**FINAL SITE PLAN**
**SPECIAL PERMIT PLPZ 202100470**

<table>
<thead>
<tr>
<th>8 Fox Run Lane</th>
<th>Single family development in excess of 150,000 cubic feet in building volume</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LOCATION:</strong></td>
<td>8 Fox Run Lane</td>
</tr>
<tr>
<td><strong>ZONE:</strong></td>
<td>RA-2</td>
</tr>
<tr>
<td><strong>PARCEL SIZE:</strong></td>
<td>5.4 acres</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROPOSED</th>
<th>PERMITTED/REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROSS SQ FT:</strong></td>
<td>10,105 sq. ft.</td>
</tr>
<tr>
<td></td>
<td>21,260 sq. ft.</td>
</tr>
<tr>
<td><strong>FAR:</strong></td>
<td>0.043</td>
</tr>
<tr>
<td></td>
<td>0.09</td>
</tr>
<tr>
<td><strong>VOLUME:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Over 150,000 cu. ft.</td>
</tr>
<tr>
<td><strong>GREEN AREA:</strong></td>
<td>89 %</td>
</tr>
<tr>
<td></td>
<td>78%</td>
</tr>
<tr>
<td><strong>FRONT SETBACK</strong></td>
<td>99.9’</td>
</tr>
<tr>
<td><strong>REAR SETBACK</strong></td>
<td>75’</td>
</tr>
<tr>
<td><strong>SIDEYARD SETBACKS</strong></td>
<td>50.1’ / 207’</td>
</tr>
<tr>
<td><strong>SETBACKS for accessory structures in rear yards</strong></td>
<td>25’</td>
</tr>
<tr>
<td></td>
<td>25’ (SIDE) / 25’ (REAR)</td>
</tr>
<tr>
<td><strong>HEIGHT</strong></td>
<td>3.5 stories</td>
</tr>
<tr>
<td></td>
<td>47.5’</td>
</tr>
</tbody>
</table>

**APPLICATION SUMMARY:**
The applicant is requesting final site plan and special permit approval, pursuant to Sections 6-5, 6-13 to 6-17, 6-93, 6-101, and 6-205 of the Building Zone Regulations to demolish the existing dwelling and construct a new single family dwelling in excess of 150,000 cu. ft. in volume on a property located at 8 Fox Run Lane in the RA-2 zone. The 10,105 sq. ft. single family development is proposed which includes a driveway, tennis court, in-ground swimming pool, pool house, walks, patios, septic system, storm water detention system and associated landscaping and grading, resulting in an on-site volume over 150,000 cu. ft.

**ISSUES/COMMENTS:**
1. Architectural plans submitted include elevations, floor plans and window schedule. FAR plans nor volume plans were included. Staff has asked applicant to address this prior to the briefing meeting.
2. **Zoning** - Zoning Enforcement issued comments dated 12-16-21 indicating that the project meets applicable Building Zone Regulations.
3. **DPW Engineering** – DPW comments dated 12-14-21 indicate acceptance of the drainage summary report and plans for the project, specifically indicate the project is “Approved for Zoning/Building permit”.

4. **Health / septic** – Comments dated 11-8-21 indicate Health has reviewed the proposal and approved the centralized septic system.

5. **Inland Wetlands** – The Inland Wetlands Agency issued a permit, 2021-76, for the new house development.

6. **Conservation** – Comments have not been submitted yet.

**DEPARTMENT COMMENTS**

Zoning Enforcement- Attached  
Engineering – Attached  
Health – Attached  
Conservation- Not yet received

**EXISTING CONDITIONS**

Fox Run Lane is indicated as a private road within the RA-2 zone. 8 Fox Run Lane (Lot 8R) is located on the west side of the street and was previously improved with a single family dwelling, driveway, pool, pool houses, two detached garages, retaining walls and a septic system.

There are inland wetlands present on site and those have been delineated in the field and shown on the plan. The property is served by Aquarion water, but a private sewage disposal system.

Final Subdivision 739 was approved in 1978 and Map 5361 associated with this subdivision was filed on the Greenwich Land Records at that time. A preliminary subdivision 714 preceded this final approval, along with subdivision 77.2.

Final Subdivision #202100078 was recently approved for conveyance of land between 8 and 14 Fox Run Lane resulting in the subject property being reduced from 5.9229 to 5.4229 acres in size.

**PROPOSAL**

Proposed development results in an overall floor area of 10,105 sq. ft. which includes a driveway, tennis court, in-ground swimming pool, pool house, walks, patios, septic system, storm water detention system and associated landscaping and grading. Associated HVAC includes A/C units, a generator and pool equipment. Proposed cut volume is approximately 3015 cu. yd. and fill, 5335 cu. yd. Proposed green area is shown as 89% where 78% is the minimum. Approximately 33 upland trees are shown to be removed.

Architectural plans submitted include elevations, floor plans and window schedule. FAR plans nor volume plans were included. Staff has asked applicant to supply those prior to the briefing meeting.

The Storm water detention plan and report details the use of various systems including permeable pavement and underground infiltration systems. The report indicates that the plan is designed to
retain and infiltrate the Water Quality volume while providing peak runoff attenuation. Level spreaders are included as overflow systems.

DPW has reviewed the plans and issued approval of the project for Zoning/Building permit per comments dated 12-14-21.

Sedimentation and erosion control plans are included in the development plans. It is noted that because inland wetlands are present on site, jurisdiction over S+E’s falls to them. The Sedimentation and Soil Erosion Control plan shows silt fencing encompassing the development with double rows indicated in areas of significant slopes or areas that will be subject to filling or grading. Construction fencing will be placed around the locations of the septic and retention systems to prevent compaction of soil. Anti-tracking pads are shown at the two points of construction entrance off of Fox Run Lane. Tree protection is proposed for approx. 15 trees all within the eastern area of the property where construction vehicles will be entering. Two stockpile areas are shown and will be wrung with silt fencing.

**SPECIAL PERMIT CONSIDERATIONS:**
This proposal is subject to site plan and special permit review because the total proposed building volume exceeds 150,000 cubic feet per Section 6-101(a). Under Section 6-17, the Commission has to decide, among other things, if the proposal is in scale with and compatible with surrounding uses.

**APPLICABLE REGULATIONS:**
BZR Sections: Sections 6-5, 6-13 to 6-17, 6-93, 6-101, and 6-205
DEPARTMENT OF PUBLIC WORKS – ENGINEERING DIVISION
SITE DEVELOPMENT REVIEW

Engineering Project No. 21-5(64)  Department Project No. PLPZ202100470  Submittal Received Date: 11/1/2021

Submittal Reviewed For:  Planning and Zoning  Traffic Review Requested: No  Review Type: Final Site Plan

PLAN SET INFORMATION

Plan Title: Final Site Plan Review Set  Project Address: 8 Fox Run Lane

Engineering Firm: Rocco V. D'Andrea, Inc.  Original Plan Date: 3/17/2021  Latest Plan Revision Date: 8/27/2021

DRAINAGE SUMMARY REPORT INFORMATION

Engineering Firm: Rocco V. D'Andrea, Inc.  Original Report Date: 3/17/2021  Latest Report Revision Date: 8/27/2021

Reviews provided by the Engineering Division are for compliance with the Town’s “Roadway Design Manual and Standard Construction Details” and “Drainage Manual” as amended. Reviews are based upon the information and plans provided. Comments pertaining to the Town’s manuals are not all encompassing. Other reviewing entities may provide additional comments regarding consistency with these manuals in accordance with their jurisdictions. Review of sanitary sewer and septic systems are not reviewed by the Engineering Division.

All New Submittals for Commission Meetings must be received by the Engineering Division four weeks before scheduled Commission Meeting.

All Revised Submittals for Commission Meetings must be received by the Engineering Division three weeks before scheduled Commission Meeting.

Reviewed and Approved by: Juan Paredes, P.E. - Civil Engineer II  Date: 12/14/2021

COMMENTS AND CONDITIONS OF APPROVAL: Approved for Zoning/Building Permit

1. The Drainage Summary Report is acceptable.
2. The Operations and Maintenance Plan Report must include the following for the Certificate of Occupancy:
   b. The final completed Exhibit A, and B
   c. The Maintenance Declaration needs to be filed on the Town of Greenwich Land Records prior to a Certificate of Occupancy. A review of the documents above must be completed before filing on the Town of Greenwich Land Records.
3. The Town of Greenwich – Standard Construction Notes for Site and Subdivision Plans are conditions that must be met.
4. All requests for a Temporary Certificate of Occupancy (T.C.O.) or a Certificate of Occupancy (C.O.) shall be submitted one month before the T.C.O. or C.O. is required.
5. The submittal for a Temporary or Final Certificate of Occupancy must include the following:
c. Field Inspection Record (All required photos) – Form SC-106 – Sealed and Signed by a Connecticut Licensed Professional Engineer.

d. Bioretention Soil Testing Certification Sign-Off (as applicable with the bioretention soil gradation test and the phosphorous test for the mixed soil) – Form SC-104 – Sealed and Signed by a Connecticut Licensed Professional Engineer.


h. A Letter discussing all the work that remains to be completed (Only for a Temporary Certificate of Occupancy Submittal).
ZONING ENFORCEMENT

Project No. PLPZ202100470

Reviewed for Planning and Zoning Commission.

TITLE OF PLAN REVIEWED: Yorke

LOCATION: 8 Fox Run Lane

PLAN DATE:  

ZONE: RA-2

☐ Ok for Zoning Permit Sign-off with the following revisions:

☐ Resubmit the following prior to Site Plan/ Subdivision approval:

☒ The subject site plan/subdivision meets the requirements of the Building Zone Regulations, excluding sections 6-15 and 6-17, and is Ok for Zoning Permit Sign-off.

Reviewed by: Jodi Couture  
Date: 12/16/2021

Note: These comments do not represent Building Inspection Division approval. Plans subject to review by ZEO at time of building permit application.
The proposed development will be supplied by the public water system and a private sewage disposal system. This office approved a centralized septic system to serve a 6 bedroom main house and a 2 bedroom pool house. Based on this the Health Department has no issues with the proposed project.

Michael Long
Greenwich Health Department

Hello all,

Please see the attached routing sheet and link to new application for 8 Fox Run Lane.

https://greenwichct-my.sharepoint.com/:f:/g/personal/katie_deluca_greenwichct_org/EgZUMZaJTFl9Jbp59swP0BIrfkAdvsWf9C9JeksdYiMQ?e=1flUnk

This is tentatively scheduled for a meeting in December,

Thank you,

Bianca Dygert
Planner II

Town of Greenwich
Land Use - Planning & Zoning
101 Field Point Road
Greenwich, CT 06830-6463
Ph. (203) 622-7894
Office Fax. (203) 622-3795
Direct Fax. (203) 861-6113
Bianca.Dygert@greenwichct.org

www.greenwichct.gov
April 27, 2021

Anthony D’Andrea
Rocco V. D’Andrea, Inc.
6 Neil Lane
Riverside, CT 06878

RE: Jennifer Yorke, record owner, Application PLPZ202100078, for a final re-subdivision, pursuant to Section 6-258, 6-260, 6-261, 6-266, 6-271, 6-296, 6-297, and 6-302 of the Town of Greenwich Subdivision Regulations (GSR), and Section 6-205 of the Building Zone Regulations (BZR), to convey ½ acre (or 21,780 sq. ft.) of land area between two properties, 8 and 14 Fox Run Lane, where 8 Fox Run Lane (Lot 8R) decreases in size from 5.9229 acres to 5.4229 acres and 14 Fox Run Lane (Lot 1R) increases in size from 2.0 acres to 2.5 acres in the RA-2 zone.

Dear Mr. D’Andrea:

At a regular meeting held on April 13, 2021, the Planning and Zoning Commission considered the above referenced application and took the following action:

Upon a motion to find the proposal neither a subdivision nor re-subdivision, made by Mr. Macri and seconded by Mr. Levy, the following resolution was unanimously adopted. (Voting in favor of this item: Alban, Macri, Levy, Hardman and Yeskey).

WHEREAS the Commission held a public hearing on April 13, 2021 and took all testimony required by law; and

WHEREAS a final re-subdivision was submitted to convey ½ acre (or 21,780 sq. ft.) of land area between two properties, 8 and 14 Fox Run Lane, where 8 Fox Run Lane (Lot 8R) decreases in size from 5.9229 acres to 5.4229 acres and 14 Fox Run Lane (Lot 1R) increases in size from 2.0 acres to 2.5 acres in the RA-2 zone; and
WHEREAS the Commission finds that this final re-subdivision is subject to Section 6-258, 6-260, 6-261, 6-266, 6-271, 6-296, 6-297, and 6-302 of the Town of Greenwich Subdivision Regulations (GSR), and Section 6-205 of the Building Zone Regulations (BZR); and

WHEREAS the properties, 8 Fox Run Lane (Lot 8R) and 14 Fox Run Lane (Lot 1R), are located within the RA-2 zone; and

WHEREAS the total land area is 7.9229 acres, with 8 Fox Run comprised of 5.9229 acres and 14 Fox Run comprised of 2 acres; and

WHEREAS there are inland wetlands present on both parcels, delineated in the field and shown on the subdivision plan; and

WHEREAS 8 Fox Run is improved with a single family dwelling, driveway, pool, pool houses, two detached garages, retaining walls and a septic system; and

WHEREAS the application narrative indicates that the existing septic system for No. 8 is located to the east of the house; and

WHEREAS 14 Fox Run, or Lot 1R, is a vacant parcel that has never been improved with a dwelling; and

WHEREAS there is a water service line that bisects the 14 Fox Run Lane property which services an abutting property; and

WHEREAS the sites are serviced by Aquarion water but are not on the Town Sewer line; and

WHEREAS the deed history for 8 Fox Run shows that the lot has existed in the 5.9229-acre configuration since 1929 after a series of conveyances; and

WHEREAS 14 Fox Run is shown as Lot 1 on Map 5361 which was recorded on the GLR as part of a 9.42-acre 4-lot subdivision of the Estate of Ilene Cake; and

WHEREAS Final Subdivision 739 was approved in 1978 and Map 5361 associated with this subdivision was filed on the Greenwich Land Records at that time; and

WHEREAS the pool, pool house, and garages, which are accessory to the No. 8 dwelling, shall be demolished prior to the lot line revision, as they will encroach onto the No. 14 property; and

WHEREAS Zoning comments dated 04.01.21 indicate that the FAR for the existing house must remain compliant after the proposed reduction of Lot 8R; and

WHEREAS Health issued a memo dated 04.09.21 indicating approval of a septic system for 8 Fox Run Lane; and
WHEREAS Engineering issued comments dated 04.06.21 indicating endorsement of the proposal with requirements for the subdivision map and sight distance compliance; and

WHEREAS Conservation issued comments dated 04.05.21 indicating no issues with the proposal; and

WHEREAS the Applicant shall address any and all remaining staff or interdepartmental issues including submittal of a permit questionnaire form to Inland Wetlands; and

WHEREAS the applicant shall provide evidence per section 6-205 that the FAR for the existing house is compliant after the proposed reduction of Lot 8R; and

THEREFORE, BE IT RESOLVED, the applications of Anthony D’Andrea, authorized agent, for Jennifer Yorke, record owner, for a final re-subdivision, pursuant to Section 6-258,6-260,6-261,6-266,6-271,6-296,6-297, and 6-302 of the Town of Greenwich Subdivision Regulations (GSR), and Section 6-205 of the Building Zone Regulations (BZR), to convey ½ acre (or 21,780 sq. ft.) of land area between two properties, 8 and 14 Fox Run Lane, where 8 Fox Run Lane (Lot 8R) decreases in size from 5.9229 acres to 5.4229 acres and 14 Fox Run Lane (Lot 1R) increases in size from 2.0 acres to 2.5 acres in the RA-2 zone, is hereby determined to be neither a subdivision nor re-subdivision.

The applicant should be aware that the finding that this application does not represent a subdivision nor resubdivision does not guarantee the ability to develop the lots, which are still subject to normal review and approval of all applicable agencies, which may include, but are not limited to, the following: the Inland Wetlands and Watercourses Agency, Building Department, Zoning Enforcement, DPW Highway, Engineering and Sewer Divisions, Health Department, Planning and Zoning, and others as may apply.

In response to the Planning and Zoning decision, the applicant shall provide confirmation of the following:

1. Confirm per section 6-205 that the FAR for the existing house is compliant after the proposed reduction of Lot 8R.
2. The pool, pool house, and garages, which are accessory to the No. 8 dwelling, shall be demolished prior to the lot line revision, as they will encroach onto the No. 14 property.

Prior to the submission of a mylar for endorsement from the Chairperson of the Planning and Zoning Commission, and subsequent filing on the Greenwich Land Records, the following shall be submitted to the Planning and Zoning office:

3. A mylar plus three (3) copies of the survey map with the following revisions:
   a. A signature box for endorsement by the Commission Chairperson stating "The lots shown on this map were found to be neither a subdivision nor a re-subdivision under Section 6-261 of the Town of Greenwich Subdivision Regulations at the Planning and Zoning Commission meeting held on April 13, 2021. This finding does not imply approval of the lots for purposes of
zoning compliance or future development, and they will be subject to review and approval by all applicable town agencies, which may include, but not necessarily be limited to, the following: Building Department, Zoning Enforcement, Planning and Zoning, the Department of Public Works Engineering, Highway and Sewer Divisions, and the Inland Wetlands and Watercourses Agency."

b. A note indicating that the pool, pool house, and garages will be demolished.

4. A check for the proper filing fee for the map on the Greenwich Land Records.

The contents of this letter have been reviewed by members of the Commission and reflect the decision the Commission made at its meeting on April 13, 2021.

Sincerely,

[Signature]

Marisa Anastasio
Senior Planner
October 18, 2021

Mr. Peter Mangs  
Applications Coordinator  
Town of Greenwich  
101 Field Point Road  
Greenwich, CT 06830  

Re: 8 Fox Run Lane (Tax ID 10-1127)  
Yorke Residence

Dear Mr. Mangs:

Enclosed please find the following materials in support of a Site Plan Review and Special Permit Application for the above-referenced property. The applicant is seeking approval to construct a single family dwelling in excess of 150,000 cubic feet.

- One (1) copy of the completed Site Plan Application
- One (1) copy of the completed Special Permit Application
- One (1) original of the letter of authorization signed by the owner
- The application fee of $2,350.00
- One (1) copy of the Project Narrative
- One (1) copy of the IWWA Permit
- One (1) copy of the property record cards from the Tax Assessor’s Office
- One (1) color copy of the Town of Greenwich GIS map of the subject parcel
- One (1) original of the affidavit with list of abutting property owners names and addressed and notification letter
- One (1) original of the certificate of mailing
- One (1) copy of the Zoning Location Survey dated September 24, 2021
- One (1) copy of the Grade Plane Plan dated September 24, 2021
- One (1) copy copies of the Construction Site Plan Review Set dated August 27, 2021 prepared by Rocco V. D’Andrea Inc.
- One (1) copy of architectural plans dated September 24, 2021 prepared by Tanner White Architects, LLC.
- One (1) 11x17 reduction copy of the Construction Site Plan Review Set
- One (1) 11x17 reduction copy of the architectural plans
☐ One (1) copy of Directly Connected Impervious Area (DCIA) Certification Preconstruction Form SC-107, dated August 27, 2021
☐ PDF copy of all materials

If you have any questions or require additional materials, please contact our office.

Sincerely,

ROCCO V. D'ANDREA, INC.

