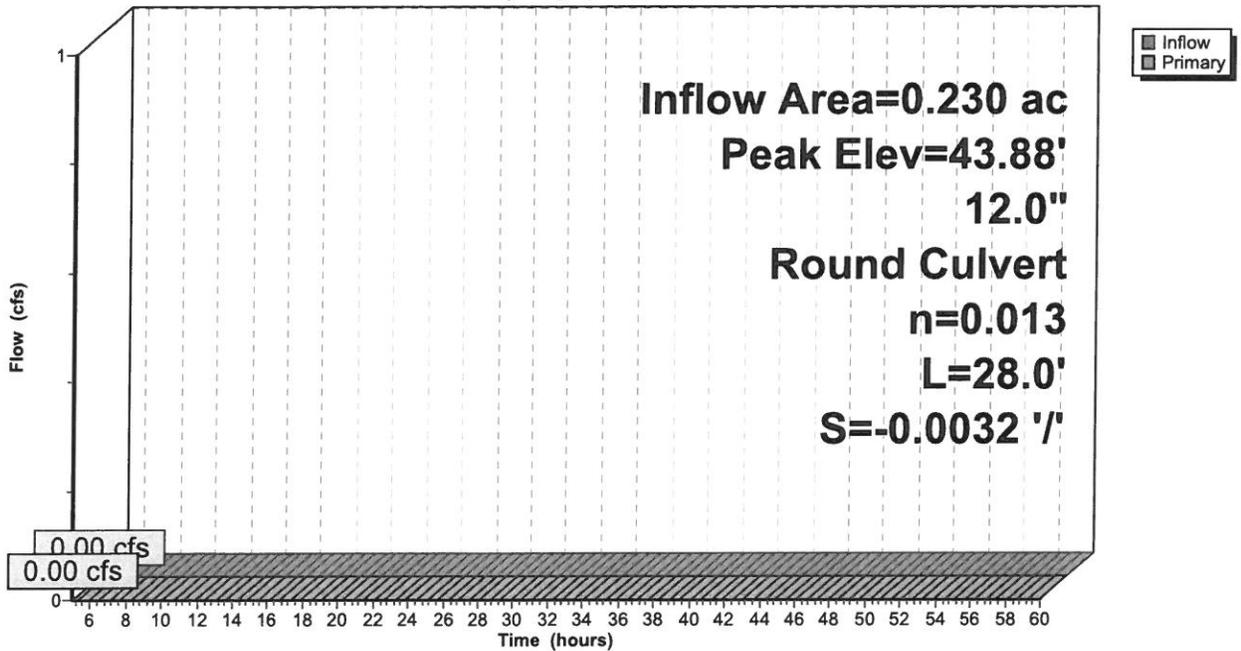
Device	Routing	Invert	Outlet Devices
#1	Primary	43.88'	12.0" Round Culvert L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 43.79' / 43.88' S= -0.0032 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=43.88' (Free Discharge)

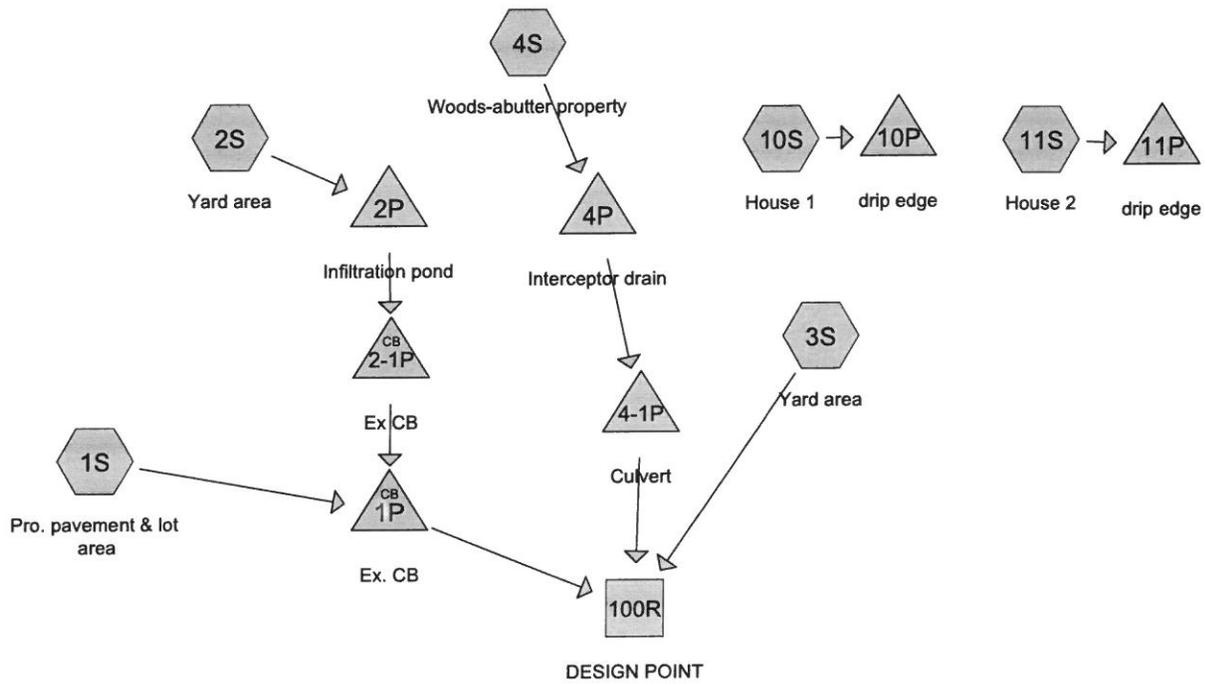
←1=Culvert (Controls 0.00 cfs)

Pond 2-1P: Ex CB

Hydrograph



Pro-Conditions Drainage Analysis
Full summary
50 YR – 24 HR rainfall = 7.48”



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.612	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S)
0.372	98	Impervious (1S, 3S, 4S, 10S, 11S)
0.045	55	Woods, Good, HSG B (3S)
1.030	74	TOTAL AREA

Pro drainage rev 7-5-21

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.658	HSG B	1S, 2S, 3S, 4S
0.000	HSG C	
0.000	HSG D	
0.372	Other	1S, 3S, 4S, 10S, 11S
1.030		TOTAL AREA

Pro drainage rev 7-5-21

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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	0.612	0.000	0.000	0.000	0.612	>75% Grass cover, Good	1S, 2S, 3S, 4S
0.000	0.000	0.000	0.000	0.372	0.372	Impervious	1S, 3S, 4S, 10S, 11S
0.000	0.045	0.000	0.000	0.000	0.045	Woods, Good	3S
0.000	0.658	0.000	0.000	0.372	1.030	TOTAL AREA	

Pro drainage rev 7-5-21

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	43.86	43.54	25.0	0.0128	0.013	8.0	0.0	0.0
2	2-1P	43.79	43.88	28.0	-0.0032	0.013	12.0	0.0	0.0
3	2P	45.34	44.00	28.0	0.0479	0.012	4.0	0.0	0.0
4	4-1P	53.30	52.80	19.0	0.0263	0.012	12.0	0.0	0.0
5	4P	54.84	54.00	7.0	0.1200	0.012	12.0	0.0	0.0

Pro drainage rev 7-5-21

Type III 24-hr 10 yr 24 hr Rainfall=4.92"

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Time span=5.00-60.00 hrs, dt=0.05 hrs, 1101 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 1S: Pro. pavement & lot area Runoff Area=14,639 sf 76.60% Impervious Runoff Depth>3.69"
Tc=5.0 min CN=89 Runoff=1.42 cfs 0.103 af

Subcatchment 2S: Yard area Runoff Area=2,923 sf 0.00% Impervious Runoff Depth=1.32"
Tc=5.0 min CN=61 Runoff=0.10 cfs 0.007 af

Subcatchment 3S: Yard area Runoff Area=5,765 sf 0.95% Impervious Runoff Depth=1.19"
Tc=5.0 min CN=59 Runoff=0.16 cfs 0.013 af

Subcatchment 4S: Woods-abutter property Runoff Area=18,317 sf 9.43% Impervious Runoff Depth=1.53"
Tc=5.0 min CN=64 Runoff=0.71 cfs 0.054 af

Subcatchment 10S: House 1 Runoff Area=1,680 sf 100.00% Impervious Runoff Depth>4.56"
Tc=5.0 min CN=98 Runoff=0.19 cfs 0.015 af

Subcatchment 11S: House 2 Runoff Area=1,524 sf 100.00% Impervious Runoff Depth>4.56"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.013 af

Reach 100R: DESIGN POINT Inflow=2.20 cfs 0.151 af
Outflow=2.20 cfs 0.151 af

Pond 1P: Ex. CB Peak Elev=44.94' Inflow=1.43 cfs 0.111 af
8.0" Round Culvert n=0.013 L=25.0' S=0.0128 '/' Outflow=1.43 cfs 0.111 af

