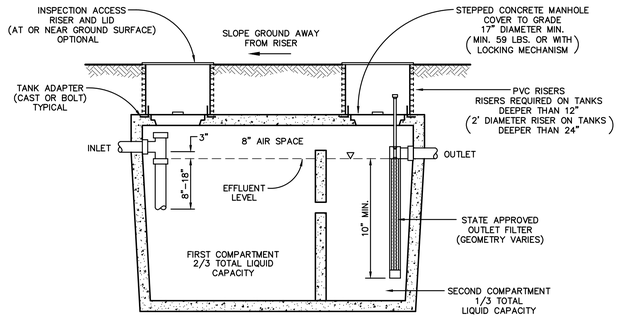
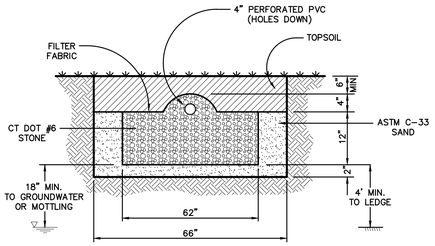


TYPICAL SEPTIC TANK DETAIL

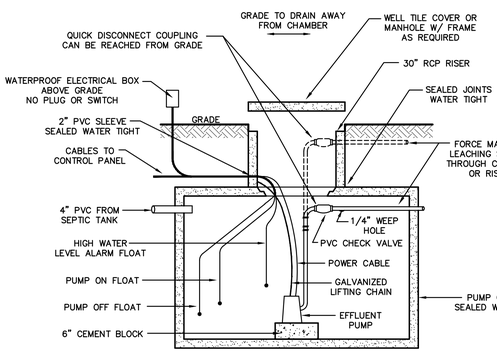
N.T.S.



NOTE: INSTALLATION REQUIRES THE USE OF PROPRIETARY FORMS AND MUST BE SUPERVISED BY A REPRESENTATIVE FROM GEOMATRIX.

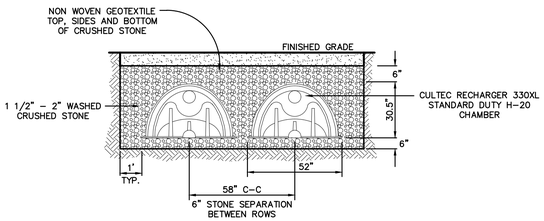
GEOMATRIX GST 6212 DETAIL

N.T.S.



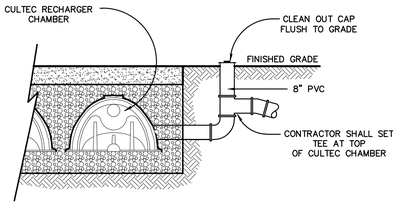
TYPICAL PUMP CHAMBER DETAIL

N.T.S.



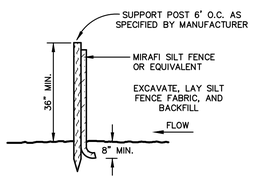
CULTEC RECHARGER 330XL HEAVY DUTY CHAMBER SYSTEM

N.T.S.



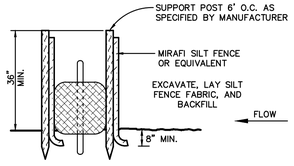
UNDERGROUND DETENTION SYSTEM HIGH LEVEL OVERFLOW OUTLET DETAIL

N.T.S.



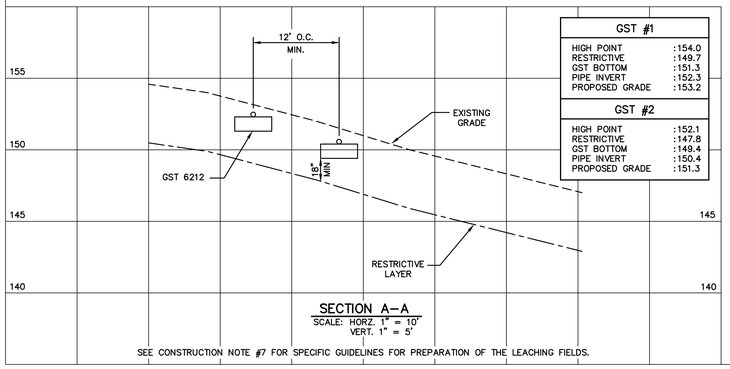
SILT FENCE DETAIL

N.T.S.



DOUBLE ROW SILT FENCE BACKED WITH STAKED HAYBALE DETAIL

N.T.S.



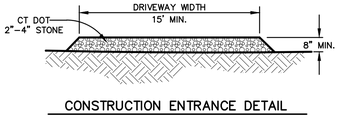
GST #1	
HIGH POINT	:154.0
RESTRICTIVE	:149.7
GST BOTTOM	:151.3
PIPE INVERT	:152.3
PROPOSED GRADE	:153.2

GST #2	
HIGH POINT	:152.1
RESTRICTIVE	:147.8
GST BOTTOM	:149.4
PIPE INVERT	:150.4
PROPOSED GRADE	:151.3

SECTION A-A

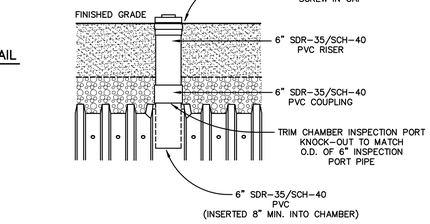
SCALE: HORZ. 1" = 10'
VERT. 1" = 5'

SEE CONSTRUCTION NOTE #7 FOR SPECIFIC GUIDELINES FOR PREPARATION OF THE LEACHING FIELDS.



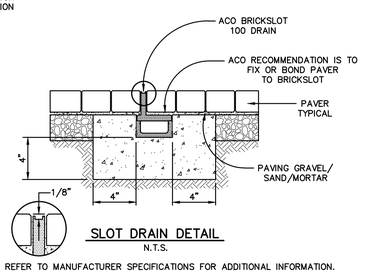
CONSTRUCTION ENTRANCE DETAIL

N.T.S.



INSPECTION PORT DETAIL

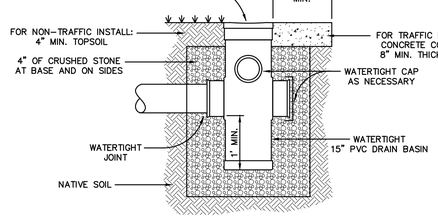
N.T.S.



SLOT DRAIN DETAIL

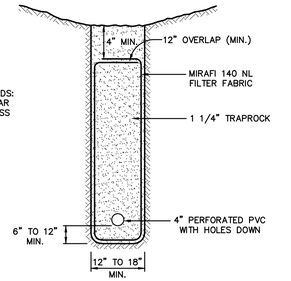
N.T.S.

NOTE: REFER TO MANUFACTURER SPECIFICATIONS FOR ADDITIONAL INFORMATION.



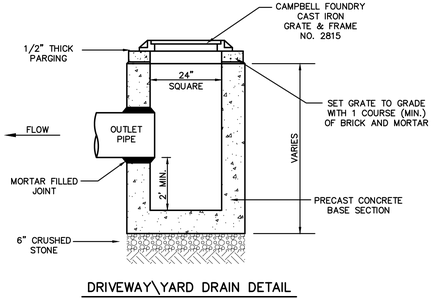
LANDSCAPE DRAIN DETAIL

N.T.S.



CURTAIN DRAIN DETAIL

N.T.S.



DRIVEWAY\YARD DRAIN DETAIL

N.T.S.

DESIGN CRITERIA:

1. PERCOLATION RATE: PT-B = 1:10
   - A. DESIGN RATE FOR PRIMARY SYSTEM: 1:10
   - B. DESIGN RATE FOR RESERVE SYSTEM: 1:10
2. MINIMUM LEACHING SYSTEM SPREAD (MLSS):
   - A. HYDRAULIC FACTOR (HF)
     1) HYDRAULIC GRADIENT = 14.3%
     2) DEPTH OF RESTRICTIVE LAYER = 73.5" (AVERAGE DT5 THRU 8)
     3) HYDRAULIC FACTOR = N/A
   - B. FLOW FACTOR (FF): 6 BEDROOM = 2.25
   - C. PERCOLATION FACTOR (PF): 1:10 = 1.0
   - D. MINIMUM LEACHING SYSTEM SPREAD = N/A
   - E. LEACHING SYSTEM SPREAD PROVIDED = 80'
3. SYSTEM DESCRIPTION:
   - A. NUMBER OF BEDROOMS: 6
   - B. REQUIRED LEACHING AREA: 742.5 SF @ 10.0 SF/LF = 742.5 LF (PLUS 100% RESERVE)
   - C. SYSTEM COMPONENTS: 1500 GALLON SEPTIC TANK, 1250 GALLON PUMP CHAMBER AND 80 LF OF GST 6212.
   - D. TOTAL FIELDS PROPOSED:
     1) PRIMARY SYSTEM: 2 x 40 LF = 80 LF @ 10.0 SF/LF = 800 SF
     2) RESERVE SYSTEM: 1 x 56 LF = 56 LF @ 14.0 SF/LF = 784 SF
4. DEPTH OF SYSTEM CONTROL: RESTRICTIVE LAYER @ 52" IN DEEP TEST 7 WILL CONTROL THE DEPTH OF THE SYSTEM.

DEEP TEST AND PERCOLATION TEST DATA:

DEEP TEST 1

0"-11" TOPSOIL
11"-28" BROWN SANDY LOAM
28"-53" BROWN SAND AND GRAVEL
53"-84" COMPACT SAND AND GRAVEL

NO GROUNDWATER
NO MOTTLING
NO LEDGE

DEEP TEST 2

0"-10" TOPSOIL
10"-22" RED-BROWN FINE SANDY LOAM
22"-47" ORANGE-BROWN SAND AND GRAVEL
47"-84" GRAY FINE SAND

NO GROUNDWATER
NO MOTTLING
NO LEDGE

DEEP TEST 3

0"-12" TOPSOIL
12"-48" BROWN SILTY LOAM
48"-72" BROWN SAND AND GRAVEL

NO GROUNDWATER
NO MOTTLING
NO LEDGE

DEEP TEST 4

0"-12" TOPSOIL
12"-35" BROWN SILTY LOAM
35"-58" SLIGHTLY COMPACT BROWN SAND AND GRAVEL
58"-83" GRAY COURSE SAND

GROUNDWATER @ 68"
NO MOTTLING
NO LEDGE

DEEP TEST 5

0"- 9" TOPSOIL
9"-24" RED-BROWN SILTY LOAM
24"-84" BROWN SAND AND GRAVEL W/ COBBLES

NO GROUNDWATER
NO MOTTLING
NO LEDGE
ROOTS TO 60"

DEEP TEST 6

0"-11" TOPSOIL
11"-80" BROWN SAND AND GRAVEL W/ COBBLES

NO GROUNDWATER
NO MOTTLING
NO LEDGE
ROOTS TO 64"

DEEP TEST 7

0"-11" TOPSOIL
11"-36" RED-BROWN SILTY LOAM
36"-52" TAN COURSE SAND
52"-73" SLIGHTLY COMPACT GRAY SAND

NO GROUNDWATER
MOTTLING @ 52"
NO LEDGE

DEEP TEST 8

0"-12" TOPSOIL
12"-51" RED-BROWN SILTY LOAM
51"-78" TAN COURSE SAND

NO GROUNDWATER
NO MOTTLING
NO LEDGE
ROOTS TO 64"

PERCOLATION TEST A

DEPTH: 27"
DIAMETER: 8"
PRESOAK: 12:45 PM

TIME	DEPTH	DROP
2:54	13 1/4"	-
3:04	14 1/2"	1 1/4"
3:14	15 3/8"	7/8"
3:24	16"	5/8"
3:34	16 1/2"	1/2"
3:44	16 7/8"	3/8"
3:54	17 1/4"	3/8"

DESIGN RATE: 1:30

PERCOLATION TEST B

DEPTH: 29"
DIAMETER: 8"
PRESOAK: 12:45 PM

TIME	DEPTH	DROP
2:56	15"	-
3:06	21 1/2"	6 1/2"
3:16	23 3/8"	1 7/8"
3:26	24 5/8"	1 1/4"
3:36	25 5/8"	1"
3:46	25 5/8"	1"

DESIGN RATE: 1:10

NOTE: DEEP TESTS AND PERCOLATION TESTS WERE CONDUCTED ON MAY 29, 2018 BY McCHORD ENGINEERING ASSOCIATES, INC. ALL DEEP TESTS WERE WITNESSED BY THE WESTPORT WESTON HEALTH DISTRICT.

CONSTRUCTION NOTES:

1. SUBSURFACE SEWAGE DISPOSAL SYSTEM MATERIALS AND CONSTRUCTION TECHNIQUES SHALL CONFORM TO THE STATE OF CONNECTICUT AND LOCAL HEALTH CODE STANDARDS AND SPECIFICATIONS, AS WELL AS ACCEPTED STANDARDS OF GOOD WORKMANSHIP.
2. FINAL INSPECTION AND AS-BUILT DRAWINGS SHALL BE MADE IN ACCORDANCE WITH STATE AND LOCAL CODES. THE DESIGN ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS IN ADVANCE OF SYSTEM COMPLETION. INSPECTION OF THE SYSTEM SHALL OCCUR AS SOON AS POSSIBLE TO PREVENT DAMAGE AND IT SHALL BE COVERED WITHIN TWO WORKING DAYS OF THE SANITARIAN'S INSPECTION.
3. THE WASTE LINE FROM THE HOUSE/BUILDING TO THE SEPTIC TANK SHALL BE NO LESS THAN 4" DIAMETER CAST IRON PIPE (ASTM A-74) OR A PVC SCHEDULE 40 (ASTM D1785), WITH RUBBER COMPRESSION GASKETS OR SOLVENT WELD JOINTS AND SHALL BE PITCHED WITH A MINIMUM SLOPE OF 1/4" PER FOOT.
4. ALL SOLID DISTRIBUTION PIPING SHALL BE TIGHT JOINT 4" DIAMETER PVC (ASTM D3034 SDR 35). THESE LINES SHALL LIE ON UNDISTURBED OR COMPACTED SOIL.
5. THE SEPTIC TANK SHALL HAVE A MINIMUM CAPACITY OF 1500 GALLONS AND CONTAIN TWO COMPARTMENTS. THE TANK SHALL BE INSTALLED LEVEL AND BE SET UPON AT LEAST 6" OF CRUSHED STONE OR GRAVEL, AND BE EQUIPPED WITH A 30" RISER SECTION TO GRADE, FOR ACCESS. SEPTIC TANKS INDICATED ARE MANUFACTURED BY RICHARD SEPTIC SYSTEMS, INC. OF TORRINGTON, CT. AN EQUIVALENT TANK IS ACCEPTABLE.
6. DISTRIBUTION BOXES ARE MODEL DB 4 AS MANUFACTURED BY RICHARD SEPTIC SYSTEMS, INC. OF TORRINGTON, CONNECTICUT. BOXES SHALL BE SET UPON AT LEAST 6" OF CRUSHED STONE OR GRAVEL. EQUIVALENT BOXES ARE ACCEPTABLE.
7. THE CONTRACTOR SHALL REMOVE FROM THE AREA OF THE SEPTIC SYSTEM ALL TOPSOIL AND ALL OTHER ORGANIC MATERIALS, TREE TRUNKS, AND DEBRIS; AND SHALL SCARIFY AND RAKE THE EXPOSED SURFACE TO ENSURE A GOOD BOND BETWEEN THE EXISTING SUBSOIL AND THE SELECT FILL.
8. SELECT FILL SHALL MEET CONNECTICUT DEPARTMENT OF TRANSPORTATION SPECIFICATION M.02.06-1B AS FOLLOWS:

SIEVE	% PASSING WET SIEVE	% PASSING DRY SIEVE
#4	100	100
#10	70-100	70-100
#40	10-50 *	10-75
#100	0-20	0-5
#200	0-5	0-2.5

* PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND #200 SIEVE DOES NOT EXCEED 5%.