[Signature]

Robert J. Natale, Jr., PE

RJN:adm
Enclosures
20QP_P&Z TRANS_10-18-21

cc: Yorke Residence
Site Plan Application

Property Address: 8 Fox Run Lane
Property Owner: Jennifer Yorke
Address: 8 Fox Run Lane Greenwhich, CT 06830
Email: Jennifer Yorke
Cell Phone: 917-968-5430
Other Phone: 203-661-9328
Applicant: Jennifer Yorke
Address: 8 Fox Run Lane Greenwhich, CT 06830
Email: Rocco V. D'Andrea, Inc.
Cell Phone: 917-968-5430
Other Phone: 203-661-9328
Authorized Agent: ald@rvdi.com
Address: 6 Neil Lane Riverside, CT 06878
Email: ald@rvdi.com
Cell Phone: 917-968-5430
Other Phone: 203-661-9328

Select One: ☐ Pre-Application  ☑ Final
Zone(s): RA-2  Lot Area: 5.4229 acres

Please select all relevant items below:

☑ Special Permit – Complete special permit application form
☐ Coastal Overlay Zone
☐ Property is within 500 feet of a Municipal Boundary of ______________________ (for notification)
☐ Amendment to Building Zone Regulations – Section(s) ______________________
☐ Amendment to Building Zone Map – Zone(s) affected ______________________
☐ Health Department review needed
☐ Sewer Department review needed
☐ Architectural Review Committee Application attached or Review needed
☐ Planning & Zoning Board of Appeals review needed
☐ Inland Wetlands and Watercourses Agency Review / Approval Required
☐ Scenic Road Designation

To be completed by P&Z staff only:
Check # ______________  Check Amount: $ ______________
Application #: __________________________
<table>
<thead>
<tr>
<th></th>
<th>EXISTING</th>
<th>PROPOSED</th>
<th>PERMITTED/ REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMERCIAL/OFFICE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Floor Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Floor Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Spaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMMERCIAL/ RETAIL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Floor Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Floor Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Spaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER USES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Floor Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Usable Floor Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Spaces</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Units</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Number of Bedrooms</td>
<td>6</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Gross Floor Area</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Parking Spaces</td>
<td>11</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>TOTAL SQUARE FOOTAGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUILDING HEIGHT</td>
<td>10,105</td>
<td>0.09*236,222=21,260</td>
<td>47.5ft</td>
</tr>
<tr>
<td>FLOOR AREA RATIO</td>
<td>31'-11&quot;</td>
<td>0.09</td>
<td>10,105/236,222=0.043</td>
</tr>
<tr>
<td>BUILDING COVERAGE</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>LOT COVERAGE</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>TOTAL PARKING SPACES</td>
<td>11</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>GREEN AREA</td>
<td>210,239 (89.0%)</td>
<td>184,253 (78% min.)</td>
<td>184,253 (78% min.)</td>
</tr>
<tr>
<td>AGE OF STRUCTURE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THIS SITE PLAN INVOLVES:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Additions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Alterations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Demolition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Re-Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TOWN OF GREENWICH
Town Hall ~ 101 Field Point Road ~ Greenwich, CT 06830
Planning & Zoning Department ~ 203-622-7994 ~ Fax:203-622-3795

Special Permit Application

Property Address: 8 Fox Run Lane
Property Owner: Jennifer Yorke
Address: 8 Fox Run Lane Greenwich, CT 06830
Tax ID: 10-1127

Email:___________________________Cell Phone: 917-968-5430 Other Phone: 203-661-9328
Applicant: Jennifer Yorke
Address: 8 Fox Run Lane Greenwich, CT 06830

Email:___________________________Cell Phone: 917-968-5430 Other Phone: 203-661-9328
Authorized Agent: Rocco V. D'Andrea, Inc.
Address: 6 Neil Lane Riverside, CT 06878
Email:ald@rvdi.com Cell Phone:___________________________Other Phone: 203-637-1779

Zone(s): RA-2 Lot Area: 5.4229 acres

PLEASE SELECT ALL RELEVANT ITEMS BELOW:

☐ Section 6-17 — Special Permit standards and procedure
☐ Section 6-30 — Conservation Zone special provisions
☐ Section 6-94(b) — Non-residential Uses and Group Living Facilities permitted in Residential Zones including Resident Medical Professional Office
☐ Section 6-98 — RMF Zone
☐ Section 6-100— Use Groups for Business Zones
☒ Section 6-101, 107 — Buildings over 40,000 c.f. in Central Greenwich Impact Overlay Zone, Post Road Impact Overlay Zone, WB, LB or LBR Zones; and over 150,000 c.f. in all other zones
☐ Section 6-103.1 — Parking deficient uses in CGBR
☐ Section 6-104 — Parking Structures incl. underground in LB Zone and Height exceptions
☐ Section 6-105, 106 — Front Yard Parking in GB or GBO Zone
☐ Section 6-109 — HO & HRO Zones
☐ Section 6-110 — Dwellings under special requirements for Business Zones
☐ Section 6-112 — IND-RE Zone applications
☐ Section 6-113 — In Hospital Zones: certain accessory uses, expansions exceeding 4,000 s.f. or interior alterations or changes of use exceeding 20,000 s.f. (cumulative within 2 years)
☐ Section 6-114 — CCRC (Continuing Care Retirement Community)
☐ Section 6-118.1 — Uses within railroad rights of way
☐ Section 6-123 — Setbacks from Connecticut Turnpike in Business Zones
☐ Section 6-140.1 — Satellite Earth Stations that emit microwaves
☐ Section 6-141 — Changes in non-conforming uses, buildings
☐ Section 6-205 — Historic structures in CBG Zone exceeding FAR And Notes 7, 8 & 9

To be completed by P&Z staff only:
Check #______________ Check Amount: $________
Application #________________________ Application File #:________________________

pzSpecialPermitApp 2020
Property Address: 8 Fox Run Lane

Property Owner 1: Jennifer Yorke
Email: [signature]
Cell Phone: 917-968-5430
Address: 8 Fox Run Lane Greenwich, CT 06830
Other Phone: 203-661-9328
Date: [signature]

Property Owner 2:
Email:
Cell Phone:
Address:
Other Phone:
Date:

Property Owner 3:
Email:
Cell Phone:
Address:
Other Phone:
Date:

Property Owner 4:
Email:
Cell Phone:
Address:
Other Phone:
Date:

Applicant:
Email:
Cell Phone:
Address:
Other Phone:
Date:

Authorized Agent: Rocco V. D'Andrea, Inc.
Email: ald@rvdi.com
Cell Phone:
Address: 6 Neil Lane Riverside, CT 06878
Other Phone: 203-637-1779
Date: 10/18/21

Signature: [signature]
Project Narrative
Yorke Residence
8 Fox Run Lane, Greenwich
September 24, 2021

Jennifer Yorke, owner of 8 Fox Run Lane in Greenwich, Connecticut, is proposing residential improvements to the subject parcel. The parcel was part of a recent lot line revision approved under Planning and Zoning Application # 2021 78. The re-development of the parcel was approved under IWWA Permit # 2021-76. The parcel is located on the westerly side of Fox Run Lane, at the intersection with Zaccheus Mead Lane. The parcel is approximately 5.4 acres in size, located in the RA-2 single-family residential zone. According to FEMA FIRM Map No. 09001C0492F (revised June 18, 2010), the parcel lies within Flood Hazard Zone “X”.

Currently, the subject parcel supports a residential dwelling, large stone patio and driveway. One inland wetland was identified on the subject property and delineated in the field by William Kenny Associates. The wetland, which encompasses approximately 1.257 acres of onsite area, is part of a larger system that extends onto the abutting property to the west. The wetland extends along the western property line and into the southern portion of the site, abutting Zaccheus Mead Lane. The wetland collects a majority of surface runoff from onsite tributary areas. A second pocket of wetlands was also identified on the abutting parcel to the north. For further information regarding the on-site inland wetland, refer to soils reports prepared by William Kenny Associates. Refer to the site plan set for the wetland flag locations.

The existing dwelling is sited at the high point of the lot, which drops in elevation in all directions. Onsite areas to the west and south of the dwelling support manicured lawn and woodland. Onsite areas to the east and north of the dwelling primarily support manicured lawn. Stormwater runoff from onsite areas to the west, south and east of the existing dwelling is tributary to the onsite wetland. Stormwater runoff from onsite areas to the north of the dwelling is tributary to the offsite wetland pocket. The dwelling is served by a septic system located to the east of the dwelling and south of the access driveway. Water is supplied by the Aquarion Water Company from a main in Fox Run Lane.

The owner is proposing to remove the existing dwelling, driveway and other existing site features and construct a new single-family dwelling. Other improvements will include the construction of a bituminous concrete driveway, tennis court, in-ground pool, pool house, walks, patios, several stormwater management facilities with associated storm drainage piping, installation of various underground utilities and associated site grading and landscaping.

The proposed improvements will also include the installation of a new septic system. The Greenwich Health Department and State of Connecticut Health Department has approved the use of a central septic system to serve the main dwelling and pool house. The proposed central septic system will be located to the east of the existing dwelling, in the same location as the existing system. The new dwelling will be served by the Aquarion Water Company and all new utilities will be installed underground.
For a depiction of existing conditions and the proposed development, refer to a set of plans entitled “Final Site Plan Review Set, Single-Family Residence, 8 Fox Run Lane, Greenwich, Connecticut, Prepared for Jennifer Yorke,” as prepared by Rocco V. D’Andrea, Inc., and dated August 27, 2021.

Stormwater runoff from the proposed development will be collected and routed to several stormwater treatment and infiltration systems. The stormwater systems will include permeable pavement and subsurface infiltration systems. These systems were designed to retain and infiltrate the Water Quality Volume, while providing peak runoff attenuation. Should these systems reach capacity, stormwater will exit these systems via level spreader into stabilized vegetated areas, reducing the potential for erosion and protecting the existing onsite wetland and downstream resources. Refer to the Drainage Summary Report for further information.

During the construction phase of the project, treatment of storm water runoff will be provided by temporary sedimentation and erosion control measures as outlined within the Final Site Plan Review Set. This includes the installation of silt fencing, an anti-tracking pads, and tree protection. Periodic on-site inspections will be performed to ensure that these measures are maintained in effective working order. Once construction is complete and all disturbed areas are properly graded, seeded, and stabilized, the proposed sedimentation and erosion control measures will be removed.

It is our opinion that the proposed development will result in an improved residential property that will not cause any adverse impacts to down-gradient or contiguous properties.

Anthony L. D’Andrea, PE&LS
Rocco V. D’Andrea, Inc.
September 24, 2021

Peter Mangs, Applications Coordinator  
Planning & Zoning Commission  
Town of Greenwich  
101 Field Point Road  
Greenwich, CT 06830

Re: Planning & Zoning Commission  
8 Fox Run Lane, Tax ID #10-1127

Dear Mr. Mangs,

As owner of 8 Fox Run Lane, I hereby authorize Rocco V. D’Andrea, Inc. to represent my interests in the presentation of an application to the Planning & Zoning Commission seeking approval for a final site plan and special permit.

[Signature]

Jennifer Yorke
FINAL SITE PLAN REVIEW SET
"SINGLE—FAMILY RESIDENCE"
LOCATION
8 FOX RUN LANE
GREENWICH, CONNECTICUT
PREPARED FOR
JENNIFER YORKE

SHEET INDEX

<table>
<thead>
<tr>
<th>SHEET</th>
<th>TITLE</th>
<th>REVISION</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>EXISTING CONDITIONS/TOPOGRAPHIC SURVEY</td>
<td>2</td>
<td>8–27–21</td>
</tr>
<tr>
<td>1 OF 5</td>
<td>GRADING PLAN</td>
<td>2</td>
<td>8–27–21</td>
</tr>
<tr>
<td>2 OF 5</td>
<td>STORM DRAINAGE &amp; UTILITY PLAN</td>
<td>2</td>
<td>8–27–21</td>
</tr>
<tr>
<td>3 OF 5</td>
<td>SEDIMENTATION AND EROSION CONTROL PLAN</td>
<td>2</td>
<td>8–27–21</td>
</tr>
<tr>
<td>4 OF 5</td>
<td>NOTES AND DETAILS</td>
<td>2</td>
<td>8–27–21</td>
</tr>
<tr>
<td>5 OF 5</td>
<td>DETAILS</td>
<td>2</td>
<td>8–27–21</td>
</tr>
<tr>
<td>1 OF 1</td>
<td>LOW IMPACT DEVELOPMENT PLAN</td>
<td>2</td>
<td>8–27–21</td>
</tr>
<tr>
<td>1 OF 1</td>
<td>DRIVeway PROFILE PLAN</td>
<td>2</td>
<td>8–27–21</td>
</tr>
</tbody>
</table>

ENGINEERING PLANS PREPARED BY:

ROCCO V. D'ANDREA, INC.
8–27–21

ATTORNEY L. D'ANDREA, ET AL., RE # 403

ONLY COPIES OF THIS SET BEARING AN ORIGINAL SEAL SHALL BE CONSIDERED TO BE TRUE, VALID COPIES.
NEW SINGLE FAMILY RESIDENCE

YORKE RESIDENCE

8 FOX RUN, GREENWICH, CONNECTICUT
NOTE: DO NOT SCALE DRAWINGS

XX, XX 00000

NEW SINGLE FAMILY HOME
YORKE RESIDENCE
8 FOX RUN, GREENWICH, CONNECTICUT

OWNERSHIP AND CONDITIONS OF USE:
DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND
SHALL REMAIN THE PROPERTY OF THE ARCHITECT. DOCUMENTS ARE NOT TO BE USED, IN
WHOLE OR IN PART, FOR OTHER PROJECTS OR PURPOSES OR BY ANY OTHER PARTIES THAN
THOSE AUTHORIZED BY CONTRACT WITHOUT THE SPECIFIC WRITTEN AUTHORIZATION OF THE
ARCHITECTS. THE USE OF THIS DOCUMENT IS CONTINGENT UPON PAYMENT TO THE
ARCHITECT FOR SERVICES RENDERED. NON-PAYMENT SHALL GIVE THE ARCHITECT THE
AUTHORITY TO BAR DOCUMENT USE BY ANY AND ALL PARTIES. IF THE OWNER DISPUTES ANY
ARCHITECT'S STATEMENTS FOR SERVICES, IT IS REQUIRED THAT THE OWNER ADVISE THE
ARCHITECT IN WRITING WITHIN FIFTEEN (15) DAYS. REMAINING, UNDISPUTED PORTIONS ARE
DUE AND PAYABLE UPON RECEIPT. THE OWNER SHALL INDEMNIFY THE ARCHITECT AGAINST
ANY CLAIMS ALLEGING DAMAGES OR DELAYS INCURRED IN THE EVENT THE ARCHITECT
EXERCISES THE RIGHT TO BAR DOCUMENT USE FOR NON-PAYMENT. CONTRACTORS MUST
CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM.
DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING.

NOTES:
1. ALL ROOF JACK VENTS (DRYER, KITCHEN, BATHROOMS) SHALL RECEIVE COPPER FLASHING.
2. ALL PLUMBING STACK VENT PENETRATIONS SHALL RECEIVE A COPPER BOOT AND COPPER WRAP.
3. ALL PLUMBING VENTS SHALL BE LOCATED TO MINIMIZE VISIBILITY FROM FRONT AND SIDES OF HOUSE.
4. SEE A-400 SERIES FOR TYPICAL FLASHING DETAILS.

EPDM TAMKO METAL & TILE UNDERLAYMENT OR EQUAL: TO BE USED AT ALL METAL ROOF AREAS.

PITCH OF DOWNWARD ROOF SLOPE
PITCH   4:12
PITCH   4:12
PITCH   3:12
PITCH   4:12
PITCH   4:12

SLOPE AWAY .25:12
NEW SINGLE FAMILY HOME
YORKE RESIDENCE
8 FOX RUN,
GREENWICH,
CONNECTICUT

OWNERSHIP AND CONDITIONS OF USE:
DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND
SHALL REMAIN THE PROPERTY OF THE ARCHITECT. DOCUMENTS ARE NOT TO BE USED, IN
WHOLE OR IN PART, FOR OTHER PROJECTS OR PURPOSES OR BY ANY OTHER PARTIES THAN
THOSE AUTHORIZED BY CONTRACT WITHOUT THE SPECIFIC WRITTEN AUTHORIZATION OF THE
ARCHITECTS. THE USE OF THIS DOCUMENT IS CONTINGENT UPON PAYMENT TO THE
ARCHITECT FOR SERVICES RENDERED. NON-PAYMENT SHALL GIVE THE ARCHITECT THE
AUTHORITY TO BAR DOCUMENT USE BY ANY AND ALL PARTIES. IF THE OWNER DISPUTES ANY
ARCHITECT'S STATEMENTS FOR SERVICES, IT IS REQUIRED THAT THE OWNER ADVISE THE
ARCHITECT IN WRITING WITHIN FIFTEEN (15) DAYS. REMAINING, UNDISPUTED PORTIONS ARE
DUE AND PAYABLE UPON RECEIPT. THE OWNER SHALL INDEMNIFY THE ARCHITECT AGAINST
ANY CLAIMS ALLEGING DAMAGES OR DELAYS INCURRED IN THE EVENT THE ARCHITECT
EXERCISES THE RIGHT TO BAR DOCUMENT USE FOR NON-PAYMENT. CONTRACTORS MUST
CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM.
DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING.

LEGEND:
1 - STANDING SEAM ALUMINUM ROOF
2 - CLAPBOARD SIDING- 6" BEVEL COLLECTION
3 - AZEK PANEL SIDING
4 - STONE TERRACE AND PAVERS (STONE TBD)
5 - 3/4" X 3" AZEK CASING - PICTURE FRAMED
6 - AZEK TRIM - COPPER LINED YANKEE GUTTER (SEE DET.)
7 - STUCCO
8 - AZEK TRIM COLUMN
9 - LEADER DOWNSPOUT THROUGH COLUMN
10 - PTD WOOD GARAGE DOORS
11 - EPDM FLAT ROOF
12 - CUSTOM ENTRY DOOR TBD

SCALE: 1/4" = 1'-0"
NOTE: DO NOT SCALE DRAWINGS

POOL HOUSE ELEVATIONS

Drawing Title: A-106

Issued on: 9/28/21

Dimensions: 3024.0x2160.0

Team: TANNERWHITEARCHITECTS.COM

1 BRIDGE SQUARE, WESTPORT, CT 06880 (203)283-4749

TANNER WHITE ARCHITECTS

OWNERSHIP AND CONDITIONS OF USE:

DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT. DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR OTHER PROJECTS OR PURPOSES OR BY ANY OTHER PARTIES THAN THOSE AUTHORIZED BY CONTRACT WITHOUT THE SPECIFIC WRITTEN AUTHORIZATION OF THE ARCHITECTS. THE USE OF THIS DOCUMENT IS CONTINGENT UPON PAYMENT TO THE ARCHITECT FOR SERVICES RENDERED. NON-PAYMENT SHALL GIVE THE ARCHITECT THE AUTHORITY TO BAR DOCUMENT USE BY ANY AND ALL PARTIES. IF THE OWNER DISPUTES ANY ARCHITECT'S STATEMENTS FOR SERVICES, IT IS REQUIRED THAT THE OWNER ADVISE THE ARCHITECT IN WRITING WITHIN FIFTEEN (15) DAYS. REMAINING, UNDISPUTED PORTIONS ARE DUE AND PAYABLE UPON RECEIPT. THE OWNER SHALL INDEMNIFY THE ARCHITECT AGAINST ANY CLAIMS ALLEGING DAMAGES OR DELAYS INCURRED IN THE EVENT THE ARCHITECT EXERCISES THE RIGHT TO BAR DOCUMENT USE FOR NON-PAYMENT.