Pond 2-1P: Ex CB Peak Elev=43.94' Inflow=0.02 cfs 0.007 af
12.0" Round Culvert n=0.013 L=28.0' S=-0.0032 '/' Outflow=0.02 cfs 0.007 af

Pond 2P: Infiltration pond Peak Elev=45.42' Storage=113 cf Inflow=0.10 cfs 0.007 af
4.0" Round Culvert n=0.012 L=28.0' S=0.0479 '/' Outflow=0.02 cfs 0.007 af

Pond 4-1P: Culvert Peak Elev=53.71' Storage=8 cf Inflow=0.66 cfs 0.027 af
12.0" Round Culvert n=0.012 L=19.0' S=0.0263 '/' Outflow=0.66 cfs 0.027 af

Pond 4P: Interceptor drain Peak Elev=55.25' Storage=191 cf Inflow=0.71 cfs 0.054 af
Discarded=0.03 cfs 0.027 af Primary=0.66 cfs 0.027 af Outflow=0.69 cfs 0.054 af

Pond 10P: drip edge Peak Elev=55.45' Storage=208 cf Inflow=0.19 cfs 0.015 af
Outflow=0.02 cfs 0.015 af

Pond 11P: drip edge Peak Elev=58.37' Storage=114 cf Inflow=0.17 cfs 0.013 af
Outflow=0.04 cfs 0.013 af

Total Runoff Area = 1.030 ac Runoff Volume = 0.206 af Average Runoff Depth = 2.40"
63.88% Pervious = 0.658 ac 36.12% Impervious = 0.372 ac

Summary for Subcatchment 1S: Pro. pavement & lot area

[49] Hint: $T_c < 2dt$ may require smaller dt

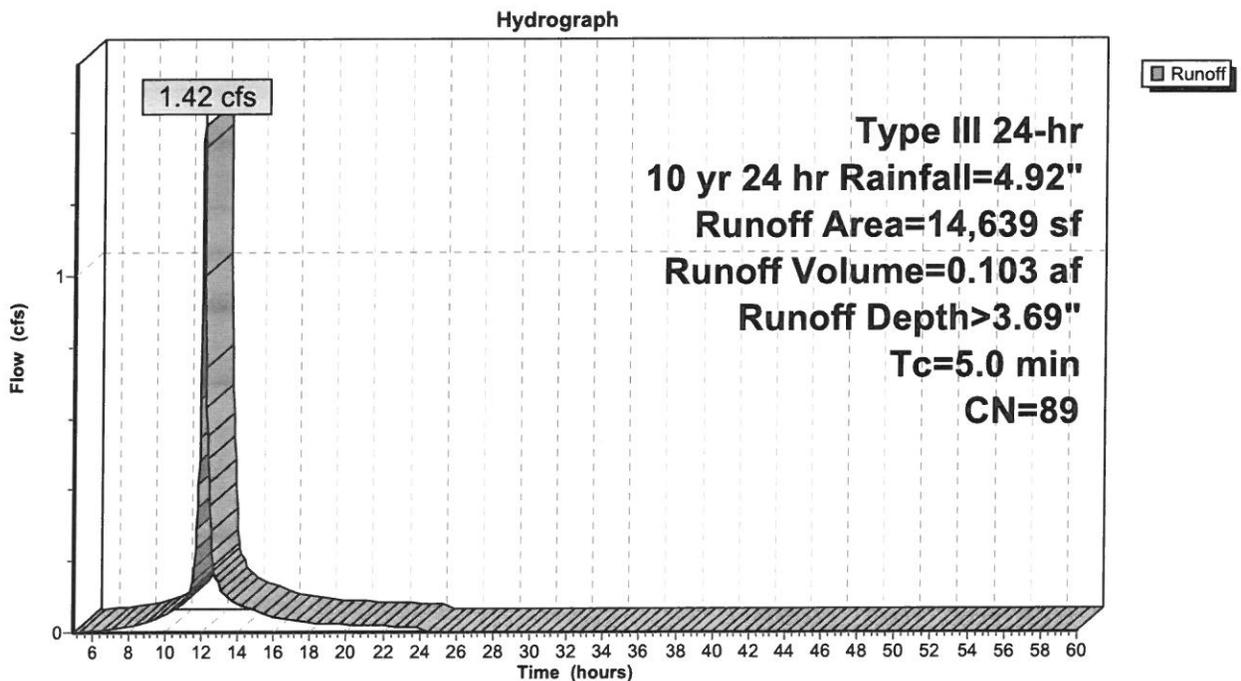
Runoff = 1.42 cfs @ 12.07 hrs, Volume= 0.103 af, Depth> 3.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 yr 24 hr Rainfall=4.92"

Area (sf)	CN	Description
* 11,213	98	Impervious
3,426	61	>75% Grass cover, Good, HSG B
14,639	89	Weighted Average
3,426		23.40% Pervious Area
11,213		76.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 1

Subcatchment 1S: Pro. pavement & lot area



Summary for Subcatchment 2S: Yard area

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.007 af, Depth= 1.32"

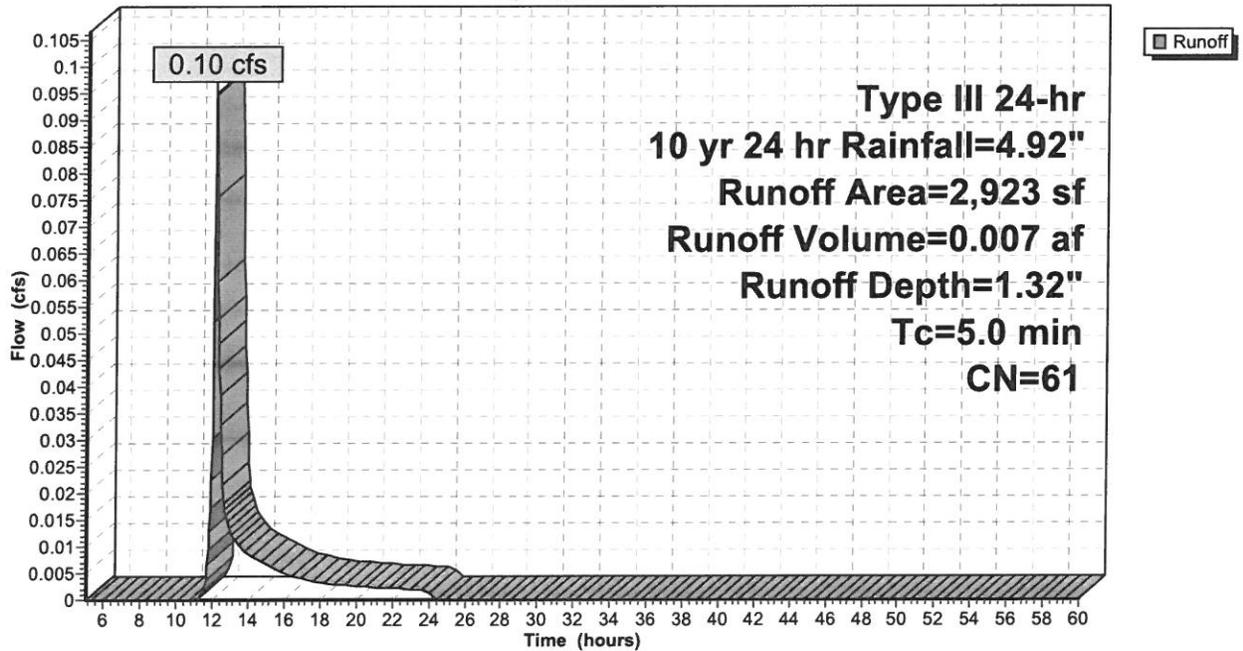
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, $dt= 0.05$ hrs
 Type III 24-hr 10 yr 24 hr Rainfall=4.92"

Area (sf)	CN	Description
2,923	61	>75% Grass cover, Good, HSG B
2,923		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 1

Subcatchment 2S: Yard area

Hydrograph



Summary for Subcatchment 3S: Yard area

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.013 af, Depth= 1.19"