THE FILL SHALL ALSO BE ACCEPTABLE TO THE LOCAL HEALTH DEPARTMENT.

9. THE FIRST 6" OF SELECT FILL SHALL BE HARROWED INTO THE EXISTING SOIL. THEREAFTER, IT SHALL BE PLACED IN 12" LIFTS AND MECHANICALLY COMPACTED. COMPACTION SHALL BE AT LEAST 90%-95% OF THAT DETERMINED BY A MODIFIED OPTIMUM COMPACTION TEST PERFORMED IN ACCORDANCE WITH ASTM D1557. SELECT FILL SHALL BE PLACED TO A POINT AT LEAST 5' FROM THE EDGE OF THE TRENCH, AND COMMON FILL TO A POINT 10' FROM THE EDGE OF THE TRENCH. IN CASES WHERE THE DEPTH OF FILL EXCEEDS 12" ABOVE THE EXISTING GRADE, THE TRENCH SHALL BE NOTCHED INTO THE EXISTING SOIL AT LEAST 12" AND FILLED WITH SELECT FILL.
10. FINAL GRADING, INCLUDING THE 6" TOPSOIL LAYER, SHALL BE COMPLETED AS SOON AS POSSIBLE AFTER FINAL INSPECTION. CARE SHALL BE TAKEN TO PREVENT THE PONDING OF SURFACE WATER ON OR NEAR ANY PART OF THE SYSTEM.
11. PROPOSED SEPTIC SYSTEM LOCATIONS MAY NOT BE SHIFTED WITHOUT OBTAINING WRITTEN PERMISSION FROM THE DESIGN ENGINEER AND LOCAL SANITARIAN.
12. NO PART OF THE SEPTIC TANK OR LEACHING TRENCHES SHALL BE WITHIN 75' OF ANY WELL. THERE IS NO APPARENT INTERFERENCE BETWEEN THE WELLS OR SEPTIC SYSTEMS ON ADJACENT PROPERTIES AND THOSE PROPOSED ON THIS PLAN.
13. SURFACE AND GROUNDWATER DRAINS SHALL BE PLACED UP GRADIENT AND AT LEAST 25' FROM THE SEPTIC SYSTEM. WHEN DRAINS ARE REQUIRED TO BE DOWN GRADIENT, THEY MUST BE AT LEAST 50' FROM THE SEPTIC SYSTEM. ALL DRAINS AND ROOF LEADERS SHALL DISCHARGE AWAY FROM THE SEPTIC SYSTEM.
14. SOIL AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS INDICATED ON THE PLAN AND MAINTAINED DURING CONSTRUCTION, UNTIL THE SITE IS STABILIZED.
15. THIS DESIGN IS BASED UPON THE USE OF CONVENTIONAL BATHTUBS WITH A CAPACITY UNDER 100 GALLONS. IF A LARGER BATH/HOT TUB IS TO BE INSTALLED THE LEACHING AREA AND SEPTIC TANK SIZES MUST BE INCREASED TO COMPLY WITH SECTION VIII.F OF THE TECHNICAL STANDARDS. ADDITIONALLY, THE SYSTEM HAS NOT BEEN DESIGNED TO ACCEPT EFFLUENT FROM WHIRLPOOL BACKWASH, WATER SOFTENER BACKWASH OR GARBAGE DISPOSALS.
16. THIS DESIGN IS BASED UPON THE INSTALLATION OF THE SEPTIC SYSTEM IN UNCOMPACTED NATURAL SOIL. ALTHOUGH THE CONTRACTOR IS RESPONSIBLE FOR PREPARING THE SITE, THE USE OF HEAVY EQUIPMENT IN THE PROPOSED SEPTIC AREA IS PROHIBITED TO AVOID OVER COMPACTION OF THE NATIVE SOIL.
17. THIS DESIGN CONFORMS TO APPLICABLE CODES AND ACCEPTED PRACTICE. NO OTHER WARRANTY IS EXPRESSED OR IMPLIED.
18. McCHORD ENGINEERING ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR SEPTIC SYSTEM SITE PREPARATION, LOCATION, OR INVERT ELEVATIONS IN COMPLIANCE WITH THE APPROVED PLAN, UNLESS IT SUPERVISES EACH PHASE OF SYSTEM INSTALLATION.

PUMP NOTES:

1. USE MYERS PUMP MODEL ME50, 1/2 HP, 115 V, WITH A 2" NPT DISCHARGE (74 gpm @ 26' tdh), OR EQUIVALENT.
2. MECHANICAL FLOAT SWITCHES OR PRESSURE TRANSDUCER SHALL BE USED TO ACTIVATE THE PUMP AND THE HIGH WATER ALARM.
3. SET THE HIGH WATER ALARM FLOAT AT DEPTH 2/3 INTO THE PUMP CHAMBER TO CREATE 675 GALLONS MINIMUM OF AVAILABLE STORAGE, PROVIDING FOR PUMP FAILURE.
4. INSTALL THE HIGH WATER ALARM PANEL INSIDE THE HOUSE THAT IS SERVED BY THE PUMP CHAMBER. THE ALARM SHALL BE BOTH AUDIBLE AND VISUAL.
5. SET THE PUMP-ON FLOAT TO PROVIDE A MAXIMUM DOSE OF 140 GALLONS. DOSE SHALL NOT EXCEED 20% OF THE LEACHING SYSTEM STORAGE VOLUME.
6. THE PUMP CHAMBER SHALL HAVE A MINIMUM CAPACITY OF 1250 GALLONS. THE PUMP CHAMBER SHALL BE SEALED WATER-TIGHT AND BE EQUIPPED WITH 30" RISER SECTIONS TO GRADE, FOR ACCESS. THE PUMP CHAMBER INDICATED IS DISTRIBUTED BY CONNECTICUT PRECAST CORP., MONROE, CONNECTICUT AN EQUIVALENT CHAMBER IS ACCEPTABLE.
7. THE FORCE MAIN SPECIFIED IS A 2" ASTM D1785 PVC PIPE OR POLYETHYLENE PLASTIC FLEXIBLE PRESSURE PIPE, FITTED WITH A DOWN TURN AT ITS OUTLET. IT SHALL BE BURIED DEEP ENOUGH TO PREVENT FREEZING AND BE PITCHED BACKWARDS TOWARD THE PUMP.
8. THE PUMP ELECTRICAL SHUT OFF SHALL BE VISIBLE FROM THE PUMP CHAMBER AND SHALL BE ABOVE GRADE.

NO.	DATE	REVISIONS AND SUBMISSIONS
2	8-19-24	REVISED AND ISSUED FOR MUNICIPAL APPROVALS
1	7-26-24	ISSUED FOR MUNICIPAL APPROVALS

SIGNATURE:

STATE OF CONNECTICUT · THOMAS S. NELSON · No. 20505 · LICENSED PROFESSIONAL ENGINEER

DRAWING NO: SE2

SHEET 2 OF 2

McChord Engineering Associates, Inc.
Civil Engineers and Land Planners
1 Grumman Hill Road
Wilton, CT 06897 (203) 834-0569

PLAN PREPARED FOR
ABLE CONSTRUCTION INC.
WESTON, CONNECTICUT

CONSTRUCTION NOTES AND DETAILS
LOT 15, NEWTOWN TURNPIKE
WESTON, CONNECTICUT

JOB NO: 2037C-1	DATE: JULY 26, 2024
DRAWN BY: DRS	CHECKED BY: TSN
SCALE: AS SHOWN	

file: 2037c-2a

TOWN of WESTON, CONNECTICUT

Incorporated 1787

Conservation Commission

INLAND WETLANDS AND WATERCOURSES APPLICATION

This Application is for a five-year permit to conduct a regulated activity or activities pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Weston ("The Regulations")

PROPERTY ADDRESS: Lot 15, Newtown Turnpike

Assessor's Map # 30 **Block #** 1 **Lot #** 15

PROJECT DESCRIPTION *(general purpose)* Construct new single-family residence, driveway, pool and hardscape with associated septic system and stormwater management improvements.

Total Acres 2.00 Total Acres of Wetlands and Watercourses 0.057

Acreage of Wetlands and Watercourses Altered 0.00 Upland Area Altered 0.150 ac

Acres Linear Feet of Stream Alteration 0.00 Total Acres Proposed Open Space 0.00

OWNER(S) OF RECORD: *(Please list all owners, attach extra sheet if necessary)*

Name: Able Construction Inc. Phone: (203) 849-3083

Address: 30 Oakwood Avenue, Norwalk, CT 06850

Email: peter@ableconstruction.com

APPLICANT/AUTHORIZED AGENT:

Name: Harry Rocheville (McChord Engineering Assoc., Inc.) Phone: (203) 834-0569

Address: 1 Grumman Hill Road, Wilton, CT 06897

Email: hrocheville@mcchordengineering.com

CONSULTANTS: *(Please provide, if applicable)*

Engineer: McChord Engineering Assoc., Inc. Phone: (203) 834-0569

Address: 1 Grumman Hill Road, Wilton, CT 06897 Email: hrocheville@mcchordengineering.com

Soil Scientist: William Kenny Associates Phone: (203) 366-0588

Address: 1899 Bronson Road, Fairfield, CT 06824 Email: wkenny@wkassociates.com

Legal Counsel: _____ Phone: _____

Address: _____ Email: _____

Surveyor: Brautigam Land Surveyors, P.C. Phone: (203) 270-7810

Address: 90 S. Main St., Newtown, CT 06470 Email: steve@brautigamland.com

PROPERTY INFORMATION

Property Address: Lot 15, Newtown Turnpike

Existing Conditions *(Describe existing property and structures)*: Undeveloped vacant lot.

Provide a detailed description and purpose of proposed activity *(attach sheet with additional information if needed)*: Construct new single-family residence, driveway, pool and hardscape with associated site grading, erosion controls, utilities, septic system and stormwater management improvements. See Septic System/Site Development Plan for additional information.

Square feet of proposed impervious surfaces *(roads, buildings, parking, etc.)*: 14,075

Subject property to be affected by proposed activity contains:

- ☒ wetlands soils
- ☐ swamp
- ☐ floodplain
- ☐ marsh
- ☐ bog
- ☐ lake or pond
- ☒ stream or river
- ☐ other _____

The proposed activity will involve the following within wetlands, watercourse, and/or review area:

- ☒ Alteration
- ☐ Discharge to
- ☒ Removal of Materials
- ☒ Construction
- ☐ Discharge from
- ☒ Deposition of Materials
- ☐ Pollution
- ☐ Bridge or Culvert
- ☐ Other _____

Amount, type, and location of materials to be removed, deposited, or stockpiled:

Material will be removed for the construction of the house, pool and drainage systems. It will be temporarily stockpiled in designated areas until it can be use don site. Excess material will be hauled away. If any additional material is needed it will consist of clean common fill. Clean gravel and sand will be brought on site for the septic and stormwater systems.

Description, work sequence, and duration of activities:

Construction entrances and erosions controls will be installed first. Then clearing and earthwork will occur prior to foundations being installed. As the house is being constructed the stormwater management improvements and septic system will be installed. Final grading and installation of the driveway, hardscape and landscaping will occur last. Erosions controls will be remain in place until the site is stablized. Duration of construction is anticipated to be approx. 12 months.

Describe alternatives considered and why the proposal described herein was chosen:

Multiple alternatives were considered but ultimately this layout was chosen to minimize earthwork, meet setbacks to the septic and stormwater management systems and maintain a 50-ft buffer to the inland wetlands.

Does the proposed activity involve the installation and/or repair of an existing septic system(s) *(circle)*: Yes or No Application has been submitted to the Aspetuck Health District.

The Westport/Weston Health District Approval: _____

ADJOINING MUNICIPALITIES AND NOTICE:

If any of the situations below apply, the applicant is required to give written notice of his/her application to the Inland Wetlands Agency of the adjoining municipality, on the same day that he/she submits this application. Notification must be sent by Certified Mail with Return Receipt Requested.

The property is located within 500 feet of any town boundary line;
A significant portion of the traffic to the completed project will use streets within the adjoining municipality to enter or exit the site;

A portion of the water drainage from the project site will flow through and significantly impact the sewage system or drainage systems within the adjoining municipality; or
Water runoff from the improved site will impact streets or other municipal or private property within the adjoining municipality

AQUARION WATER COMPANY

Pursuant to Section 8.4 of the Weston regulations, the Aquarion Water Company must be notified of any regulated activity proposed within its watersheds. Maps showing approximate watershed boundaries are available at the office of the Commission. If the project site lies within these boundaries, send notice, site plan, and grading and erosion control plan via certified mail, return receipt requested, within seven (7) days of submitting application to the Commission, to:

George S. Logan, Director – Environmental Management
Aquarion Water Company
714 Black Rock Turnpike
Easton, CT 06612

The Commissioner of the Connecticut Department of Public Health must also be notified in the same manner in a format prescribed by that commissioner.