合同条款:

1. 本图纸和规格说明书作为专业服务的工具，属于建筑师的财产。未经建筑师明确书面授权，不得用于其他项目或目的，或由其他未授权的第三方使用。

2. 使用本图的前提是在建筑师处支付服务费用。未付款将导致建筑师阻止任何第三方使用该图。如果业主对建筑师的声明有异议，必须在收到图纸后的15天内书面通知建筑师。未付部分在收到后到期。

3. 业主应就建筑师因业主拒付而停止使用图纸的行为的任何索赔对建筑师进行赔偿。

4. 承包商必须核实所有尺寸，并在尺寸不符的范围内立即报告给建筑师。

5. 本图的版权归建筑师所有。

SCALE: 1/4" = 1'-0"
NOTE: DO NOT SCALE DRAWINGS

NEW SINGLE FAMILY HOME
YORKE RESIDENCE
8 FOX RUN,
GREENWICH,
CONNECTICUT

INSULATION R-VALUES:

- **INSULATION TYPES:**
  - ROOF/ATTIC OPEN JOISTS: R-49 (CLOSED CELL)
  - ROOF/ATTIC CLOSED CELL: R-30 (500SF OR 20%)
  - FLOORS: R-30 (OPEN CELL)
  - EXTERIOR WALLS: R-20
  - BASEMENT/CRAWLSPACE: R-15 (WALL: R-19 CAVITY, RIGID)
  - SLAB, 2FT BELOW GRADE: R-10 (BATT)

- **NEW WINDOWS:** INSULATED GLASS

- **INSULATION FOR TYPICAL ZONES:**
  - **ROOF/ATTIC OPEN JOISTS:**
    - FULL DEPTH SPRAY APPLIED (CLOSED CELL)
  - **CEILING WITHOUT ATTIC:**
    - FULL DEPTH SPRAY APPLIED (CLOSED CELL, R-30)
    - ALLOWED FOR 500SF OR 20%, WHICHER IS LESS WHEN THERE IS NOT SUFFICIENT SPACE TO MEET R-49 (CATHEDRAL, DORMER, ETC.)
  - **FLOORS ADJACENT TO UNCONDITIONED SPACE:**
    - SINGLE PASS WITH SPRAY APPLIED (CLOSED CELL, 1 1/2"-2") FOLLOWED BY FULL DEPTH SPRAY APPLIED (OPEN CELL OR BATT INSULATION)
  - **EXTERIOR 2x4 WALLS:**
    - SINGLE PASS WITH SPRAY APPLIED (CLOSED CELL, 1 1/2"-2") FOLLOWED BY FULL DEPTH BATT INSULATION OR FULL DEPTH SPRAY APPLIED (OPEN CELL)
  - **EXTERIOR 2x6 WALLS:**
    - SINGLE PASS WITH SPRAY APPLIED (CLOSED CELL, 1 1/2"-2") FOLLOWED BY FULL DEPTH BATT INSULATION OR FULL DEPTH SPRAY APPLIED (OPEN CELL)
  - **INTERIOR WALLS:**
    - 3" SAFE'N'SOUND STONE WOOL FIRE AND SOUNDPROOFING INSULATION AS MANUFACTURED BY ROXUL, INC.
  - **INTERIOR FLOORS:**
    - 6" SAFE'N'SOUND STONE WOOL FIRE AND SOUNDPROOFING INSULATION AS MANUFACTURED BY ROXUL, INC.
  - **EXTERIOR BASEMENT/CRAWLSPACE WALLS:**
    - 3" RIGID FULL LENGTH OF WALL OR FULL DEPTH SPRAY APPLIED (CLOSED CELL)
  - **UNDER BASEMENT SLAB:**
    - IN HABITABLE SPACES OR HEATED GARAGE AREA APPLY 2 1/2" CLOSED CELL UNDER ENTIRE SLAB AND WRAPPED UP INTERIOR OF WALLS 1'-2' OR APPROVED EQUIVALENT WITH 3" RIGID INSULATION

- **INSULATION NOTES:**
  1. FILL ALL VOIDS OF INSULATION ZONE, TYPICAL.
  2. SEE SPECIFICATIONS FOR SPECIAL CONDITIONS.
  3. WHERE NECESSARY TO ACHIEVE REQUIRED R-VALUES, INCREASE DEPTH OF CLOSED CELL INSULATION.
<table>
<thead>
<tr>
<th>ID</th>
<th>Quantity</th>
<th>Description</th>
<th>Operation</th>
<th>Jamb</th>
<th>Head</th>
<th>Waist</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### WINDOW SCHEDULE

<table>
<thead>
<tr>
<th>ID</th>
<th>Quantity</th>
<th>Description</th>
<th>Operation</th>
<th>Jamb</th>
<th>Head</th>
<th>Waist</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DOOR SCHEDULE

<table>
<thead>
<tr>
<th>ID</th>
<th>Quantity</th>
<th>Description</th>
<th>Operation</th>
<th>Jamb</th>
<th>Head</th>
<th>Waist</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**GENERAL WINDOW & DOOR NOTES**

1. **WHEREVER A NEW DOOR LEAF WILL BE PLACED INTO AN EXISTING OPENING,**
   a. **ALL EXTERIOR DOORS SHALL BE 2 1/4" THICK UNLESS OTHERWISE NOTED.**
2. **FOR OPERABLE DYNAMIC WINDOWS: ALL UNITS WITH INTERIOR SCREENS (E.G. EXTERIOR DETAIL DRAWINGS.)**
3. **DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING.**
4. **CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM.**
5. **DUE AND PAYABLE UPON RECEIPT. THE OWNER SHALL INDEMNIFY THE ARCHITECT AGAINST AUTHORITY TO BAR DOCUMENT USE BY ANY AND ALL PARTIES. IF THE OWNER DISPUTES ANY PROJECT NO. & SITE INTEGRITY OF THE DOCUMENT.**

---

**WINDOW & DOOR SCHEDULE**

<table>
<thead>
<tr>
<th>ID</th>
<th>Quantity</th>
<th>Description</th>
<th>Operation</th>
<th>Jamb</th>
<th>Head</th>
<th>Waist</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NOTE: DO NOT SCALE DRAWINGS

Project No.:

GRAPHIC EXTERIOR DOOR SCHEDULE

Drawing No: A-600.3

THIS DRAWING PRINTED ON 9/28/21 AT 9:37 AM FROM /Users/tannerwhite/Dropbox (TWA)/TWA Team Folder/CLIENTS/8 FOX RUN/SD/8 FOX RUN 9 13 21.pln

XX, XX 00000

NEW SINGLE FAMILY HOME

YORKE RESIDENCE

8 FOX RUN, GREENWICH, CONNECTICUT

INFO

Team: TANNERWHITEARCHITECTS.COM

1 BRIDGE SQUARE, WESTPORT, CT 06880 (203)283-4749

TANNER WHITE ARCHITECTS

OWNERSHIP AND CONDITIONS OF USE:

DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF PROFESSIONAL SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT. DOCUMENTS ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR OTHER PROJECTS OR PURPOSES OR BY ANY OTHER PARTIES THAN THOSE AUTHORIZED BY CONTRACT WITHOUT THE SPECIFIC WRITTEN AUTHORIZATION OF THE ARCHITECTS. THE USE OF THIS DOCUMENT IS CONTINGENT UPON PAYMENT TO THE ARCHITECT FOR SERVICES RENDERED. NON-PAYMENT SHALL GIVE THE ARCHITECT THE AUTHORITY TO BAR DOCUMENT USE BY ANY AND ALL PARTIES. IF THE OWNER DISPUTES ANY ARCHITECT'S STATEMENTS FOR SERVICES, IT IS REQUIRED THAT THE OWNER ADVISE THE ARCHITECT IN WRITING WITHIN FIFTEEN (15) DAYS. REMAINING, UNDISPUTED PORTIONS ARE DUE AND PAYABLE UPON RECEIPT. THE OWNER SHALL INDEMNIFY THE ARCHITECT AGAINST ANY CLAIMS ALLEGING DAMAGES OR DELAYS INCURRED IN THE EVENT THE ARCHITECT EXERCISES THE RIGHT TO BAR DOCUMENT USE FOR NON-PAYMENT. CONTRACTORS MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING. THIS DRAWING IS COPYRIGHT.
<table>
<thead>
<tr>
<th>Room No.</th>
<th>Room Name</th>
<th>Floor</th>
<th>Base Trim</th>
<th>Walls</th>
<th>Window &amp; Door Casing</th>
<th>Ceiling</th>
<th>Cabinetry</th>
<th>Counters &amp; Benches</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>UNFINISHED BASEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>MUDROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>UTILITY CL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>LAUNDRY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>PANTRY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>ELEV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td>MUDRM BATH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>106</td>
<td>FOYER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>BEDROOM 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>DRESSING ROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>BATH 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>PR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>111</td>
<td>KITCHENETTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>SITTING ROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113</td>
<td>DINING ROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>114</td>
<td>KITCHEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>BREAKFAST ROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>116</td>
<td>FAMILY ROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>UPPER STAIR HALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>201</td>
<td>MASTER BEDROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>202</td>
<td>MASTER CLOSET</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>203</td>
<td>HIS CLOSET</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>204</td>
<td>MASTER BATHROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>205</td>
<td>GUEST BEDROOM 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>206</td>
<td>BATHROOM 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>207</td>
<td>WIC 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>208</td>
<td>BEDROOM 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>209</td>
<td>WIC 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>LAUNDRY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>211</td>
<td>BATH 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>212</td>
<td>WIC 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>213</td>
<td>BEDROOM 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>214</td>
<td>BATH 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>215</td>
<td>WIC 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>216</td>
<td>BEDROOM 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>217</td>
<td>BATH 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>218</td>
<td>WIC 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>219</td>
<td>BEDROOM 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>220</td>
<td>BATH 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>221</td>
<td>WIC 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>222</td>
<td>3 CAR GARAGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>223</td>
<td>COVERED PORCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>224</td>
<td>REAR COVERED PORCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>225</td>
<td>COVERED BBQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>226</td>
<td>SCREENED PORCH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>227</td>
<td>SPA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>228</td>
<td>BEDROOM 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>229</td>
<td>FAMILY ROOM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>230</td>
<td>KITCHENETTE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>231</td>
<td>BATH 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>232</td>
<td>BATH 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>234</td>
<td>BEDROOM 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>233</td>
<td>LAUNDRY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear Ms. Yorke,

The Inland Wetlands and Watercourses Agency has reviewed the application record and found the proposed activities in the above mentioned application are consistent with the purposes and policies of the Inland Wetland and Watercourses Regulations. Accordingly, the Agency GRANTED the enclosed permit with conditions.

**Your attention is directed to the special and standard conditions because those in **BOLD **require action either prior to the start of clearing or construction activities or within a specific time period after the receipt of the permit.**

The statement and permit are on file in the office of this Agency.

The effective date of the permit is the date of issue. The permit expires 5 years from the effective date, but when deemed necessary, the Agency may extend the period according to the provisions in Section 11.11 of the Regulations.

If you have any questions concerning this permit or the functions and values of wetlands in Greenwich, please let me know.

Sincerely,

Brian Harris, Chairman
Elliot Benton, Vice Chairman
Joseph Rogers, Secretary

cc: Rocco V. D’Andrea, Inc.
Issued to: Jennifer Yorke  
8 Fox Run Lane  
Greenwich, CT 06830

Date Issued: June 28, 2021

Following a duly noticed public hearing, the Inland Wetlands & Watercourses Agency APPROVED regulated activities on the property of Jennifer Yorke at 8 Fox Run Lane, Tax #10-11274. The permitted activity consists of construction of single-family residence, driveway, pool, pool house, tennis court, retaining walls, septic system and drainage adjacent to wetlands, as further described in the following documents.

**List of application documents**


10. Email between Matthew Pawlik, P.E., R.S. Sanitary Engineer III, Department of Public Health and Anthony D’Andrea, dated June 14, 2021, regarding central septic system.


12. Letter to Patricia Sesto dated June 18, 2021 from Anthony D’Andrea.


After a full review of the considerations set forth in Section 10 of the Regulations and other pertinent factors, this permit is issued with the following special and standard conditions:

**SPECIAL CONDITIONS**

*Conditions in bold require action either prior to the start of clearing or construction activities or within a specified time period after the receipt of the permit.*

1. Prior to the commencement of any on-site permit related activity, the permittee shall provide the Agency with written approval from the DPW Engineering Division of the stormwater management system.

2. Final construction designs and locations shall be submitted for Wetlands Agency staff review and approval prior to the start of site activities. Final plans shall be revised to eliminate the concrete pavers west of the garage and propose a new surface for approval by this agency or its staff. The revised plans shall be submitted in both paper and digital formats.
3. Prior to the commencement of any on-site permit related activity, an estimate for the retail, installed cost of the enhancement planting plan shall be submitted for the purpose of determining a bond amount. The estimate is subject to approval by this Agency or its staff.

4. Prior to the commencement of any on-site permit related activity, a cash performance bond of $3,000.00, plus 30% of the approved value of the planting plan shall be submitted to the Agency to ensure compliance with the conditions of this permit. The bond shall be submitted in the form of a check payable to the Town of Greenwich. No portion of the bond shall be eligible for release until all Conditions of this permit are satisfied and staff has deemed the project to be in compliance with the approved plans.

5. Prior to the commencement of any on-site permit related activity, a Declaration of Regulated Areas, on a form provided by the Agency, shall be filed by the permittee on the Greenwich land records. This Declaration shall reference Inland Wetlands and Watercourses Permit #2021-076 and Application #2021-044 and require the preservation of inland wetlands and watercourses in an undisturbed and natural state unless further permits are obtained. A copy of the filed Declaration shall be provided to the office of the Agency.

6. Prior to the commencement of any on-site permit related activity, the permittee shall cause to be prepared a packet for the homeowner describing the components of the stormwater management system, their purpose, and practical means to maintain them. The packet shall be submitted for review and approval by this Agency or its staff. If the permittee is not the project end user, verification the end user received the information packet shall be submitted to the office of the Agency.

7. The portion of the bond associated with the plantings shall be eligible for release two full years after the planting plan is fully implemented as verified by staff and at least 80% of the planted material is thriving. High-visibility tags shall be maintained on all of the planting stock for the duration of the two-year establishment period. The plan, including the limit of lawn demarcation, shall be fully implemented within six months of seeking a Certificate of Occupancy.

8. Areas within the disturbance envelope where the soil is compacted during construction shall be restored to their original properties and porosity by incorporation of compost per recognized guidelines, such as the Soil Restoration section of the November 2016 “New York State Standards and Specifications for Erosion and Sediment Control”. The certification of
compliance required in Special Condition #9 below shall include certification this soil de-
compaction was carried out as specified.

9. The stormwater drainage system shall be certified to have been constructed according to
the approved plans and to be in compliance with the permit and conditions by a registered,
professional engineer. Certification shall include verification of the soil de-compaction required
in Special Condition #8 above. Certification shall be based upon regular on-site supervision of
construction activities. A written certification report shall be submitted to Agency staff upon
the completion of construction.

10. The permittee shall file a note on the Town Land Records requiring a licensed professional
engineer to inspect and certify the stormwater management structures every five years to
ensure the system has been properly maintained, as required to sustain the designed goal. A
copy of the filed note and copies of the periodic certifications shall be submitted to the Agency
for its records.

11. Upon completion of construction activities, an "as-built" survey drawing locating
foundations, other authorized structures, and permanent demarcation features with distances
to inland wetland and watercourse areas shall be submitted. A copy of the plan shall be
submitted in both paper and digital formats.

12. No pool backwash water may be discharged into or adjacent to inland wetland and
watercourse areas, as per the attached Board of Health regulation.

13. Areas to be maintained as meadow may be mowed no more than twice a year; once in
mid-summer and once in late winter.

14. The inland wetland and watercourses boundary shall be delineated on the record plan of
the approved subdivision with a note indicating that all activities within or adjacent to inland
wetlands and watercourses are subject to the review and approval of the Inland Wetlands and
Watercourses Agency. The intended record plan shall be submitted to Agency staff for review
and approval prior to filing with the Town Clerk. The filed plan shall be submitted to the office
of the Agency in paper and digital form.

15. Any fencing installed shall leave a six-inch gap between the base of the fence and ground
when such a requirement does not conflict with the Building Code.
STANDARD CONDITIONS:

All Greenwich Inland Wetlands and Watercourses Agency permits are subject to the following Standard Conditions:

1. This permit expires on June 28, 2028. If the authorized activity is not completed on or before this date, said activity shall cease and, if not previously revoked or specifically extended, this permit shall be null and void.

2. Prior to the commencement of any on-site permit related activity, the attached compliance statement shall be signed by the contractor engaged to perform the regulated activities and then returned to the Agency office. This form shall serve as written notice to the Agency as to when work is planned to commence. The permittee shall also provide written notice to the Agency upon completion of the regulated activities.

3. The permittee shall employ best management practices, consistent with the terms and conditions of this permit and provisions of the Connecticut Guidelines for Soil Erosion and Sediment Control (2002, as revised), to control storm water discharges, to prevent erosion and sedimentation and to otherwise prevent pollution of wetlands or watercourses. For information and technical assistance, contact the Agency staff. The permittee shall immediately inform the Agency of any problems involving wetlands or watercourses which develop during the course of, or which are caused by, the authorized work.

4. Any material, man-made or natural, which is in any way disturbed and/or utilized during work authorized herein, shall not be deposited in any wetland or watercourse, either on or off site, unless specifically authorized in this permit.

5. Fuel oil tanks shall be installed above ground or within the structure unless specifically approved otherwise by the Agency or its staff.

6. This permit shall not be assigned or transferred by the permittee to any other party without the written consent of the Greenwich Inland Wetlands and Watercourses Agency.

7. This permit may be revoked or suspended if the permittee exceeds the conditions or limitations of this permit, or has secured this permit through deception or inaccurate information.

8. This permit does not obviate the permittee’s obligation to obey all other applicable federal, state and local laws or to obtain any applicable federal, state and local permits.

Sincerely,

[Signature]

Brian Harris, Chairman
Elliot Benton, Vice Chairman
Joseph Rogers, Secretary
INLAND WETLANDS AND WATERCOURSES AGENCY

Permit #2021-076  
Application #2021-044  
July 7, 2021

As the contractor engaged by ______ Jennifer Yorke ________ to perform regulated activities as described in the Greenwich Inland Wetlands and Watercourses Permit #2021-076 at 8 Fox Run Lane, I am familiar with the IWWA regulations and have read the permit referenced herein and agree to comply with both.

Work will commence on or about _______ and will be completed in _______ months/weeks.

__________________________
Contractor Name

__________________________
Street Address, City, State, Zip Code

__________________________
Phone

__________________________
Email Address

__________________________
Signature

Mail to: IWWA  
101 Field Point Road  
Greenwich, CT 06830  
or

Email to: wetlands@greenwichct.org
LEGAL NOTICE

Pursuant to the provisions of the Inland Wetlands and Watercourses Regulations of the Town of Greenwich, Connecticut, effective December 28, 1973 and as amended, notice is hereby given on actions taken by the Inland Wetlands and Watercourses Agency of the Town of Greenwich.

GRANTED with Conditions Application #2021-044 - 8 Fox Run Lane – To Jennifer Yorke for demolition and construction of single-family residence, driveway, pool, pool house, tennis court, retaining walls, septic system and drainage adjacent to wetlands. Tax #10-1127.

Brian Harris, Chairman

TO BE PUBLISHED ONCE IN THE GREENWICH TIME WITHIN 10 DAYS OF THE ISSUANCE OF THIS PERMIT.

BILL TO THE GREENWICH INLAND WETLANDS AND WATERCOURSES AGENCY AND PROVIDE AN AFFIDAVIT OF PUBLICATION
DRAINAGE SUMMARY REPORT

For

"SINGLE FAMILY RESIDENCE"

8 Fox Run Lane
Greenwich, Connecticut

Prepared For
Jennifer Yorke

March 17, 2021
Revised: April 26, 2021
Revised: August 27, 2021

Anthony L. D’Andrea, PE
CT License No. 9673
Table of Contents

1. Introduction & LID Techniques
   1.1. Project Narrative  
   1.2. Land Use Regulations  
   1.3. Site Inventory & Evaluation  
   1.4. Development Envelope  
   1.5. LID Control Strategies  

2. Structural BMPs
   2.1. Water Quality Volume and TSS Removal  
   2.2. Runoff Reduction Volume  
   2.3. Groundwater Recharge Volume  
   2.4. Peak Runoff Attenuation  

3. Conclusion  

Exhibits
   Watershed Map – Existing Conditions  
   Watershed Map – Proposed Conditions  
   USDA Soil Delineation Map  
   FEMA Flood Map  

Appendices
   Credits for LID BMPs  
   Stormwater Management Standards Narrative  
   Stormwater Management Standards Calculations  
   Soil Results Forms  
   Pipe Conveyance Calculations  
   Level Spreader Outlet Sizing Calculations  
   Stage-Area-Storage Tables  
   HydroCAD Peak Flow and Volume Summary  
   HydroCAD Analysis – Existing Conditions  
   HydroCAD Analysis – Proposed Conditions  

Exhibit A  
Exhibit B  
Exhibit C  
Exhibit D  
Appendix A  
Appendix B  
Appendix C  
Appendix D  
Appendix E  
Appendix F  
Appendix G  
Appendix H  
Appendix I  
Appendix J  

Rocco V. D'Andrea Inc.
Introduction & LID Techniques

1.1. Project Narrative

The applicant is proposing residential improvements to the subject property. The proposed improvements will include removal of all existing site features and the construction of a single-family dwelling, driveway, tennis court, pool and pool house. Other improvements include the installation of a septic system, several storm drainage systems, retaining walls, site grading, and associated landscaping.

