

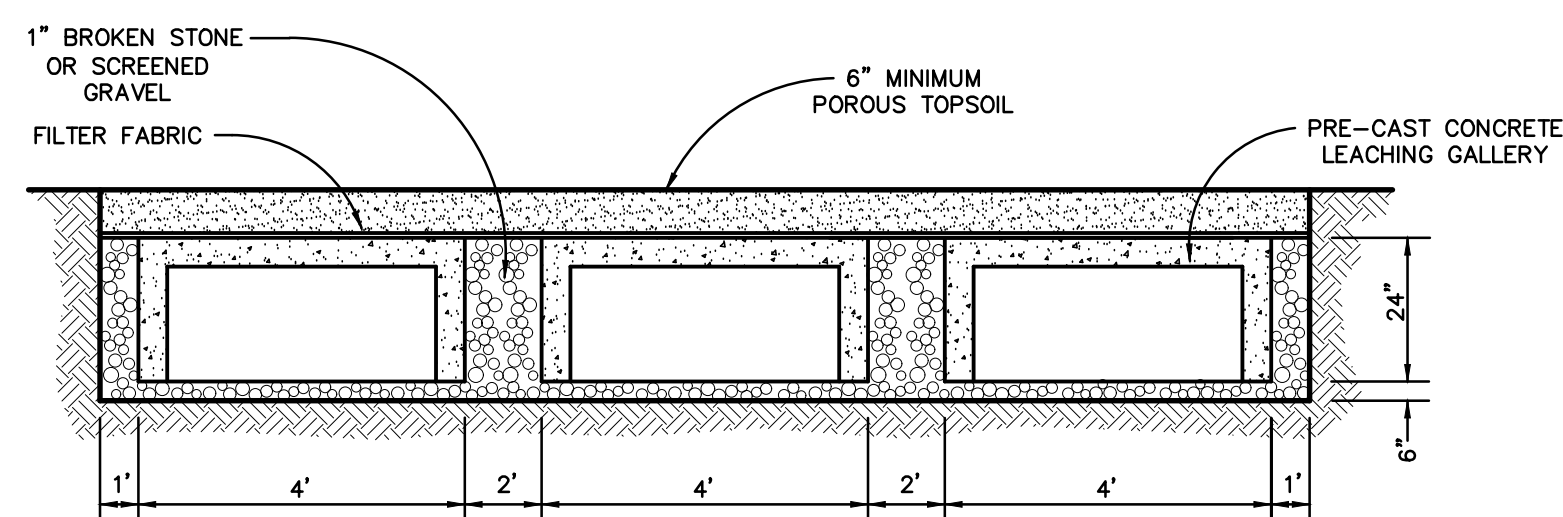
GENERAL SEDIMENT AND EROSION CONTROL NOTES:

1. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION.
2. COORDINATE THE CONSTRUCTION WITH THE TOWN OF WESTON CONSERVATION DEPARTMENT STAFF PRIOR TO 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 SWEEPED 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.

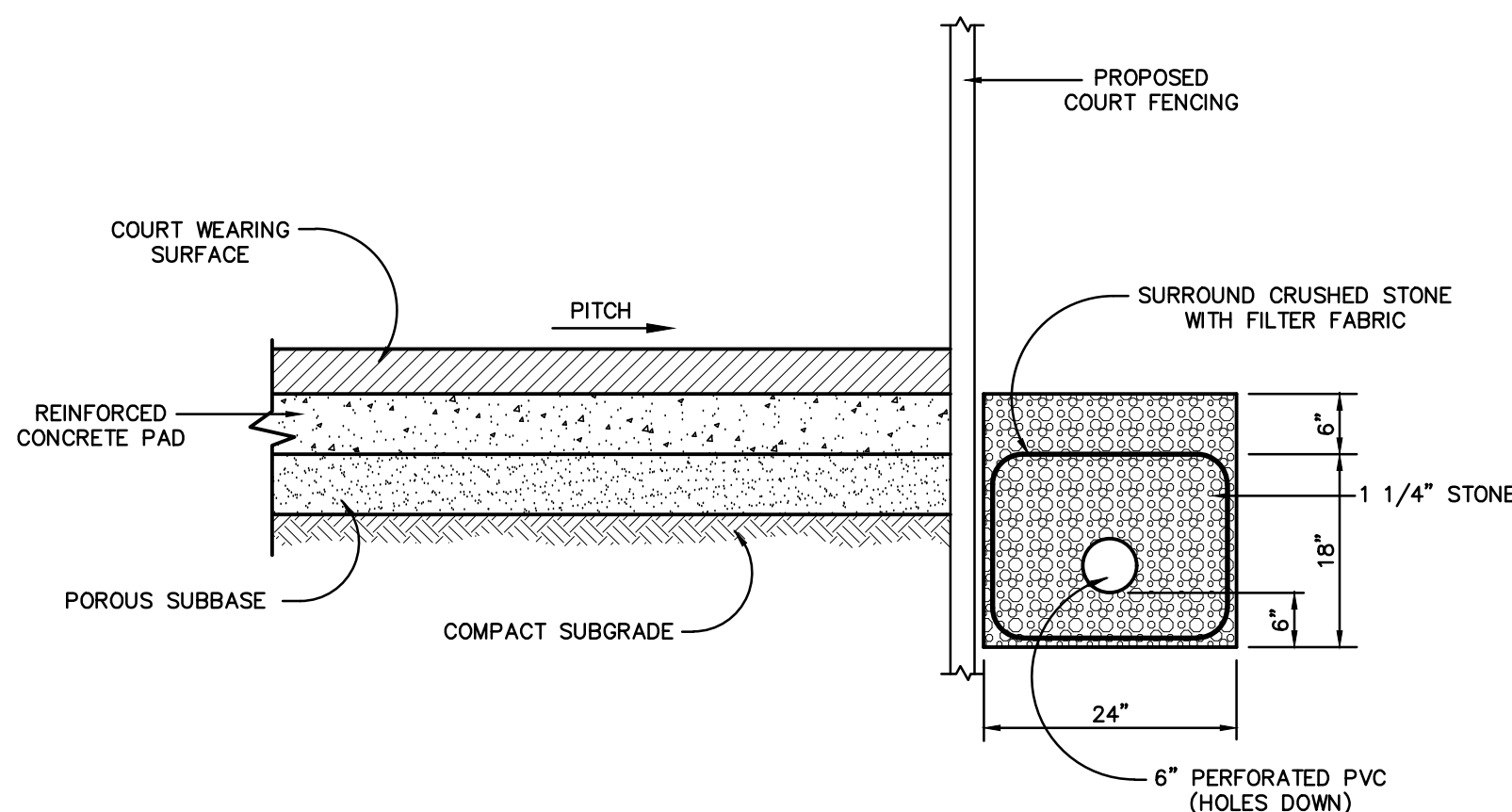
CONSTRUCTION SEQUENCE:

WORK SHALL COMMENCE IN THE SPRING OF 2024 AND IS ANTICIPATED TO TAKE APPROXIMATELY SIX 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.
3. FLAG AND/OR FENCE OFF ALL TREES TO BE PROTECTED.
4. CUT TREES TO BE REMOVED AND GRUB AREAS TO BE CLEARED WITHIN THE DEVELOPMENT ENVELOPE AS APPROPRIATE.
5. STRIP TOPSOIL WITHIN LIMITS OF DISTURBANCE AND STOCKPILE IN DESIGNATED AREA. SURROUND STOCKPILE WITH SILT FENCE AND SEED AND MULCH STOCKPILES TO CONTAIN SEDIMENTS.
6. ROUGH GRADE THE PROPOSED PICKLEBALL COURT AREA AND PREPARE THE SUBGRADE.
7. INSTALL THE UNDERGROUND DETENTION SYSTEM.
8. CONSTRUCT PICKLEBALL COURTS AND INSTALL PERIMETER DRAIN. CONNECT TO UNDERGROUND DETENTION SYSTEM.
9. FINISH GRADE AND SPREAD A MINIMUM OF 4" TOPSOIL OVER ALL DISTURBED AREAS. IMMEDIATELY SEED AND HAY ALL AREAS DESIGNATED AS LAWN.
10. RESTORE STONE DUST PATH AS REQUIRED.
11. REMOVE SOIL AND EROSION CONTROLS ONLY AFTER PERMANENT VEGETATION HAS BEEN ESTABLISHED.