The undersigned, as owner(s) of the property, hereby consents to necessary and proper inspections of the above mentioned property by Commissioners and agents of the Conservation Commission, Town of Weston, at reasonable times, both before and after a final decision has been issued by the Commission.

The undersigned hereby acknowledges to have read the "Application Requirements and Procedures" in completing this application.

The undersigned hereby certifies that the information provided in this application, including its supporting documentation is true and he/she is aware of the penalties provided in Section 22a-376 of the Connecticut General Statues for knowingly providing false or misleading information.

See attached Letter of Authorization

Signature of Owner(s) of Record — Date

Signature of Authorized Agent — 8/20/24 — Date

FOR OFFICE USE ONLY

Administrative Approval

Initials — Date

McChord Engineering Associates, Inc.
Civil Engineers and Land Planners

1 Grumman Hill Road
Wilton, CT 06897
(203) 834-0569

August 16, 2024

Town of Weston Conservation Commission
Town Hall Annex – 24 School Road
Weston, CT 06883

Re: Inland Wetlands and Watercourses Application
Proposed Site Development
Lot 15, Newtown Turnpike, Weston, CT
Map 30, Block 1, Lot 15

Dear Commissioners,

I hereby authorize McChord Engineering Associates, Inc. (MEA), to act as agent regarding the referenced Conservation Commission application and authorize all subject property activities associated with the proposed site development at the subject property.

I hereby consent to all necessary and proper inspections of the property by the Town of Weston Conservation Department and Commissioners at all reasonable times, both before and after the applied permit has been granted, and until the permitted activity has been completed in accordance with the conditions of the permit and verified by the Conservation Department.

Sincerely,

Peter Greenberg
Able Construction, Inc.
Property Owner

Adjacent Property Owners of Property

Lot 15, Newtown Turnpike
Weston, CT 06883

Property Owner	Mailing Address
Chevalier Eve Tayloe Trust Chevalier Alice Trustee	25 Newtown Turnpike Weston, CT 06883
Aspetuck Land Trust Inc.	Box 444 Westport, CT 06880
Kurt Schreder & Caroline Paulus	11 Newtown Turnpike Weston, CT 06883
Hilary & David Felton	21 Ridge Road Weston, CT 06883

WILLIAM KENNY ASSOCIATES LLC

SOIL SCIENCE
ECOLOGICAL SERVICES
LAND USE PLANNING
LANDSCAPE ARCHITECTURE

January 26, 2021

Jonathan and Jessica Schanzer
63 Roebling Street, 6L
Brooklyn, NY 11211

Re: Wetland and Watercourse Delineation
Newtown Turnpike (Lot 15), Weston, Connecticut

Dear Mr. and Mrs. Schanzer:

As requested, we visited the referenced property to determine the presence or absence of wetlands and/or watercourses, to demarcate (flag) the boundaries of wetlands and watercourses identified, and to identify onsite soil types. This letter includes the methods and results of our investigation, which we completed today, January 26, 2021. In summary, one inland wetland and watercourse system was identified and delineated. The system, which is located in the southern portion of the property, is a small stream that extends and flows east to west with a bordering fringe of woodland wetland.

Regulatory Definitions

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) defines inland wetlands as "land, including submerged land...which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Watercourses are defined in the act as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof." The Act defines Intermittent Watercourses as having a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

Methodology

A second order soil survey in accordance with the principles and practices noted in the USDA publication *Soil Survey Manual* (1993) was completed at the subject site. The classification system of the National Cooperative Soil Survey was used in this investigation. Soil map units

195 TUNXIS HILL CUTOFF S
FAIRFIELD, CT 06825
PHONE: 203 366 0588
FAX: 203 366 0067
www.wkassociates.net

identified at the project site generally correspond to those included in the *Soil Survey of the State of Connecticut* (USDA 2005).

Wetland determinations were completed based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils. Soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, test pits and/or borings (maximum depth of two feet) were completed at the site.

Intermittent watercourse determinations were made based on the presence of a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation.

Wetland boundaries were demarcated (flagged) with pink surveyor's tape (hung from vegetation) or small flags (on wire stakes) labeled "William Kenny Associates" that are generally spaced a maximum of every 50 feet. Complete boundaries are located along the lines that connect these sequentially numbered flags. The wetland boundaries are subject to change until adopted by local, state, or federal regulatory agencies.

Results

The approximate 2.0-acre undeveloped property is located on Newtown Turnpike (Lot 15) in Weston, Connecticut. Newtown Turnpike borders the western property boundary. The vegetative cover in eastern and southern portions of the property is a broadleaved deciduous woodland. A meadow is present in the northwestern portion of the property.

One inland wetland and watercourse system was identified and delineated. The system, which extends and flows east to west in the southern portion of the property, is a small stream with a bordering fringe of woodland wetland. Wetland soils are primarily poorly drained and formed from glacial till deposits. The approximate location of the system is shown on the attached map. The boundary of the system was marked at the site with flags numbered 1 to 27.

Four soil map units were identified on the property (one wetland and three upland). Each map unit represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of each map unit. The mapped units are identified in the following table by name and symbol and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope). These characteristics are generally the primary characteristics to be considered in land use planning and management. A description of each characteristic and their land use implications follows the table. A complete description of each soil map unit can be found in the *Soil Survey of the State of Connecticut* (USDA 2005), and at *https://soilseries.sc.egov.usda.gov/osdname.aspx.* On the day of the review, there was no soil frost and 0.0 to 2.0 inches of snow cover. The upland soil was moist and the wetland soil was wet to inundated. It was snowing, and air temperatures were in the 30's º F.

Map Unit Sym.	Map Unit Name	Parent Material	Slope (%)	Drainage Class	High Water Table Depth (ft)	High Water Table Kind	High Water Table Mos.	Depth To Bedrock (in)
	Upland Soil							
38	Hinckley gravelly sandy loam	Glacial Outwash	3-8	Excessively Drained	>6.0	--	--	>60
45	Woodbridge fine sandy loam	Compact Glacial Till	0-15	Moderately Well Drained	1.5-3.0	Perched	Nov-May	>60
73	Charlton	Loose Glacial Till	0-50	Well Drained	>6.0	--	--	>60
	Chatfield Fine sandy loam	Loose Glacial Till	0-70	Well Drained	>6.0	--	--	20-40
	Wetland Soil							
3	Ridgebury	Compact Glacial Till	0-8	Poorly Drained	0.0-1.5	Perched	Nov-May	>60
	Leicester	Loose glacial Till	0-3	Poorly Drained	0.0-1.5	Apparent	Nov-May	>60
	Whitman extremely stony fine sandy loam	Compact Glacial Till	0-3	Very Poorly Drained	0.0-0.5	Perched	Sep-Jun	>60

Parent material is the unconsolidated organic and mineral material in which soil forms. Soil inherits characteristics, such as mineralogy and texture, from its parent material. Glacial till is unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice. Glacial outwash consists of gravel, sand, and silt, which are commonly stratified and deposited by glacial melt water. Alluvium is material such as sand, silt, or clay, deposited on land by streams. Organic deposits consist of decomposed plant and animal parts.

A soil's texture affects the ease of digging, filling, and compacting and the permeability of a soil. Generally sand and gravel soils, such as outwash soils, have higher permeability rates than most glacial till soils. Soil permeability affects the cost to design and construct subsurface sanitary disposal facilities and, if too slow or too fast, may preclude their use. Outwash soils are generally excellent sources of natural aggregates (sand and gravel) suitable for commercial use, such as construction sub base material. Organic layers in soils can cause movement of structural footings. Compacted glacial till layers make excavating more difficult and may preclude the use of subsurface sanitary disposal systems or increase their design and construction costs if fill material is required.

Generally, soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.

Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. Seven classes of natural drainage classes exist. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface

during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

High water table is the highest level of a saturated zone in the soil in most years. The water table can affect the timing of excavations; the ease of excavating, constructing, and grading; and the supporting capacity of the soil. Shallow water tables may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

The depth to bedrock refers to the depth to fixed rock. Bedrock depth affects the ease and cost of construction, such as digging, filling, compacting, and planting. Shallow depth bedrock may preclude the use of subsurface sanitary disposal systems or increase design and construction costs if fill material is required.

Conclusions

Today, we investigated the property on Newtown Turnpike (Lot 15) in Weston, Connecticut and identified and delineated one inland wetland and watercourse system. Thank you for the opportunity to assist you. If you should have any questions or comments, please do not hesitate to contact us.

Sincerely,

William L. Kenny, PWS, PLA
Soil Scientist

Alexander Wojtkowiak
Soil Scientist

Enclosure

Ref. No. 4729

SOIL LEGEND

UPLAND
38 HINCKLEY GRAVELLY SANDY LOAM
45 WOODBRIDGE FINE SANDY LOAM
73 CHARLTON-CHATFIELD COMPLEX

WETLAND
3 RIDGEBURY, LEICESTER AND WHITMAN SOILS

WILLIAM KENNY ASSOCIATES LLC

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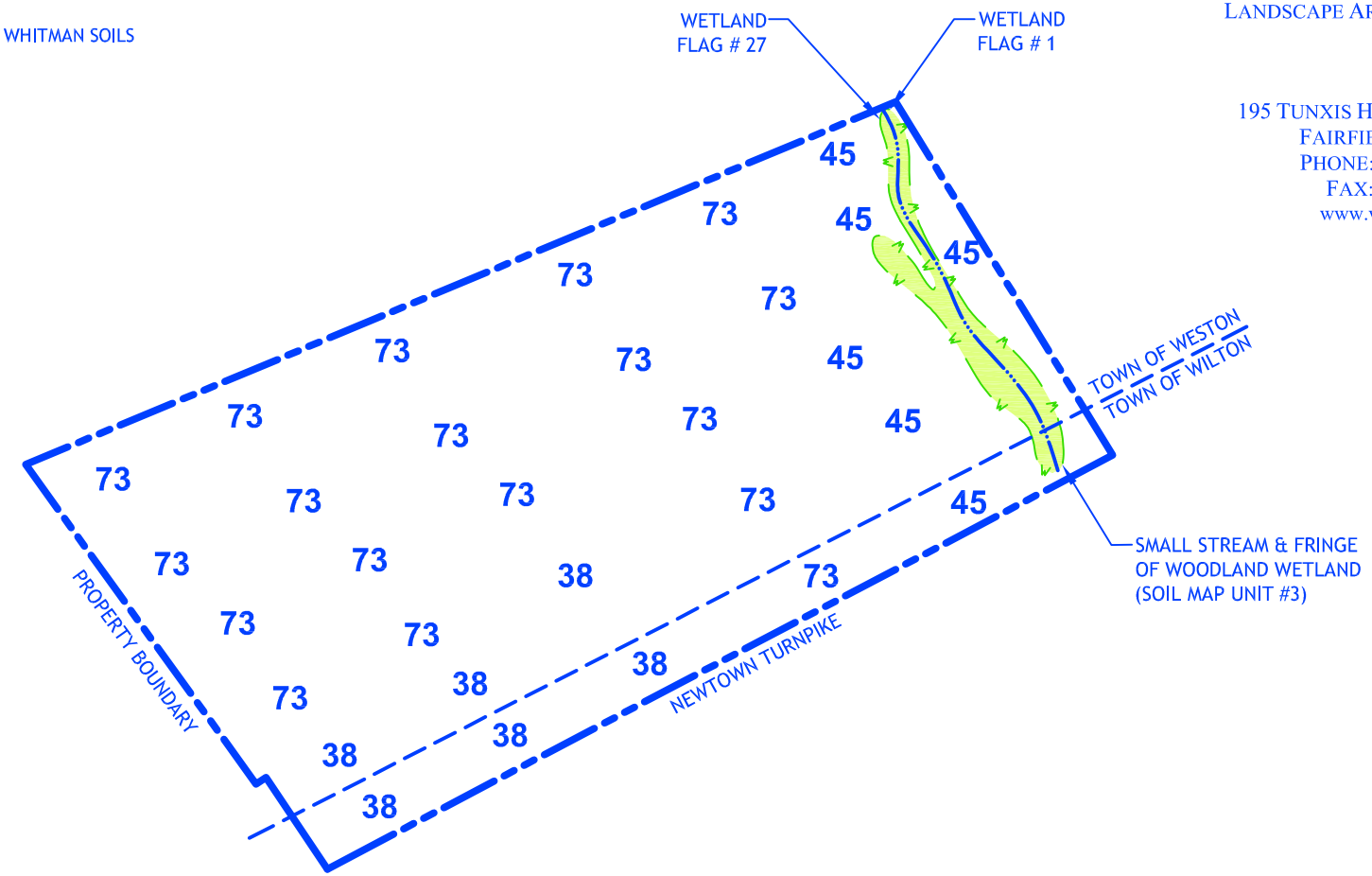


NOTES:
- *INFORMATION SHOWN ON THIS DRAWING, INCLUDING THE WETLAND BOUNDARY, IS APPROXIMATE. THE BOUNDARY IS NOT A SURVEYED REPRESENTATION OF WHAT WAS FIELD MARKED (FLAGGED).*
- *WETLAND AND SOIL INFORMATION PROVIDED BY WILLIAM KENNY ASSOC. OTHER INFORMATION TAKEN FROM A TOWN OF WESTON GIS MAP.*
- ***38, 45, 73** AND **3** ARE SOIL MAPPING UNIT SYMBOLS. SEE WETLAND DELINEATION REPORT FOR THE SOIL MAP UNIT NAMES AND ADDITIONAL RELATED INFORMATION.*

I CERTIFY THAT THIS WETLAND MAP SUBSTANTIALLY REPRESENTS THE SOILS AND WETLANDS MAPPED IN THE FIELD

WILLIAM L. KENNY, SOIL SCIENTIST

WETLAND & WATERCOURSE MAP

NEWTOWN TURNPIKE, LOT 15
WESTON, CONNECTICUT

SCALE: NOT TO SCALE
DATE: JANUARY 26, 2021

Ref. No. 4729

NORTH

Connecticut Department of ENERGY & ENVIRONMENTAL PROTECTION

GIS CODE #: ___ ___ ___ ___ ___ ___ ___ ___ ___ ___
For DEEP Use Only

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete and mail this form in accordance with the instructions on pages 2 and 3 to:
DEEP Land & Water Resources Division, Inland Wetlands Management Program, 79 Elm Street, 3rd Floor, Hartford, CT 06106
Incomplete or incomprehensible forms will be mailed back to the inland wetlands agency.