For a depiction of existing conditions and the proposed development refer to a development plan set entitled “Final Site Plan Review Set, Single Family Residence, Location 8 Fox Run Lane, Greenwich, Connecticut, prepared for Jennifer Yorke” as prepared by Rocco V. D’Andrea, Inc.

The subject parcel is 5.4 acres in size and is located on the west side of Fox Run Lane, a private road, at the intersection with Zaccheus Mead Lane. The proposed development of the parcel will increase the impervious coverage by approximately 15,588 square feet. Refer to Appendix “C” for the proposed stormwater BMPs sizing calculations.

This proposed project will conform to all applicable Town stormwater management standards to the maximum extent practicable. Refer to Appendix “B” for a narrative detailing the projects compliance with each stormwater management standard.

1.2. Land Use Regulations

The subject parcel is located in the “RA-2” zone. All applicable zoning setbacks and regulations will be adhered to. One inland wetland and watercourse system was identified and delineated on the subject parcel. The inland wetland starts along the western property line and extends into the southern portion of the subject parcel. A total of 1.26 acres of inland wetlands are on the subject parcel. A separate wetland pocket, approximately 0.22 acres, is located on the abutting property to the north of the subject parcel. For further information regarding the on-site wetland and watercourse system, refer to a report prepared by William Kenny Associates LLC.

1.3. Site Inventory & Evaluation

Under existing conditions, the site supports a dwelling, driveway and flagstone patios in the central portion of the site. A pending lot line revision would convey 0.5 acres to the abutting property to the north, which would include the existing pool, pool patio, pool house and two accessory garages. The existing dwelling is sited at the high point of the parcel, which drops in elevation in all directions. Runoff from onsite areas to the west, south and east of the dwelling are tributary to the onsite wetland in the southern portion of the parcel. Runoff from onsite areas to the north of the dwelling is tributary to the offsite wetland pocket. Existing drainage patterns will generally be maintained under post-construction conditions.
Refer to Exhibit “C” for the USDA soil delineation map and hydraulic soil group ratings for the site. Refer to the Development Plan for the test pit locations and Appendix “D” for the soil test results forms.

1.4. Development Envelope

The proposed development envelope will encompass approximately 42% of the subject parcel. Sediment and erosion controls will be installed around the proposed development envelope prior to the start of construction to minimize the impact to the surrounding areas and onsite wetlands.

1.5. LID Control Strategies

In the watershed analysis of existing and proposed conditions, the site has been divided into various sub-drainage areas discharging to two POCs, “points of concern.” The analysis is limited to the subject parcel. Refer to Exhibits “A” and “B” for a depiction of the existing and proposed conditions drainage areas and flow paths. Refer to Appendices “I” and “J” for the existing and proposed HydroCAD Analysis.

Conformance to the standards for water quality, TSS removal, and runoff volume reduction will be achieved through the construction of the proposed BMPs. The runoff peak flow reduction standard has been met for all storms up to the 25-year storm to the point of concern. Refer to the HydroCAD Summary Table in Appendix “H” for a comparison of existing and proposed condition stormwater runoff volumes and flow rates to all points of concern.

2. Structural BMPs

2.1. Water Quality Volume and TSS Removal

Refer to Appendix “C” for Water Quality Volume calculations. The proposed BMPs will provide adequate storage to retain and infiltrate the water quality volume of the contributing runoff from the proposed impervious improvements.

Retention of the Water Quality Volume from newly constructed impervious areas will provide the minimum 80% removal of total suspended solids (TSS), which exceeds Town standards. Refer to Appendix “C” for TSS removal calculations.

This volume will be retained and infiltrated by the proposed permeable paver courtyards, rain garden and retention system. Refer to Appendix “C” for 72-Hour Drawdown Calculations.

2.2. Runoff Reduction Volume

The proposed development will result in a decrease in runoff volume from the site for the 1-year storm event towards the points of concern, as compared to existing conditions. Refer to Appendix “C” for Runoff Reduction Volume Calculations.
2.3. **Groundwater Recharge Volume**

The groundwater recharge standard has been satisfied through the stormwater infiltration capabilities of the proposed porous asphalt. Refer to Appendix “C” for Groundwater Recharge Volume Calculations.

2.4. **Peak Runoff Attenuation**

The proposed development will decrease peak runoff flow rates to less than pre-construction conditions to all points of concern. Refer to Appendices “I” and “J”. The decrease in peak runoff flow rates meets the standard of reduction for all storms up to the 25-year storm.

3. **Conclusion**

The proposed improvements to the subject parcel will increase the impervious coverage on the site and thus increase the volume and peak rate of runoff generated during a storm event. However, with the use of the proposed BMPs and site grading there will be a reduction in stormwater runoff flow rates to the point of concern.

The proposed development will meet the water quality volume, TSS removal, runoff reduction volume, and groundwater recharge volume standards of the Town of Greenwich Drainage Manual to the maximum extent practicable. The proposed development incorporates pretreatment and attenuation of runoff to the maximum extent practicable. If the development is constructed as depicted on the proposed plans, there will be no adverse impacts to downstream properties or onsite wetlands due to the proposed improvements.
Exhibits “A & B”

Watershed Maps -
Existing and Proposed Conditions
Exhibit "C"

NRCS Web Soil Survey
MAP LEGEND

Area of Interest (AOI)

Soils
Soil Rating Polygons
A
A/D
B
B/D
C
C/D
D
Not rated or not available

Water Features
Streams and Canals

Transportation
Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Soil Rating Lines
A
A/D
B
B/D
C
C/D
D
Not rated or not available

Background
Aerial Photography

MAP INFORMATION

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

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

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

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

Date(s) aerial images were photographed: Jul 21, 2014—Aug 27, 2014

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

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>73C</td>
<td>Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky</td>
<td>B</td>
<td>7.4</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Totals for Area of interest: 7.4 acres, 100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified
Tie-break Rule: Higher
Exhibit “D”

FEMA Flood Map
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/13/2021 at 9:10 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmerged and unmodified areas cannot be used for regulatory purposes.
Appendix “A”

Credits for LID BMPs
## Credits for Low Impact Development (LID) Best Management Practices (BMPs)

<table>
<thead>
<tr>
<th>LID Technique</th>
<th>Compliance Requirements</th>
<th>Credit</th>
<th>LID Used</th>
<th>Credit Taken</th>
</tr>
</thead>
</table>
| Minimizing Soil Compaction (Section 4.4.1) | - The "no disturbance" areas are protected by having the limits of disturbance and access clearly shown on the Stormwater Management Plan, all construction drawings, and delineated/flagged/fenced in the field.  
- "No disturbance" areas are not to be stripped of existing topsoil.  
- "No disturbance" areas are not to be stripped of existing vegetation.  
- Vehicle movement, storage, or equipment/material lay-down is not to be permitted in "no disturbance" areas.  
- Use of soil amendments and additional topsoil is permitted in other areas being disturbed. Grading may be performed using low ground pressure equipment (less than 3 pounds per square inch) to reduce the potential for soil compaction.  
- Lawn and turf grass are acceptable uses. Planted meadow is an encouraged use. | Areas that comply (i.e., "no disturbance areas") can use the forested cover and open space site cover runoff coefficient (R) when calculating the required Water Quality Volume. See Section 5.6.3 and Table 5-5, Site Cover Runoff Coefficients. |          |              |
| Minimizing Site Disturbance (Section 4.4.2) | Site disturbance including earthwork and clearing of vegetation should be limited to 40 feet beyond the building perimeter, 10 feet beyond the primary roadway curbs, walkways, and main utility branch trenches, and 25 feet beyond areas of proposed infiltration in order to limit compaction in the proposed infiltration area. This guidance is not intended to limit lawn areas. | Areas that comply can use the forested cover and open space site cover runoff coefficient (R) when calculating the required Water Quality Volume. See Section 5.6.3 and Table 5-5, Site Cover Runoff Coefficients. |          |              |
| Protecting Sensitive Natural Areas (Section 4.4.3) | Sensitive natural areas should be conserved at development sites, thereby preserving predvelopment hydrologic and water quality characteristics. The area must be permanently protected under a conservation easement. | The project proponent can subtract the conservation area from the total area in the Water Quality Volume calculation. |          |              |
| Protecting Riparian Buffers (Section 4.4.4) | Effective treatment of stormwater runoff is achieved when pervious and impervious area runoff is discharged to a grass or forested buffer via overland flow. The use of a filter strip is recommended to treat overland flow in the green space of a development site.  
  - The minimum stream buffer width (i.e., perpendicular to the stream flow path) shall be 50 feet as measured from the top bank elevation of a stream or the boundary of a wetland.  
  - The maximum contributing path shall be 150 feet for pervious surfaces and 75 feet for impervious surfaces.  
  - The average contributing overland slope to and across the buffer shall be less than or equal to 5%.  
  - Runoff shall enter the buffer as sheet flow. A level spreader shall be utilized where local site conditions prevent sheet flow from being maintained.  
  - The stream buffer remains unmanaged other than routine debris removal.  
  - The buffer is protected by an acceptable conservation easement or other enforceable instrument that provides perpetual protection of the area. The easement must clearly specify how the natural area vegetation shall be | The area draining by sheet flow to a buffer can be subtracted from the total area in the Water Quality Volume calculation, and the impervious area draining to the buffer by sheet flow can be subtracted from the impervious area in the Groundwater Recharge Volume calculation and post-development impervious area in the Runoff Reduction Volume calculation. |          |              |
## Credits for Low Impact Development (LID) Best Management Practices (BMPs)

<table>
<thead>
<tr>
<th>LID Technique</th>
<th>Compliance Requirements</th>
<th>Credit</th>
<th>LID Used</th>
<th>Credit Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoiding Disturbance of Steep Slopes (Section 4.4.5)</td>
<td>Development on steep slope areas shall be avoided. Unnecessary grading should be avoided on all slopes, as should the flattening of hills and ridges. Development shall follow the natural contours of the landscape.</td>
<td>Undisturbed steep slope areas can use the forested cover and open space site cover runoff coefficient (R) when calculating the required Water Quality Volume. See Section 5.6.3 and Table 5-5, Site Cover Runoff Coefficients.</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Siting on Permeable and Erodible Soils (Section 4.4.6)</td>
<td>Whenever possible, highly erodible soils should be left undisturbed and protected from disturbance during site construction. Gravel soils tend to be the least erodible. Also as clay and organic matter increase erodibility tends to decrease. Infiltration practices should be located on those portions of the site with the most permeable soils.</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Protecting Natural Flow Pathways (Section 4.4.7)</td>
<td>Site designs should use and/or improve natural drainage pathways whenever possible to reduce or eliminate the need for stormwater pipe networks. Natural drainage pathways should be protected from significantly increased runoff volumes and rates due to development. The design should prevent the erosion and degradation of natural drainage pathways through the use of upstream volume and rate control BMPs, if necessary. Level spreaders, erosion control matting, revegetation, outlet stabilization, and check dams can also be used to protect natural drainage features.</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Reducing Impervious Surfaces (Section 4.4.8)</td>
<td>By reducing the amount of paved surfaces, stormwater runoff is decreased while infiltration and evapotranspiration opportunities are increased.</td>
<td>Reducing impervious surfaces reduces the Water Quality Volume, Runoff Reduction Volume, Groundwater Recharge Volume, and Peak Flow/Runoff Attenuation requirements.</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>Stormwater Disconnection (Section 4.4.9)</td>
<td>Disconnecting roof leaders and routing road and driveway runoff from conventional stormwater conveyance systems allows runoff to be collected and managed onsite. Runoff can be directed to vegetated areas designed for onsite storage, treatment, and volume control. All design criteria from section 4.4.9 must be met in order to obtain the credits shown.</td>
<td>Methods to compute the resultant runoff volumes and peak runoff rates from disconnected impervious areas are discussed in Section 4.6 of this manual and the design references cited therein. For simple disconnection, subtract 100% of the disconnected area from the total area in the Water Quality Volume calculation if the receiving pervious area is HSG A or B soils or 50% of the</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
</tbody>
</table>
# Credits for Low Impact Development (LID) Best Management Practices (BMPs)

<table>
<thead>
<tr>
<th>LID Technique</th>
<th>Compliance Requirements</th>
<th>Credit</th>
<th>LID Used</th>
<th>Credit Taken</th>
</tr>
</thead>
</table>
| Compost-Amended Soils         | Restore the original properties and porosity of the soil by deep till and amendment with compost to reduce the generation of runoff and enhance the runoff reduction performance of infiltration BMPs.  
- Soil must be tilled to 12 to 16 inches and amended with small amounts of organic material.  
- For mechanical aeration of lawns/turf to be effective:  
  - Utilize a soil aerator that has a mechanical action that not only penetrates the soil surface but also shatters the soil matrix, causing the soil to decompact and crack, thus creating void space and increasing infiltration. (Passive-type aerators which simply poke a hole into the soil, whether it removes a plug or simply spikes a hole, can create a hardpan effect at the depth of penetration.)  
  - Shatter-type aerators include vertidrain, soil reliever, agrivator, and groundbreaker. Shatter-type aerators should penetrate the soil at depths of 8 to 18 inches.  
- The depth to water table or bedrock must be greater than 18 inches.  
- Existing soils may not be saturated or seasonal wet.  
- Slopes may not exceed 10%.  
- Existing tree root systems shall be avoided, no deep till or amendment under the tree drip lines. | disconnected area if the receiving pervious area is HSG C or D soils.  
For disconnection to LID BMPs, subtract 100% of the disconnected area from the total area in the Water Quality Volume calculation.  
Subtract 50% of any restored areas (100% of any restored and reforested areas) from the total post development site area and re-calculate the Runoff Reduction Volume. | ✗       | ✗            |
| Rainwater Harvesting (Rain Barrels) | Rain barrels should hold a minimum of 50 gallons.  
Rain barrels can be connected in series to provide larger storage volumes.  
Equip rain barrels with a drain spigot near the bottom of the barrel with garden hose threading to allow easy hook up and use for watering.  
Provide an overflow pipe or hose near the top of the rain barrel.  
Provide removable, child-resistant covers.  
Provide mosquito screening on water entry holes to prevent mosquito breeding in standing water | Subtract 25% of the contributing drainage area from the total area in the Water Quality Volume calculation. | ✗       | ✗            |

---

*Town of Greenwich Drainage Manual  
February 2014*
## Credits for Low Impact Development (LID) Best Management Practices (BMPs)

<table>
<thead>
<tr>
<th>LID Technique</th>
<th>Compliance Requirements</th>
<th>Credit</th>
<th>LID Used</th>
<th>Credit Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The rooftop runoff must be captured and either (1) used on site for irrigation of lawns and gardens, wash water and other non-potable uses, or (2) treated and released, or (3) infiltrated. The cistern must be sized to treat the design rainfall from the roof area directed to the water harvesting system. If all of the design volume captured cannot be used, then a scaled reduction in credit will be given. The remaining volume must be treated by a properly designed BMP. A minimum factor of safety equal to 1.2 must be applied to the calculated cistern volume required. All stormwater collected must have a dedicated, year-round, use to assure no overflow of the system during a design rainfall. A water balance calculation must be used to establish the dedicated use volumes and rates. The water balance calculation must demonstrate that the design volume can: (1) be drawn down (used) within 3 days to allow for available volume in the system for the next rain event to be captured and stored, or (2) have an overflow of no more than 14 percent of the annual average historic rainfall, or (3) be drawn down within 3 days and discharged to a properly designed BMP. On a case-by-case basis, reduced credit may be given if the design volume cannot be reliably drawn down within 3 days, or if a year-round reuse is not available. The dedicated water use system must be automated to ensure that the water will be used at the rate and volume designed. The overflow shall discharge flows in excess of the design volume to a vegetated or natural area, or to another properly designed BMP (e.g., rain garden). The discharge shall be non-erosive flow for the 10-yr rainfall event. It shall not discharge directly to impervious surfaces. The elevation of the overflow pipe from the cistern shall be at or above the design volume elevation. If a first flush diverter is used, the bypassed water must discharge to a properly designed BMP. The first flush can be directed to a relatively small BMP next to the water harvesting system, or it can be directed to and accounted for in other BMPs on the site. At a minimum, a 1 mm or smaller screen at the entrance to the cistern from the gutter system shall be provided to filter out debris and to keep mosquitoes out of the cistern. If the water reuse system is designed to accommodate basement sump/foundation drain water and roof runoff, the design must allow for adequate storage for the full volume of roof runoff for the next design storm and basement sump/foundation drain water.</td>
<td>Subtract 100% of the contributing drainage area from the total area in the Water Quality Volume calculation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LID Technique</td>
<td>Compliance Requirements</td>
<td>Credit</td>
<td>LID Used</td>
<td>Credit Taken</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>A properly designed footing for the cistern must be designed if the load of the cistern at full capacity is greater than the soils will support. If it is buried, buoyancy calculations must be provided to show the cistern will not float when empty. Buoyancy calculations and flotation constraints must be provided if any part of the buried cistern is below the seasonal high water table, or if the area is subject to flooding. An appropriate pump shall be selected to provide adequate pressure for its designated uses. Above ground cisterns shall be made of a material or color that prevents light from entering the cistern, which helps prevent algae growth within the cistern. Irrigation water from a cistern shall be applied so that the water infiltrates into the ground. If for any reason the designed dedicated end use becomes unavailable because of some change, it will be required that an approved alternative end use or a properly designed BMP treatment system be installed on site to manage the roof runoff. The harvesting system shall be labeled and identified as non-potable water. The harvesting system shall meet all local and state building and plumbing codes.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix "B"

Stormwater Management Standards Narrative
Standard 1: Low Impact Development

Low Impact Development site planning and design techniques are incorporated into the proposed development to the maximum extent practical to reduce the generation of stormwater runoff and pollutant loads.

Several stormwater BMPs are proposed to provide treatment and attenuation of site generated runoff from the proposed impervious surfaces prior to discharging off-site. Refer to Appendix C for sizing of each proposed LID and non-LID BMP.

Standard 2: Protection of Natural Hydrology

A. Site Disturbance
The project disturbance area shall include only the area necessary to reasonably accommodate construction activities. Construction fence and silt fence will be positioned to allow for the construction of the proposed development but protect the on-site wetlands and portions of the onsite woodland. All areas outside the silt fence and construction fence will be maintained at existing grade with natural vegetation throughout the duration of the project.

B. Soil Compaction
As indicated on the plans, construction fence will be installed around the location of the proposed stormwater infiltration systems prior to the start of site construction to prohibit heavy equipment from compacting soils in these areas. The contractor will be instructed to not place excavation equipment in the bottom of the stormwater infiltration area at any point during construction.

C. Time of Concentration
The time of concentration values under post-development conditions will be similar in nature to pre-development conditions for all onsite watersheds. Refer to Exhibit “A” and “B” for a depiction of pre and post-development time of concentration flow paths and proposed grading. Refer to Appendix “I” and “J” for pre and post-development time of concentration calculations.

D. Grading Plan
The proposed grading follows the existing contours of the landscape to the maximum extent practical to facilitate construction of proposed development. The proposed grading will maintain the natural flow pathways with respect to the subject property. Refer to the Grading Plan for a depiction of the proposed grading.

E. Compost Amended Soils
Compost amended soils are not incorporated in the proposed development.
F. **Ground Disturbance**
As specified on the development plans, no disturbed ground is to be left as exposed bare soil at project completion. All disturbed areas shall be covered with topsoil and stabilized with grass or vegetation.

G. **Surface Water Systems**
The existing on-site wetland will be maintained under proposed conditions.

H. **Roadway and Driveway Crossings (Surface Waters)**
Sub-standard is not applicable to this project.

I. **Roadway and Driveway Crossings (Streams)**
Sub-standard is not applicable to this project.

**Standard 3: Stormwater Best Management Practices**
Several stormwater BMPs will be utilized to meet the stormwater management requirements. Refer to Appendix “C” for an in depth analysis of the proposed systems.

A. **Hydrologic and Geologic Conditions**
The proposed stormwater BMPs were incorporated into the design to accommodate the unique hydrologic, geologic, and topographic conditions of the site and to take advantage of the soil’s natural ability to infiltrate stormwater.

B. **Design Calculations**
Design calculations for runoff reduction, water quality volume, groundwater recharge, peak flow control and pollutant reduction are provided in Appendix C.

C. **Shutdown & Containment**
Each structural stormwater BMP has flow enter and exit the system via a stormwater drainage structure. The inlet and outlet pipes within these structures can be plugged and will allow for shutdown of these systems if required by the approving authority.