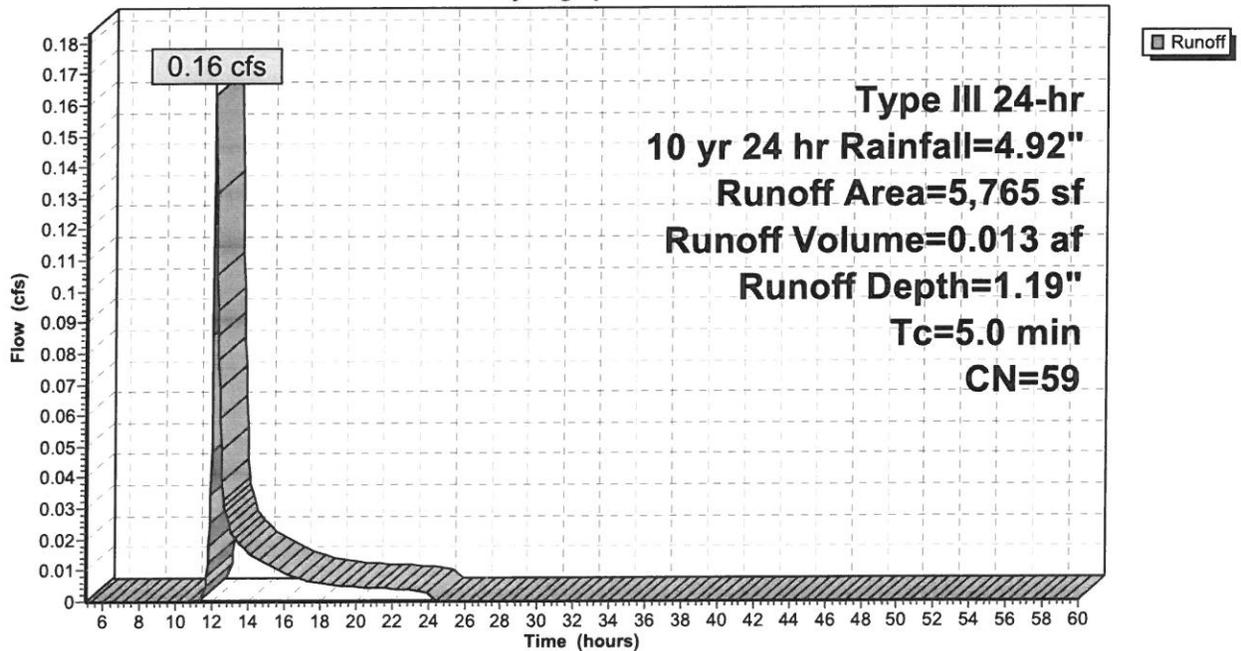
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, $dt= 0.05$ hrs
 Type III 24-hr 10 yr 24 hr Rainfall=4.92"

Area (sf)	CN	Description
1,970	55	Woods, Good, HSG B
3,740	61	>75% Grass cover, Good, HSG B
* 55	98	Impervious
5,765	59	Weighted Average
5,710		99.05% Pervious Area
55		0.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 1

Subcatchment 3S: Yard area

Hydrograph



Summary for Subcatchment 4S: Woods-abutter property

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.71 cfs @ 12.09 hrs, Volume= 0.054 af, Depth= 1.53"

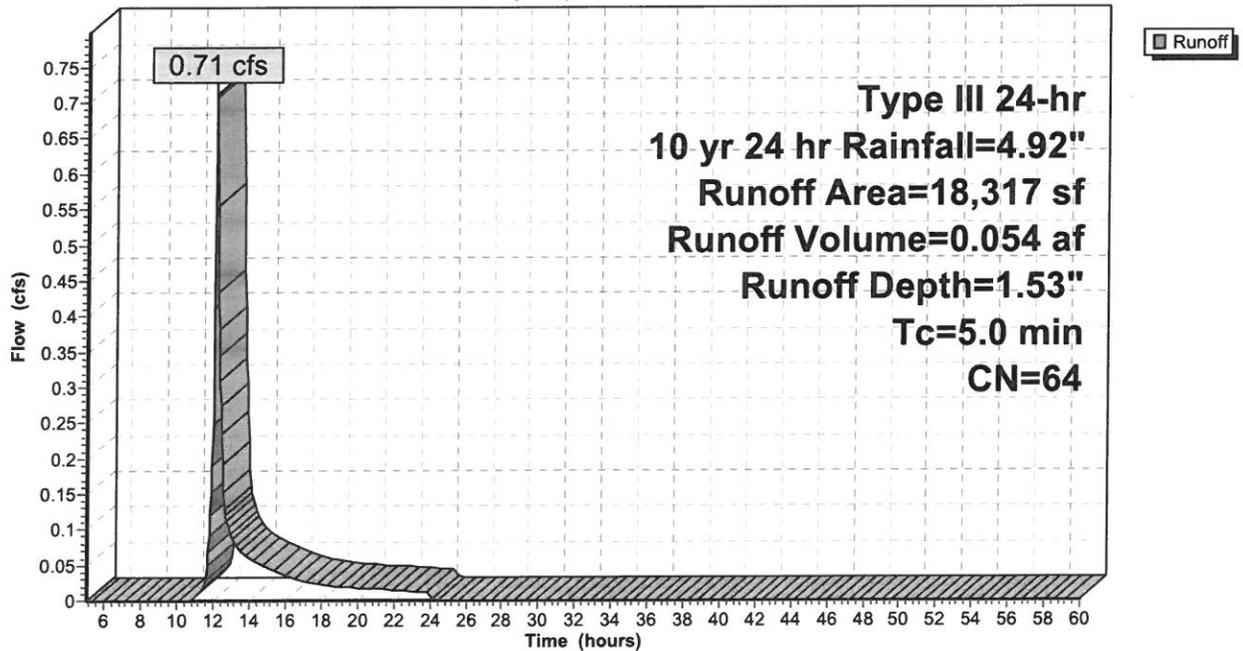
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 yr 24 hr Rainfall=4.92"

Area (sf)	CN	Description
16,590	61	>75% Grass cover, Good, HSG B
* 1,727	98	Impervious
18,317	64	Weighted Average
16,590		90.57% Pervious Area
1,727		9.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Subcatchment 4S: Woods-abutter property

Hydrograph



Summary for Subcatchment 10S: House 1

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.19 cfs @ 12.07 hrs, Volume= 0.015 af, Depth> 4.56"

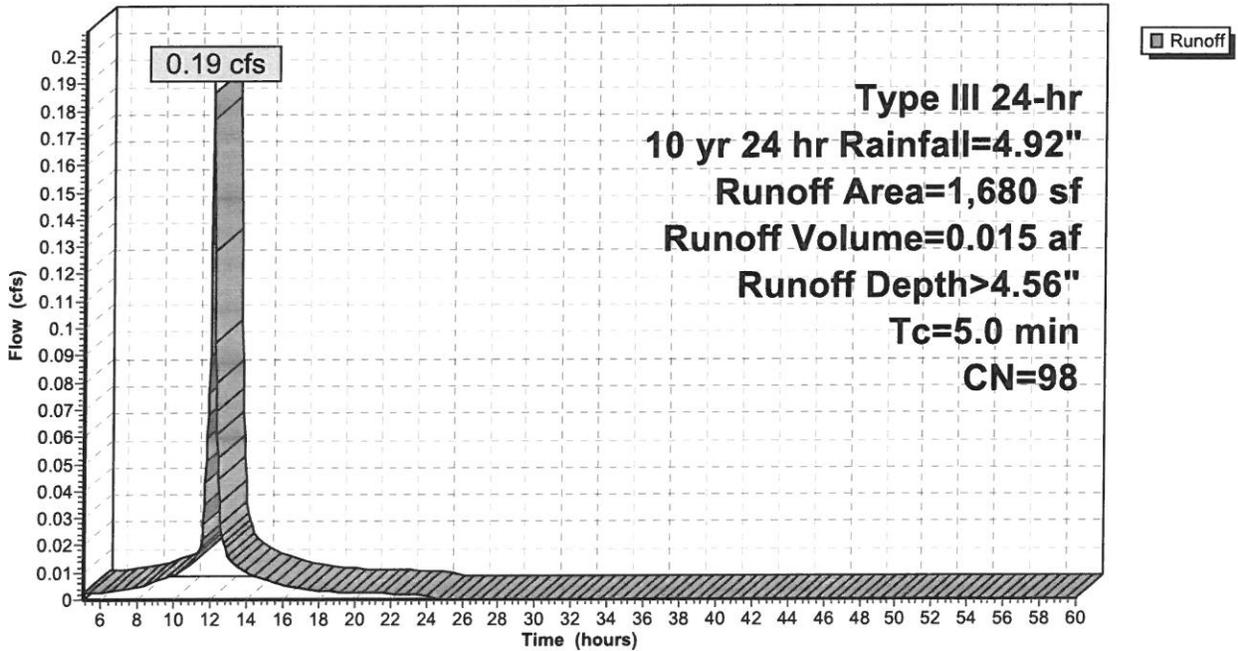
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 yr 24 hr Rainfall=4.92"

Area (sf)	CN	Description
* 1,680	98	Impervious
1,680		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 1

Subcatchment 10S: House 1

Hydrograph



Summary for Subcatchment 11S: House 2

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.17 cfs @ 12.07 hrs, Volume= 0.013 af, Depth > 4.56"