PART I: Must Be Completed By The Inland Wetlands Agency

1. DATE ACTION WAS TAKEN: year: _____ month: _____
2. ACTION TAKEN (see instructions, only use one code): _____
3. WAS A PUBLIC HEARING HELD (check one)? yes ☐ no ☐
4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:
   (print name) _____ (signature) _____

PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

5. TOWN IN WHICH THE ACTION IS OCCURRING (print name): **Weston**
   does this project cross municipal boundaries (check one)? yes [X] no ☐
   if yes, list the other town(s) in which the action is occurring (print name(s)): **Wilton**, _____
6. LOCATION (see instructions for information): USGS quad name: **Norwalk North** or number: **107**
   subregional drainage basin number: **7203**
7. NAME OF APPLICANT, VIOLATOR OR PETITIONER (print name): **Able Construction Inc.**
8. NAME & ADDRESS / LOCATION OF PROJECT SITE (print information): **Lot 15, Newtown Turnpike**
   briefly describe the action/project/activity (check and print information): temporary ☐ permanent [X] description:
   Construction of new single-family residence with associated site improvements on vacant lot.
9. ACTIVITY *PURPOSE* CODE (see instructions, only use one code): **B**
10. ACTIVITY *TYPE* CODE(S) (see instructions for codes): **1**, **2**, **12**, **14**
11. WETLAND / WATERCOURSE AREA ALTERED (must provide acres or linear feet):
    wetlands: **0** acres open water body: **0** acres stream: **0** linear feet
12. UPLAND AREA ALTERED (must provide acres): **0.150** acres
13. AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (must provide acres): **0** acres

PART III: To Be Completed By The DEEP

DATE RECEIVED: DATE RETURNED TO DEEP:

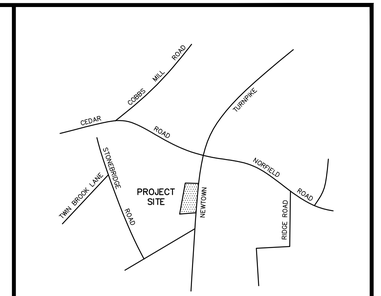
FORM COMPLETED: YES NO FORM CORRECTED / COMPLETED: YES NO

NOTES:

1. EXISTING UTILITIES, PROPERTY LINE AND TOPOGRAPHIC INFORMATION SHOWN HEREON ARE TAKEN FROM THE "TOPOGRAPHIC SURVEY" PREPARED FOR JONATHAN SCHANZER & JESSIE SCHANZER BY BRAUTIGAM LAND SURVEYORS, P.C. OF NEWTOWN, CT, DATED MAY 3, 2021.
2. INLAND WETLANDS WERE FLAGGED BY WILLIAM KENNY ASSOCIATES, LLC OF FAIRFIELD, CT ON JANUARY 26, 2021.
3. LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES INDICATED HEREON ARE TAKEN FROM DESIGN DRAWINGS, FIELD OBSERVATIONS, AND OTHER SOURCES OF INFORMATION AND ARE NOT TO BE CONSTRUED AS AN ACCURATE "AS-BUILT" SURVEY. THE CONTRACTOR SHALL EXCAVATE TEST HOLES, CONTACT "CALL BEFORE YOU DIG", AND PERFORM WHATEVER ADDITIONAL VERIFICATION NECESSARY TO VERIFY THE EXISTING INFORMATION. THE PROJECT ENGINEER SHALL BE PROMPTLY NOTIFIED OF ANY APPARENT CONFLICTS BETWEEN EXISTING UTILITIES AND PROPOSED WORK.
4. THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED SEPTIC SYSTEM, STORMWATER MANAGEMENT, UTILITIES, DRIVEWAY, HARDSCAPE, POOL, SITE GRADING, AND SOIL EROSION CONTROLS ASSOCIATED WITH THE CONSTRUCTION OF THE NEW HOUSE.
5. THERE ARE NO KNOWN WELLS WITHIN 75 FEET OF THE PROPOSED SEPTIC SYSTEM.
6. THERE ARE NO KNOWN GROUNDWATER DRAINS OR STORM WATER INFILTRATION SYSTEMS WITHIN 50 FEET DOWN GRADIENT OR 25 FEET SIDE/UP GRADIENT OF THE PROPOSED SEPTIC SYSTEM.
7. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN STANDARD DETAILS AND SPECIFICATIONS. IN THE ABSENCE OF LOCAL STANDARDS, THE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CONNECTICUT DEPARTMENT OF TRANSPORTATION SPECIFICATION FORM 818, LATEST REVISION.
8. SOIL AND EROSION CONTROL MEASURES SHOWN HEREON SHALL BE PROPERLY INSTALLED PRIOR TO THE START OF CONSTRUCTION, INSPECTED AND REPAIRED WEEKLY AND BEFORE AND AFTER STORM EVENTS, AND MAINTAINED IN FUNCTIONAL CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.
9. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO THE COMMENCEMENT OF THE WORK.

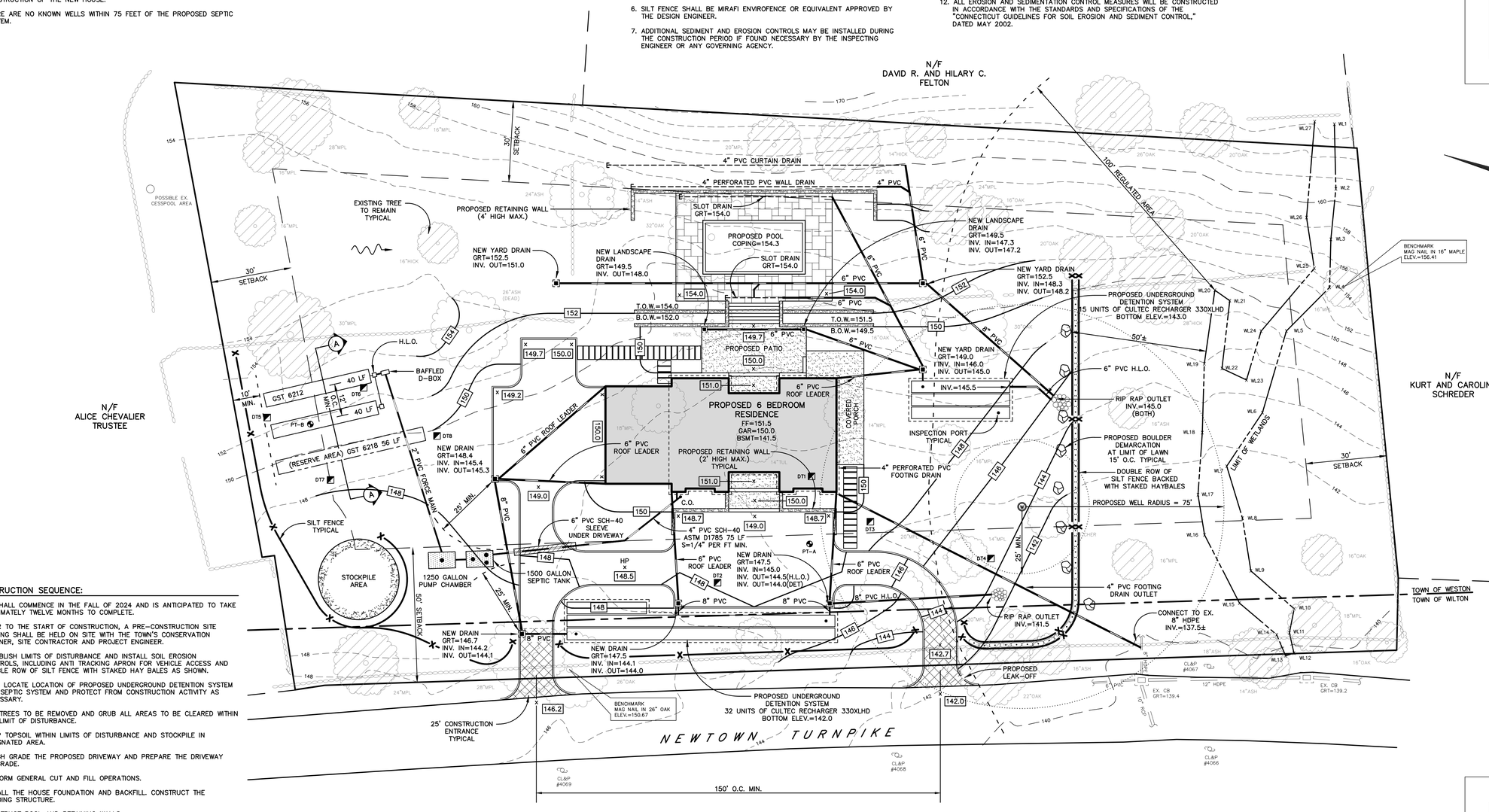
GENERAL SEDIMENT AND EROSION CONTROL NOTES:

1. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION.
2. COORDINATE WITH THE TOWN/CITY LAND USE STAFF PRIOR TO THE BEGINNING WORK.
3. EXISTING TREES TO BE SAVED SHALL BE PROTECTED BY FLAGGING AND/OR SNOW FENCING AT THE DRIP LINE WHICH SHALL BE MAINTAINED DURING CONSTRUCTION.
4. DUE TO THE VARIABLE LOCATION OF CONSTRUCTION, THE USE OF ANTI-TRACKING APRONS WILL BE ON AN "AS-NEEDED" BASIS DETERMINED IN THE FIELD. WHEN ANTI-TRACKING APRONS ARE USED, THEY SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. APRONS SHALL CONSIST OF 2"- 4" CRUSHED STONE WITH A MINIMUM THICKNESS OF 8 INCHES. EACH APRON SHALL BE APPROXIMATELY 25 FEET LONG AND EXTEND THE WIDTH OF THE CONSTRUCTION ACCESS.
5. SILT FENCE AND OTHER SEDIMENT CONTROL MEASURES MUST BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFIC MANUFACTURER'S RECOMMENDATIONS.
6. SILT FENCE SHALL BE MIRAFI ENVIROFENCE OR EQUIVALENT APPROVED BY THE DESIGN ENGINEER.
7. ADDITIONAL SEDIMENT AND EROSION CONTROLS MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE INSPECTING ENGINEER OR ANY GOVERNING AGENCY.
8. AFTER EACH STORM EVENT OR AT LEAST ONCE WEEKLY, ALL SEDIMENT AND EROSION CONTROLS WILL BE INSPECTED. CORRECTIVE MEASURES TO MITIGATE ENVIRONMENTAL CONCERNS WILL BE ORDERED BY THE DESIGN ENGINEER AND/OR GOVERNING AGENCY, IF REQUIRED.
9. ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL MEASURES WILL BE MAINTAINED IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK, ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED FROM THE SITE AND ANY COLLECTED SEDIMENTS FROM THE DEVICES SHALL BE DISPOSED OF LEGALLY AND IN KEEPING WITH THE INTENT OF THIS PLAN.
10. LAND DISTURBANCE SHALL BE KEPT TO A MINIMUM. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED. APPLY GRASS SEED AT A RATE OF APPROXIMATELY 120 LBS/ACRE. SEED MIX WILL VARY FROM UPLAND TO WETLAND BUFFER AREAS. MULCH AFTER SEEDING UPLAND AT A RATIO OF 1000 LBS/ACRE.
11. EFFECTED PORTIONS OF OFFSITE ROADS MUST BE SWEPT CLEAN WHEN REQUIRED.
12. ALL EROSION AND SEDIMENTATION CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL," DATED MAY 2002.



SCALE: 1" = 1000'

ORIENTATION



LEGEND

EXISTING	ITEM	PROPOSED
⊡	DRAIN	⊡
	STORM SEWER	
N.A.	DEEP TEST	◩
N.A.	PERCOLATION TEST	◒
440	CONTOUR	440
× 337.9	SPOT ELEVATION	× 439.5
N.A.	SILT FENCE	X
N.A.	DOUBLE SILT FENCE	XX
	TREE TO REMAIN	N.A.
	POLE	N.A.

ELEVATIONS:

GARAGE	:150.0
BASEMENT	:141.5
F.F. HOUSE	:151.5
HOUSE SEWER OUT (INV.)	:147.7
SEPTIC TANK IN (INV.)	:146.0
SEPTIC TANK OUT (INV.)	:145.75
* 1st FIELD (INV. AT DB) (GST BOTTOM)	:152.3 :151.3
2nd FIELD (INV. AT DB) (GST BOTTOM)	:150.4 :149.4

* PROVIDE OVERFLOW BETWEEN FIELDS

NOTE: PUMP CHAMBER INVERTS TO BE DETERMINED IN THE FIELD.

AREA = 2.006± ACRES

CONSTRUCTION SEQUENCE:

WORK SHALL COMMENCE IN THE FALL OF 2024 AND IS ANTICIPATED TO TAKE APPROXIMATELY TWELVE MONTHS TO COMPLETE.

1. PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION SITE MEETING SHALL BE HELD ON SITE WITH THE TOWN'S CONSERVATION PLANNER, SITE CONTRACTOR AND PROJECT ENGINEER.
2. ESTABLISH LIMITS OF DISTURBANCE AND INSTALL SOIL EROSION CONTROLS, INCLUDING ANTI TRACKING APRON FOR VEHICLE ACCESS AND DOUBLE ROW OF SILT FENCE WITH STAKED HAY BALES AS SHOWN.
3. FIELD LOCATE LOCATION OF PROPOSED UNDERGROUND DETENTION SYSTEM AND SEPTIC SYSTEM AND PROTECT FROM CONSTRUCTION ACTIVITY AS NECESSARY.
4. CUT TREES TO BE REMOVED AND GRUB ALL AREAS TO BE CLEARED WITHIN THE LIMIT OF DISTURBANCE.
5. STRIP TOPSOIL WITHIN LIMITS OF DISTURBANCE AND STOCKPILE IN DESIGNATED AREA.
6. ROUGH GRADE THE PROPOSED DRIVEWAY AND PREPARE THE DRIVEWAY SUBGRADE.
7. PERFORM GENERAL CUT AND FILL OPERATIONS.
8. INSTALL THE HOUSE FOUNDATION AND BACKFILL. CONSTRUCT THE BUILDING STRUCTURE.
9. CONSTRUCT POOL AND RETAINING WALLS.
10. INSTALL WATER SUPPLY WELL, SEPTIC SYSTEM AND STORMWATER MANAGEMENT MEASURES.
11. FINISH GRADE AND SPREAD A MINIMUM OF 4" TOPSOIL OVER ALL DISTURBED AREAS. IMMEDIATELY SEED AND HAY ALL AREAS DESIGNATED AS LAWN.
12. PAVE DRIVEWAY AND CONSTRUCT HARDSCAPE AREAS.
13. REMOVE SOIL AND EROSION CONTROLS ONLY AFTER PERMANENT VEGETATION HAS BEEN ESTABLISHED.