D. **Pumping of Stormwater**
Pumping of stormwater is not included in the proposed development.

E. **Pumping of Uncontaminated Groundwater**
Pumping of uncontaminated groundwater is not included in the proposed development.

**Standard 4: Runoff Volume Reduction and Groundwater Recharge**

A. **Runoff Volume Reduction**
The proposed development will not result in an increase in runoff volume to the Point of Concerns, during the 1-year, 24-hour design storm at the completion of construction.

Refer to Appendix “C” for Runoff Reduction Volume Calculations

B. **Groundwater Recharge**
The proposed drainage design is compliant with the groundwater recharge standard. Refer to Appendix “C” for calculations.
Appendix B: Stormwater Management Standards Narrative

C. Runoff Capture
This substandard is not applicable.

**Standard 5: Peak Flow Control**

A. Stream Channel Protection
This substandard is not applicable

B. Conveyance Protection
Conveyance computations for proposed storm drainage systems are provided in Appendix E.

C. Peak Runoff Attenuation
Refer to the HydroCAD Summary Table in Appendix H for a summary and comparison of peak flow rates as well as Appendices “I” and “J” for the results of the Hydrologic Analyses for existing and proposed conditions, respectively.

D. Emergency Outlet Sizing
Should the proposed stormwater management systems reach capacity, flow will exit each system via level spreader or rip rap splash pad into stabilized vegetated areas. Refer to Appendix “F” for the Outlet Sizing Calculations.

**Standard 6: Pollutant Reduction**

A. TSS Removal
The proposed drainage systems will provide removal of over 80% of the average post-construction load of Total Suspended Solids (TSS) from the contributing impervious areas. The proposed subsurface stormwater management systems will provide sufficient retention of the water quality volume from the contributing areas, and will also provide sufficient TSS Removal. Refer to Appendix “C” for Water Quality Volume and TSS Removal Efficiency Calculations.

**Standard 7: High Load Areas**

This site is not classified as being in a High Load Area. Therefore, standard 7 is not applicable.

**Standard 8: Critical Area**

This site is considered to be within a critical area due to onsite wetlands.

A. Source Control, Pollution Prevention Measures, Structural Stormwater BMPs
The proposed BMPs have been designed to collect and infiltrate the Water Quality Volume of runoff generated from tributary on-site impervious areas, thus meeting the pollutant reduction standard.

B. Higher Potential Pollutant Loads
This site is not classified as a High Load Area. Therefore this standard is not applicable to this project.

**Standard 9: Redevelopment**

A. Redevelopment Definition
This project is considered a new development since the property is currently undeveloped.

Rocco V. D’Andrea, Inc
B. Meet the Standards
As outlined in this report, the proposed project meets the standards to the maximum extent possible, including the evaluation of LID site planning and the inclusion of stormwater BMPs.

C. Undeveloped Portions of the Property
Undeveloped portions of the property proposed to be developed comply with the Stormwater Management Standards to the maximum extent practical based on the site-specific limitations.

D. Stormwater Controls
The proposed structural stormwater BMPs have been designed to reduce pollutant loads, provide peak runoff attenuation, reduce runoff volumes, and increase groundwater recharge.

E. Infiltration through Hazardous Substances
This standard is not applicable to this project.

Standard 10: Construction Erosion and Sediment Control

A. Sedimentation and Erosion Control Plan
Refer to the Final Site Plan Review Set, for a depiction of the proposed sedimentation and erosion control measures.

B. Sedimentation and Erosion Control Measures Installation and Removal
The proposed site design instructs the contractor to install all sedimentation and erosion control measures prior to commencing construction and to appropriately remove these measures at the completion of construction.

Standard 11: Construction Inspections

A. Surety
If requested by the approving authority, the proponent will post a bond, cash, or other acceptable surety in an amount deemed sufficient to ensure the work will be completed in accordance with the approved plans.

B. Notification of Work
The proponent will be instructed to notify the approving authority before starting land-disturbing activity and before construction of the key components of the stormwater management system.

C. Stormwater Management System Inspections
The project engineer will complete periodic inspections of the stormwater management system.

D. Site Inspections
The project engineer will complete site inspections in accordance with this sub-standard and the Field Inspection Record form (SC-106). The project engineer will inspect the stormwater management system during a storm event if possible.

E. Failing Stormwater Management System
The approving authority will be notified if the system is found to be inadequate due to operational failure, regardless of its compliance with the approved plans. The design of the system shall then be corrected before final approval is granted by the approving authority.
F. **Project Completion**
Upon project completion, the project's compliance with the approved plans will be certified and all required inspection certifications will be provided to the approving authority.

**Standard 12: Operation and Maintenance**

A. **Operation and Maintenance Plan**
Refer to the Operations and Maintenance Plan Report prepared for the project outlining maintenance measures to ensure functionality of the proposed stormwater management system.

B. **O&M Plan Components**
The Operations and Maintenance Plan will identify all applicable items in Section 5 and Section 7 of the Town of Greenwich Drainage Manual.

C. **O&M Plan Implementation**
The Operation and Maintenance Plan Report will identify the parties legally responsible for implementing the O&M Plan.

D. **O&M Plan Records**
The appropriate parties will be instructed to complete and retain documents relating to installation, maintenance and repairs to the stormwater management system for at least five years.

E. **Proof of O&M Plan Records**
The appropriate parties will be instructed to provide records of maintenance and repairs to the approving authority during inspections and/or upon request.

F. **Failure to Implement O&M Plan**
The appropriate parties will be informed that failure to implement the O&M Plan can result in the municipality assuming responsibility for their implementation and securing reimbursement for associated expenses.

**Standard 13: Stormwater Management Report**
The drainage design depicted on the Development Plans for the site is congruent with the stormwater management plan outlined in this report.

**Standard 14: Illicit Discharges**
To the best of our knowledge, this office is not aware of any illicit discharges currently on-site. The proposed site design does not depict any illicit discharges to be installed.
Appendix “C”

Stormwater Management Standards Calculations
Runoff Reduction Volume at POC A

1-Year Design Storm Runoff Data at POC A
Pre-development runoff volume = 3,964 ft$^3$
Post-development runoff volume (No BMPs) = 6,787 ft$^3$
Runoff Volume stored in Retention System #1 below overflow (El. = 180.8) = 1,556 ft$^3$
Runoff Volume stored in Infiltration Trench below 12" outlet (El. = 183.3) = 662 ft$^3$
Runoff Volume stored in Permeable Paver Patio Below high overflow (El. = 186.7) = 731 ft$^3$

\[ V_{post-BMP} = V_{post} - SV_{RS1} - SV_{IT} - SV_{PPP} \]

\[ RRV = V_{post-BMP} - V_{pre} \]

Where:
- RRV = Runoff reduction volume
- \( V_{pre} \) = 1-year pre-development runoff volume
- \( V_{post} \) = 1-year post-development runoff volume (No BMPs)
- \( V_{post-BMP} \) = 1-year post-development runoff volume (With BMPs)
- \( SV_{RS1} \) = Volume Stored in Retention System #1
- \( SV_{IT} \) = Volume Stored in Infiltration Trench
- \( SV_{PPP} \) = Volume Stored in Permeable Paver Patio

\[ V_{post-BMP} = 6,787 - 1,556 - 662 - 731 = 3,838 ft^3 \]

\[ RRV = 3,838 - 3,964 = -126 ft^3 \]

Runoff Reduction Volume (RRV) @ POC A = -126 ft$^3$

\( V_{post-BMP} < V_{pre} \), Therefore the Runoff Volume Reduction Standard has been met.

Runoff Reduction Volume at Offsite Wetland

1-Year Design Storm Runoff Data
Pre-development runoff volume = 2,273 ft$^3$
Post-development runoff volume (No BMPs) = 3,069 ft$^3$
Runoff Volume stored in Permeable Paver Courtyard Below 8" overflow (El. = 186.8) = 1,434 ft$^3$

\[ V_{post-BMP} = V_{post} - SV_{PPC} \]

\[ RRV = V_{post-BMP} - V_{pre} \]
Where:

\[ \text{RRV} = \text{Runoff reduction volume} \]
\[ V_{\text{pre}} = 1\text{-year pre-development runoff volume} \]
\[ V_{\text{post}} = 1\text{-year post-development runoff volume (No BMPs)} \]
\[ V_{\text{post-BMP}} = 1\text{-year post-development runoff volume (With BMPs)} \]
\[ SV_{\text{PFC}} = \text{Volume Stored in Permeable Paver Courtyard} \]

\[ V_{\text{post-BMP}} = 3,069 - 1,434 = 1,635 \text{ ft}^3 \]

\[ \text{RRV} = 1,635 - 2,273 = -638 \text{ ft}^3 \]

**Runoff Reduction Volume (RRV) @ Offsite Wetland = -638 ft}^3**

\[ V_{\text{post-BMP}} < V_{\text{pre}} \text{ Therefore the Runoff Volume Reduction Standard has been met.} \]

- **Groundwater Recharge Volume (GRV) Calculation**

  Site Information
  - Existing Impervious Coverage = 14,276 ft\(^2\)
  - Proposed Impervious Coverage = 29,864 ft\(^2\)
  - Net Increase = 15,588 ft\(^2\)

  \[
  GRV = \frac{\text{lin}}{\text{12 in}} F I
  \]

  Where:
  - GRV = Required groundwater recharge volume
  - F = Target depth factor = 0.35 \text{ in} (HSG B)
  - I = Net increase in impervious area = 15,588 ft\(^2\)

  \[
  GRV = \frac{0.35}{12} (15,588) = 455 \text{ ft}^3
  \]

  **Groundwater Recharge Volume (GRV) = 455 ft}^3**

  The Groundwater Recharge Volume will be retained and infiltrated in Retention System #1.
  The storage volume below the high overflow in Retention System #1 = 1,556 \text{ ft}^3

- **Water Quality Volume (WQV) Calculations**

  \[
  WQV = \frac{\text{lin}}{\text{12 in}} R A
  \]

  \[ R = \text{Volumetric Runoff Coefficient} = R_vI^*\%I + R_vT^*\%T + R_vF^*\%F \]
  \[ R_v = \text{Runoff Coefficient for Impervious Cover} = 0.95 \]
  \[ \%I = \text{Percent of Watershed Basin in Impervious Cover (Fraction)} \]
  \[ R_vT = \text{Runoff Coefficient for Lawn (HSG B=0.2)} \]
8 Fox Run Lane Greenwich, CT
Appendix C: Stormwater Management Standards Calculations

%T = Percent of Watershed Basin in Lawn Cover (Fraction)
RvP = Runoff Coefficient for Woods/Brush (HSG B=0.03)
%F = Percent of Watershed Basin in Woods/Brush Cover (Fraction)
A = Watershed Area (square feet)

<table>
<thead>
<tr>
<th>Watershed Basin</th>
<th>Watershed Area (sf)</th>
<th>Impervious Coverage</th>
<th>Lawn Coverage</th>
<th>Woods/Meadow Coverage</th>
<th>R (Runoff Coefficient)</th>
<th>WQV (cf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area #2A</td>
<td>4,854</td>
<td>3,677 76</td>
<td>1,177 24</td>
<td>0 0</td>
<td>0.77</td>
<td>311</td>
</tr>
<tr>
<td>Area #4A</td>
<td>12,693</td>
<td>3,629 29</td>
<td>9,064 71</td>
<td>0 0</td>
<td>0.41</td>
<td>438</td>
</tr>
<tr>
<td>Area #4B</td>
<td>8,400</td>
<td>7,920 94</td>
<td>480 6</td>
<td>0 0</td>
<td>0.91</td>
<td>635</td>
</tr>
<tr>
<td>Pool House</td>
<td>1,051</td>
<td>1,051 100</td>
<td>0 0</td>
<td>0 0</td>
<td>0.95</td>
<td>83</td>
</tr>
<tr>
<td>Roof #1</td>
<td>3,148</td>
<td>3,148 100</td>
<td>0 0</td>
<td>0 0</td>
<td>0.95</td>
<td>249</td>
</tr>
<tr>
<td>Area #7A</td>
<td>8,925</td>
<td>8,447 95</td>
<td>478 5</td>
<td>0 0</td>
<td>0.91</td>
<td>677</td>
</tr>
</tbody>
</table>

Area #2A: The WQV for this drainage basin will be collected and infiltrated by Permeable Paver Patio. The storage volume of Permeable Paver Patio below the overflow is approximately 1,102 cubic feet.

Area #4B: The WQV for this drainage basin will be collected and infiltrated by the Infiltration Trench. The storage volume of the Infiltration Trench below the 12" outlet is approximately 662 cubic feet.

Pool House and Area #4A: The WQV for these drainage basins will be collected and infiltrated by Retention System #1. The storage volume of Retention System #1 below the high overflow is approximately 1,556 cubic feet.

Area #7A & Roof #1: The WQV for these drainage basins will be collected and infiltrated by Permeable Paver Courtyard. The storage volume of Permeable Paver Courtyard below the high overflow is approximately 1,434 cubic feet.

☐ Impervious Coverage Percent LID Calculations to POC A

Total impervious coverage under proposed conditions tributary to POC A: 17,388 sq.ft.


Area #4B (LID treatment: Infiltration Trench): 7,920 sq.ft.

Total impervious coverage treated using LID BMPs: 11,597 sq.ft.

Percent of impervious coverage treated using LID BMPs: 66.7%
Impervious Coverage Percent LID Calculations to Offsite Watershed

Total impervious coverage under proposed conditions tributary to Offsite Watershed: 13,196 sq.ft.

Area #7A (LID treatment: Permeable Paver Courtyard): 8,447 sq.ft.


Total impervious coverage treated using LID BMPs: 11,595 sq.ft.

Percent of impervious coverage treated using LID BMPs: 87.9%

Drawdown Calculations

According to the NRCS Web Soil Survey in Exhibit “C”, the site lies within a mapped area of HSG-B soils. The results of these tests can be found in Appendix “D”. The following draw down calculations are based on the soils observed in each test pit in the vicinity of the respective best management practice.

Permeable Paver Patio Drawdown Time:

\[ t_{\text{drawdown}} = \frac{DV}{kA} \]

Where:
- \( DV \) = Design Volume = 1,102 ft³
- \( k \) = Infiltration Rate = 0.27 in/hr (Silty Loam)
- \( A \) = Bottom Area = 1,020 ft²

\[ t_{\text{drawdown}} = \frac{1,102 \text{ ft}^3}{(0.27 \text{ in/hr}) \left(\frac{1 \text{ ft}}{12 \text{ in}}\right) \left(1,020 \text{ ft}^2\right)} = 48.0 \text{ hr} \]

Permeable Paver Patio will draw down within 48.0 hrs

Retention System #1 Drawdown Time:

\[ t_{\text{drawdown}} = \frac{DV}{kA} \]

Where:
- \( DV \) = Design Volume = 1,556 ft³
- \( k \) = Infiltration Rate = 0.27 in/hr (Silty Loam)
- \( A \) = Bottom Area = 1,400 ft²

\[ t_{\text{drawdown}} = \frac{1,556 \text{ ft}^3}{(0.27 \text{ in/hr}) \left(\frac{1 \text{ ft}}{12 \text{ in}}\right) \left(1,400 \text{ ft}^2\right)} = 49.4 \text{ hr} \]

Retention System #1 will draw down within 49.4 hrs
Infiltration Trench Drawdown Time:

\[ t_{\text{drawdown}} = \frac{DV}{kA} \]

Where:
- \( DV \) = Design Volume = 662 ft\(^3\)
- \( k \) = Infiltration Rate = 0.52 in/hr (Loam)
- \( A \) = Bottom Area = 720 ft\(^2\)

\[ t_{\text{drawdown}} = \frac{662 \text{ ft}^3}{(0.52 \text{ in/hr}) \left(\frac{1 \text{ ft}}{12 \text{ in}}\right)720 \text{ ft}^2} = 21.2 \text{ hr} \]

Infiltration Trench will draw down within 21.2 hrs

Permeable Paver Courtyard Drawdown Time:

\[ t_{\text{drawdown}} = \frac{DV}{kA} \]

Where:
- \( DV \) = Design Volume = 1,434 ft\(^3\)
- \( k \) = Infiltration Rate = 0.27 in/hr (Silty Loam)
- \( A \) = Bottom Area = 3,260 ft\(^2\)

\[ t_{\text{drawdown}} = \frac{1,434 \text{ ft}^3}{(0.27 \text{ in/hr}) \left(\frac{1 \text{ ft}}{12 \text{ in}}\right)3,260 \text{ ft}^2} = 19.6 \text{ hr} \]

Permeable Paver Courtyard will draw down within 19.6 hrs

□ TSS Removal Efficiency Calculations

Retention System #1 & Infiltration Trench:

<table>
<thead>
<tr>
<th>BMP</th>
<th>TSSRemoval Rate</th>
<th>Starting TSS</th>
<th>Amount Removed (BQ)</th>
<th>Remaining Load (CD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permeable Pavers</td>
<td>90%</td>
<td>1.00</td>
<td>0.90</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Total TSS Removal = 90.0%

Permeable Paver Patio & Coutyard:

<table>
<thead>
<tr>
<th>BMP</th>
<th>TSS Removal Rate</th>
<th>Starting TSS</th>
<th>Amount Removed (B*C)</th>
<th>Remaining Load (C-D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permeable Pavers</td>
<td>90%</td>
<td>1.00</td>
<td>0.90</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Total TSS Removal = 90.0%
Appendix “D”

Soils Results Forms
SOIL EVALUATION TEST RESULTS

Project Name: Single Family Residence
Project Address: 8 Fox Run Lane

<table>
<thead>
<tr>
<th>Elevation</th>
<th>Soil Texture (Percent Sand, Silt and Clay)</th>
<th>Depth Range in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>174.1</td>
<td>Topsoil</td>
<td>0</td>
</tr>
<tr>
<td>172.8</td>
<td>Orange Brown Silty Loam</td>
<td>16</td>
</tr>
<tr>
<td>171.9</td>
<td>Tan Gray Mottled Silt</td>
<td>27</td>
</tr>
<tr>
<td>168.1</td>
<td></td>
<td>72</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elevation</th>
<th>Depth in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>171.9</td>
<td>Mottling (Seasonally High Groundwater) 27</td>
</tr>
<tr>
<td>171.9</td>
<td>Roots 27</td>
</tr>
<tr>
<td>-</td>
<td>Groundwater -</td>
</tr>
<tr>
<td>-</td>
<td>Ledge</td>
</tr>
</tbody>
</table>

Ground Elevation: 174.1
Saturated Hydraulic Conductivity Test Location #:

**Saturated Hydraulic Conductivity Test Location #:

Ground Elevation: 
Top Elevation of Proposed Infiltration System: 
Bottom Elevation of Proposed Infiltration System: 

Elevation of Test*:

Test Method (check one of the following acceptable methods**): 
- Borehole infiltration test (NHDES, 2008)
- Guelph permeameter - ASTM D5126-90 Method
- Falling head permeameter – ASTM D5126-90 Method
- Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods
- Amoozegar or Amoozegar (constant head) permeameter – Amoozegar 1992

Attach field data forms for the respective infiltration test method.

Calculated Saturated Hydraulic Conductivity Rate: 

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

* All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

* All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

TEST CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

Name of Test Conductor: [Signature]
Signature of Test Conductor: [Signature]
Date: 3-17-21
**SOIL EVALUATION TEST RESULTS**

**Project Name:** Single Family Residence  
**Project Address:** 8 Fox Run Lane  
**Engineering Firm's Name:** Rocco V. D'Andrea, Inc.  
**Engineer's Name:** Richard Regan

<table>
<thead>
<tr>
<th>Test Pit or Soil Boring #</th>
<th>Ground Elevation: 174.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation</td>
<td>Soil Texture (Percent Sand, Silt and Clay)</td>
</tr>
<tr>
<td>174.8</td>
<td>Topsoil</td>
</tr>
<tr>
<td>173.8</td>
<td>Orange Brown Silty Loam</td>
</tr>
<tr>
<td>172.5</td>
<td>Tan Gray Mottled Silt</td>
</tr>
<tr>
<td>168.8</td>
<td></td>
</tr>
</tbody>
</table>

**Saturated Hydraulic Conductivity Test Location #:**

- **Ground Elevation:**  
- **Top Elevation of Proposed Infiltration System:**  
- **Bottom Elevation of Proposed Infiltration System:**  
- **Elevation of Test:**
  - **Test Method** (check one of the following acceptable methods**):
    - Borehole infiltration test (NHDES, 2008)
    - Guelph permeameter - ASTM D5126-90 Method
    - Falling head permeameter - ASTM D5126-90 Method
    - Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods
    - Amoozemeter or Amoozegar (constant head) permeameter - Amoozegar 1992

Attach field data forms for the respective infiltration test method.