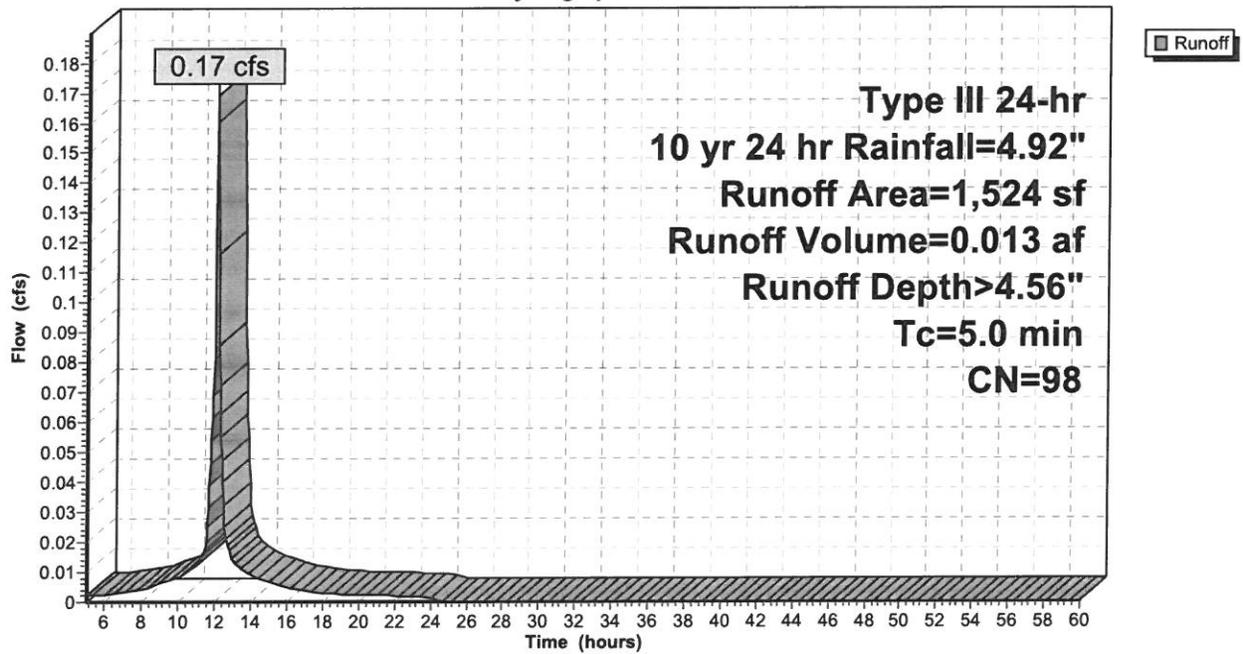
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10 yr 24 hr Rainfall=4.92"

	Area (sf)	CN	Description
*	1,524	98	Impervious
	1,524		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, 1

Subcatchment 11S: House 2

Hydrograph



Summary for Reach 100R: DESIGN POINT

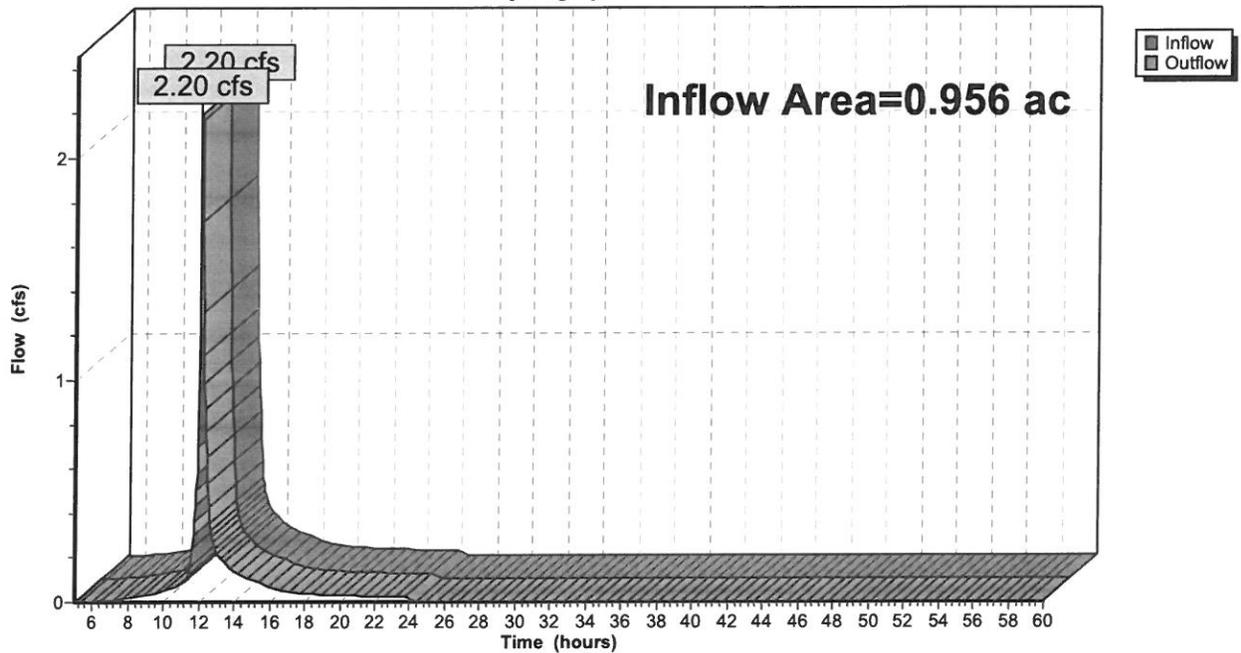
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.956 ac, 31.20% Impervious, Inflow Depth > 1.90" for 10 yr 24 hr event
Inflow = 2.20 cfs @ 12.09 hrs, Volume= 0.151 af
Outflow = 2.20 cfs @ 12.09 hrs, Volume= 0.151 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs

Reach 100R: DESIGN POINT

Hydrograph



Summary for Pond 1P: Ex. CB

[81] Warning: Exceeded Pond 2-1P by 1.01' @ 12.05 hrs

Inflow Area = 0.403 ac, 63.85% Impervious, Inflow Depth > 3.30" for 10 yr 24 hr event
 Inflow = 1.43 cfs @ 12.07 hrs, Volume= 0.111 af
 Outflow = 1.43 cfs @ 12.07 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.43 cfs @ 12.07 hrs, Volume= 0.111 af

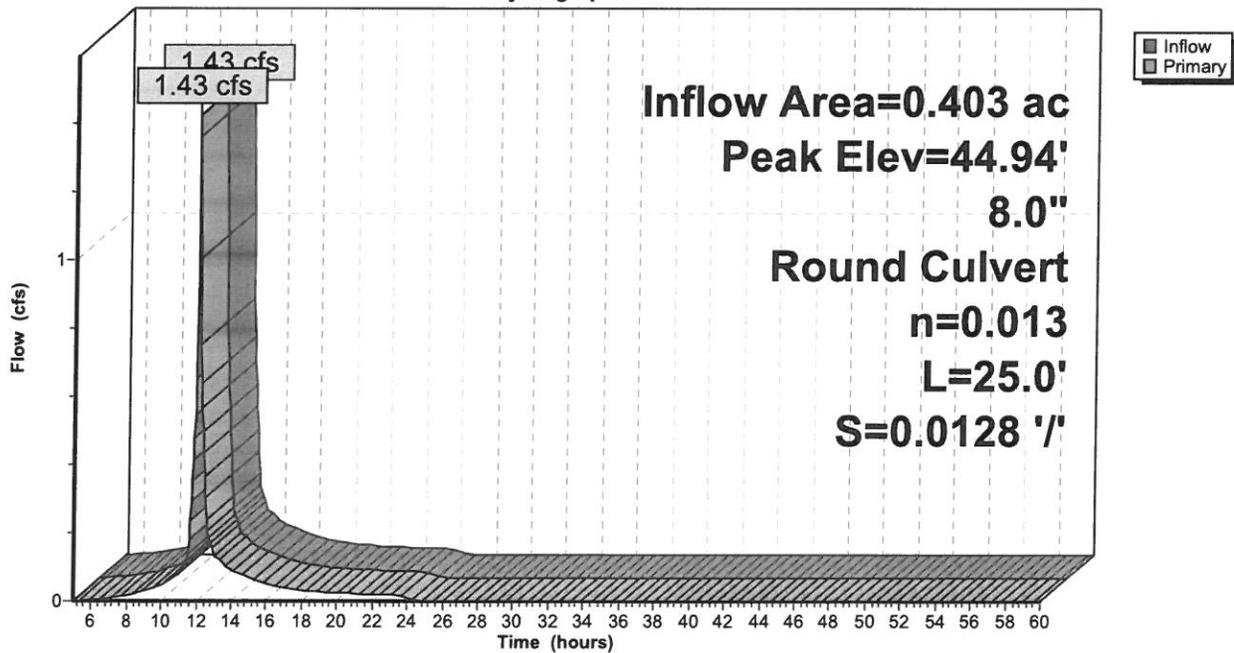
Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 44.94' @ 12.07 hrs
 Flood Elev= 47.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.86'	8.0" Round Culvert L= 25.0' Ke= 0.500 Inlet / Outlet Invert= 43.86' / 43.54' S= 0.0128 '/' Cc= 0.900 n= 0.013, Flow Area= 0.35 sf

Primary OutFlow Max=1.37 cfs @ 12.07 hrs HW=44.89' (Free Discharge)
 1=Culvert (Barrel Controls 1.37 cfs @ 3.93 fps)