NO.	DATE	REVISIONS AND SUBMISSIONS
2	8-19-24	REVISED AND ISSUED FOR MUNICIPAL APPROVALS
1	7-26-24	ISSUED FOR MUNICIPAL APPROVALS

SIGNATURE:

STATE OF CONNECTICUT · THOMAS S. NELSON · No. 26556 · LICENSED PROFESSIONAL ENGINEER

DRAWING NO: SE1

SHEET 1 OF 2

McChord Engineering Associates, Inc.
Civil Engineers and Land Planners
1 Grumman Hill Road
Wilton, CT 06897 (203) 834-0569

PLAN PREPARED FOR
ABLE CONSTRUCTION INC.
WESTON, CONNECTICUT

SEPTIC SYSTEM/SITE DEVELOPMENT PLAN
LOT 15, NEWTOWN TURNPIKE
WESTON, CONNECTICUT

JOB NO: 2037C-1 | DATE: JULY 26, 2024
DRAWN BY: DRS | CHECKED BY: TSN
SCALE: 1" = 20'

20 0 10 20 40

file: 2037c-1a

McChord Engineering Associates, Inc.
Civil Engineers and Land Planners

1 Grumman Hill Road
Wilton, CT 06897
(203) 834-0569

STORMWATER MANAGEMENT REPORT

Prepared For

PROPOSED SITE DEVELOPMENT

LOT 15, NEWTOWN TURNPIKE, WESTON, CT

August 19, 2024

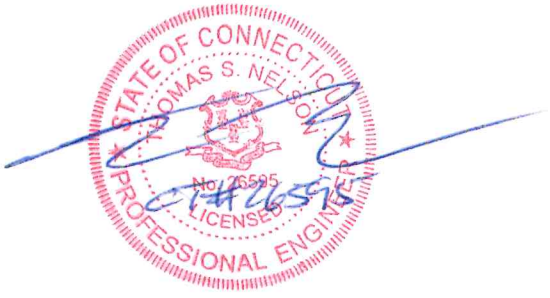


Table of Contents

1. Introduction

McChord Engineering Associates, Inc. has been commissioned by Able Construction Inc. to perform stormwater management computations for the proposed site development at Lot 15, Newtown Turnpike in Weston, Connecticut. The front portion of the property is located in Wilton, Connecticut. The property consists of 2.006-acres and is located on the east side of Newtown Turnpike. It is in the West Branch Saugatuck River watershed basin and outside of any public water supply watersheds. Figure 1 shows the location of the property on the United States Geological Survey (USGS) map.

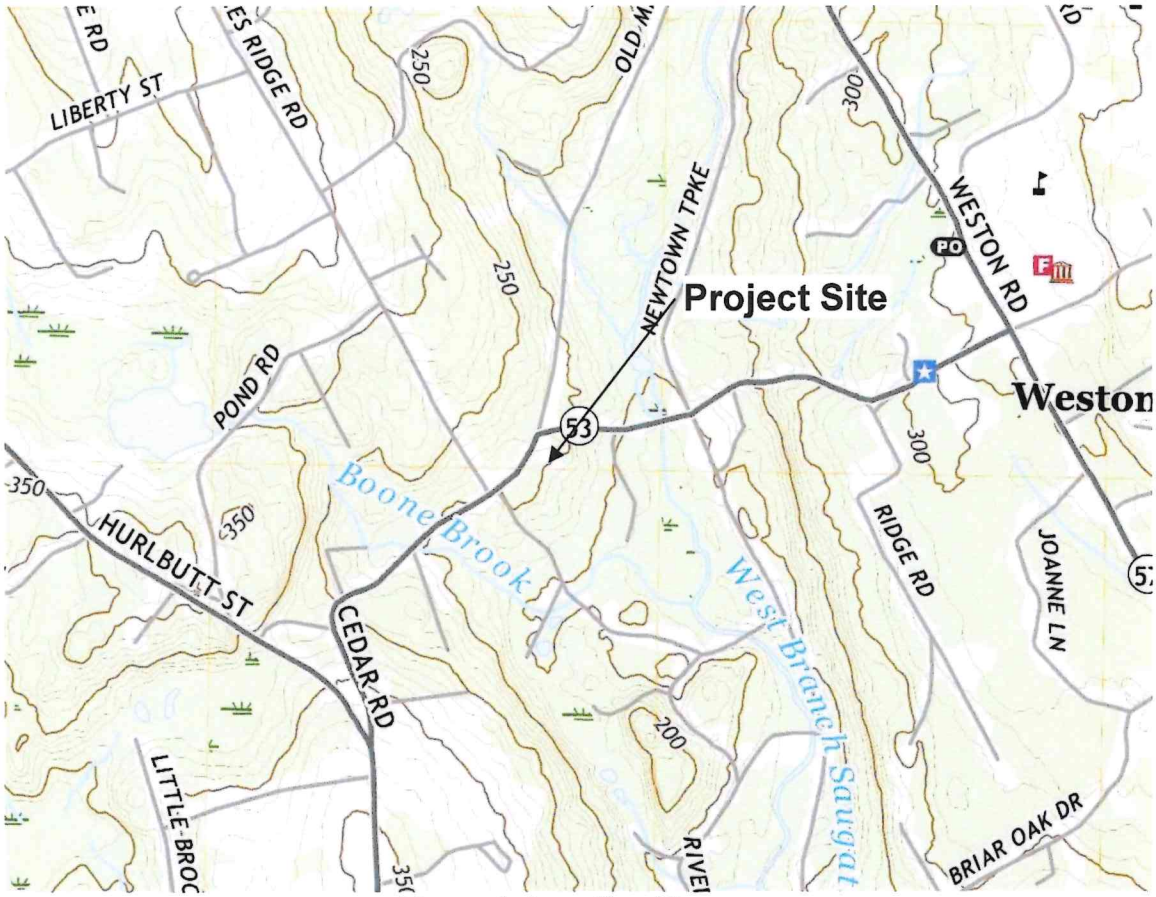


Figure 1: Location Map

The property is currently undeveloped consisting mostly of woodlands. The edges of the property are Newtown Turnpike and woodland separating adjacent residences. The southern portion of the lot is comprised of inland wetlands. Topography on-site generally consists of steep then gradual slopes that generally drain south towards the inland wetlands.

The proposed site development includes the construction of a new single-family residence with associated driveway, pool and hardscape. Retaining walls are proposed to minimize the amount of earthwork required. Stormwater management measures are proposed to control runoff from the proposed development. Soil and erosion controls in the form of silt fences and staked haybales will be employed to protect the inland wetlands during construction. The proposed development will be served by an on-site septic system and private well.

2. Scope of Study

This stormwater management report contains studies comparing peak rate of runoff between the existing conditions and the proposed conditions to ensure that the proposed development will have no adverse impact on adjoining property owners, inland wetlands, downstream drainage systems and watercourses. The site will be developed with its own on-site stormwater management system capable of controlling the increase in peak runoff.

3. Analysis Methodology

Runoff was modeled with HydroCAD 8.50 software produced by HydroCAD Software Solutions LLC. This software uses the NRCS TR-20 method for analyzing stormwater runoff. Soil characteristics, cover conditions, slope, time of concentration, and historical rainfall data are all parameters that are utilized by this method. The analysis considered the 2, 10, 25 and 50-year storm events. Precipitation depth for each storm event was taken from the National Oceanic and Atmospheric Administration's (NOAA) Atlas 14 Point Precipitation Frequency Estimates specific to the subject property.

4. Stormwater Management Strategy

Currently, the property is undeveloped and there are no stormwater management measures. Runoff from the property sheet flows west and then south to the inland wetlands following the topography.

The proposed stormwater management plan maintains existing drainage patterns on the site. There are two (2) underground detention systems proposed to control runoff from the proposed development. The first underground detention system will be located in the front yard west of the house. Rooftop runoff from the front of the house and garage will be captured by roof leaders and conveyed to the front yard detention system. Runoff from the driveway and surrounding lawn will be captured by driveway drains and conveyed to the front yard detention system. The front yard underground detention system consists of thirty-two (32) units of Cultec Recharger 330XLHD stormwater chambers surrounded by crushed stone with a storage capacity of approximately 2,617 cubic feet below a high-level overflow pipe invert. The second underground detention system will be located in the side yard south of the house. Rooftop runoff from the back of the house will be captured by roof leaders and conveyed to the side yard detention system. Runoff from the rear hardscape and pool area will be captured by landscape and slot drains and conveyed to the side yard detention system. The side yard underground detention system consists of fifteen (15) units of Cultec Recharger 330XLHD stormwater chambers surrounded by crushed stone with a storage capacity of approximately 1,241 cubic feet below a high-level overflow pipe invert. During typical storm events, stormwater will infiltrate into the underlying soils and there will be no surface discharge from either detention system. High-level overflow pipes will provide relief during extreme storm events and will discharge to rip rap outlets in the direction of the inland wetlands. Runoff from the remainder of the property that is not detained will continue to the sheet flow south or be captured and piped south to the inland wetlands conforming to existing conditions.

Detailed information on the size and configuration of the proposed stormwater management measures is available on the most recent revision of the "Septic System/Site Development

Plan" prepared by this office. A Stormwater Facilities Maintenance Plan is also included in Appendix C.

5. Analysis & Results

Runoff from the property was analyzed under existing and proposed conditions. The existing and proposed conditions analyses modeled the entire property as a whole. The analyses divided the property into areas that are detained by the detention systems and undetained areas. The runoff that is not detained will sheet flow south or be captured and piped south to the inland wetlands.

Using the NRCS TR-20 method, the peak rate of runoff for the 2, 10, 25 and 50-year storm events was computed for the site. Soils on the property were determined using the NRCS Web Soil Survey. Cover conditions were derived from site observations and the "Septic System/Site Development Plan" prepared by this office, dated August 19, 2024. Soil testing was performed on the property in the area of the underground detention systems and confirmed there would be suitable infiltration rates. The resulting peak flow rates under both the existing and proposed conditions are summarized in Table 1. For detailed computations see Appendix A.

Table 1: Peak Flows

Storm Event	Existing		Proposed	
	Rate (cfs)	Volume (ft^3)	Rate (cfs)	Volume (ft^3)
2-year	0.19	1,870	0.19	1,582
10-year	1.07	6,517	0.95	5,101
25-year	1.85	10,296	1.57	8,557
50-year	2.50	13,463	2.45	11,984

The analysis shows that there is no increase in the peak rate or volume of runoff from the property during any of the analyzed storm events. The underground detention systems also accommodate the first 1.3" of runoff from the impervious surfaces that drain to it. The runoff from the initial 1.3" of runoff, also known as the "first flush", is generally considered to contain the majority of pollutants. Collecting the first flush and allowing it to infiltrate into the soils provides filtration of the runoff and is an effective means of stormwater renovation. For detailed computations see Appendix B.

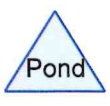
6. Conclusions

Based on our analysis, McChord Engineering Associates, Inc. has demonstrated that the proposed stormwater management systems will adequately control and renovate the increase in runoff from the proposed development at Lot 15, Newtown Turnpike in Weston, Connecticut. It is the opinion of this office and the conclusion of this report that the proposed site development will have no adverse impacts to the adjoining property owners, inland wetlands, watercourses or any downstream drainage systems.

APPENDIX A:

PEAK FLOW COMPUTATIONS

Entire Area of Study



Drainage Diagram for Existing Conditions - Lot 15 Newtown Tpk
Prepared by McChord Engineering Associates, Inc., Printed 8/20/2024

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
2,250	30	Woods, Good, HSG A (E1)
6,080	39	>75% Grass cover, Good, HSG A (E1)
51,405	55	Woods, Good, HSG B (E1)
9,865	61	>75% Grass cover, Good, HSG B (E1)
69,600		**TOTAL AREA**

Summary for Subcatchment E1: Entire Area of Study

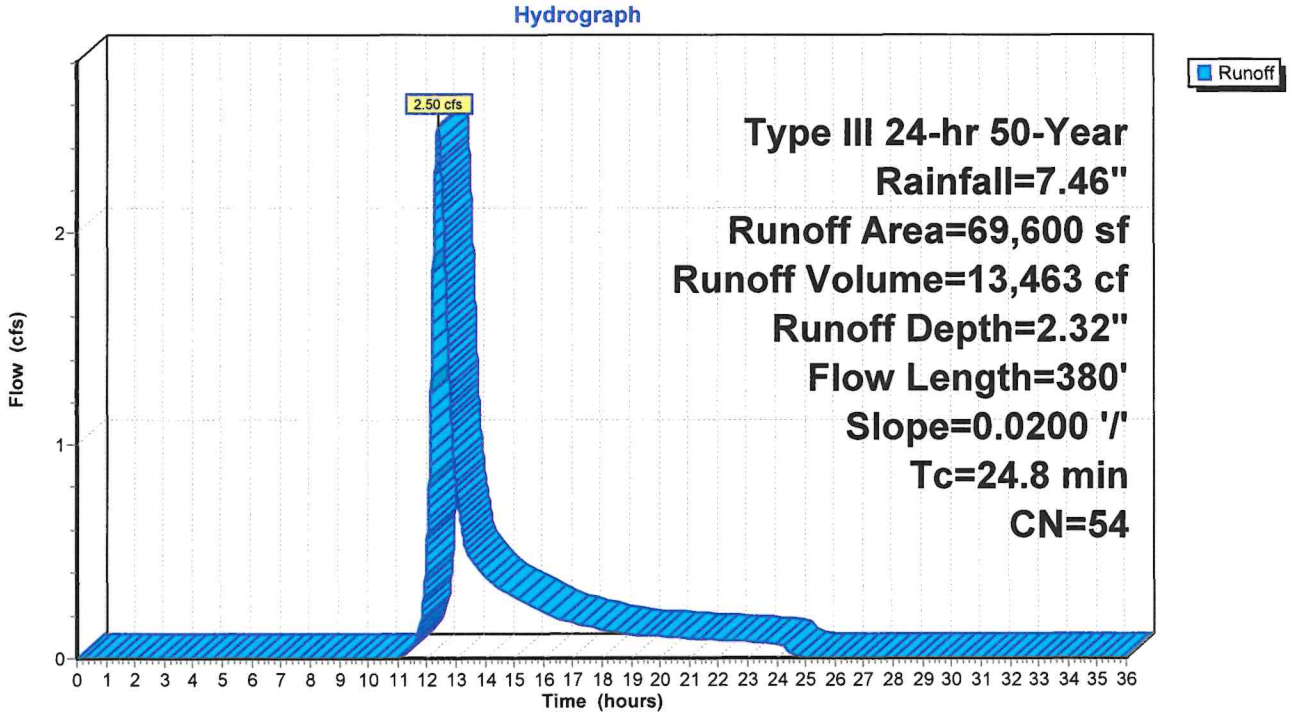
Runoff = 2.50 cfs @ 12.37 hrs, Volume= 13,463 cf, Depth= 2.32"