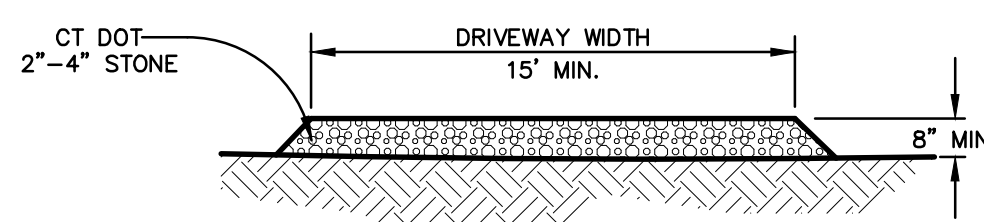


24" x 48" UNDERGROUND DETENTION SYSTEM GALLERY DETAIL
N.T.S.

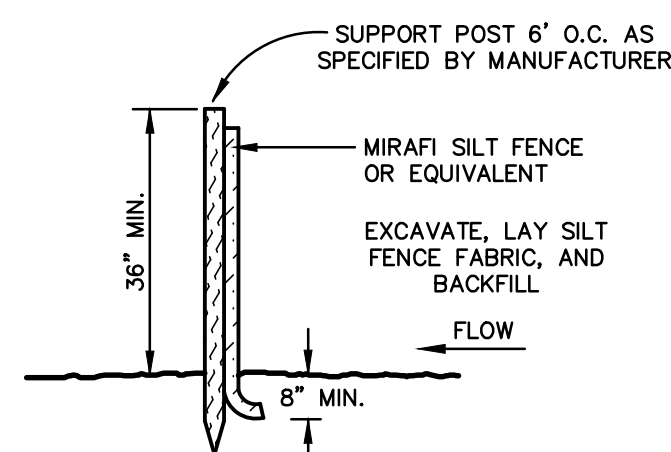


PERIMETER DRAIN DETAIL
N.T.S.

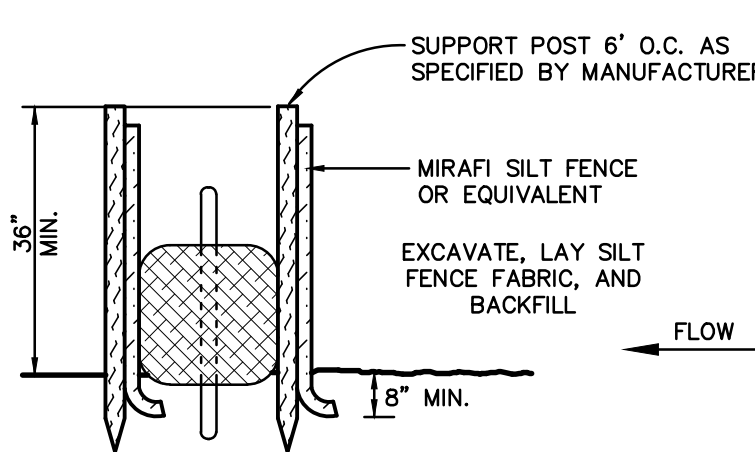
NOTE: COURT DESIGN AND FENCING BY OTHERS



CONSTRUCTION ENTRANCE DETAIL
N.T.S.



SILT FENCE DETAIL
N.T.S.

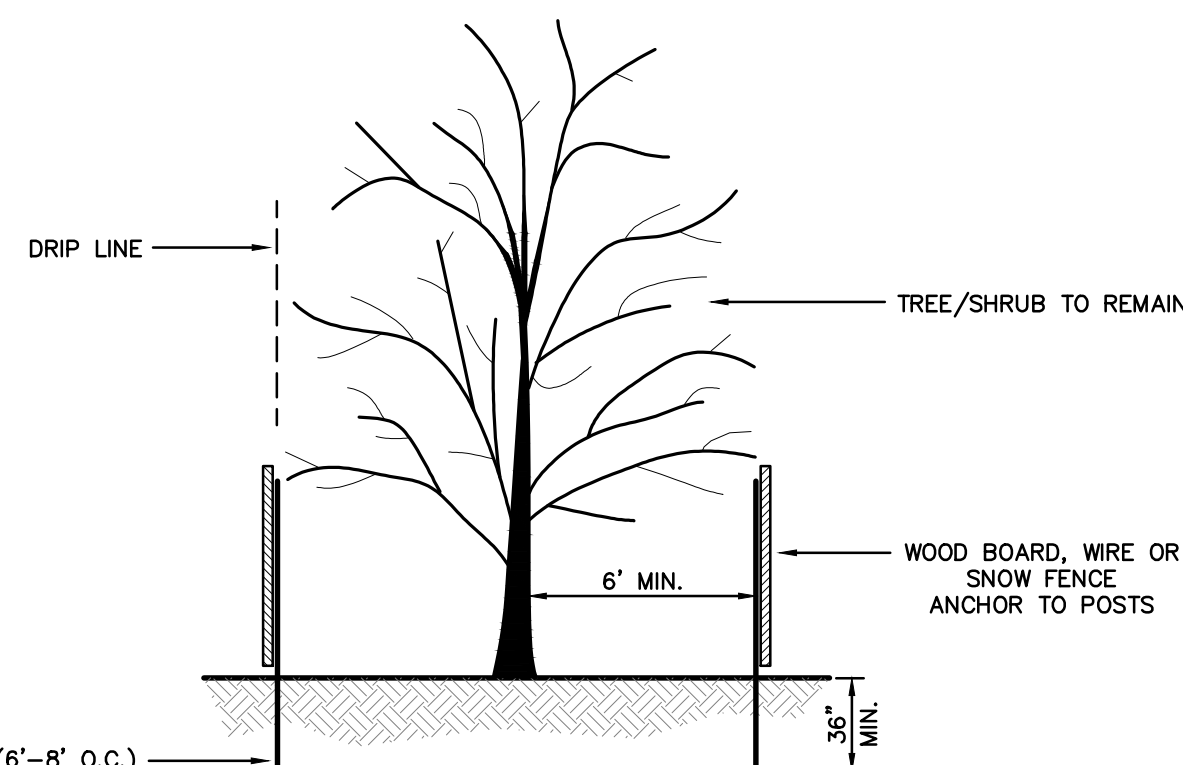


DOUBLE ROW SILT FENCE BACKED WITH STAKED HAYBALE DETAIL
N.T.S.

TEST RESULTS:

DEEP TEST 1	DEEP TEST 2		
0"- 6" TOPSOIL	0"- 6" TOPSOIL		
6"-36" LIGHT BROWN SILTY LOAM	6"-32" LIGHT BROWN SILTY LOAM		
36"-48" MODERATELY COMPACT SILTY LOAM	32"-60" WET SILTY LOAM		
NO GROUNDWATER	NO LEDGE		
LEDGE @ 48"	GROUNDWATER @ 32"		
DEEP TEST 3	PERCOLATION TEST A		
0"- 6" TOPSOIL	DEPTH: 25 1/2"		
6"-32" LIGHT BROWN SILTY LOAM	DIAMETER: 9"		
32"-58" WET SILTY LOAM	TIME	DEPTH	DROP
LEDGE @ 58"	3:35	6 1/2"	-
GROUNDWATER @ 32"	3:45	12"	5 1/8"
	3:55	14 7/8"	2 7/8"
	4:05	16 1/2"	1 5/8"
	4:15	17 3/4"	1 1/4"
	4:25	18 3/4"	1"
	4:35	19 3/4"	1"