Pond 1P: Ex. CB

Hydrograph



Summary for Pond 2-1P: Ex CB

Inflow Area = 0.067 ac, 0.00% Impervious, Inflow Depth > 1.32" for 10 yr 24 hr event
 Inflow = 0.02 cfs @ 12.67 hrs, Volume= 0.007 af
 Outflow = 0.02 cfs @ 12.67 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.02 cfs @ 12.67 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 43.94' @ 12.67 hrs

Flood Elev= 48.09'

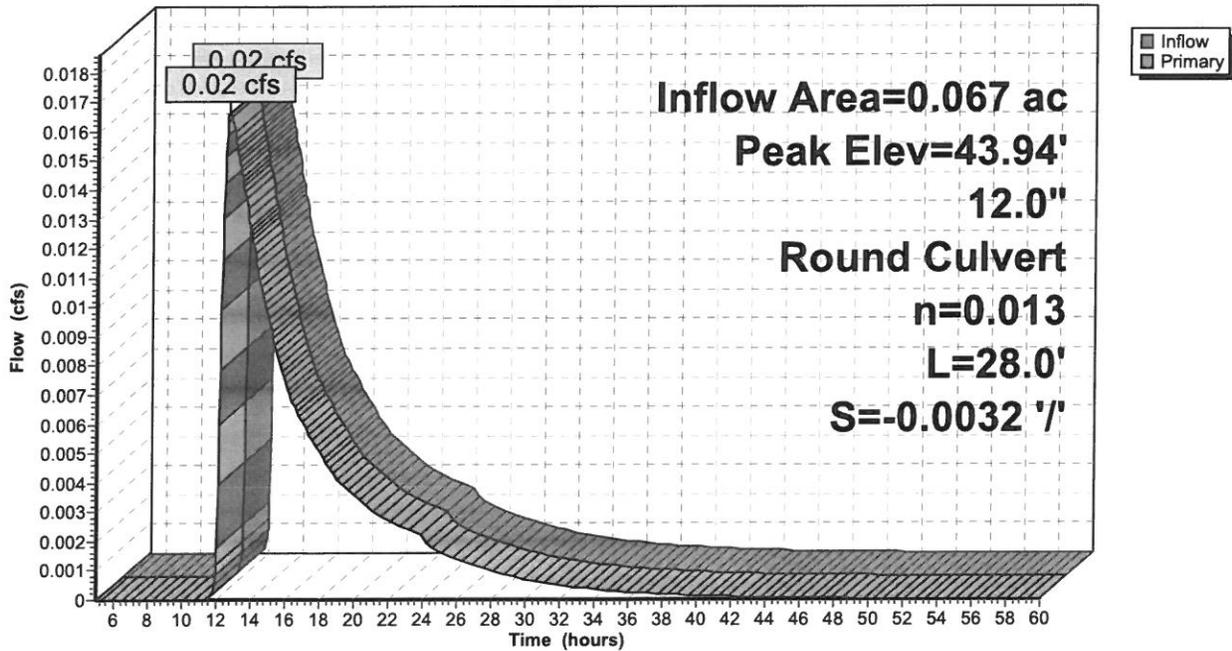
Device	Routing	Invert	Outlet Devices
#1	Primary	43.88'	12.0" Round Culvert L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 43.79' / 43.88' S= -0.0032 ' / Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 12.67 hrs HW=43.94' (Free Discharge)

←1=Culvert (Inlet Controls 0.01 cfs @ 0.82 fps)

Pond 2-1P: Ex CB

Hydrograph



Summary for Pond 2P: Infiltration pond

Inflow Area = 0.067 ac, 0.00% Impervious, Inflow Depth = 1.32" for 10 yr 24 hr event
 Inflow = 0.10 cfs @ 12.09 hrs, Volume= 0.007 af
 Outflow = 0.02 cfs @ 12.67 hrs, Volume= 0.007 af, Atten= 83%, Lag= 35.0 min
 Primary = 0.02 cfs @ 12.67 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 45.42' @ 12.67 hrs Surf.Area= 3,214 sf Storage= 113 cf
 Flood Elev= 48.00' Surf.Area= 327 sf Storage= 851 cf

Plug-Flow detention time= 190.5 min calculated for 0.007 af (100% of inflow)
 Center-of-Mass det. time= 191.8 min (1,064.4 - 872.6)

Volume	Invert	Avail.Storage	Storage Description
#1	45.34'	849 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2	45.84'	2 cf	4.0" Round Pipe Storage L= 26.0'
		851 cf	Total Available Storage

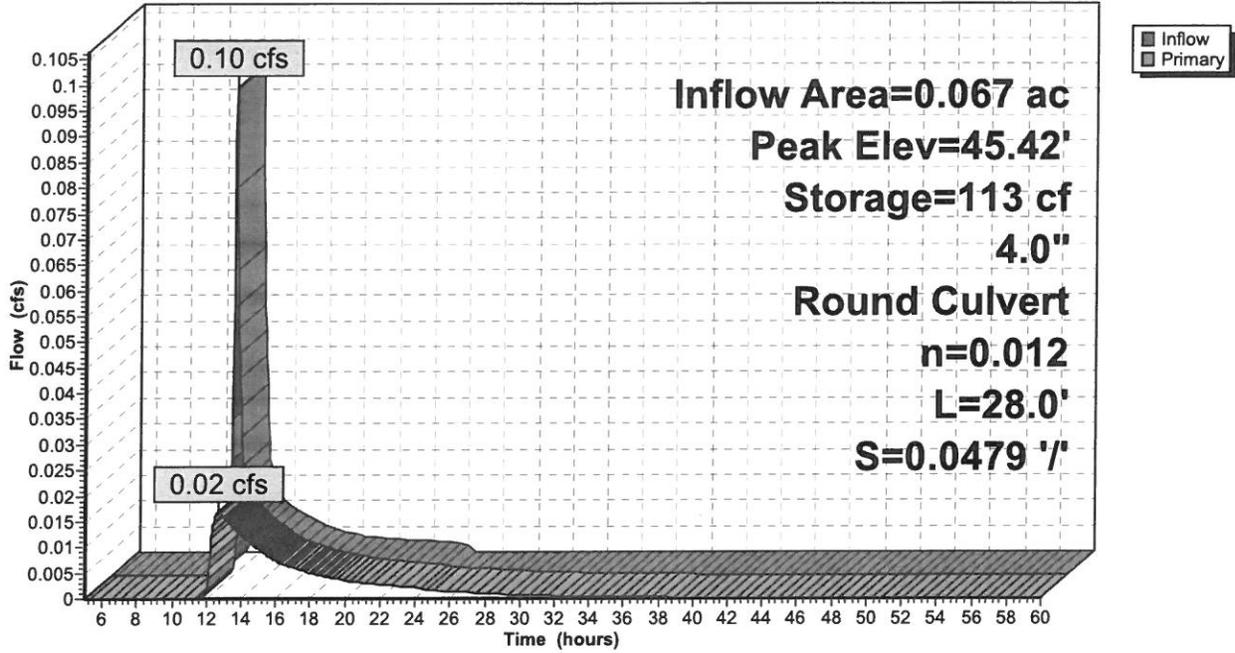
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
45.34	3,627	0.0	0	0
46.00	327	40.0	522	522
47.00	327	100.0	327	849

Device	Routing	Invert	Outlet Devices
#1	Primary	45.34'	4.0" Round Culvert L= 28.0' Ke= 0.500 Inlet / Outlet Invert= 45.34' / 44.00' S= 0.0479 ' / Cc= 0.900 n= 0.012, Flow Area= 0.09 sf

Primary OutFlow Max=0.02 cfs @ 12.67 hrs HW=45.42' (Free Discharge)
 ↑1=Culvert (Inlet Controls 0.02 cfs @ 0.98 fps)

Pond 2P: Infiltration pond

Hydrograph



Summary for Pond 4-1P: Culvert

Inflow Area = 0.421 ac, 9.43% Impervious, Inflow Depth = 0.77" for 10 yr 24 hr event
 Inflow = 0.66 cfs @ 12.11 hrs, Volume= 0.027 af
 Outflow = 0.66 cfs @ 12.11 hrs, Volume= 0.027 af, Atten= 1%, Lag= 0.2 min
 Primary = 0.66 cfs @ 12.11 hrs, Volume= 0.027 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 53.71' @ 12.11 hrs Surf.Area= 29 sf Storage= 8 cf
 Flood Elev= 55.00' Surf.Area= 42 sf Storage= 18 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.3 min (765.5 - 765.2)