**Calculated Saturated Hydraulic Conductivity Rate:**

**Note:**

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.**

* All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

Tests are not conducted on the following layers:

- 172.5 Mottling (Seasonally High Groundwater)  
- Roots  
- Groundwater  
- Ledge

**TEST CERTIFICATION**

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

**Name of Test Conductor:** [Signature]

**Signature of Test Conductor:** [Signature]

**Date:** 3-17-21

Form SC-101
SOIL EVALUATION TEST RESULTS

<table>
<thead>
<tr>
<th>Test Pit or Soil Boring #: 3-21-1</th>
<th>Ground Elevation: 178.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation</td>
<td>Soil Texture (Percent Sand, Silt and Clay)</td>
</tr>
<tr>
<td>178.9</td>
<td>Topsoil</td>
</tr>
<tr>
<td>178.2</td>
<td>Orange Brown Silty Loam</td>
</tr>
<tr>
<td>175.4</td>
<td></td>
</tr>
</tbody>
</table>

Saturated Hydraulic Conductivity Test Location #:

Ground Elevation: __________________________
Top Elevation of Proposed Infiltration System: __________________________
Bottom Elevation of Proposed Infiltration System: __________________________
Elevation of Test*: __________________________

Test Method (check one of the following acceptable methods**):
- Borehole infiltration test (NHDES, 2008)
- Guelph permeameter - ASTM D5126-90 Method
- Falling head permeameter – ASTM D5126-90 Method
- Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods
- Amo ozone meter or Amo ozonegar (constant head) permeameter – Amo ozonegar 1992

Attach field data forms for the respective infiltration test method.

Calculated Saturated Hydraulic Conductivity Rate: __________________________

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

* All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

TEST CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

Name of Test Conductor __________________________
Signature of Test Conductor __________________________
Date 3-17-21
SOIL EVALUATION TEST RESULTS

Engineering Firm's Name: Rocco V. D'Andrea, Inc.
Engineer's Name: Richard Regan

<table>
<thead>
<tr>
<th>Test Pit or Soil Boring #: 3-21-5</th>
<th>Ground Elevation: 180.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation</td>
<td>Soil Texture (Percent Sand, Silt and Clay)</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>180</td>
<td>Topsoil</td>
</tr>
<tr>
<td>179.0</td>
<td>Orange Brown Silty Loam</td>
</tr>
<tr>
<td>175.4</td>
<td>Mottled Orange Brown Silty Loam</td>
</tr>
<tr>
<td>174.0</td>
<td></td>
</tr>
</tbody>
</table>

Saturated Hydraulic Conductivity Test Location #:

Ground Elevation:

Top Elevation of Proposed Infiltration System:

Bottom Elevation of Proposed Infiltration System:

Elevation of Test*:

Test Method (check one of the following acceptable methods**):

- Borehole infiltration test (NHDES, 2008)
- Guelph permeameter - ASTM D5126-90 Method
- Falling head permeameter - ASTM D5126-90 Method
- Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods
- Amoozegar or Amoozegar (constant head) permeameter – Amoozegar 1992

Attach field data forms for the respective infiltration test method.

Calculated Saturated Hydraulic Conductivity Rate:

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

* All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

* All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

TEST CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

Name of Test Conductor

Signature of Test Conductor

Date 3-17-21
# SOIL EVALUATION TEST RESULTS

**Project Name:** Single Family Residence  
**Project Address:** 8 Fox Run Lane  
**Engineering Firm's Name:** Rocco V. D'Andrea, Inc.  
**Engineer's Name:** Richard Regan

<table>
<thead>
<tr>
<th>Test Pit or Soil Boring #: 3-21-6</th>
<th>Ground Elevation: 191.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation</td>
<td>Soil Texture (Percent Sand, Silt and Clay)</td>
</tr>
<tr>
<td>191.3</td>
<td>Topsoil</td>
</tr>
<tr>
<td>190.0</td>
<td>Orange Brown Silty Loam</td>
</tr>
<tr>
<td>187.3</td>
<td></td>
</tr>
</tbody>
</table>

**Saturated Hydraulic Conductivity Test Location #:**

- **Ground Elevation:**  
- **Top Elevation of Proposed Infiltration System:**  
- **Bottom Elevation of Proposed Infiltration System:**  
- **Elevation of Test:**

**Test Method (check one of the following acceptable methods**):
- Borehole infiltration test (NHDES, 2008)
- Guelph permeameter - ASTM D5126-90 Method
- Falling head permeameter – ASTM D5126-90 Method
- Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods
- Amoosimeter or Amoozegar (constant head) permeameter – Amoosegar 1992

**Attach field data forms for the respective infiltration test method.**

**Calculated Saturated Hydraulic Conductivity Rate:**

****A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

<table>
<thead>
<tr>
<th>Elevation</th>
<th>Depth in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Mottling (Seasonally High Groundwater)</td>
</tr>
<tr>
<td>-</td>
<td>Roots</td>
</tr>
<tr>
<td>-</td>
<td>Groundwater</td>
</tr>
<tr>
<td>187.3</td>
<td>Ledge</td>
</tr>
</tbody>
</table>

*All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

*All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

**TEST CERTIFICATION**

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

<table>
<thead>
<tr>
<th>Name of Test Conductor</th>
<th>Signature of Test Conductor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>3-17-21</td>
</tr>
</tbody>
</table>
SOIL EVALUATION TEST RESULTS

Project Name: Single Family Residence
Project Address: 8 Fox Run Lane

Engineering Firm's Name: Rocco V. D'Andrea, Inc.
Engineer's Name: Richard Regan

Test Pit or Soil Boring #: 3-21-7
Ground Elevation: 187.0

<table>
<thead>
<tr>
<th>Elevation</th>
<th>Soil Texture (Percent Sand, Silt and Clay)</th>
<th>Depth Range in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>187</td>
<td>Topsoil</td>
<td>0</td>
</tr>
<tr>
<td>186.2</td>
<td>Orange Brown Silty Loam</td>
<td>10</td>
</tr>
<tr>
<td>183.7</td>
<td>Mottled Orange Brown Silty Loam</td>
<td>40</td>
</tr>
<tr>
<td>182.5</td>
<td>Ledge</td>
<td>54</td>
</tr>
</tbody>
</table>

Saturated Hydraulic Conductivity Test Location #:

Ground Elevation:
Top Elevation of Proposed Infiltration System:
Bottom Elevation of Proposed Infiltration System:
Elevation of Test*:

Test Method (check one of the following acceptable methods**):
- Borehole infiltration test (NHDES, 2008)
- Guelph permeameter - ASTM D5126-90 Method
- Fall line permeameter - ASTM D5126-90 Method
- Double ring permeameter or infiltrometer - ASTM D3383-03, D5093-02, D5126-90 Methods
- Anoowzatoor or Anoowzegar (constant head) permeameter - Anoowzegar 1992

Attach field data forms for the respective infiltration test method.
Calculated Saturated Hydraulic Conductivity Rate:

** A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.

* All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

* All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

TEST CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

Name of Test Conductor

Signature of Test Conductor

Date
# SOIL EVALUATION TEST RESULTS

**Project Name:** Single Family Residence  
**Project Address:** 8 Fox Run Lane

<table>
<thead>
<tr>
<th>Test Pit or Soil Boring #: 3-21-8</th>
<th>Ground Elevation: 185.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation</td>
<td>Soil Texture (Percent Sand, Silt and Clay)</td>
</tr>
<tr>
<td>185.3</td>
<td>Topsoil</td>
</tr>
<tr>
<td>184.6</td>
<td>Orange Brown Silty Loam</td>
</tr>
<tr>
<td>183.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elevation</th>
<th>Depth in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Mottling (Seasonally High Groundwater)</td>
</tr>
<tr>
<td>-</td>
<td>Roots</td>
</tr>
<tr>
<td>183.3</td>
<td>Groundwater</td>
</tr>
<tr>
<td>-</td>
<td>Ledge</td>
</tr>
</tbody>
</table>

**Saturated Hydraulic Conductivity Test Location #:**

- **Ground Elevation:**  
- **Top Elevation of Proposed Infiltration System:**  
- **Bottom Elevation of Proposed Infiltration System:**  
- **Elevation of Test:**  
- **Test Method (check one of the following acceptable methods**):  
  - Borehole infiltration test (NHDES, 2008)  
  - Guelph permeameter - ASTM D5126-90 Method  
  - Falling head permeameter – ASTM D5126-90 Method  
  - Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods  
  - Amoozegar or Amoozegar (constant head) permeameter – Amoozegar 1992

Attach field data forms for the respective infiltration test method.

**Calculated Saturated Hydraulic Conductivity Rate:**

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.**

**All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.**

## TEST CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

<table>
<thead>
<tr>
<th>Name of Test Conductor</th>
<th>Signature of Test Conductor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Signature]</td>
<td>[Signature]</td>
<td>3-17-21</td>
</tr>
</tbody>
</table>

Form SC-101  
February 2012
**SOIL EVALUATION TEST RESULTS**

Project Name: Single Family Residence  
Project Address: 8 Fox Run Lane

Engineering Firm's Name: Rocco V. D'Andrea, Inc.  
Engineer's Name: Richard Regan

### Test Pit or Soil Boring #: 3-21-9  

<table>
<thead>
<tr>
<th>Elevation (ft)</th>
<th>Soil Texture</th>
<th>Depth Range in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>185</td>
<td>Topsoil</td>
<td>0</td>
</tr>
<tr>
<td>184.2</td>
<td>Orange Brown Silty Loam</td>
<td>10</td>
</tr>
<tr>
<td>181.5</td>
<td></td>
<td>42</td>
</tr>
</tbody>
</table>

**Saturated Hydraulic Conductivity Test Location #:**

Ground Elevation:  
Top Elevation of Proposed Infiltration System:  
Bottom Elevation of Proposed Infiltration System:  
Elevation of Test*:  
Test Method (check one of the following acceptable methods**):
- Borehole infiltration test (NHDES, 2008)
- Guelpf permeameter - ASTM D5126-90 Method
- Falling head permeameter – ASTM D5126-90 Method
- Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods
- Amoozemeter or Amoozegar (constant head) permeameter – Amoozegar 1992

Attach field data forms for the respective infiltration test method.

Calculated Saturated Hydraulic Conductivity Rate: 

<table>
<thead>
<tr>
<th>Elevation (ft)</th>
<th>Mottling (Seasonally High Groundwater)</th>
<th>Depth in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>-</td>
<td>Roots</td>
<td>-</td>
</tr>
<tr>
<td>181.5</td>
<td>Groundwater</td>
<td>42</td>
</tr>
<tr>
<td>181.5</td>
<td>Ledge</td>
<td>42</td>
</tr>
</tbody>
</table>

*All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Perculation tests overestimate the saturated hydraulic conductivity rate.

*All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.

### TEST CERTIFICATION

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.

Name of Test Conductor: ____________________________  
Signature of Test Conductor: ________________________  
Date: 3-17-21
**SOIL EVALUATION TEST RESULTS**

**Project Name:** Single Family Residence  
**Project Address:** 8 Fox Run Lane  
**Engineering Firm's Name:** Rocco V. D'Andrea, Inc.  
**Engineer's Name:** Richard Regan

<table>
<thead>
<tr>
<th>Test Pit or Soil Boring #: 3-21-10</th>
<th>Ground Elevation: 182.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation</td>
<td>Soil Texture (Percent Sand, Silt and Clay)</td>
</tr>
<tr>
<td>182.5</td>
<td>Topsoil</td>
</tr>
<tr>
<td>182.0</td>
<td>Orange Brown Silty Loam</td>
</tr>
<tr>
<td>178.8</td>
<td>Mottled Gray Silty Loam</td>
</tr>
<tr>
<td>177.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Elevation</th>
<th>Depth in Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>178.8</td>
<td>Mottling (Seasonally High Groundwater)</td>
</tr>
<tr>
<td></td>
<td>Roots</td>
</tr>
<tr>
<td></td>
<td>Groundwater</td>
</tr>
<tr>
<td>177.5</td>
<td>Ledge</td>
</tr>
</tbody>
</table>

**Saturated Hydraulic Conductivity Test Location #:**

- **Ground Elevation:**  
- **Top Elevation of Proposed Infiltration System:**  
- **Bottom Elevation of Proposed Infiltration System:**  
- **Elevation of Test**:  

**Test Method (check one of the following acceptable methods)**:  
- Borehole infiltration test (NHDES, 2008)  
- Guelph permeameter - ASTM D5126-90 Method  
- Falling head permeameter - ASTM D5126-90 Method  
- Double ring permeameter or infiltrometer - ASTM D3385-03, D5093-02, D5126-90 Methods  
- Amoozegar or Amoozegar (constant head) permeameter - Amoozegar 1992  

Attach field data forms for the respective infiltration test method.  
**Calculated Saturated Hydraulic Conductivity Rate:**

**A percolation test, performed in accordance with the guidelines of the Connecticut State Health Code or otherwise, is not an acceptable test for saturated hydraulic conductivity. Percolation tests overestimate the saturated hydraulic conductivity rate.**

**All test pits or soil borings shall be excavated to an elevation four feet below the proposed bottom elevation of the infiltration system.**

**All field infiltration tests must be conducted in the actual location and soil layer where stormwater infiltration is proposed.**

**TEST CERTIFICATION**

I HEREBY CERTIFY THAT THE INFORMATION CONTAINED IN THIS REPORT IS TRUE AND CORRECT.  

Name of Test Conductor: [Signature]  
Signature of Test Conductor: [Signature]  
Date: 3-17-21

Form SC-101  
February 2012
Appendix “E”

Pipe Conveyance Computations
STORM DRAIN SYSTEM CONVEYANCE COMPUTATIONS

The following is a summary of the computations performed to design the proposed storm drainage system drain sizes. The proposed drainage basin flows were taken from the results of the HydroCAD storm drainage analysis performed for on-site contributing areas. Refer to the Appendix "J" and "K" for a printout of the HydroCAD Hydrographs model input data, computations, and results. Refer to Exhibit "B" for a depiction of the proposed drainage basins. Runoff computations are based on the 100-year design storm frequency event. Culvert conveyance computations are based on the Manning’s Equation.

Note: 100-year storm flow rates from Proposed Conditions HydroCAD analysis

<table>
<thead>
<tr>
<th>Uphill Structure</th>
<th>Downhill Structure</th>
<th>Size (in)</th>
<th>Type</th>
<th>n</th>
<th>Slope (ft/ft)</th>
<th>100-yr Storm (CFS)</th>
<th>Qfull using Mannings Equation (CFS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td>JB#3</td>
<td>6</td>
<td>PVC</td>
<td>0.011</td>
<td>0.010</td>
<td>0.98</td>
<td>0.66</td>
</tr>
<tr>
<td>CB#3</td>
<td>LS#1</td>
<td>8</td>
<td>PVC</td>
<td>0.011</td>
<td>0.020</td>
<td>0.38</td>
<td>2.03</td>
</tr>
<tr>
<td>JB#4</td>
<td>RS#1</td>
<td>8</td>
<td>PVC</td>
<td>0.011</td>
<td>0.066</td>
<td>1.64</td>
<td>3.68</td>
</tr>
<tr>
<td>IT</td>
<td>RS#1</td>
<td>12</td>
<td>PVC</td>
<td>0.011</td>
<td>0.153</td>
<td>1.71</td>
<td>16.51</td>
</tr>
<tr>
<td>SDMH#1</td>
<td>CB#4</td>
<td>8</td>
<td>PVC</td>
<td>0.011</td>
<td>0.162</td>
<td>2.32</td>
<td>5.76</td>
</tr>
<tr>
<td>Roof</td>
<td>JB#1</td>
<td>6</td>
<td>PVC</td>
<td>0.011</td>
<td>0.010</td>
<td>0.67</td>
<td>0.66</td>
</tr>
<tr>
<td>CB#1</td>
<td>LS#3</td>
<td>8</td>
<td>PVC</td>
<td>0.011</td>
<td>0.010</td>
<td>1.46</td>
<td>1.43</td>
</tr>
</tbody>
</table>
Appendix “F”

Level Spreader Outlet
Sizing Calculations
Level Spreader Outlet Sizing Calculations

Name: Jennifer Yorke  
Address: 8 Fox Run Lane Greenwich, Connecticut  
Project: Single Family Residence  
Date: August 27, 2021

SUMMARY:

The following is a summary of the computations performed to design the proposed storm drainage system level spreader outlet structures. The outlet flows from the proposed drainage systems were taken from the results of the HydroCAD analysis performed for the proposed development. Refer to Appendix “J” for a summary for the results of this analysis. Sizing computations are based on the 100-year design storm frequency event.

SIZING COMPUTATIONS:

The proposed level spreaders are designed to be a minimum of 13-feet long per every 1 cubic feet per second (cfs) of runoff flow with a minimum length of 20 feet, as per Town of Greenwich standards.

Level Spreader #1:

The stormwater flow exiting Permeable Paver Patio will be routed towards the proposed level spreader. The 100-year design flow exiting Permeable Pavers #1 and entering the level spreader will be approximately 0.38 cfs.

Length of Level Spreader = (0.38 cfs) x (13 LF per 1.0 cfs) = 4.9 ft. (Use 20 feet)

Level Spreader #2:

The stormwater flow exiting Retention System #1 will be routed towards the proposed level spreader. The 100-year design flow entering the level spreader will be approximately 2.32 cfs.

Length of Level Spreader = (2.32 cfs) x (13 LF per 1.0 cfs) = 30.2 ft. (Use 40 feet)

Level Spreader #3:

The stormwater flow exiting Permeable Paver Courtyard will be routed towards the proposed level spreader. The 100-year design flow entering the level spreader will be approximately 1.46 cfs.