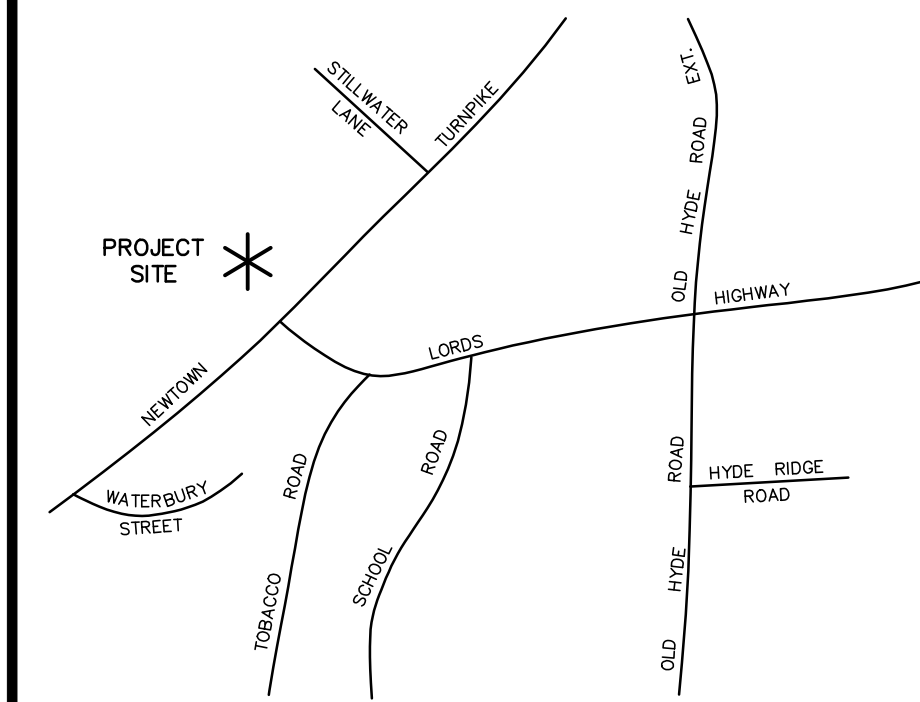
NOTE: DEEP TEST 1 THROUGH 3 WAS PERFORMED BY MCHORD ENGINEERING ASSOCIATES INC., ON DECEMBER 13, 2023, AND WITNESSED BY THE TOWN OF WESTON HEALTH DEPARTMENT. PERCOLATION TEST A WAS PERFORMED BY MCHORD ENGINEERING ASSOCIATES, INC. ON DECEMBER 19, 2023.



NOTES:

1. INSTALL TREE PROTECTION FENCE AT DRIP LINE OF VEGETATION TO REMAIN.
2. NO CONSTRUCTION, CONSTRUCTION EQUIPMENT OR STORAGE OF MATERIAL WILL BE ALLOWED INSIDE OF THE TREE PROTECTION FENCE.

TREE PROTECTION DETAIL
N.T.S.



SCALE: 1" = 1000'

Orientation

No.	Date	Revisions or Submissions
1	3-18-24	ISSUED FOR MUNICIPAL APPROVAL

THIS DRAWING AND DETAILS ON IT, AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF THE ENGINEER AND MAY BE USED FOR THIS SPECIFIC PROJECT AND SHALL NOT BE LOANED, COPIED OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.

McChord Engineering Associates, Inc.

Civil Engineers and Land Planners
1 Grumman Hill Road
Wilton, CT 06897 (203) 834-0569

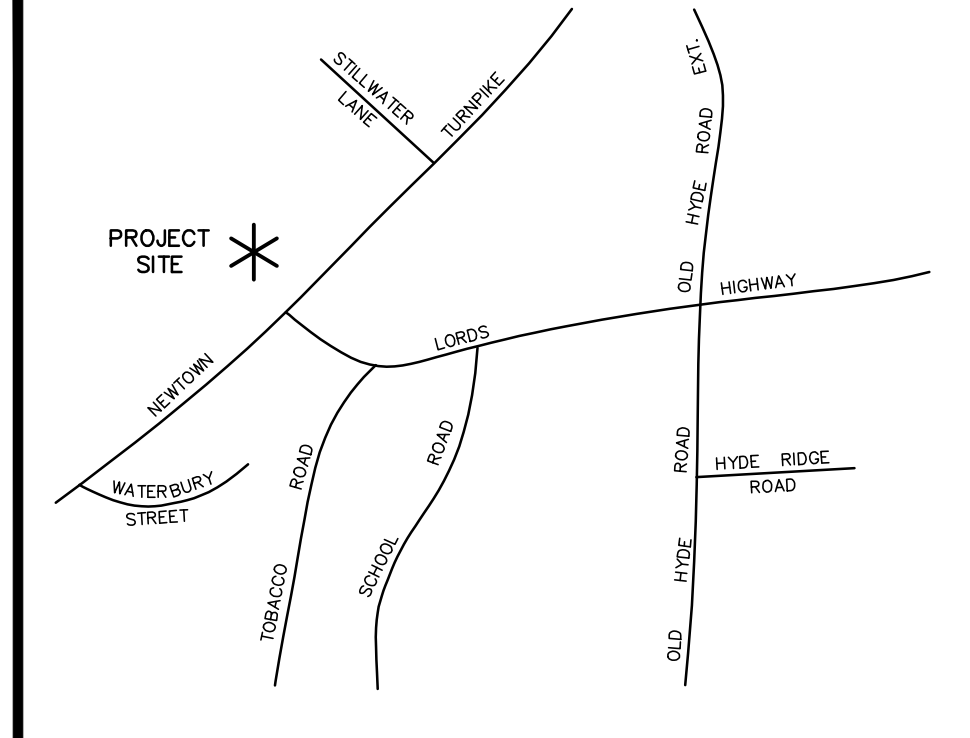
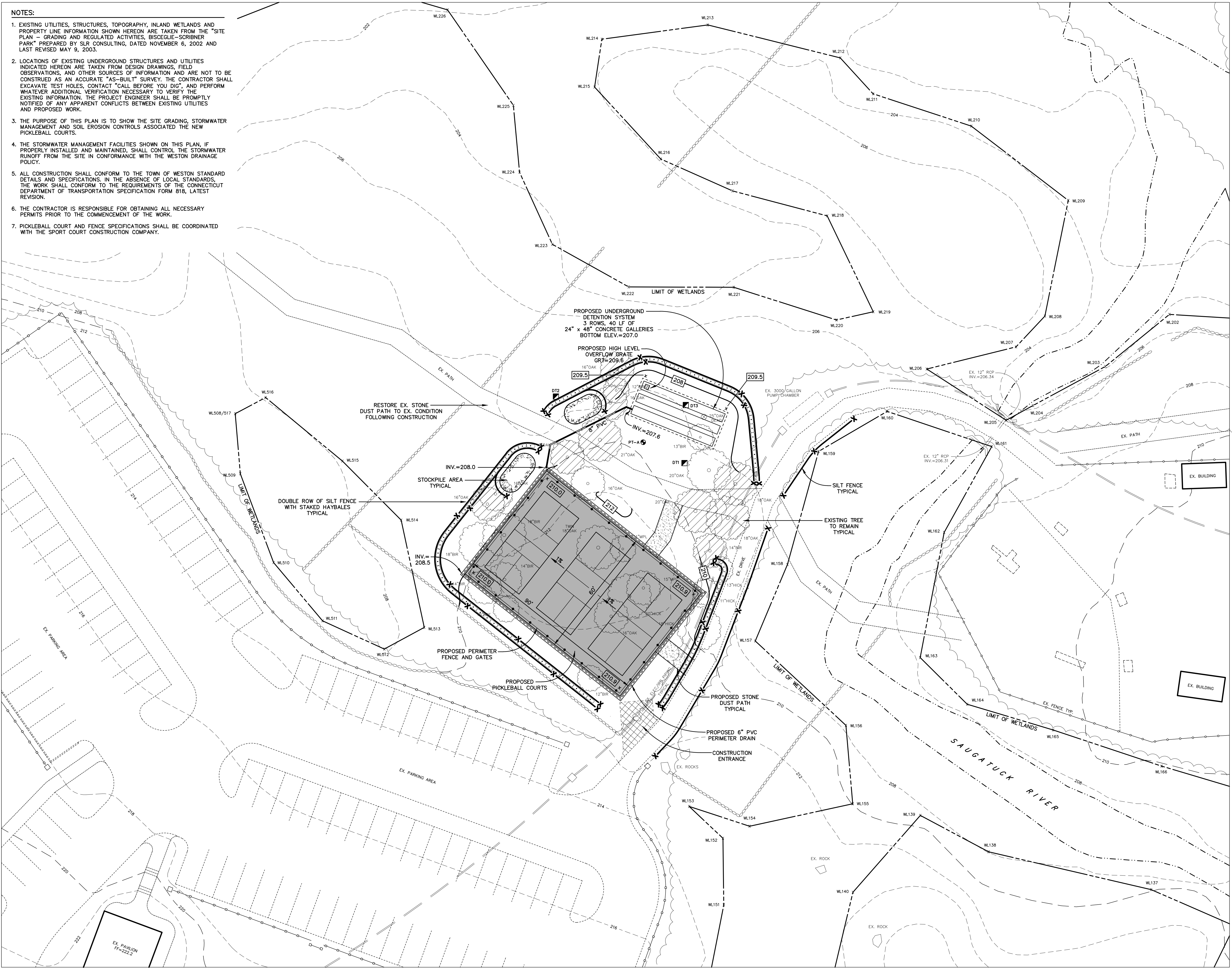
PLAN PREPARED FOR
TOWN OF WESTON
WESTON, CONNECTICUT