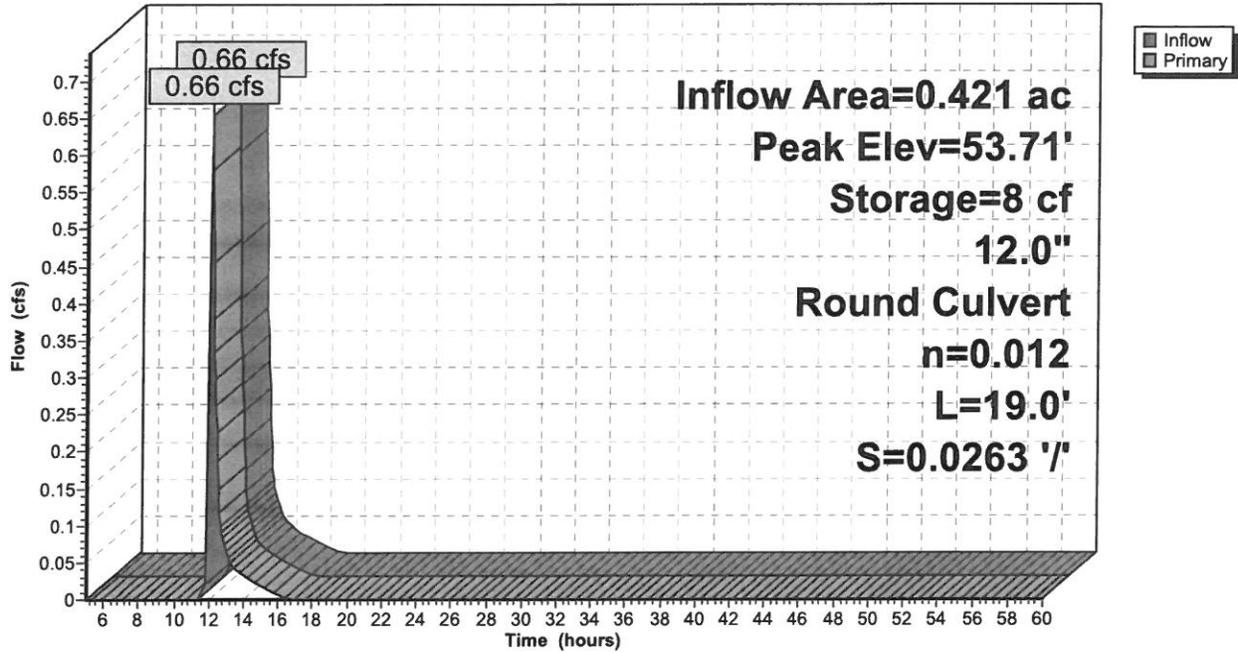
Volume	Invert	Avail.Storage	Storage Description
#1	53.30'	18 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.30	10	0	0
54.00	42	18	18

Device	Routing	Invert	Outlet Devices
#1	Primary	53.30'	12.0" Round Culvert L= 19.0' Ke= 0.500 Inlet / Outlet Invert= 53.30' / 52.80' S= 0.0263 ' S= 0.0263 ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.11 hrs HW=53.70' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 0.64 cfs @ 2.16 fps)

Pond 4-1P: Culvert

Hydrograph



Summary for Pond 4P: Interceptor drain

Inflow Area = 0.421 ac, 9.43% Impervious, Inflow Depth = 1.53" for 10 yr 24 hr event
 Inflow = 0.71 cfs @ 12.09 hrs, Volume= 0.054 af
 Outflow = 0.69 cfs @ 12.11 hrs, Volume= 0.054 af, Atten= 3%, Lag= 1.1 min
 Discarded = 0.03 cfs @ 11.60 hrs, Volume= 0.027 af
 Primary = 0.66 cfs @ 12.11 hrs, Volume= 0.027 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 55.25' @ 12.11 hrs Surf.Area= 425 sf Storage= 191 cf
 Flood Elev= 56.00' Surf.Area= 425 sf Storage= 318 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 24.6 min (888.3 - 863.7)

Volume	Invert	Avail.Storage	Storage Description
#1	54.24'	286 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 748 cf Overall - 32 cf Embedded = 716 cf x 40.0% Voids
#2	54.50'	32 cf	4.0" Round Pipe Storage Inside #1 L= 366.0'
		318 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.24	425	0	0
56.00	425	748	748

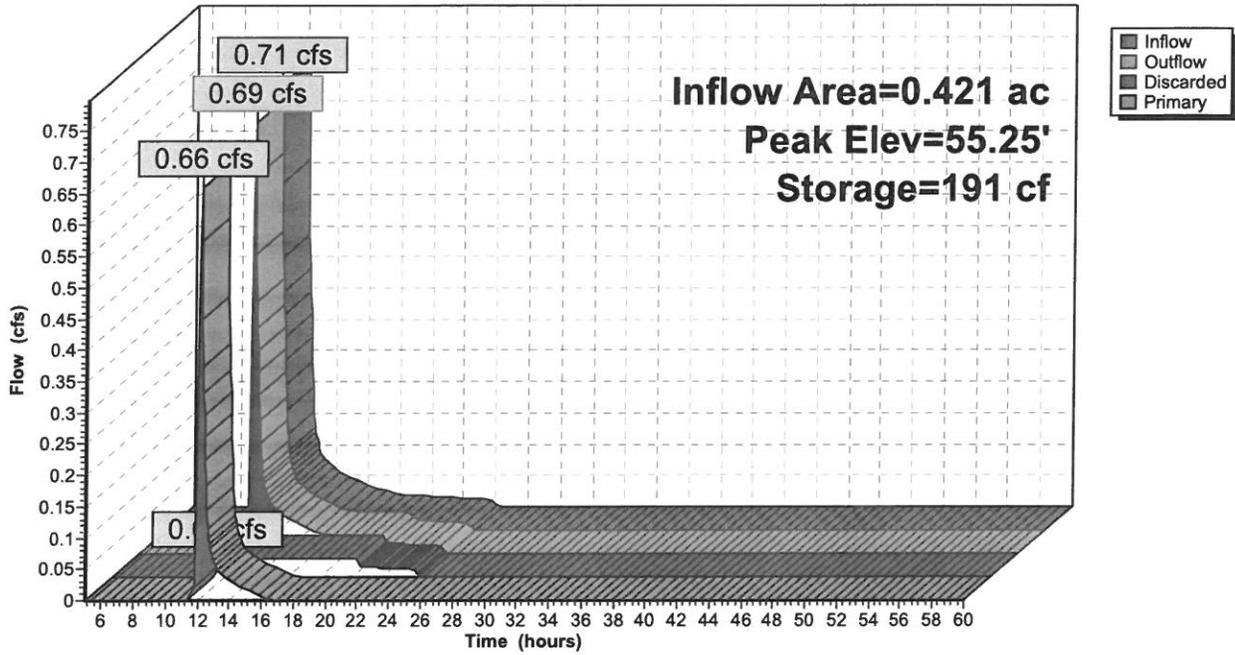
Device	Routing	Invert	Outlet Devices
#1	Primary	54.84'	12.0" Round Culvert L= 7.0' Ke= 0.500 Inlet / Outlet Invert= 54.84' / 54.00' S= 0.1200 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Discarded	54.24'	3.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.03 cfs @ 11.60 hrs HW=54.26' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.65 cfs @ 12.11 hrs HW=55.25' (Free Discharge)
 ↳1=Culvert (Inlet Controls 0.65 cfs @ 2.17 fps)

Pond 4P: Interceptor drain

Hydrograph



Summary for Pond 10P: drip edge

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.039 ac, 100.00% Impervious, Inflow Depth > 4.56" for 10 yr 24 hr event
 Inflow = 0.19 cfs @ 12.07 hrs, Volume= 0.015 af
 Outflow = 0.02 cfs @ 11.50 hrs, Volume= 0.015 af, Atten= 89%, Lag= 0.0 min
 Discarded = 0.02 cfs @ 11.50 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 55.45' @ 12.73 hrs Surf.Area= 144 sf Storage= 208 cf
 Flood Elev= 56.00' Surf.Area= 144 sf Storage= 288 cf

Plug-Flow detention time= 69.2 min calculated for 0.015 af (100% of inflow)
 Center-of-Mass det. time= 68.7 min (830.5 - 761.8)