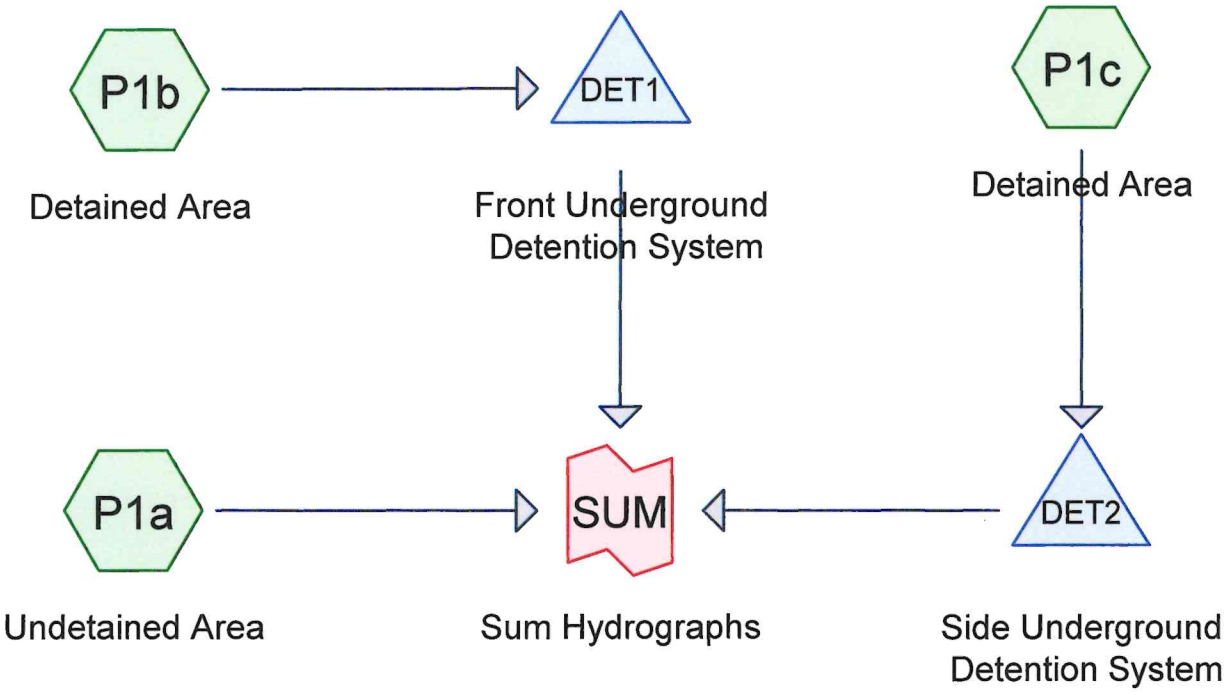
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.46"

Area (sf)	CN	Description
6,080	39	>75% Grass cover, Good, HSG A
2,250	30	Woods, Good, HSG A
9,865	61	>75% Grass cover, Good, HSG B
51,405	55	Woods, Good, HSG B
69,600	54	Weighted Average
69,600		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.4	150	0.0200	0.13		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.30"
5.4	230	0.0200	0.71		**Shallow Concentrated Flow, BC** Woodland Kv= 5.0 fps
24.8	380	Total			

Subcatchment E1: Entire Area of Study





Subcat Reach Pond Link

Drainage Diagram for Proposed Conditions - Lot 15 Newtown Tpk
Prepared by McChord Engineering Associates, Inc., Printed 8/20/2024

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
6,400	39	>75% Grass cover, Good, HSG A (P1a)
25,100	55	Woods, Good, HSG B (P1a,P1c)
24,025	61	>75% Grass cover, Good, HSG B (P1a,P1b)
6,360	98	Driveway (P1a,P1b)
425	98	Front Hardscape (P1b)
3,735	98	House (P1b,P1c)
650	98	Pool (P1c)
1,700	98	Pool Patio (P1a,P1c)
1,205	98	Rear Patio (P1c)
69,600		**TOTAL AREA**

Summary for Subcatchment P1a: Undetained Area

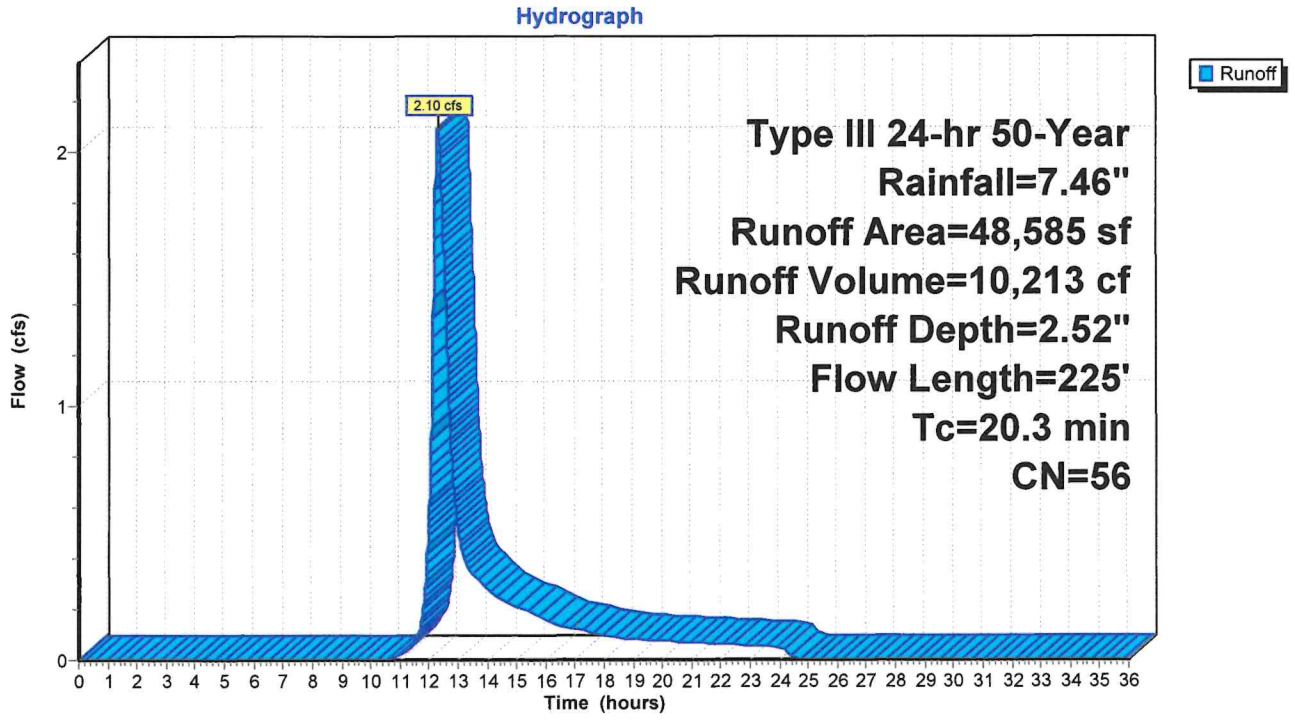
Runoff = 2.10 cfs @ 12.30 hrs, Volume= 10,213 cf, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.46"

	Area (sf)	CN	Description
*	980	98	Driveway
*	500	98	Pool Patio
	6,400	39	>75% Grass cover, Good, HSG A
	18,605	61	>75% Grass cover, Good, HSG B
	22,100	55	Woods, Good, HSG B
	48,585	56	Weighted Average
	47,105		Pervious Area
	1,480		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	110	0.0910	0.22		**Sheet Flow, AB** Grass: Dense n= 0.240 P2= 3.30"
10.2	40	0.0200	0.07		**Sheet Flow, BC** Woods: Light underbrush n= 0.400 P2= 3.30"
1.8	75	0.0200	0.71		**Shallow Concentrated Flow, CD** Woodland Kv= 5.0 fps
20.3	225	Total			

Subcatchment P1a: Undetained Area



Summary for Subcatchment P1b: Detained Area

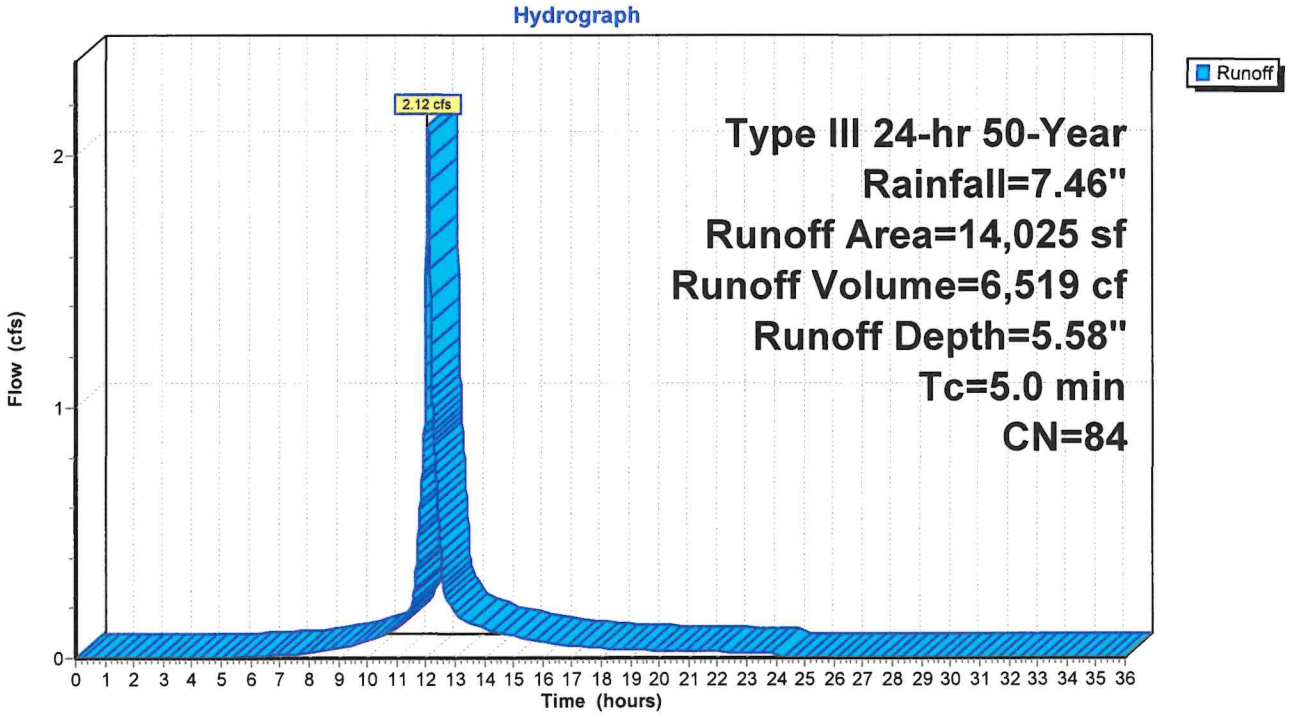
Runoff = 2.12 cfs @ 12.07 hrs, Volume= 6,519 cf, Depth= 5.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.46"

	Area (sf)	CN	Description
*	2,800	98	House
*	5,380	98	Driveway
*	425	98	Front Hardscape
	5,420	61	>75% Grass cover, Good, HSG B
	14,025	84	Weighted Average
	5,420		Pervious Area
	8,605		Impervious Area

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

Subcatchment P1b: Detained Area



Summary for Subcatchment P1c: Detained Area

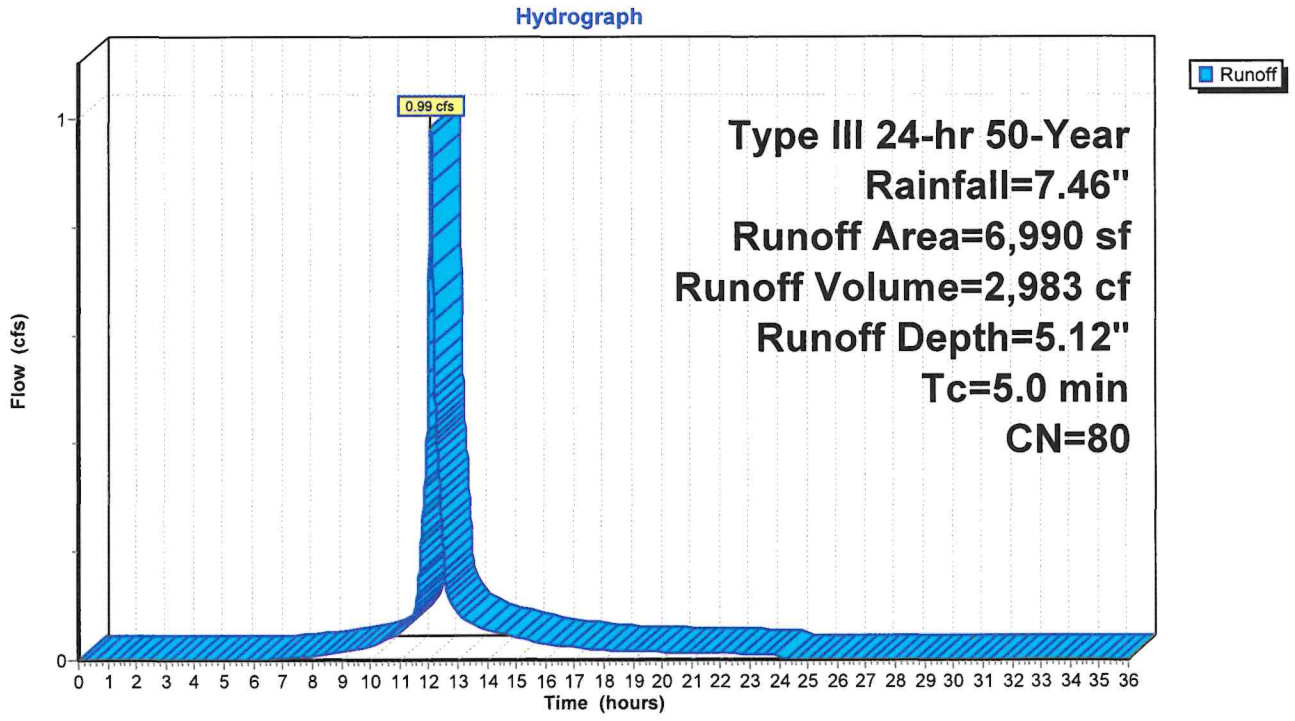
Runoff = 0.99 cfs @ 12.07 hrs, Volume= 2,983 cf, Depth= 5.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Rainfall=7.46"