CONSTRUCTION NOTES AND DETAILS
PICKLEBALL COURTS, BISCEGLIE PARK
WESTON, CONNECTICUT

JOB NO.: 2332A-1 DATE: MARCH 18, 2024
DRAWN BY: DRS CHECKED BY: TSN, HMR
SCALE: AS SHOWN

SIGNATURE: DRAWING NO.: DT1

- NOTES:**
1. EXISTING UTILITIES, STRUCTURES, TOPOGRAPHY, INLAND WETLANDS AND PROPERTY LINE INFORMATION SHOWN HEREON ARE TAKEN FROM THE "SITE PLAN - GRADING AND REGULATED ACTIVITIES, BISCEGLIE SCRIBNER PARK" PREPARED BY SLR CONSULTING, DATED NOVEMBER 6, 2002 AND LAST REVISED MAY 9, 2003.
 2. 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.
 3. THE PURPOSE OF THIS PLAN IS TO SHOW THE SITE GRADING, STORMWATER MANAGEMENT AND SOIL EROSION CONTROLS ASSOCIATED THE NEW PICKLEBALL COURTS.
 4. THE STORMWATER MANAGEMENT FACILITIES SHOWN ON THIS PLAN, IF PROPERLY INSTALLED AND MAINTAINED, SHALL CONTROL THE STORMWATER RUNOFF FROM THE SITE IN CONFORMANCE WITH THE WESTON DRAINAGE POLICY.
 5. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN OF WESTON 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.
 6. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS PRIOR TO THE COMMENCEMENT OF THE WORK.
 7. PICKLEBALL COURT AND FENCE SPECIFICATIONS SHALL BE COORDINATED WITH THE SPORT COURT CONSTRUCTION COMPANY.

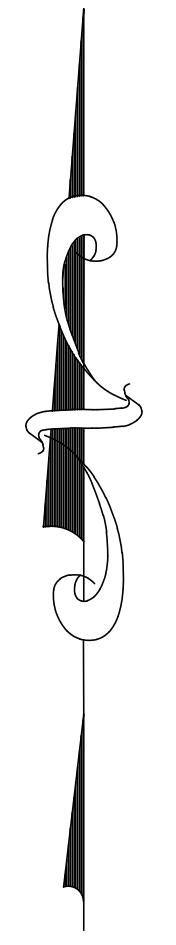


SCALE: 1" = 1000'

Orientation

No.	Date	Revisions or Submissions

1 3-18-24 ISSUED FOR MUNICIPAL APPROVAL



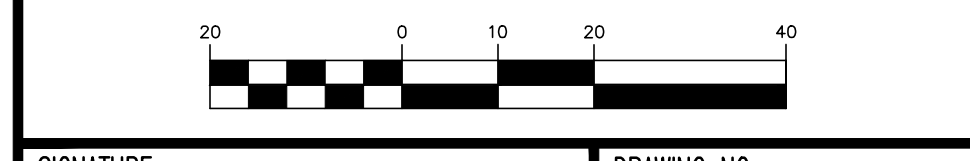
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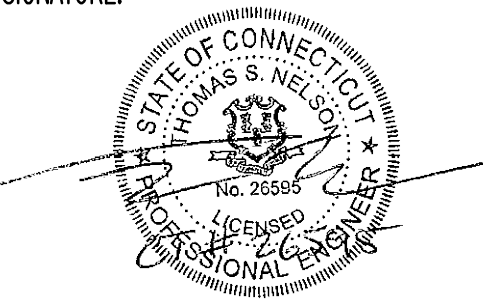
McChord Engineering Associates, Inc.
 Civil Engineers and Land Planners
 1 Grumman Hill Road
 Wilton, CT 06897 (203) 834-0569

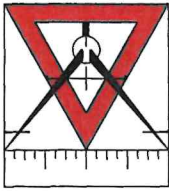
PLAN PREPARED FOR
TOWN OF WESTON
WESTON, CONNECTICUT

SITE DEVELOPMENT PLAN
PICKLEBALL COURTS, BISCEGLIE PARK
WESTON, CONNECTICUT

JOB NO.: 2332A-1 DATE: MARCH 18, 2024
 DRAWN BY: DRG CHECKED BY: TSN, HMR



SIGNATURE:  DRAWING NO.: **SE1**



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

BISCEGLIE PARK: PICKLEBALL COURTS

154 NEWTON TURNPIKE, WESTON, CT

March 18, 2024



TABLE OF CONTENTS

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Appendix C: Stormwater Facilities Maintenance Plan	

1. INTRODUCTION

McChord Engineering Associates, Inc. has been commissioned by the Town of Weston to perform stormwater management computations for the site development associated with proposed pickleball courts at Bisceglie Park, 154 Newtown Turnpike in Weston, Connecticut. The property consists of 53.62 acres and is located on the west 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.