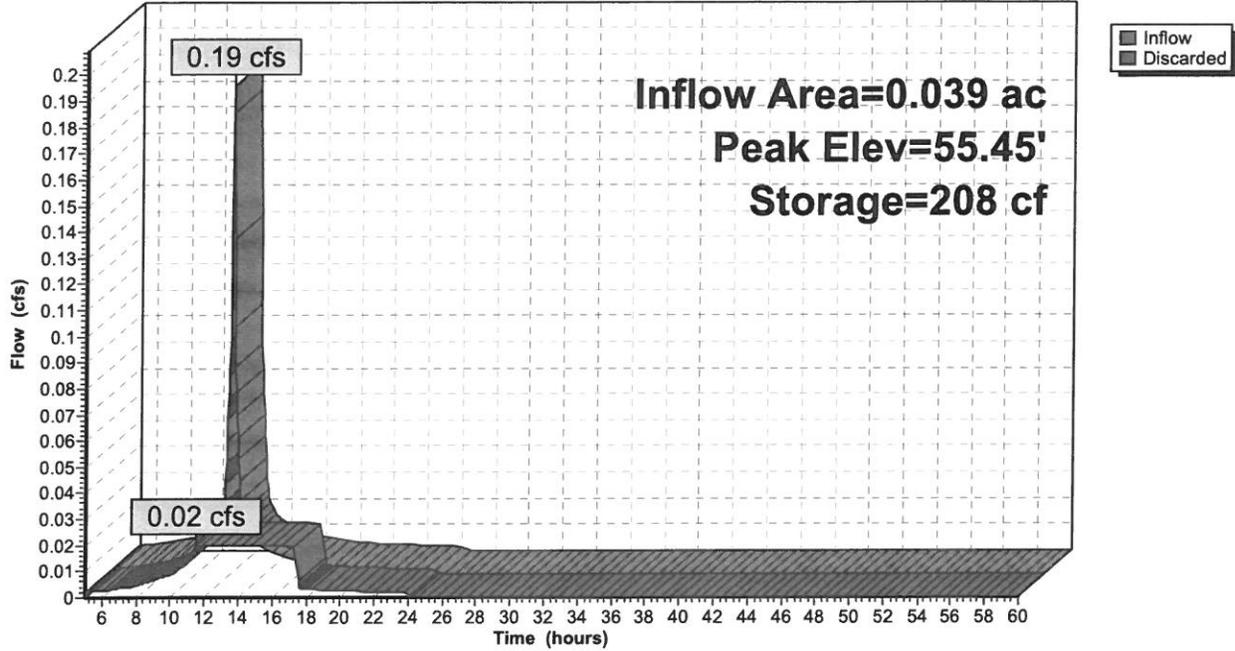
Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	288 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
54.00	144	0	0
56.00	144	288	288

Device	Routing	Invert	Outlet Devices
#1	Discarded	54.00'	6.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.02 cfs @ 11.50 hrs HW=54.02' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 10P: drip edge

Hydrograph



Summary for Pond 11P: drip edge

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.035 ac, 100.00% Impervious, Inflow Depth > 4.56" for 10 yr 24 hr event
 Inflow = 0.17 cfs @ 12.07 hrs, Volume= 0.013 af
 Outflow = 0.04 cfs @ 11.80 hrs, Volume= 0.013 af, Atten= 75%, Lag= 0.0 min
 Discarded = 0.04 cfs @ 11.80 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 5.00-60.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 58.37' @ 12.43 hrs Surf.Area= 306 sf Storage= 114 cf
 Flood Elev= 60.00' Surf.Area= 306 sf Storage= 612 cf

Plug-Flow detention time= 14.3 min calculated for 0.013 af (100% of inflow)
 Center-of-Mass det. time= 13.6 min (775.4 - 761.8)

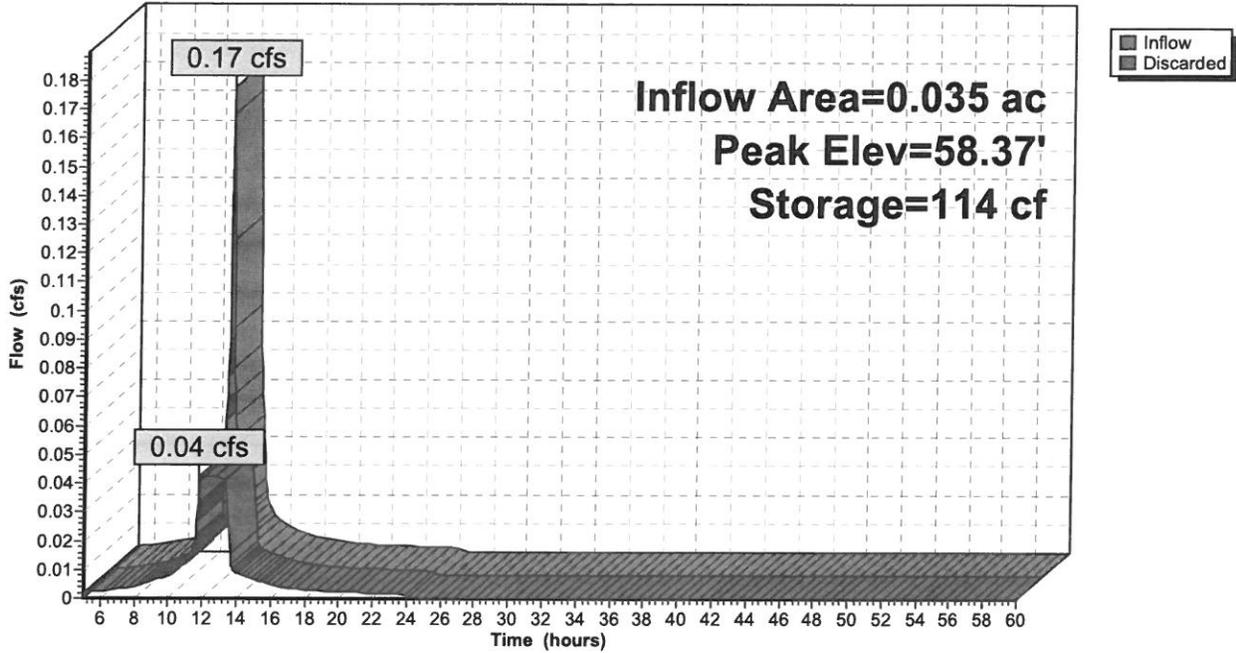
Volume	Invert	Avail.Storage	Storage Description
#1	58.00'	612 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
58.00	306	0	0
60.00	306	612	612

Device	Routing	Invert	Outlet Devices
#1	Discarded	58.00'	6.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.04 cfs @ 11.80 hrs HW=58.02' (Free Discharge)
 ↳ **1=Exfiltration** (Exfiltration Controls 0.04 cfs)

Pond 11P: drip edge

Hydrograph



INSPECTION AND MAINTENANCE MANUAL

RAINFALL CHARACTERISTICS

This drainage report includes proposed conditions analysis for the site. The model was constructed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas. A Type III SCS 24-hour rainfall distribution was utilized in analyzing the data for a 50 Yr – 24 Hr (7.48”) storm-event, to assure the adequacy of the proposed structure.

RAINFALL CHARACTERISTICS

This drainage report includes proposed conditions analysis for the site. The model was constructed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas.

SEDIMENT & EROSION CONTROL PLANS BEST MANAGEMENT PRACTICES (BMP's)

**Reference: Sheet - Proposed Conditions Plan
General Details**

The proposed site development is protected from erosion and the roadways and abutting properties are protected from sediment by the use of Best Management Practices as outlined in the Stormwater Management & Erosion & Sediment Control Handbook for Urban & Developing Areas in New Hampshire. Any area disturbed by construction will be re-stabilized within 45 days and abutting properties and wetlands will not be adversely affected by this development. All swales and drainage structures will be constructed and stabilized prior to having run-off directed to them.

1 Filtrexx sock/Construction Fence

The plan set demonstrates the location of filtrex sock for sediment control. In areas where the limits of construction need to be emphasized to operators, construction fence for added visibility will be installed. The Erosion and Sediment Control Details, has the specifications for installation and maintenance of the silt fence. Orange construction fence will be VISI Perimeter Fence by Conwed Plastic Fencing, or equal. The four-foot fencing is to be installed using six-foot posts at least two feet in the ground with six to eight feet spacing.

2 Drainage Swales / Stormwater Conveyance Channels

Drainage swales will be stabilized with vegetation for long term cover as outlined below, and using seed mixture C. As a general rule, velocities in the swale should not exceed 3.0 feet per second for a vegetated swale although velocities as high as 4.5 FPS are allowed under certain soil conditions. The use of jute matting will aid in the stabilization of vegetation.

3 Vegetated Stabilization

All areas that are disturbed during construction will be stabilized with vegetated material within 45 days of breaking ground. Construction will be managed in such a manner that erosion is prevented and that no abutter's property will be subjected to any siltation, unless otherwise permitted. All areas to be planted with grass for long-term cover will follow the specification and on Sheet E-1 using seeding mixture C, as follows:

Mixture	Pounds per Acre	Pounds per 1,000 Sq. Ft.
Tall Fescue	20	0.45
Creeping Red Fescue	20	0.45
Birdsfoot Trefoil	<u>8</u>	<u>0.20</u>
Total	48	1.10

4 Stabilized Construction Entrance

A temporary gravel construction entrance provides an area where mud can be dislodged from tires before the vehicle leaves the construction site to reduce the amount of mud and sediment transported onto paved municipal and state roads. The stone size for the pad should be between 1 and 2-inch coarse aggregate, and the pad itself constructed to a minimum length of 50' for the full width of the access road. The aggregate should be placed at least six inches thick. A plan view and profile are shown on Sheet E1 - Sediment and Erosion Control Detail Plan.

5 Environmental Dust Control

Dust will be controlled on the site by the use of multiple Best Management Practices. Mulching and temporary seeding will be the first line of protection to be utilized where problems occur. If dust problems are not solved by these applications, the use of water and calcium chloride can be applied. Calcium chloride will be applied at a rate that will keep the surface moist but not cause pollution.