	Area (sf)	CN	Description
*	935	98	House
*	650	98	Pool
*	1,200	98	Pool Patio
*	1,205	98	Rear Patio
	3,000	55	Woods, Good, HSG B
	6,990	80	Weighted Average
	3,000		Pervious Area
	3,990		Impervious Area

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

Subcatchment P1c: Detained Area



Summary for Pond DET1: Front Underground Detention System

Inflow Area = 14,025 sf, 61.35% Impervious, Inflow Depth = 5.58" for 50-Year event
Inflow = 2.12 cfs @ 12.07 hrs, Volume= 6,519 cf
Outflow = 0.50 cfs @ 12.45 hrs, Volume= 6,519 cf, Atten= 76%, Lag= 23.0 min
Discarded = 0.06 cfs @ 9.94 hrs, Volume= 5,286 cf
Primary = 0.44 cfs @ 12.45 hrs, Volume= 1,234 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 144.89' @ 12.45 hrs Surf.Area= 1,320 sf Storage= 2,823 cf

Plug-Flow detention time= 342.9 min calculated for 6,519 cf (100% of inflow)
Center-of-Mass det. time= 342.9 min (1,137.5 - 794.6)

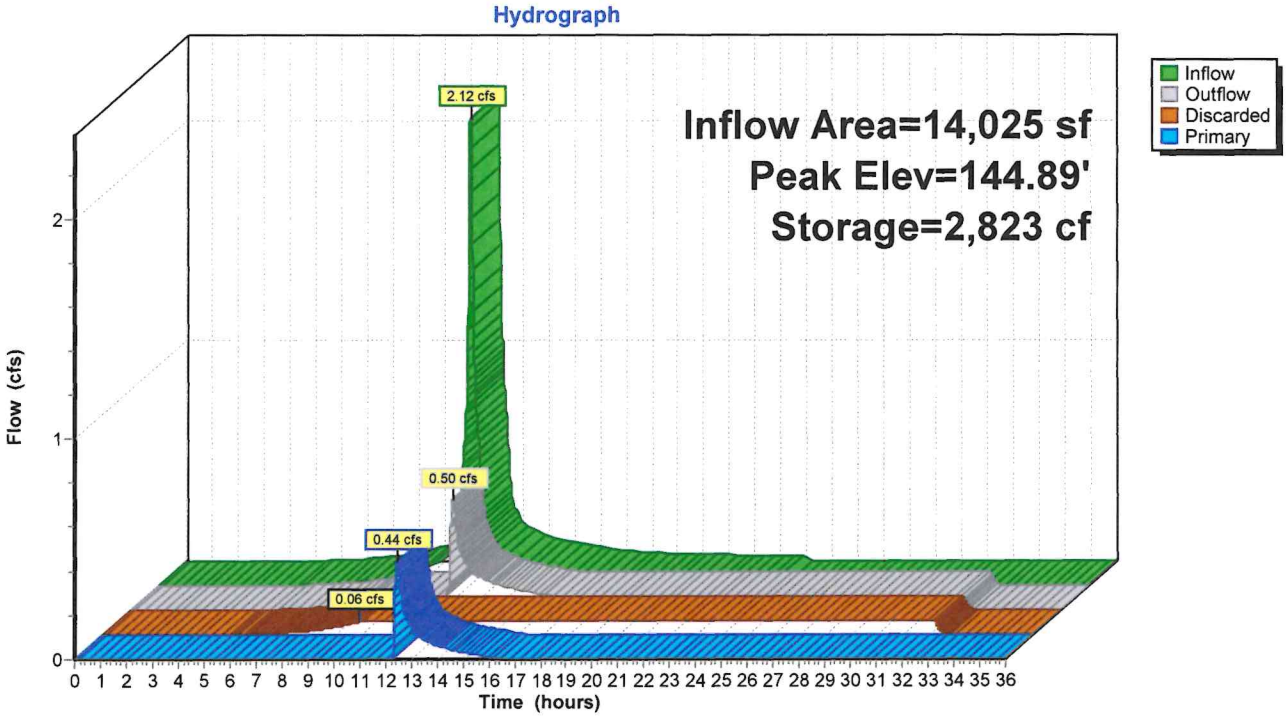
Volume	Invert	Avail.Storage	Storage Description
#1	141.50'	998 cf	**11.20'W x 101.50'L x 3.50'H Gravel Bed** 3,979 cf Overall - 1,483 cf Embedded = 2,496 cf x 40.0% Voids
#2	142.00'	1,483 cf	**47.8"W x 30.0"H x 99.50'L Cultec R-330** x 2 Inside #1
#3	143.00'	32 cf	**2.00'W x 2.00'L x 4.00'H Drain** x 2 -Impervious
#4	141.50'	168 cf	**5.80'W x 31.50'L x 3.50'H Gravel Bed (short row)** 639 cf Overall - 220 cf Embedded = 420 cf x 40.0% Voids
#5	142.00'	220 cf	**47.8"W x 30.0"H x 29.50'L Cultec R-330** Inside #4
		2,901 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**8.0" Vert. High Level Overflow** C= 0.600
#2	Discarded	141.50'	**2.000 in/hr Exfiltration over Surface area**

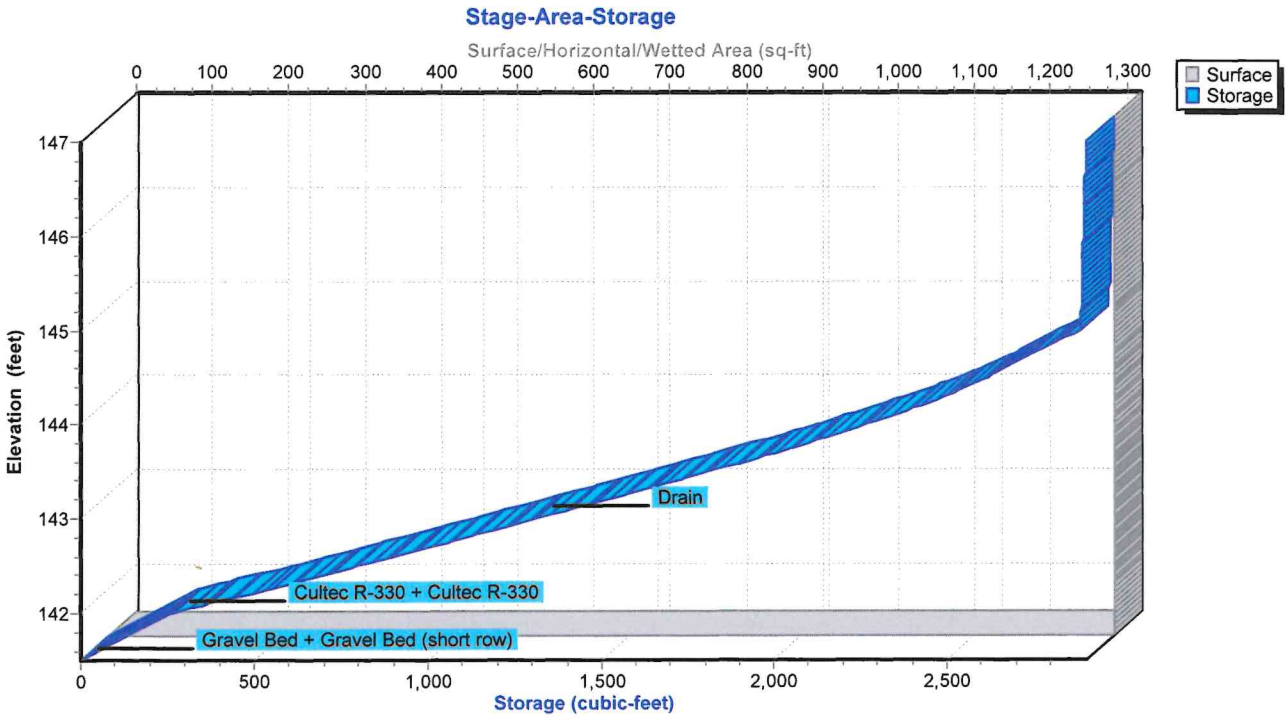
Discarded OutFlow Max=0.06 cfs @ 9.94 hrs HW=141.56' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.44 cfs @ 12.45 hrs HW=144.89' (Free Discharge)
↑—**1=High Level Overflow** (Orifice Controls 0.44 cfs @ 2.11 fps)

Pond DET1: Front Underground Detention System



Pond DET1: Front Underground Detention System



Summary for Pond DET2: Side Underground Detention System

Inflow Area = 6,990 sf, 57.08% Impervious, Inflow Depth = 5.12" for 50-Year event
Inflow = 0.99 cfs @ 12.07 hrs, Volume= 2,983 cf
Outflow = 0.23 cfs @ 12.47 hrs, Volume= 2,983 cf, Atten= 77%, Lag= 23.7 min
Discarded = 0.03 cfs @ 10.26 hrs, Volume= 2,446 cf
Primary = 0.20 cfs @ 12.47 hrs, Volume= 537 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 144.75' @ 12.47 hrs Surf.Area= 616 sf Storage= 1,304 cf

Plug-Flow detention time= 358.5 min calculated for 2,982 cf (100% of inflow)
Center-of-Mass det. time= 358.6 min (1,163.2 - 804.6)

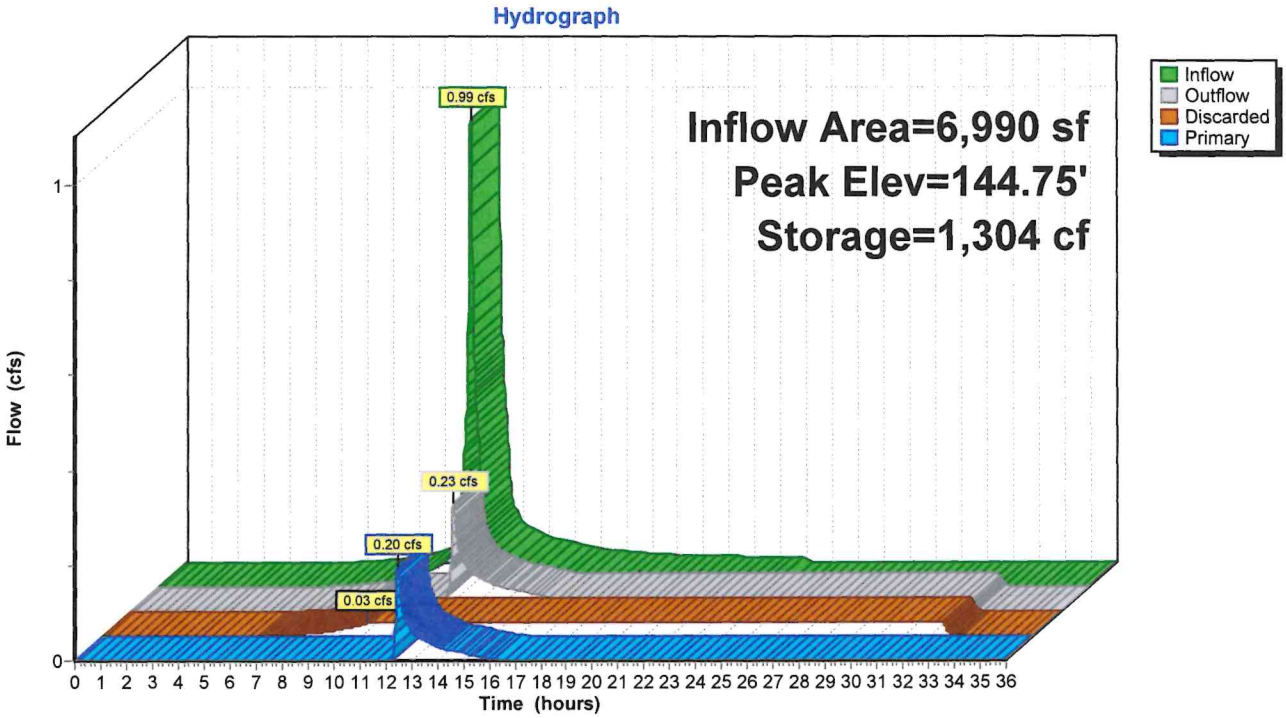
Volume	Invert	Avail.Storage	Storage Description
#1	141.50'	536 cf	**16.00'W x 38.50'L x 3.50'H Gravel Bed** 2,156 cf Overall - 816 cf Embedded = 1,340 cf x 40.0% Voids
#2	142.00'	816 cf	**47.8"W x 30.0"H x 36.50'L Cultec R-330** x 3 Inside #1
#3	143.00'	32 cf	**2.00'W x 2.00'L x 4.00'H Drain** x 2 -Impervious
		1,384 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	144.50'	**8.0" Vert. High Level Overflow** C= 0.600
#2	Discarded	141.50'	**2.000 in/hr Exfiltration over Surface area**