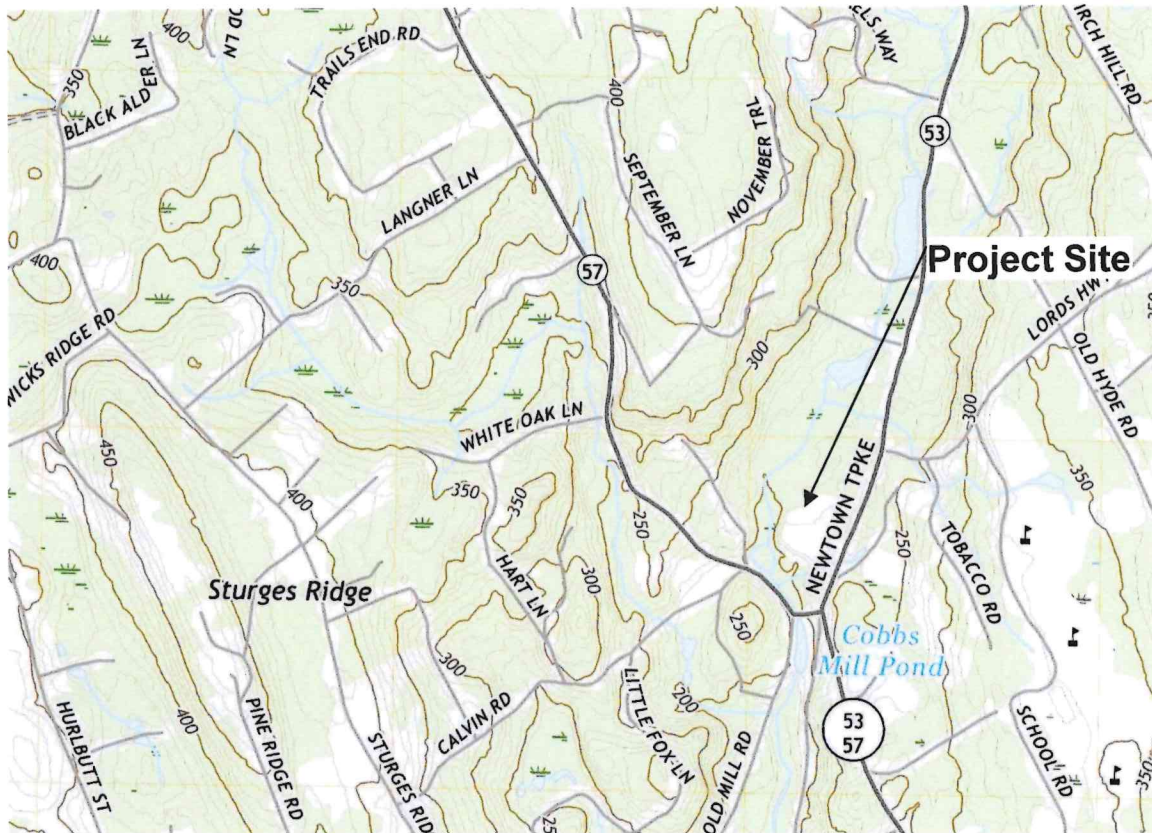


Figure 1: Location Map

The entire subject property is currently developed as a park with several sports fields, recreational facilities, and associated parking areas. The immediate project area is generally located in the center of the property and consists of woodland and wooded pathways. There are three inland wetlands pockets that surround the project area. The topography within the project area generally consists of gradual slopes that drain towards the inland wetland pockets.

The proposed development includes the construction of three (3) pickleball courts in an area that currently exists as woodland. Minor site grading is proposed to create a level playing surface for the courts. 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. There are no utility services proposed for the development.

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 project area is undeveloped and consists of woodland and pathways. Runoff is not captured and sheet flows through the woodland away from the project area to the inland wetlands.

The proposed stormwater management plan maintains existing drainage patterns on the site. Runoff from the proposed pickleball courts will be captured by a perimeter drain and conveyed to a proposed underground detention system. The proposed underground detention system consists of fifteen (15) units of 24" high x 48" wide x 96" long precast concrete galleries surrounded by crushed stone with a storage capacity of approximately 1,055 cubic feet. During typical storm events, stormwater will infiltrate into the underlying soils and there will be no surface discharge from the detention system. A high-level overflow grate will provide relief during extreme storm events. Runoff from the remainder of the project area will continue to sheet flow 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 "Site Development Plan" prepared by this office. A Stormwater Facilities Maintenance Plan is also included in Appendix C.

5. ANALYSIS & RESULTS

Runoff from the project was analyzed under existing and proposed conditions. The existing conditions analysis modeled the entire project area as a whole. The proposed conditions analysis divided the project area into areas that are detained by the detention system and undetained areas. The runoff that is not detained will sheet flow east through woodland 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 "Site Development Plan" prepared by this office, dated March 18, 2024. Soil testing, including deep and percolation tests, were performed on the property in the area of the underground detention system 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	0.10	822	0.09	704
10-year	0.50	2,636	0.42	2,181
25-year	0.83	4,088	0.69	3,351
50-year	1.10	5,269	0.94	4,421

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 system also accommodates the first 1" of runoff from the impervious surfaces that drain to it. The runoff from the initial 1" 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 system will adequately control the increase in runoff from the proposed pickleball courts at Bisceglie Park, 154 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 Study Area



Existing Conditions - Bisceglie Park

Prepared by McChord Engineering Associates, Inc.

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Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
23,770	55	Woods, Good, HSG B (E1)
1,230	85	Existing Asphalt Walkway (E1)
25,000		TOTAL AREA

Existing Conditions - Bisceglie Park

Prepared by McChord Engineering Associates, Inc.

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Type III 24-hr 50-yr Rainfall=7.47"

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Page 3

Summary for Subcatchment E1: Entire Study Area

Runoff = 1.10 cfs @ 12.30 hrs, Volume= 5,269 cf, Depth= 2.53"

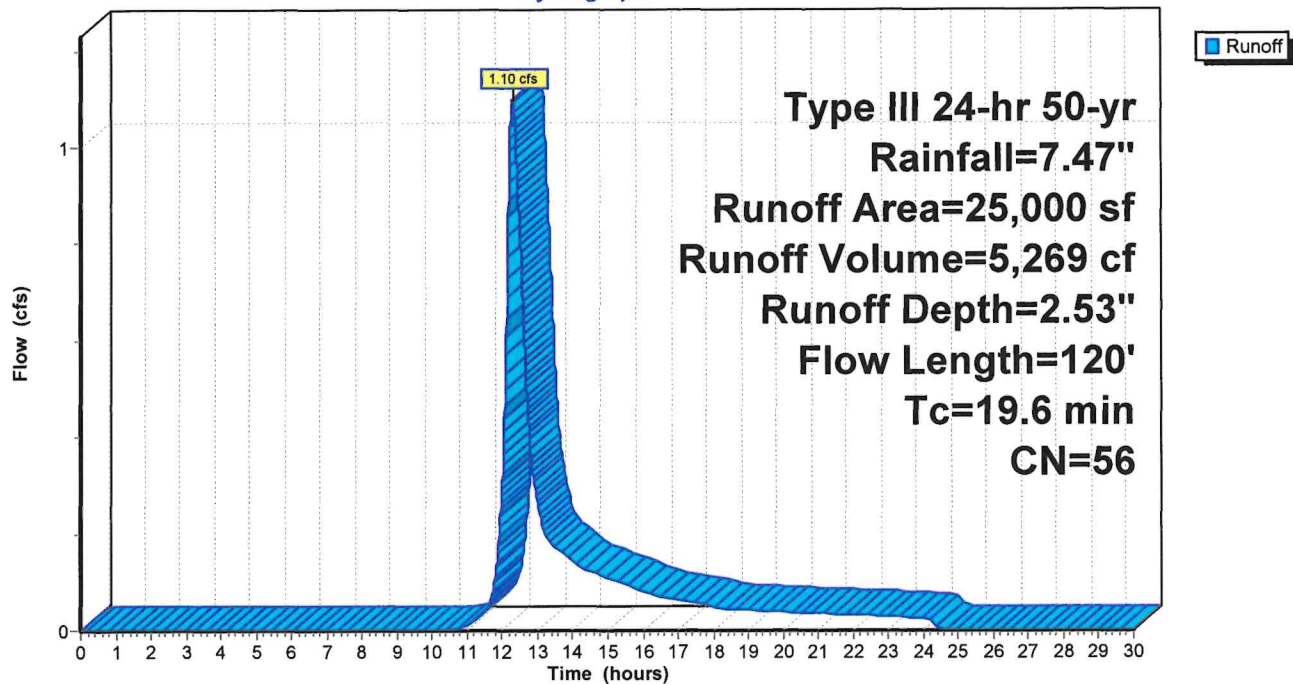
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-yr Rainfall=7.47"

	Area (sf)	CN	Description
*	1,230	85	Existing Asphalt Walkway
	23,770	55	Woods, Good, HSG B
	25,000	56	Weighted Average
	25,000		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	95	0.0310	0.10		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.45"
2.9	25	0.1700	0.14		Sheet Flow, BC Woods: Light underbrush n= 0.400 P2= 3.45"
19.6	120	Total			

Subcatchment E1: Entire Study Area

Hydrograph





Undetained Area



Sum Hydrograph



Detained Area



Underground Detention System



Proposed Conditions - Bisceglie Park

Type III 24-hr 50-yr Rainfall=7.47"

Prepared by McChord Engineering Associates, Inc.