7 Construction Sequence

1. Cut and remove trees and pavement in construction areas as directed or required.
2. Construct and/or install temporary and permanent sediment erosion and detention control facilities, as required (swales, berms, level spreaders, etc. Erosion, sediment and detention control facilities shall be installed and stabilized prior to any earth moving operation, and prior to directing run-off to them.
3. Clear, cut, grub, and dispose of debris in approved facilities.
4. Excavate and stockpile topsoil / loam. All disturbed areas shall be stabilized immediately after grading.
5. Begin permanent and temporary seeding and mulching. All cut and fill slopes and disturbed areas shall be seeded and mulched as required, or directed.

6. Daily, or as required, construct temporary berms, drainage ditches, check dams, sediment traps, etc. to prevent erosion on the site and prevent any siltation of abutting waters or property.
7. Inspect and maintain all erosion and sediment control measures during construction.
8. Complete permanent seeding and landscaping.
9. Remove temporary erosion control measures after seeding areas have established themselves and site improvements are complete. Smooth and re-vegetate all disturbed areas.
10. All drainage structures will be constructed and stabilized prior to having run-off being directed to them.

9 Temporary Erosion Control Measures

1. The smallest practical area of land shall be exposed at any one time.
2. Erosion, sediment and detention measures shall be installed as shown on the plans and at locations as required, or directed by the engineer.
3. All disturbed areas shall be returned to original grades and elevations. Disturbed areas shall be loamed with a minimum of 4" of loam and seeded with not less than 1.10 pound of seed per 1,000 square feet (48 pounds per acre) of area.
4. Silt fences and other barriers shall be inspected periodically and after every rainstorm during the life of the project. All damaged areas shall be repaired, sediment deposits shall periodically be removed and properly disposed of.
5. After all disturbed areas have been stabilized, the temporary erosion control measures are to be removed and the area disturbed by the removal smoothed and revegetated.
6. Areas must be seeded and mulched within 5 days of final grading, permanently stabilized within 15 days of final grading, or temporarily stabilized within 45 days of initial disturbance of soil.

10 Inspection and Maintenance Schedule

Fencing will be inspected during and after storm events to ensure that the fence still has integrity and is not allowing sediment to pass. Sediment build-up will be removed if it is deeper than six inches.

CONCLUSION

**Pre vs Pro comparison
Discharge Point 1R**

Storm Yr/24 hr	Existing CFS	Proposed CFS	Difference
50	4.36	4.30	-0.06

Conclusion

The intent of this report is to evaluate the re-construction of Patricia Drive and the improvement to two proposed parcels. We have evaluated the watershed areas on the property. We have determined the best course of action would be to leave the existing two catch basins in place and add a stormwater treatment insert into the catch basin further downstream in the drainage system. These two catch basins would catch all of the road and driveway run-off. In addition to improving the two catch basins we plan on adding an inceptor swale with an underdrain along the slope to divert the overland runoff away from the road run-off and an infiltration pond at the bottom of the slope to collect the small amount of overland flow that was not collected in the interceptor swale. The infiltration pond will be equipped with an underdrain to remove any water that is not infiltrated.

A Site Specific, Terrain Alteration Permit (RSA 485: A-17) is **not** required for this site plan due to the area of disturbance is less than 100,000 square feet for AOT and a SWPPP is **not** required as the disturbance is less than 1 acre.

Respectfully Submitted,

New Hampshire Land Consultants, PLLC

Scott R Frankiewicz, LLS
Project Manager

Jeff Burd, PE
Project Engineer

PRE & POST WATERSHED PLANS

NO.	DATE	DESCRIPTION	BY

GRAPHIC SCALE
 1" = 50'
 SCALE: 1"=50'

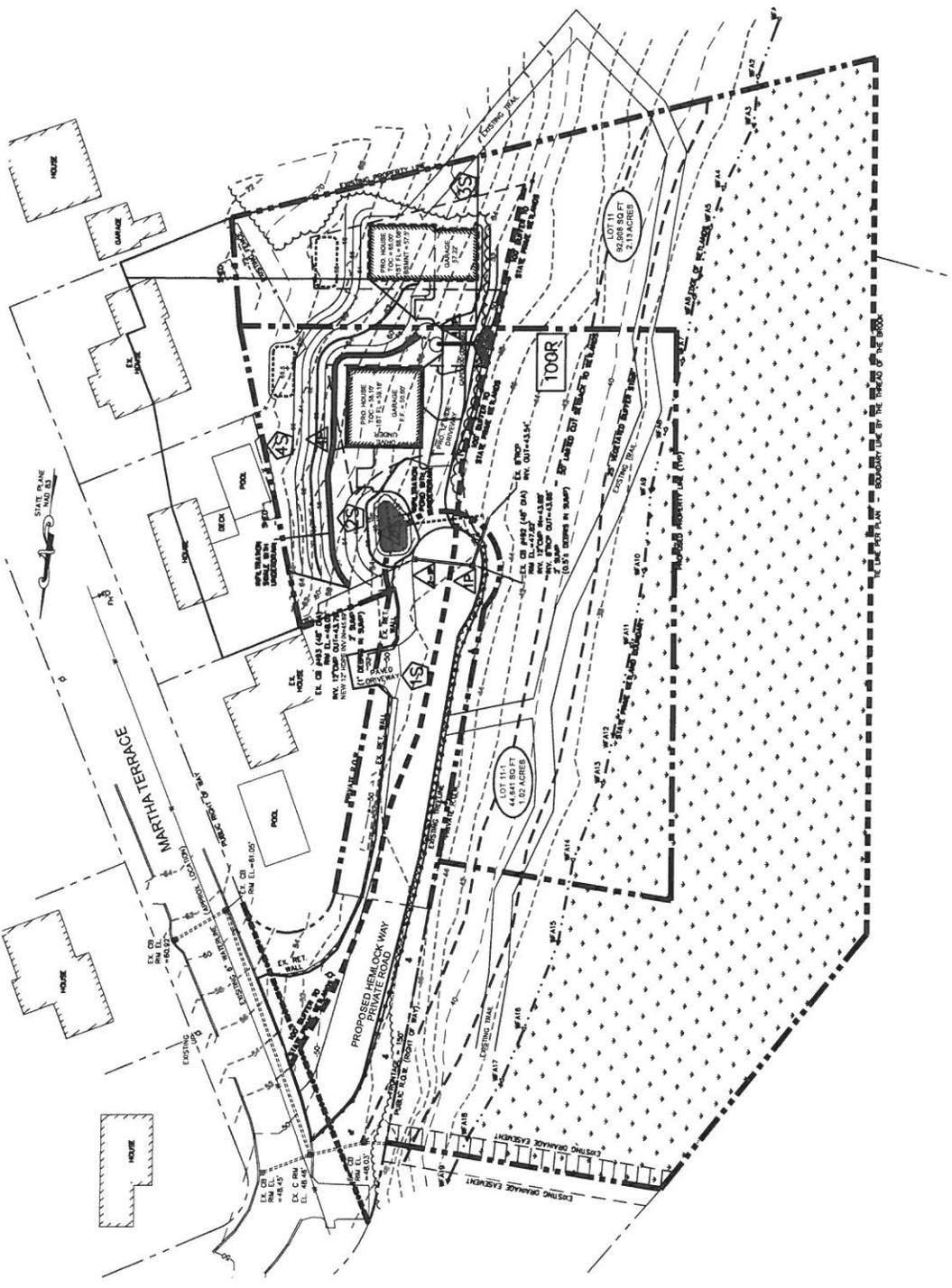
N.H. LAND Consultants
 A Veteran Owned Company
 SURVEYING-LAND PLANNING-REAL ESTATE
 1000 W. SHORE DR., NORTHWOOD NH, 03281
 TEL: 603-424-7229 FAX: 603-424-7229

PROPOSED WATERSHED PLAN
 DUBE PLUS CONSTRUCTION
 TAX MAP 283 LOT 11
 OWNED BY
 FRITZ FAMILY REVOC LIV TRUST,
 EDGAR H FRITZ, TRUSTEE
 ROCKINGHAM CO
 JOB NO. - 258.00
 DATE - JUNE 22, 2001

PWP
 SHT. 1 of 1

DRAINAGE LEGEND

- SUBCATCHMENT
- POND
- REACH
- DESIGN POINT



NO.	DATE	DESCRIPTION	BY

GRAPHIC SCALE
 1" = 30'
 SCALE: 1"=30'

N.H. LAND Consultants
 A Veteran Owned Company
 SURVEYING-LAND PLANNING-REAL ESTATE

DUBE PLUS CONSTRUCTION
 TAX MAP 283 LOT 11
 EXISTING WATERSHED PLAN
 OWNED BY
 FRITZ FAMILY REVOC LIV TRUST
 EDGAR H FRITZ, TRUSTEE
 PATRICIA DRIVE, PORTSMOUTH NH 03801
 BOOK 3238 PAGE 0123
 19570 N. SHORE DR., NORTHWOOD NH, 03261

ROCKINGHAM CO.
 JOB NO.: 2838.00
 DATE: JUNE 22, 2021
EWP
 SHT. 1 OF 2

DRAINAGE LEGEND

- SUBCATCHMENT
- POD
- REACH
- DESIGN POINT