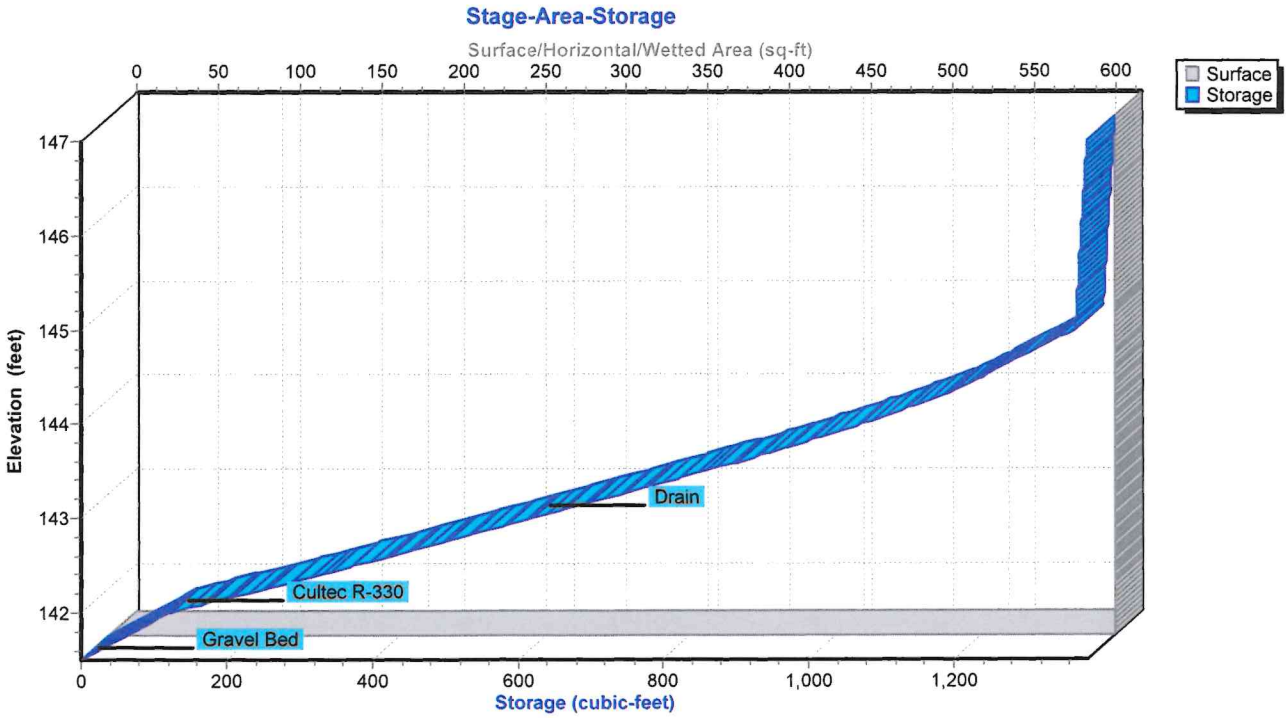
Discarded OutFlow Max=0.03 cfs @ 10.26 hrs HW=141.56' (Free Discharge)
↑—**2=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.20 cfs @ 12.47 hrs HW=144.75' (Free Discharge)
↑—**1=High Level Overflow** (Orifice Controls 0.20 cfs @ 1.69 fps)

Pond DET2: Side Underground Detention System



Pond DET2: Side Underground Detention System

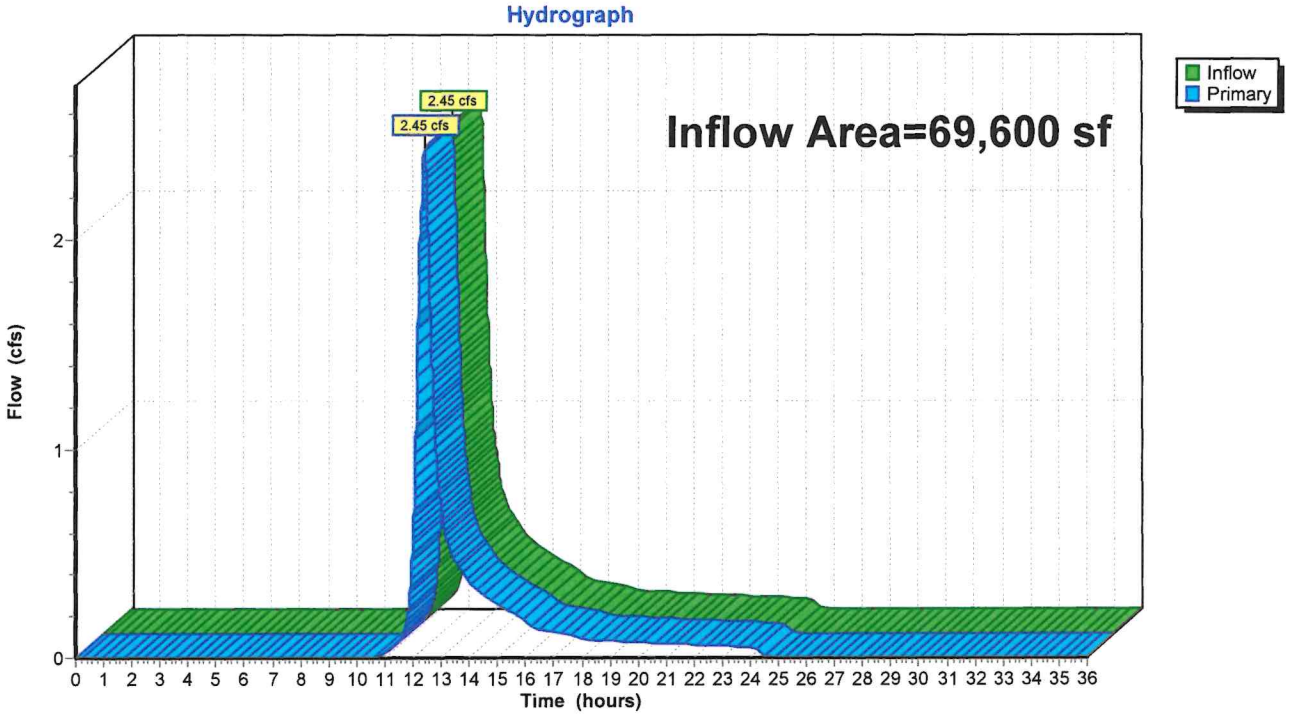


Summary for Link SUM: Sum Hydrographs

Inflow Area = 69,600 sf, 20.22% Impervious, Inflow Depth = 2.07" for 50-Year event
Inflow = 2.45 cfs @ 12.41 hrs, Volume= 11,984 cf
Primary = 2.45 cfs @ 12.41 hrs, Volume= 11,984 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Link SUM: Sum Hydrographs



APPENDIX B:

WATER QUALITY VOLUME COMPUTATIONS

Water Quality Volume Computation

Lot 15, Newtown Turnpike, Weston, CT

AREA OF PROPOSED DEVELOPMENT TO BE CAPTURED BY FRONT DETENTION SYSTEM	
Location	**Area, (ft^2)**
Proposed Residence	2,800
Proposed Driveway	5,380
Front Hardscape	425
Proposed Pool House	740
Lawn	5,420

Location	A Area (ft^2)	Imperv. Area (ft^2)	I % Imperv.	R Runoff Coeff.	WQV (ft^3)
Proposed Development	14,765	9,345	63.3	0.620	991

Location	System Description	Volume Provided Below Overflow Pipe Invert (ft^3)
Proposed Development	Thirty-Two (32) Cultec R330XLHD Chambers	2,617

$$WQV = \frac{(P)(R)(A)}{12}$$

where:

WQV = water quality volume (cubic feet)
P = 1.3 inches (90th percentile rainfall event)
R = volumetric runoff coefficient = $0.05+0.009(I)$
I = post- development impervious area (percent) after application of non-structural LID site planning and design strategies and before application of structural stormwater BMPs
A = post-development total drainage area of site or design point (square feet)

AREA OF PROPOSED DEVELOPMENT TO BE CAPTURED BY SIDE DETENTION SYSTEM	
Location	**Area, (ft^2)**
Proposed Residence	935
Proposed Pool House	650
Proposed Pool Patio	1,200
Proposed Rear Patio	1,205
Woods	3,000

Location	A Area (ft^2)	Imperv. Area (ft^2)	I % Imperv.	R Runoff Coeff.	WQV (ft^3)
Proposed Development	6,990	3,990	57.1	0.564	427

Location	System Description	Volume Provided Below Overflow Pipe Invert (ft^3)
Proposed Development	Fifteen (15) Cultec R330XLHD Chambers	1,241

Stage-Area-Storage for Pond DET1: Front Underground Detention System

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
141.50	**1,320**	0
141.60	1,320	53
141.70	1,320	106
141.80	1,320	158
141.90	1,320	211
142.00	1,320	264
142.10	1,320	371
142.20	1,320	478
142.30	1,320	584
142.40	1,320	690
142.50	1,320	796
142.60	1,320	901
142.70	1,320	1,005
142.80	1,320	1,108
142.90	1,320	1,210
143.00	1,320	1,313
143.10	1,320	1,415
143.20	1,320	1,518
143.30	1,320	1,619
143.40	1,320	1,717
143.50	1,320	1,814
143.60	1,320	1,910
143.70	1,320	2,003
143.80	1,320	2,094
143.90	1,320	2,182
144.00	1,320	2,267
144.10	1,320	2,349
144.20	1,320	2,425
144.30	1,320	2,496
144.40	1,320	2,560
144.50	1,320	2,617
144.60	1,320	2,671
144.70	1,320	2,724
144.80	1,320	2,778
144.90	1,320	2,831
145.00	1,320	2,885
145.10	1,320	2,886
145.20	1,320	2,886
145.30	1,320	2,887
145.40	1,320	2,888
145.50	1,320	2,889
145.60	1,320	2,890
145.70	1,320	2,890
145.80	1,320	2,891
145.90	1,320	2,892
146.00	1,320	2,893
146.10	1,320	2,894
146.20	1,320	2,894
146.30	1,320	2,895
146.40	1,320	2,896
146.50	1,320	2,897
146.60	1,320	2,898
146.70	1,320	2,898
146.80	1,320	2,899
146.90	1,320	2,900
147.00	1,320	**2,901**

Stage-Area-Storage for Pond DET2: Side Underground Detention System

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
141.50	**616**	0
141.60	616	25
141.70	616	49
141.80	616	74
141.90	616	99
142.00	616	123
142.10	616	174
142.20	616	224
142.30	616	275
142.40	616	325
142.50	616	375
142.60	616	424
142.70	616	474
142.80	616	522
142.90	616	571
143.00	616	619
143.10	616	668
143.20	616	717
143.30	616	765
143.40	616	812
143.50	616	859
143.60	616	904
143.70	616	948
143.80	616	992
143.90	616	1,034
144.00	616	1,074
144.10	616	1,113
144.20	616	1,150
144.30	616	1,183
144.40	616	1,214
144.50	616	1,241
144.60	616	1,266
144.70	616	1,292
144.80	616	1,317
144.90	616	1,342
145.00	616	1,368
145.10	616	1,369
145.20	616	1,370
145.30	616	1,370
145.40	616	1,371
145.50	616	1,372
145.60	616	1,373
145.70	616	1,374
145.80	616	1,374
145.90	616	1,375
146.00	616	1,376
146.10	616	1,377
146.20	616	1,378
146.30	616	1,378
146.40	616	1,379
146.50	616	1,380
146.60	616	1,381
146.70	616	1,382
146.80	616	1,382
146.90	616	1,383
147.00	616	**1,384**

APPENDIX C:

STORMWATER FACILITIES MAINTENANCE PLAN

Stormwater Facilities Maintenance Plan

Lot 15, Newtown Turnpike, Weston, CT

Scope:

The purpose of the Stormwater Facilities Maintenance Plan is to ensure that the proposed stormwater components installed at Lot 15, Newtown Turnpike are maintained in operational condition throughout the life of the home. The service procedures associated with this plan shall be performed as required by the parties legally responsible for their maintenance.

Description of Stormwater Facilities:

The proposed stormwater facilities are designed to collect, convey, detain and treat the runoff from the site in order to minimize adverse impacts to adjacent properties, inland wetlands and downstream drainage systems. A description of the stormwater facilities are as follows:

1. Roof Leaders/Gutters: Roof leaders (also known as downspouts) from the residence will convey roof runoff collected by the roof gutters to the underground detention systems.

2. Driveway, Landscape and Yard Drains: Driveway, landscape and yard drains will collect runoff from the driveway, patios and lawn and convey it to the underground detention system. All drains are equipped with a sump designed to capture sediment and debris from the runoff.

3. Slot Drains: Slot drains will collect runoff from the pool patio and convey it to the underground detention system.

4. Underground Detention Chambers: The underground detention systems consist of a series of plastic Cultec chambers which provide storage for stormwater runoff. Stormwater in the underground detention systems is designed to infiltrate into the underlying soils. The detention systems are designed to be relieved by an overflow pipe during extreme storm events.

Recommended Frequency of Service:

All of the stormwater components installed for this property should be checked periodically and kept in full working order. Ultimately the frequency of inspection and service cleaning depends on the amount of runoff, pollutant loading and interference from debris (leaves, vegetation, trash, etc.); however it is recommended that each facility be inspected and cleaned a minimum of two times a year. The guidelines for the timing of service include early spring after the winter season and late fall after the leaves have fallen from the trees.

Service Procedures:

Service can be performed by the homeowner, landscape contractor or handyman since no specialzed equipment is required. Specific service procedures for the stormwater facilities are as follows:

1. Roof Leaders/Gutters: Roof gutters shall be inspected twice a year during the spring and fall service inspections to ensure that roof leaders are kept free of leaves and debris that could clog the detention chambers. At a minimum, leaves should be cleaned from the gutters during the fall service inspection.

2. Driveway, Landscape and Yard Drains: Driveway, landscape and yard drains shall be inspected and cleaned twice a year during the spring and fall service inspections. The cleaning shall include both removal of sediment from the sumps and removal of any trash and/or debris from the grate.

3. Slot Drains: Slot drains shall be inspected and cleaned twice a year during the spring and fall service inspections. The cleaning shall include the removal of any trash and/or debris from the grate.

4. Underground Detention Chambers: Functionality of the underground detention chambers ultimately depends on keeping sediment and debris out of the chambers. This is accomplished through proper maintenance of the roof leaders and gutters. These components should be maintained as described above, but more frequent maintenance may be required if excessive accumulation of debris is observed.