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Stage-Area-Storage for Pond DET: Underground Detention System

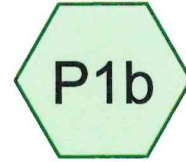
Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
206.50	756	0
206.55	756	15
206.60	756	30
206.65	756	45
206.70	756	60
206.75	756	76
206.80	756	91
206.85	756	106
206.90	756	121
206.95	756	136
207.00	756	151
207.05	756	177
207.10	756	202
207.15	756	227
207.20	756	252
207.25	756	278
207.30	756	303
207.35	756	328
207.40	756	354
207.45	756	379
207.50	756	404
207.55	756	430
207.60	756	455
207.65	756	480
207.70	756	505
207.75	756	531
207.80	756	556
207.85	756	581
207.90	756	607
207.95	756	632
208.00	756	657
208.05	756	683
208.10	756	708
208.15	756	733
208.20	756	758
208.25	756	784
208.30	756	809
208.35	756	834
208.40	756	860
208.45	756	885
208.50	756	910
208.55	756	936
208.60	756	960
208.65	756	983
208.70	756	1,005
208.75	756	1,027
208.80	756	1,033
208.85	756	1,038
208.90	756	1,044
208.95	756	1,050
209.00	756	1,055
209.05	756	1,070



Undetained Area



Sum Hydrograph



Detained Area



Underground Detention System



Proposed Conditions - Bisceglie Park

Prepared by McChord Engineering Associates, Inc.

Printed 3/18/2024

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Page 2

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
18,010	55	Woods, Good, HSG B (P1a)
1,230	85	Existing Stone Dust Path (P1a)
360	85	Proposed Stone Dust Paths (P1a)
5,400	98	Pickleball Courts (P1b)
25,000		TOTAL AREA

Proposed Conditions - Bisceglie Park

Prepared by McChord Engineering Associates, Inc.

HydroCAD® 8.50 s/n 004801 © 2007 HydroCAD Software Solutions LLC

Type III 24-hr 50-yr Rainfall=7.47"

Printed 3/18/2024

Page 3

Summary for Subcatchment P1a: Undetained Area

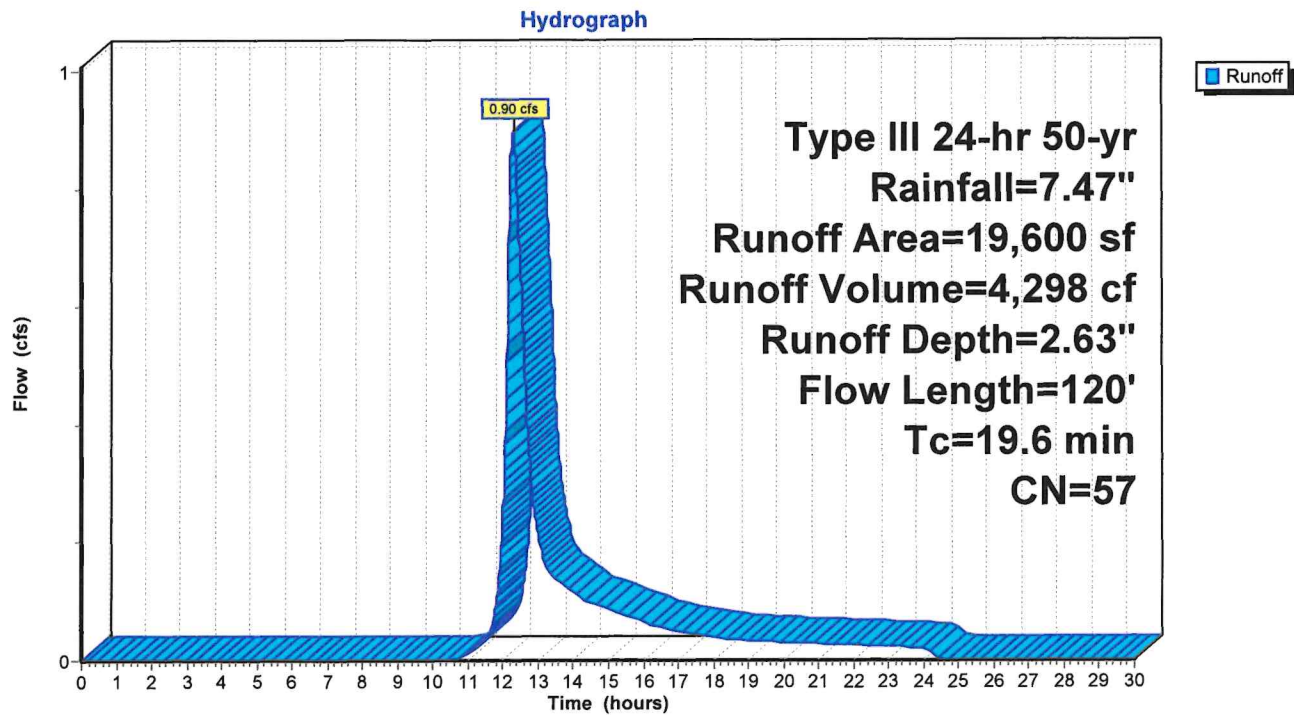
Runoff = 0.90 cfs @ 12.29 hrs, Volume= 4,298 cf, Depth= 2.63"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-yr Rainfall=7.47"

Area (sf)	CN	Description
* 1,230	85	Existing Stone Dust Path
* 360	85	Proposed Stone Dust Paths
18,010	55	Woods, Good, HSG B
19,600	57	Weighted Average
19,600		Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.7	95	0.0310	0.10		Sheet Flow, AB Woods: Light underbrush n= 0.400 P2= 3.45"
2.9	25	0.1700	0.14		Sheet Flow, BC Woods: Light underbrush n= 0.400 P2= 3.45"
19.6	120	Total			

Subcatchment P1a: Undetained Area



Proposed Conditions - Bisceglie Park

Type III 24-hr 50-yr Rainfall=7.47"

Prepared by McChord Engineering Associates, Inc.

Printed 3/18/2024

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Page 4

Summary for Subcatchment P1b: Detained Area

Runoff = 0.94 cfs @ 12.07 hrs, Volume= 3,254 cf, Depth= 7.23"

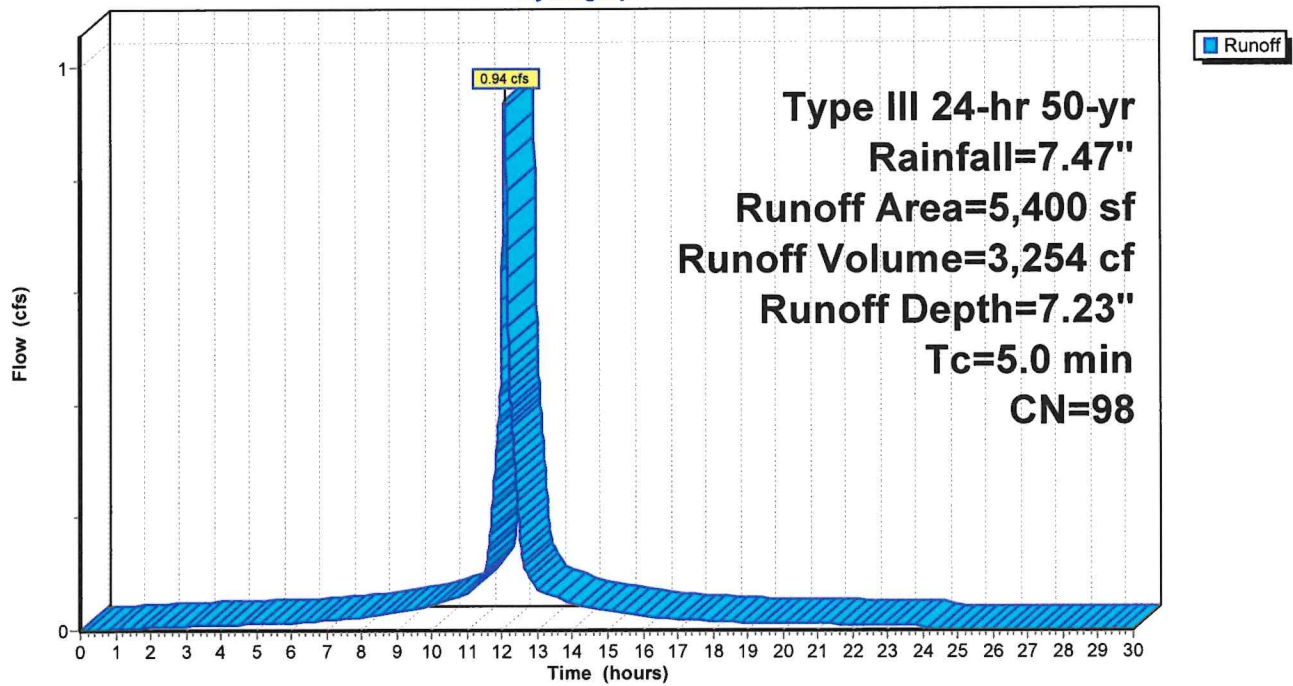
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-yr Rainfall=7.47"