Length of Level Spreader = (1.46 cfs) x (13 LF per 1.0 cfs) = 19.0 ft. (Use 20 feet)
Appendix “G”

Stage-Area-Storage Table
### Stage-Area-Storage for Pond 24P: Infiltration Trench

<table>
<thead>
<tr>
<th>Elevation (feet)</th>
<th>Storage (cubic-feet)</th>
<th>Elevation (feet)</th>
<th>Storage (cubic-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>181.00</td>
<td>0</td>
<td>183.60</td>
<td>749</td>
</tr>
<tr>
<td>181.05</td>
<td>14</td>
<td>183.65</td>
<td>763</td>
</tr>
<tr>
<td>181.10</td>
<td>29</td>
<td>183.70</td>
<td>778</td>
</tr>
<tr>
<td>181.15</td>
<td>43</td>
<td>183.75</td>
<td>792</td>
</tr>
<tr>
<td>181.20</td>
<td>58</td>
<td>183.80</td>
<td>806</td>
</tr>
<tr>
<td>181.25</td>
<td>72</td>
<td>183.85</td>
<td>821</td>
</tr>
<tr>
<td>181.30</td>
<td>86</td>
<td>183.90</td>
<td>835</td>
</tr>
<tr>
<td>181.35</td>
<td>101</td>
<td>183.95</td>
<td>850</td>
</tr>
<tr>
<td>181.40</td>
<td>115</td>
<td>184.00</td>
<td>864</td>
</tr>
<tr>
<td>181.45</td>
<td>130</td>
<td>184.05</td>
<td>878</td>
</tr>
<tr>
<td>181.50</td>
<td>144</td>
<td>184.10</td>
<td>893</td>
</tr>
<tr>
<td>181.55</td>
<td>158</td>
<td>184.15</td>
<td>907</td>
</tr>
<tr>
<td>181.60</td>
<td>173</td>
<td>184.20</td>
<td>922</td>
</tr>
<tr>
<td>181.65</td>
<td>187</td>
<td>184.25</td>
<td>936</td>
</tr>
<tr>
<td>181.70</td>
<td>202</td>
<td>184.30</td>
<td>950</td>
</tr>
<tr>
<td>181.75</td>
<td>216</td>
<td>184.35</td>
<td>965</td>
</tr>
<tr>
<td>181.80</td>
<td>230</td>
<td>184.40</td>
<td>979</td>
</tr>
<tr>
<td>181.85</td>
<td>245</td>
<td>184.45</td>
<td>994</td>
</tr>
<tr>
<td>181.90</td>
<td>259</td>
<td>184.50</td>
<td>1,008</td>
</tr>
<tr>
<td>181.95</td>
<td>274</td>
<td>184.55</td>
<td>1,022</td>
</tr>
<tr>
<td>182.00</td>
<td>288</td>
<td>184.60</td>
<td>1,037</td>
</tr>
<tr>
<td>182.05</td>
<td>302</td>
<td>184.65</td>
<td>1,051</td>
</tr>
<tr>
<td>182.10</td>
<td>317</td>
<td>184.70</td>
<td>1,066</td>
</tr>
<tr>
<td>182.15</td>
<td>331</td>
<td>184.75</td>
<td>1,080</td>
</tr>
<tr>
<td>182.20</td>
<td>346</td>
<td>184.80</td>
<td>1,094</td>
</tr>
<tr>
<td>182.25</td>
<td>360</td>
<td>184.85</td>
<td>1,109</td>
</tr>
<tr>
<td>182.30</td>
<td>374</td>
<td>184.90</td>
<td>1,123</td>
</tr>
<tr>
<td>182.35</td>
<td>389</td>
<td>184.95</td>
<td>1,138</td>
</tr>
<tr>
<td>182.40</td>
<td>403</td>
<td>185.00</td>
<td>1,152</td>
</tr>
<tr>
<td>182.45</td>
<td>418</td>
<td>185.05</td>
<td>1,166</td>
</tr>
<tr>
<td>182.50</td>
<td>432</td>
<td>185.10</td>
<td>1,181</td>
</tr>
<tr>
<td>182.55</td>
<td>446</td>
<td>185.15</td>
<td>1,195</td>
</tr>
<tr>
<td>182.60</td>
<td>461</td>
<td>185.20</td>
<td>1,210</td>
</tr>
<tr>
<td>182.65</td>
<td>475</td>
<td>185.25</td>
<td>1,224</td>
</tr>
<tr>
<td>182.70</td>
<td>490</td>
<td>185.30</td>
<td>1,238</td>
</tr>
<tr>
<td>182.75</td>
<td>504</td>
<td></td>
<td></td>
</tr>
<tr>
<td>182.80</td>
<td>518</td>
<td></td>
<td></td>
</tr>
<tr>
<td>182.85</td>
<td>533</td>
<td></td>
<td></td>
</tr>
<tr>
<td>182.90</td>
<td>547</td>
<td></td>
<td></td>
</tr>
<tr>
<td>182.95</td>
<td>562</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.00</td>
<td>576</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.05</td>
<td>590</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.10</td>
<td>605</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.15</td>
<td>619</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.20</td>
<td>634</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.25</td>
<td>648</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.30</td>
<td>662</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.35</td>
<td>677</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.40</td>
<td>691</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.45</td>
<td>706</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.50</td>
<td>720</td>
<td></td>
<td></td>
</tr>
<tr>
<td>183.55</td>
<td>734</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12" outlet
# Stage-Area-Storage for Pond 25P: Retention System #1

<table>
<thead>
<tr>
<th>Elevation (feet)</th>
<th>Storage (cubic-feet)</th>
<th>Elevation (feet)</th>
<th>Storage (cubic-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>179.00</td>
<td>0</td>
<td>181.60</td>
<td>2,341</td>
</tr>
<tr>
<td>179.05</td>
<td>28</td>
<td>181.65</td>
<td>2,390</td>
</tr>
<tr>
<td>179.10</td>
<td>56</td>
<td>181.70</td>
<td>2,439</td>
</tr>
<tr>
<td>179.15</td>
<td>84</td>
<td>181.75</td>
<td>2,488</td>
</tr>
<tr>
<td>179.20</td>
<td>112</td>
<td>181.80</td>
<td>2,537</td>
</tr>
<tr>
<td>179.25</td>
<td>140</td>
<td>181.85</td>
<td>2,585</td>
</tr>
<tr>
<td>179.30</td>
<td>168</td>
<td>181.90</td>
<td>2,634</td>
</tr>
<tr>
<td>179.35</td>
<td>196</td>
<td>181.95</td>
<td>2,683</td>
</tr>
<tr>
<td>179.40</td>
<td>224</td>
<td>182.00</td>
<td>2,732</td>
</tr>
<tr>
<td>179.45</td>
<td>252</td>
<td>182.05</td>
<td>2,781</td>
</tr>
<tr>
<td>179.50</td>
<td>280</td>
<td>182.10</td>
<td>2,829</td>
</tr>
<tr>
<td>179.55</td>
<td>328</td>
<td>182.15</td>
<td>2,878</td>
</tr>
<tr>
<td>179.60</td>
<td>376</td>
<td>182.20</td>
<td>2,927</td>
</tr>
<tr>
<td>179.65</td>
<td>423</td>
<td>182.25</td>
<td>2,975</td>
</tr>
<tr>
<td>179.70</td>
<td>471</td>
<td>182.30</td>
<td>3,024</td>
</tr>
<tr>
<td>179.75</td>
<td>520</td>
<td>182.35</td>
<td>3,073</td>
</tr>
<tr>
<td>179.80</td>
<td>569</td>
<td>182.40</td>
<td>3,121</td>
</tr>
<tr>
<td>179.85</td>
<td>619</td>
<td>182.45</td>
<td>3,170</td>
</tr>
<tr>
<td>179.90</td>
<td>668</td>
<td>182.50</td>
<td>3,218</td>
</tr>
<tr>
<td>179.95</td>
<td>718</td>
<td>182.55</td>
<td>3,267</td>
</tr>
<tr>
<td>180.00</td>
<td>767</td>
<td>182.60</td>
<td>3,316</td>
</tr>
<tr>
<td>180.05</td>
<td>817</td>
<td>182.65</td>
<td>3,364</td>
</tr>
<tr>
<td>180.10</td>
<td>866</td>
<td>182.70</td>
<td>3,413</td>
</tr>
<tr>
<td>180.15</td>
<td>916</td>
<td>182.75</td>
<td>3,461</td>
</tr>
<tr>
<td>180.20</td>
<td>965</td>
<td>182.80</td>
<td>3,510</td>
</tr>
<tr>
<td>180.25</td>
<td>1,014</td>
<td>182.85</td>
<td>3,558</td>
</tr>
<tr>
<td>180.30</td>
<td>1,064</td>
<td>182.90</td>
<td>3,607</td>
</tr>
<tr>
<td>180.35</td>
<td>1,113</td>
<td>182.95</td>
<td>3,655</td>
</tr>
<tr>
<td>180.40</td>
<td>1,162</td>
<td>183.00</td>
<td>3,703</td>
</tr>
<tr>
<td>180.45</td>
<td>1,212</td>
<td>183.05</td>
<td>3,752</td>
</tr>
<tr>
<td>180.50</td>
<td>1,261</td>
<td>183.10</td>
<td>3,785</td>
</tr>
<tr>
<td>180.55</td>
<td>1,310</td>
<td>183.15</td>
<td>3,795</td>
</tr>
<tr>
<td>180.60</td>
<td>1,360</td>
<td>183.20</td>
<td>3,805</td>
</tr>
<tr>
<td>180.65</td>
<td>1,409</td>
<td>183.25</td>
<td>3,816</td>
</tr>
<tr>
<td>180.70</td>
<td>1,458</td>
<td>183.30</td>
<td>3,826</td>
</tr>
<tr>
<td>180.75</td>
<td>1,507</td>
<td>183.35</td>
<td>3,836</td>
</tr>
<tr>
<td>180.80</td>
<td>1,556</td>
<td>183.40</td>
<td>3,847</td>
</tr>
<tr>
<td>180.85</td>
<td>1,606</td>
<td>183.45</td>
<td>3,857</td>
</tr>
<tr>
<td>180.90</td>
<td>1,655</td>
<td>183.50</td>
<td>3,867</td>
</tr>
<tr>
<td>180.95</td>
<td>1,704</td>
<td>183.55</td>
<td>3,867</td>
</tr>
<tr>
<td>181.00</td>
<td>1,753</td>
<td>183.60</td>
<td>3,872</td>
</tr>
<tr>
<td>181.05</td>
<td>1,802</td>
<td>183.65</td>
<td>3,880</td>
</tr>
<tr>
<td>181.10</td>
<td>1,851</td>
<td>183.70</td>
<td>3,889</td>
</tr>
<tr>
<td>181.15</td>
<td>1,900</td>
<td>183.75</td>
<td>3,897</td>
</tr>
<tr>
<td>181.20</td>
<td>1,949</td>
<td>183.80</td>
<td>3,905</td>
</tr>
<tr>
<td>181.25</td>
<td>1,998</td>
<td>183.85</td>
<td>3,914</td>
</tr>
<tr>
<td>181.30</td>
<td>2,047</td>
<td>183.90</td>
<td>3,922</td>
</tr>
<tr>
<td>181.35</td>
<td>2,096</td>
<td>183.95</td>
<td>3,930</td>
</tr>
<tr>
<td>181.40</td>
<td>2,145</td>
<td>184.00</td>
<td>3,938</td>
</tr>
<tr>
<td>181.45</td>
<td>2,194</td>
<td>184.05</td>
<td>3,946</td>
</tr>
<tr>
<td>181.50</td>
<td>2,243</td>
<td>184.10</td>
<td>3,954</td>
</tr>
<tr>
<td>181.55</td>
<td>2,292</td>
<td>184.15</td>
<td>3,962</td>
</tr>
</tbody>
</table>

---

- **8" high overflow**
- **6" orifice**
<table>
<thead>
<tr>
<th>Elevation (feet)</th>
<th>Surface (sq-ft)</th>
<th>Storage (cubic-feet)</th>
<th>Elevation (feet)</th>
<th>Surface (sq-ft)</th>
<th>Storage (cubic-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>184.00</td>
<td>1,020</td>
<td>0</td>
<td>186.60</td>
<td>1,020</td>
<td>1,061</td>
</tr>
<tr>
<td>184.05</td>
<td>1,020</td>
<td>20</td>
<td>186.65</td>
<td>1,020</td>
<td>1,081</td>
</tr>
<tr>
<td>184.10</td>
<td>1,020</td>
<td>41</td>
<td>186.70</td>
<td>1,020</td>
<td>1,102</td>
</tr>
<tr>
<td>184.15</td>
<td>1,020</td>
<td>61</td>
<td>186.75</td>
<td>1,020</td>
<td>1,122</td>
</tr>
<tr>
<td>184.20</td>
<td>1,020</td>
<td>82</td>
<td>186.80</td>
<td>1,020</td>
<td>1,142</td>
</tr>
<tr>
<td>184.25</td>
<td>1,020</td>
<td>102</td>
<td>186.85</td>
<td>1,020</td>
<td>1,163</td>
</tr>
<tr>
<td>184.30</td>
<td>1,020</td>
<td>122</td>
<td>186.90</td>
<td>1,020</td>
<td>1,183</td>
</tr>
<tr>
<td>184.35</td>
<td>1,020</td>
<td>143</td>
<td>186.95</td>
<td>1,020</td>
<td>1,204</td>
</tr>
<tr>
<td>184.40</td>
<td>1,020</td>
<td>163</td>
<td>187.00</td>
<td>1,020</td>
<td>1,224</td>
</tr>
<tr>
<td>184.45</td>
<td>1,020</td>
<td>184</td>
<td>187.05</td>
<td>1,020</td>
<td>1,244</td>
</tr>
<tr>
<td>184.50</td>
<td>1,020</td>
<td>204</td>
<td>187.10</td>
<td>1,020</td>
<td>1,265</td>
</tr>
<tr>
<td>184.55</td>
<td>1,020</td>
<td>224</td>
<td>187.15</td>
<td>1,020</td>
<td>1,285</td>
</tr>
<tr>
<td>184.60</td>
<td>1,020</td>
<td>245</td>
<td>187.20</td>
<td>1,020</td>
<td>1,306</td>
</tr>
<tr>
<td>184.65</td>
<td>1,020</td>
<td>265</td>
<td>187.25</td>
<td>1,020</td>
<td>1,326</td>
</tr>
<tr>
<td>184.70</td>
<td>1,020</td>
<td>286</td>
<td>187.30</td>
<td>1,020</td>
<td>1,346</td>
</tr>
<tr>
<td>184.75</td>
<td>1,020</td>
<td>306</td>
<td>187.35</td>
<td>1,020</td>
<td>1,367</td>
</tr>
<tr>
<td>184.80</td>
<td>1,020</td>
<td>326</td>
<td>187.40</td>
<td>1,020</td>
<td>1,387</td>
</tr>
<tr>
<td>184.85</td>
<td>1,020</td>
<td>347</td>
<td>187.45</td>
<td>1,020</td>
<td>1,408</td>
</tr>
<tr>
<td>184.90</td>
<td>1,020</td>
<td>367</td>
<td>187.50</td>
<td>1,020</td>
<td>1,428</td>
</tr>
<tr>
<td>184.95</td>
<td>1,020</td>
<td>388</td>
<td>187.55</td>
<td>1,020</td>
<td>1,448</td>
</tr>
<tr>
<td>185.00</td>
<td>1,020</td>
<td>408</td>
<td>187.60</td>
<td>1,020</td>
<td>1,469</td>
</tr>
<tr>
<td>185.05</td>
<td>1,020</td>
<td>428</td>
<td>187.65</td>
<td>1,020</td>
<td>1,489</td>
</tr>
<tr>
<td>185.10</td>
<td>1,020</td>
<td>449</td>
<td>187.70</td>
<td>1,020</td>
<td>1,510</td>
</tr>
<tr>
<td>185.15</td>
<td>1,020</td>
<td>469</td>
<td>187.75</td>
<td>1,020</td>
<td>1,530</td>
</tr>
<tr>
<td>185.20</td>
<td>1,020</td>
<td>490</td>
<td>187.80</td>
<td>1,020</td>
<td>1,550</td>
</tr>
<tr>
<td>185.25</td>
<td>1,020</td>
<td>510</td>
<td>187.85</td>
<td>1,020</td>
<td>1,571</td>
</tr>
<tr>
<td>185.30</td>
<td>1,020</td>
<td>530</td>
<td>187.90</td>
<td>1,020</td>
<td>1,591</td>
</tr>
<tr>
<td>185.35</td>
<td>1,020</td>
<td>551</td>
<td>187.95</td>
<td>1,020</td>
<td>1,612</td>
</tr>
<tr>
<td>185.40</td>
<td>1,020</td>
<td>571</td>
<td>188.00</td>
<td>1,020</td>
<td>1,632</td>
</tr>
<tr>
<td>185.45</td>
<td>1,020</td>
<td>592</td>
<td>188.05</td>
<td>1,020</td>
<td>1,652</td>
</tr>
<tr>
<td>185.50</td>
<td>1,020</td>
<td>612</td>
<td>188.10</td>
<td>1,020</td>
<td>1,673</td>
</tr>
<tr>
<td>185.55</td>
<td>1,020</td>
<td>632</td>
<td>188.15</td>
<td>1,020</td>
<td>1,693</td>
</tr>
<tr>
<td>185.60</td>
<td>1,020</td>
<td>653</td>
<td>188.20</td>
<td>1,020</td>
<td>1,714</td>
</tr>
<tr>
<td>185.65</td>
<td>1,020</td>
<td>673</td>
<td>188.25</td>
<td>1,020</td>
<td>1,734</td>
</tr>
<tr>
<td>185.70</td>
<td>1,020</td>
<td>694</td>
<td>188.30</td>
<td>1,020</td>
<td>1,754</td>
</tr>
<tr>
<td>185.75</td>
<td>1,020</td>
<td>714</td>
<td>188.35</td>
<td>1,020</td>
<td>1,775</td>
</tr>
<tr>
<td>185.80</td>
<td>1,020</td>
<td>734</td>
<td>188.40</td>
<td>1,020</td>
<td>1,795</td>
</tr>
<tr>
<td>185.85</td>
<td>1,020</td>
<td>755</td>
<td>188.45</td>
<td>1,020</td>
<td>1,816</td>
</tr>
<tr>
<td>185.90</td>
<td>1,020</td>
<td>775</td>
<td>188.50</td>
<td>1,020</td>
<td>1,836</td>
</tr>
<tr>
<td>185.95</td>
<td>1,020</td>
<td>796</td>
<td>188.55</td>
<td>1,020</td>
<td>1,856</td>
</tr>
<tr>
<td>186.00</td>
<td>1,020</td>
<td>816</td>
<td>188.60</td>
<td>1,020</td>
<td>1,877</td>
</tr>
</tbody>
</table>

8 Fox Run Lane 8-27-21
Prepared by RVDI
HydroCAD® 10.00-24 s/n 07353 © 2018 HydroCAD Software Solutions LLC
Page 3
## Stage-Area-Storage for Pond 29P: Permeable Paver Courtyard