Area (sf)	CN	Description
* 5,400	98	Pickleball Courts
5,400		Impervious Area

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

Subcatchment P1b: Detained Area

Hydrograph



Proposed Conditions - Bisceglie Park

Type III 24-hr 50-yr Rainfall=7.47"

Prepared by McChord Engineering Associates, Inc.

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Summary for Pond DET: Underground Detention System

Inflow Area = 5,400 sf, 100.00% Impervious, Inflow Depth = 7.23" for 50-yr event
 Inflow = 0.94 cfs @ 12.07 hrs, Volume= 3,254 cf
 Outflow = 0.24 cfs @ 12.42 hrs, Volume= 3,254 cf, Atten= 75%, Lag= 21.2 min
 Discarded = 0.07 cfs @ 11.13 hrs, Volume= 3,131 cf
 Primary = 0.17 cfs @ 12.42 hrs, Volume= 123 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 209.03' @ 12.42 hrs Surf.Area= 756 sf Storage= 1,065 cf

Plug-Flow detention time= 101.8 min calculated for 3,254 cf (100% of inflow)
 Center-of-Mass det. time= 101.8 min (843.0 - 741.2)

Volume	Invert	Avail.Storage	Storage Description
#1	206.50'	391 cf	6.00'W x 42.00'L x 2.55'H Gravel Bed x 3 1,928 cf Overall - 950 cf Embedded = 977 cf x 40.0% Voids
#2	207.00'	680 cf	48.0"W x 24.0"H x 40.00'L Galley 4x8x2 x 3 Inside #1
		1,070 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	206.50'	4.000 in/hr Exfiltration over Surface area
#2	Primary	209.00'	2.00' x 2.00' Horiz. H.L.O Grate Limited to weir flow C= 0.600

Discarded OutFlow Max=0.07 cfs @ 11.13 hrs HW=206.53' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.16 cfs @ 12.42 hrs HW=209.03' (Free Discharge)
 ↑2=H.L.O Grate (Weir Controls 0.16 cfs @ 0.60 fps)

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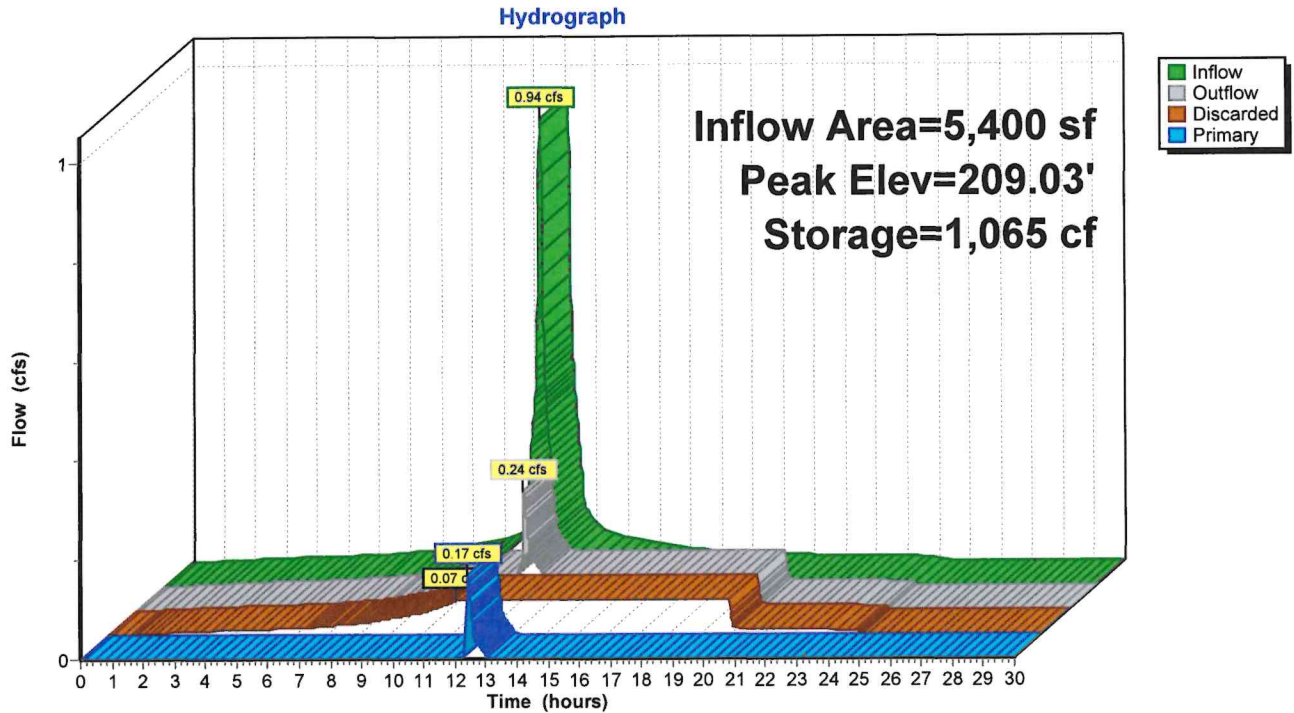
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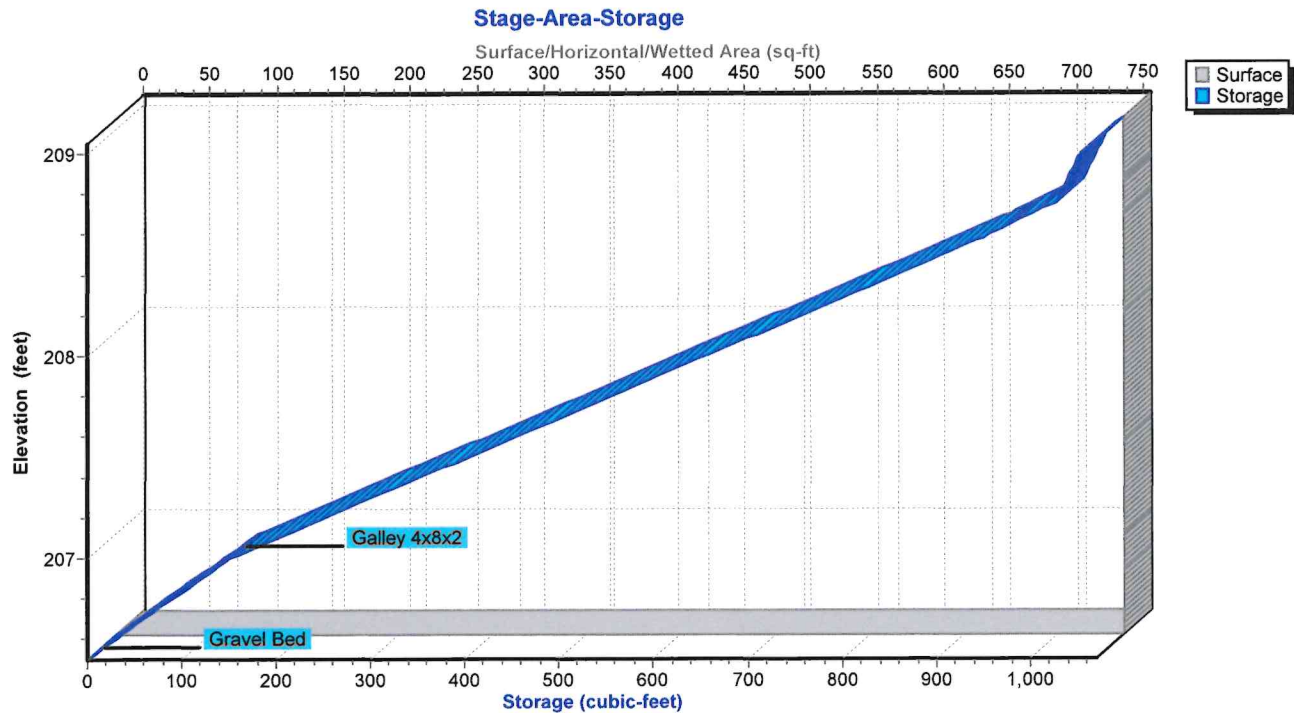
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Pond DET: Underground Detention System



Pond DET: Underground Detention System



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Type III 24-hr 50-yr Rainfall=7.47"

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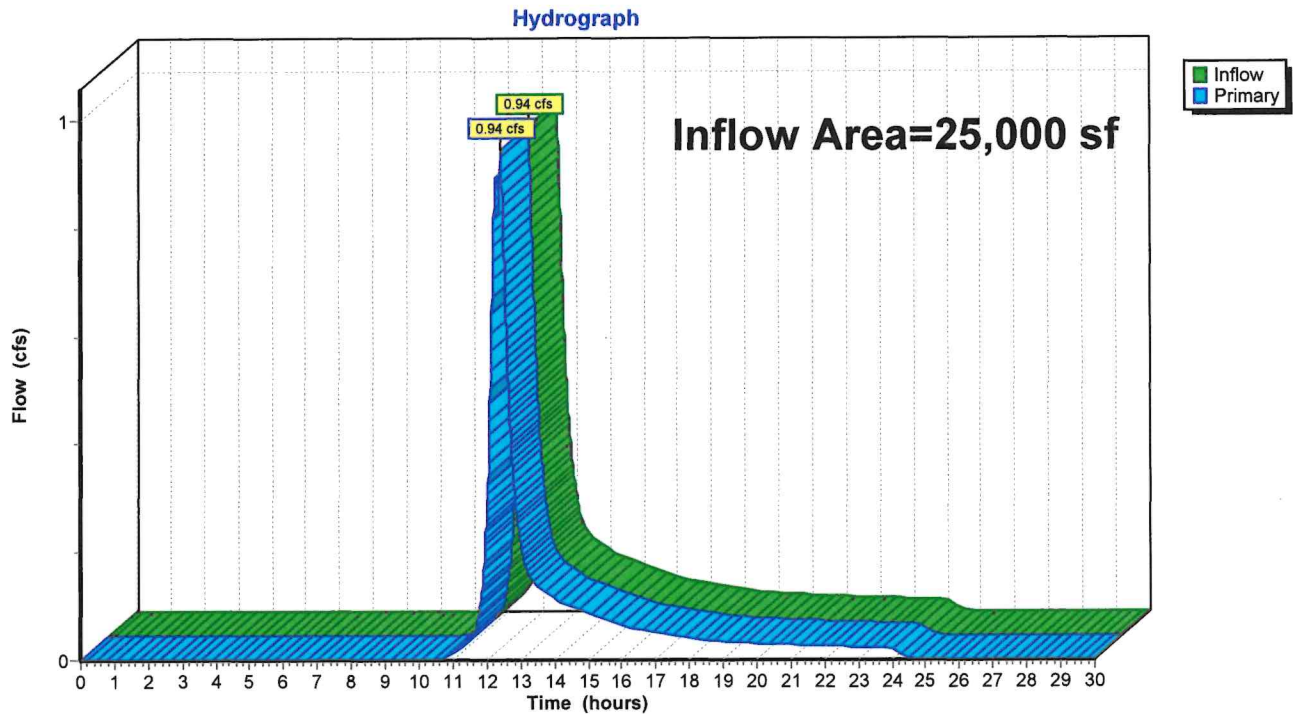
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Summary for Link SUM: Sum Hydrograph

Inflow Area = 25,000 sf, 21.60% Impervious, Inflow Depth = 2.12" for 50-yr event
Inflow = 0.94 cfs @ 12.41 hrs, Volume= 4,421 cf
Primary = 0.94 cfs @ 12.41 hrs, Volume= 4,421 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Link SUM: Sum Hydrograph



APPENDIX B:
WATER QUALITY VOLUME COMPUTATIONS

Water Quality Volume Computation
 Bisceglie Park, 154 Newtown Turnpike, Weston, CT

AREAS TO BE CAPTURED					
Location		Area, (ft ²)			
Proposed Pickleball Courts		5,400			
Location	A Area (ft ²)	Imperv. Area (ft ²)	I % Imperv.	R Runoff Coeff.	WQV (ft ³)
Proposed Development	5,400	5,400	100.0	0.950	428

Location	System Description	Volume Provided Below Overflow Grate (ft ³)
Underground Detention System	Fifteen (15) 24"x48"x96" Precast Concrete Galleries	1,055

$$WQV = \frac{(1')(R)(A)}{12}$$

- where:
- WQV = water quality volume (ac-ft)
 - R = volumetric runoff coefficient
= $0.05 + 0.009(I)$
 - I = percent impervious cover
 - A = site area in acres

Proposed Conditions - Bisceglie Park

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Stage-Area-Storage for Pond DET: Underground Detention System

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
206.50	756	0
206.55	756	15
206.60	756	30
206.65	756	45
206.70	756	60
206.75	756	76
206.80	756	91
206.85	756	106
206.90	756	121
206.95	756	136
207.00	756	151
207.05	756	177
207.10	756	202
207.15	756	227
207.20	756	252
207.25	756	278
207.30	756	303
207.35	756	328
207.40	756	354
207.45	756	379
207.50	756	404
207.55	756	430
207.60	756	455
207.65	756	480
207.70	756	505
207.75	756	531
207.80	756	556
207.85	756	581
207.90	756	607
207.95	756	632
208.00	756	657
208.05	756	683
208.10	756	708
208.15	756	733
208.20	756	758
208.25	756	784
208.30	756	809
208.35	756	834
208.40	756	860
208.45	756	885
208.50	756	910
208.55	756	936
208.60	756	960
208.65	756	983
208.70	756	1,005
208.75	756	1,027
208.80	756	1,033
208.85	756	1,038
208.90	756	1,044
208.95	756	1,050
209.00	756	1,055
209.05	756	1,070

APPENDIX C:

STORMWATER FACILITIES MAINTENANCE PLAN

Stormwater Facilities Maintenance Plan
Bisceglie Park Pickleball Courts
154 Newtown Turnpike, Weston, CT

Scope:

The purpose of the Stormwater Facilities Maintenance Plan is to ensure that the proposed stormwater components installed for the Pickleball Courts at Bisceglie Park 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 and the runoff from the site in order to minimize adverse impacts to any downstream drainage systems, inland wetlands or adjoining properties. A description of the stormwater facilities are as follows:

1. **Underground Detention System:** The underground detention system consists of a series of concrete galleries which provide storage volume for stormwater runoff. Stormwater in the underground detention system is designed to infiltrate into the underlying soils. The detention chambers are designed to overflow from a grate at ground surface.

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 specialized equipment is required. Specific service procedures for the stormwater facilities are as follows:

1. **Underground Detention Galleries:** Functionality of the underground detention galleries ultimately depends on keeping sediment and debris out of the galleries. This is accomplished through proper maintenance of drains. These components should be maintained as described above, but more frequent maintenance may be required if excessive accumulation of debris is observed. Debris should be removed from the overflow grate during the spring and fall service inspections.