<table>
<thead>
<tr>
<th>Elevation (feet)</th>
<th>Surface (sq-ft)</th>
<th>Storage (cubic-feet)</th>
<th>Elevation (feet)</th>
<th>Surface (sq-ft)</th>
<th>Storage (cubic-feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>185.70</td>
<td>3,260</td>
<td>0</td>
<td>186.74</td>
<td>3,260</td>
<td>1,356</td>
</tr>
<tr>
<td>185.72</td>
<td>3,260</td>
<td>26</td>
<td>186.76</td>
<td>3,260</td>
<td>1,382</td>
</tr>
<tr>
<td>185.74</td>
<td>3,260</td>
<td>52</td>
<td>186.78</td>
<td>3,260</td>
<td>1,408</td>
</tr>
<tr>
<td>185.76</td>
<td>3,260</td>
<td>78</td>
<td>186.80</td>
<td>3,260</td>
<td>1,434</td>
</tr>
<tr>
<td>185.78</td>
<td>3,260</td>
<td>104</td>
<td>186.82</td>
<td>3,260</td>
<td>1,460</td>
</tr>
<tr>
<td>185.80</td>
<td>3,260</td>
<td>130</td>
<td>186.84</td>
<td>3,260</td>
<td>1,487</td>
</tr>
<tr>
<td>185.82</td>
<td>3,260</td>
<td>156</td>
<td>186.86</td>
<td>3,260</td>
<td>1,513</td>
</tr>
<tr>
<td>185.84</td>
<td>3,260</td>
<td>183</td>
<td>186.88</td>
<td>3,260</td>
<td>1,539</td>
</tr>
<tr>
<td>185.86</td>
<td>3,260</td>
<td>209</td>
<td>186.90</td>
<td>3,260</td>
<td>1,565</td>
</tr>
<tr>
<td>185.88</td>
<td>3,260</td>
<td>235</td>
<td>186.92</td>
<td>3,260</td>
<td>1,591</td>
</tr>
<tr>
<td>185.90</td>
<td>3,260</td>
<td>261</td>
<td>186.94</td>
<td>3,260</td>
<td>1,617</td>
</tr>
<tr>
<td>185.92</td>
<td>3,260</td>
<td>287</td>
<td>186.96</td>
<td>3,260</td>
<td>1,643</td>
</tr>
<tr>
<td>185.94</td>
<td>3,260</td>
<td>313</td>
<td>186.98</td>
<td>3,260</td>
<td>1,669</td>
</tr>
<tr>
<td>185.96</td>
<td>3,260</td>
<td>339</td>
<td>187.00</td>
<td>3,260</td>
<td>1,695</td>
</tr>
<tr>
<td>185.98</td>
<td>3,260</td>
<td>365</td>
<td>187.02</td>
<td>3,260</td>
<td>1,721</td>
</tr>
<tr>
<td>186.00</td>
<td>3,260</td>
<td>391</td>
<td>187.04</td>
<td>3,260</td>
<td>1,747</td>
</tr>
<tr>
<td>186.02</td>
<td>3,260</td>
<td>417</td>
<td>187.06</td>
<td>3,260</td>
<td>1,773</td>
</tr>
<tr>
<td>186.04</td>
<td>3,260</td>
<td>443</td>
<td>187.08</td>
<td>3,260</td>
<td>1,800</td>
</tr>
<tr>
<td>186.06</td>
<td>3,260</td>
<td>469</td>
<td>187.10</td>
<td>3,260</td>
<td>1,826</td>
</tr>
<tr>
<td>186.08</td>
<td>3,260</td>
<td>496</td>
<td>187.12</td>
<td>3,260</td>
<td>1,852</td>
</tr>
<tr>
<td>186.10</td>
<td>3,260</td>
<td>522</td>
<td>187.14</td>
<td>3,260</td>
<td>1,878</td>
</tr>
<tr>
<td>186.12</td>
<td>3,260</td>
<td>548</td>
<td>187.16</td>
<td>3,260</td>
<td>1,904</td>
</tr>
<tr>
<td>186.14</td>
<td>3,260</td>
<td>574</td>
<td>187.18</td>
<td>3,260</td>
<td>1,930</td>
</tr>
<tr>
<td>186.16</td>
<td>3,260</td>
<td>600</td>
<td>187.20</td>
<td>3,260</td>
<td>1,956</td>
</tr>
<tr>
<td>186.18</td>
<td>3,260</td>
<td>626</td>
<td>187.22</td>
<td>3,260</td>
<td>1,982</td>
</tr>
<tr>
<td>186.20</td>
<td>3,260</td>
<td>652</td>
<td>187.24</td>
<td>3,260</td>
<td>2,008</td>
</tr>
<tr>
<td>186.22</td>
<td>3,260</td>
<td>678</td>
<td>187.26</td>
<td>3,260</td>
<td>2,034</td>
</tr>
<tr>
<td>186.24</td>
<td>3,260</td>
<td>704</td>
<td>187.28</td>
<td>3,260</td>
<td>2,060</td>
</tr>
<tr>
<td>186.26</td>
<td>3,260</td>
<td>730</td>
<td>187.30</td>
<td>3,260</td>
<td>2,086</td>
</tr>
<tr>
<td>186.28</td>
<td>3,260</td>
<td>756</td>
<td>187.32</td>
<td>3,260</td>
<td>2,112</td>
</tr>
<tr>
<td>186.30</td>
<td>3,260</td>
<td>782</td>
<td>187.34</td>
<td>3,260</td>
<td>2,139</td>
</tr>
<tr>
<td>186.32</td>
<td>3,260</td>
<td>808</td>
<td>187.36</td>
<td>3,260</td>
<td>2,165</td>
</tr>
<tr>
<td>186.34</td>
<td>3,260</td>
<td>835</td>
<td>187.38</td>
<td>3,260</td>
<td>2,191</td>
</tr>
<tr>
<td>186.36</td>
<td>3,260</td>
<td>861</td>
<td>187.40</td>
<td>3,260</td>
<td>2,217</td>
</tr>
<tr>
<td>186.38</td>
<td>3,260</td>
<td>887</td>
<td>187.42</td>
<td>3,260</td>
<td>2,243</td>
</tr>
<tr>
<td>186.40</td>
<td>3,260</td>
<td>913</td>
<td>187.44</td>
<td>3,260</td>
<td>2,269</td>
</tr>
<tr>
<td>186.42</td>
<td>3,260</td>
<td>939</td>
<td>187.46</td>
<td>3,260</td>
<td>2,295</td>
</tr>
<tr>
<td>186.44</td>
<td>3,260</td>
<td>965</td>
<td>187.48</td>
<td>3,260</td>
<td>2,321</td>
</tr>
<tr>
<td>186.46</td>
<td>3,260</td>
<td>991</td>
<td>187.50</td>
<td>3,260</td>
<td>2,347</td>
</tr>
<tr>
<td>186.48</td>
<td>3,260</td>
<td>1,017</td>
<td>187.52</td>
<td>3,260</td>
<td>2,373</td>
</tr>
<tr>
<td>186.50</td>
<td>3,260</td>
<td>1,043</td>
<td>187.54</td>
<td>3,260</td>
<td>2,399</td>
</tr>
<tr>
<td>186.52</td>
<td>3,260</td>
<td>1,069</td>
<td>187.56</td>
<td>3,260</td>
<td>2,425</td>
</tr>
<tr>
<td>186.54</td>
<td>3,260</td>
<td>1,095</td>
<td>187.58</td>
<td>3,260</td>
<td>2,452</td>
</tr>
<tr>
<td>186.56</td>
<td>3,260</td>
<td>1,121</td>
<td>187.60</td>
<td>3,260</td>
<td>2,478</td>
</tr>
<tr>
<td>186.58</td>
<td>3,260</td>
<td>1,148</td>
<td>187.62</td>
<td>3,260</td>
<td>2,504</td>
</tr>
<tr>
<td>186.60</td>
<td>3,260</td>
<td>1,174</td>
<td>187.64</td>
<td>3,260</td>
<td>2,530</td>
</tr>
<tr>
<td>186.62</td>
<td>3,260</td>
<td>1,200</td>
<td>187.66</td>
<td>3,260</td>
<td>2,556</td>
</tr>
<tr>
<td>186.64</td>
<td>3,260</td>
<td>1,226</td>
<td>187.68</td>
<td>3,260</td>
<td>2,582</td>
</tr>
<tr>
<td>186.66</td>
<td>3,260</td>
<td>1,252</td>
<td>187.70</td>
<td>3,260</td>
<td>2,608</td>
</tr>
<tr>
<td>186.68</td>
<td>3,260</td>
<td>1,278</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>186.70</td>
<td>3,260</td>
<td>1,304</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>186.72</td>
<td>3,260</td>
<td>1,330</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix “H”

HydroCAD Peak Flow
And Volume Summary
# HydroCAD Summary

Jennifer Yorke  
8 Fox Run Lane Greenwich, CT  
Project ID: 20QP

<table>
<thead>
<tr>
<th>POC</th>
<th>1 Year Storm</th>
<th>2 Year Storm</th>
<th>5 Year Storm</th>
<th>10 Year Storm</th>
<th>25 Year Storm</th>
<th>50 Year Storm</th>
<th>100 Year Storm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$q_{oc} (ft^3/s)$</td>
<td>$q_{oc} (ft^3/s)$</td>
<td>$dV (ft^3)$</td>
<td>$dV (ft^3)$</td>
<td>$dV (ft^3)$</td>
<td>$dV (ft^3)$</td>
<td>$dV (ft^3)$</td>
</tr>
<tr>
<td>A</td>
<td>0.37</td>
<td>0.31</td>
<td>-0.06</td>
<td>-16%</td>
<td>0.87</td>
<td>0.72</td>
<td>-0.12</td>
</tr>
<tr>
<td>Offsite Watershed</td>
<td>0.62</td>
<td>0.22</td>
<td>-0.40</td>
<td>-65%</td>
<td>0.91</td>
<td>0.49</td>
<td>-0.42</td>
</tr>
</tbody>
</table>

Table 1: Comparison of Existing and Proposed Peak Flow Rates for all Points of Concern.

<table>
<thead>
<tr>
<th>POC</th>
<th>1 Year Storm</th>
<th>2 Year Storm</th>
<th>5 Year Storm</th>
<th>10 Year Storm</th>
<th>25 Year Storm</th>
<th>50 Year Storm</th>
<th>100 Year Storm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$v_{oc} (cfs)$</td>
<td>$v_{oc} (cfs)$</td>
<td>$dV (cfs)$</td>
<td>$dV (cfs)$</td>
<td>$dV (cfs)$</td>
<td>$dV (cfs)$</td>
<td>$dV (cfs)$</td>
</tr>
<tr>
<td>A</td>
<td>3,960</td>
<td>3,755</td>
<td>-205</td>
<td>-5%</td>
<td>6,895</td>
<td>7,067</td>
<td>177</td>
</tr>
<tr>
<td>Offsite Watershed</td>
<td>2,273</td>
<td>1,620</td>
<td>-453</td>
<td>-29%</td>
<td>3,200</td>
<td>2,394</td>
<td>-806</td>
</tr>
</tbody>
</table>

Table 2: Comparison of Existing and Proposed Runoff Volumes for all Points of Concern.
Appendix "I"

HydroCAD Analysis
Existing Conditions
Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Ex. Area #1
Runoff Area=21,592 sf  0.00% Impervious  Runoff Depth>0.17"
Flow Length=496'  Tc=20.4 min  CN=55.0  Runoff=0.02 cfs  301 cf

Subcatchment 2S: Ex. Area #2
Runoff Area=17,697 sf  0.00% Impervious  Runoff Depth>0.18"
Flow Length=231'  Tc=15.5 min  CN=55.5  Runoff=0.02 cfs  264 cf

Subcatchment 3S: Ex. Area #3
Runoff Area=46,377 sf  0.43% Impervious  Runoff Depth>0.18"
Flow Length=119'  Tc=17.3 min  CN=55.7  Runoff=0.06 cfs  709 cf

Subcatchment 4S: Ex. Area #4
Runoff Area=110,834 sf  2.32% Impervious  Runoff Depth>0.22"
Flow Length=319'  Tc=10.6 min  CN=57.2  Runoff=0.22 cfs  2,037 cf

Subcatchment 5S: Ex. Area #5
Runoff Area=20,599 sf  6.36% Impervious  Runoff Depth>0.38"
Flow Length=400'  Tc=10.7 min  CN=62.7  Runoff=0.11 cfs  653 cf

Subcatchment 6S: Ex. Area #6
Runoff Area=2,284 sf  0.00% Impervious  Runoff Depth>0.33"
Tc=5.0 min  CN=61.0  Runoff=0.01 cfs  62 cf

Subcatchment 7S: Ex. Area #7
Runoff Area=34,195 sf  29.82% Impervious  Runoff Depth>0.78"
Flow Length=100'  Slope=0.0340 '/'  Tc=7.7 min  CN=72.6  Runoff=0.61 cfs  2,211 cf

Link 8L: POC A
Inflow=0.37 cfs  3,960 cf
Primary=0.37 cfs  3,960 cf

Link 9L: POC B
Inflow=0.01 cfs  62 cf
Primary=0.01 cfs  62 cf

Link 10L: POC C
Inflow=0.61 cfs  2,211 cf
Primary=0.61 cfs  2,211 cf

Link 12L: Channel Flow
delayed by 3.2 min  Inflow=0.10 cfs  1,273 cf
Primary=0.10 cfs  1,273 cf

Link 27L: Ex. Offsite Wetland
Inflow=0.62 cfs  2,273 cf
Primary=0.62 cfs  2,273 cf
<table>
<thead>
<tr>
<th>Subcatchment 1S: Ex. Area #1</th>
<th>Runoff Area=21,592 sf 0.00% Impervious Runoff Depth&gt;0.31&quot; Flow Length=496' Tc=20.4 min CN=55.0 Runoff=0.06 cfs 557 cf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcatchment 2S: Ex. Area #2</td>
<td>Runoff Area=17,697 sf 0.00% Impervious Runoff Depth&gt;0.33&quot; Flow Length=231' Tc=15.5 min CN=55.5 Runoff=0.06 cfs 482 cf</td>
</tr>
<tr>
<td>Subcatchment 3S: Ex. Area #3</td>
<td>Runoff Area=46,377 sf 0.43% Impervious Runoff Depth&gt;0.33&quot; Flow Length=119' Tc=17.3 min CN=55.7 Runoff=0.15 cfs 1,286 cf</td>
</tr>
<tr>
<td>Subcatchment 4S: Ex. Area #4</td>
<td>Runoff Area=110,834 sf 2.32% Impervious Runoff Depth&gt;0.38&quot; Flow Length=319' Tc=10.6 min CN=57.2 Runoff=0.50 cfs 3,550 cf</td>
</tr>
<tr>
<td>Subcatchment 5S: Ex. Area #5</td>
<td>Runoff Area=20,599 sf 6.36% Impervious Runoff Depth&gt;0.60&quot; Flow Length=400' Tc=10.7 min CN=62.7 Runoff=0.21 cfs 1,024 cf</td>
</tr>
<tr>
<td>Subcatchment 6S: Ex. Area #6</td>
<td>Runoff Area=2,284 sf 0.00% Impervious Runoff Depth&gt;0.53&quot; Tc=5.0 min CN=61.0 Runoff=0.02 cfs 100 cf</td>
</tr>
<tr>
<td>Subcatchment 7S: Ex. Area #7</td>
<td>Runoff Area=34,195 sf 29.82% Impervious Runoff Depth&gt;1.09&quot; Flow Length=100' Slope=0.0340 Tc=7.7 min CN=72.6 Runoff=0.89 cfs 3,100 cf</td>
</tr>
</tbody>
</table>

**Link 8L: POC A**

| Inflow=0.87 cfs 6,895 cf Primary=0.87 cfs 6,895 cf |

**Link 9L: POC B**

| Inflow=0.02 cfs 100 cf Primary=0.02 cfs 100 cf |

**Link 10L: POC C**

| Inflow=0.89 cfs 3,100 cf Primary=0.89 cfs 3,100 cf |

**Link 12L: Channel Flow**

| Inflow=0.27 cfs 2,325 cf Primary=0.27 cfs 2,321 cf |

**Link 27L: Ex. Offsite Wetland**

| Inflow=0.91 cfs 3,200 cf Primary=0.91 cfs 3,200 cf |
### Subcatchment 1S: Ex. Area #1
- Runoff Area: 21,592 sf
- 0.00% Impervious
- Runoff Depth: >0.65"
- Flow Length: 496’
- Tc: 20.4 min
- CN: 55.0
- Runoff: 0.18 cfs
- 1,168 cf

### Subcatchment 2S: Ex. Area #2
- Runoff Area: 17,697 sf
- 0.00% Impervious
- Runoff Depth: >0.67"
- Flow Length: 231’
- Tc: 15.5 min
- CN: 55.5
- Runoff: 0.17 cfs
- 995 cf

### Subcatchment 3S: Ex. Area #3
- Runoff Area: 46,377 sf
- 0.43% Impervious
- Runoff Depth: >0.68"
- Flow Length: 119’
- Tc: 17.3 min
- CN: 55.7
- Runoff: 0.43 cfs
- 2,644 cf

### Subcatchment 4S: Ex. Area #4
- Runoff Area: 110,834 sf
- 2.32% Impervious
- Runoff Depth: >0.76"
- Flow Length: 319’
- Tc: 10.6 min
- CN: 57.2
- Runoff: 1.45 cfs
- 7,032 cf

### Subcatchment 5S: Ex. Area #5
- Runoff Area: 20,599 sf
- 6.36% Impervious
- Runoff Depth: >1.06"
- Flow Length: 400’
- Tc: 10.7 min
- CN: 62.7
- Runoff: 0.44 cfs
- 1,827 cf

### Subcatchment 6S: Ex. Area #6
- Runoff Area: 2,284 sf
- 0.00% Impervious
- Runoff Depth: >0.97"
- Tc: 5.0 min
- CN: 61.0
- Runoff: 0.05 cfs
- 184 cf

### Subcatchment 7S: Ex. Area #7
- Runoff Area: 34,195 sf
- 29.82% Impervious
- Runoff Depth: >1.71"
- Flow Length: 100’
- Slope: 0.0340 ft
- Tc: 7.7 min
- CN: 72.6
- Runoff: 1.46 cfs
- 4,884 cf

### Link 8L: POC A
- Inflow: 2.28 cfs
- Primary: 2.28 cfs
- 13,660 cf

### Link 9L: POC B
- Inflow: 0.05 cfs
- Primary: 0.05 cfs
- 184 cf

### Link 10L: POC C
- Inflow: 1.46 cfs
- Primary: 1.46 cfs
- 4,884 cf

### Link 12L: Channel Flow
- Delayed by 3.2 min
- Inflow: 0.77 cfs
- Primary: 0.77 cfs
- 4,801 cf

### Link 27L: Ex. Offsite Wetland
- Inflow: 1.51 cfs
- Primary: 1.51 cfs
- 5,069 cf
Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

<table>
<thead>
<tr>
<th>Subcatchment</th>
<th>Ex. Area #1</th>
<th>Runoff Area=21,592 sf</th>
<th>0.00% Impervious</th>
<th>Runoff Depth&gt;1.02&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow Length=496'</td>
<td>Tc=20.4 min</td>
<td>CN=55.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Runoff=0.32 cfs</td>
<td>1,841 cf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subcatchment</th>
<th>Ex. Area #2</th>
<th>Runoff Area=17,697 sf</th>
<th>0.00% Impervious</th>
<th>Runoff Depth&gt;1.06&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow Length=231'</td>
<td>Tc=15.5 min</td>
<td>CN=55.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Runoff=0.31 cfs</td>
<td>1,558 cf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subcatchment</th>
<th>Ex. Area #3</th>
<th>Runoff Area=46,377 sf</th>
<th>0.43% Impervious</th>
<th>Runoff Depth&gt;1.07&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow Length=119'</td>
<td>Tc=17.3 min</td>
<td>CN=55.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Runoff=0.79 cfs</td>
<td>4,129 cf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subcatchment</th>
<th>Ex. Area #4</th>
<th>Runoff Area=110,834 sf</th>
<th>2.32% Impervious</th>
<th>Runoff Depth&gt;1.17&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow Length=319'</td>
<td>Tc=10.6 min</td>
<td>CN=57.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Runoff=2.54 cfs</td>
<td>10,783 cf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subcatchment</th>
<th>Ex. Area #5</th>
<th>Runoff Area=20,599 sf</th>
<th>6.36% Impervious</th>
<th>Runoff Depth&gt;1.55&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow Length=400'</td>
<td>Tc=10.7 min</td>
<td>CN=62.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Runoff=0.68 cfs</td>
<td>2,654 cf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subcatchment</th>
<th>Ex. Area #6</th>
<th>Runoff Area=2,284 sf</th>
<th>0.00% Impervious</th>
<th>Runoff Depth&gt;1.43&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tc=5.0 min</td>
<td>CN=61.0</td>
<td>Runoff=0.08 cfs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>272 cf</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subcatchment</th>
<th>Ex. Area #7</th>
<th>Runoff Area=34,195 sf</th>
<th>29.82% Impervious</th>
<th>Runoff Depth&gt;2.32&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Flow Length=100'</td>
<td>Slope=0.0340 '/'</td>
<td>Tc=7.7 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inflow=2.00 cfs</td>
<td>6,615 cf</td>
<td></td>
</tr>
</tbody>
</table>

| Link 8L: POC A | Inflow=4.02 cfs | 20,957 cf |
|                | Primary=4.02 cfs | 20,957 cf |

| Link 9L: POC B | Inflow=0.08 cfs | 272 cf |
|                | Primary=0.08 cfs | 272 cf |

| Link 10L: POC C | Inflow=2.00 cfs | 6,615 cf |
|                | Primary=2.00 cfs | 6,615 cf |

| Link 12L: Channel Flow | Inflow=1.40 cfs | 7,528 cf |
|                        | Primary=1.40 cfs | 7,519 cf |

| Link 27L: Ex. Offsite Wetland | Inflow=2.08 cfs | 6,887 cf |
|                               | Primary=2.08 cfs | 6,887 cf |
Summary for Subcatchment 1S: Ex. Area #1

Runoff = 0.62 cfs @ 12.31 hrs, Volume= 3,135 cf, Depth> 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21,592</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>21,592</td>
<td>100.00% Pervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.3</td>
<td>102</td>
<td>0.0980</td>
<td>0.15</td>
<td></td>
<td><strong>Sheet Flow, Woods</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush n= 0.400 P2= 3.35&quot;</td>
</tr>
<tr>
<td>2.4</td>
<td>166</td>
<td>0.0540</td>
<td>1.16</td>
<td></td>
<td><strong>Shallow Concentrated Flow, Woods</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland Kv= 5.0 fps</td>
</tr>
<tr>
<td>6.7</td>
<td>228</td>
<td>0.0130</td>
<td>0.57</td>
<td></td>
<td><strong>Shallow Concentrated Flow, Woods</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland Kv= 5.0 fps</td>
</tr>
<tr>
<td>20.4</td>
<td>496</td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>

Summary for Subcatchment 2S: Ex. Area #2

Runoff = 0.58 cfs @ 12.24 hrs, Volume= 2,636 cf, Depth> 1.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>265</td>
<td>gravel</td>
</tr>
<tr>
<td></td>
<td>17,432</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>17,697</td>
<td>55.5</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>17,697</td>
<td>100.00% Pervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.6</td>
<td>102</td>
<td>0.0740</td>
<td>0.13</td>
<td></td>
<td><strong>Sheet Flow, Woods</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush n= 0.400 P2= 3.35&quot;</td>
</tr>
<tr>
<td>0.4</td>
<td>27</td>
<td>0.0560</td>
<td>1.18</td>
<td></td>
<td><strong>Shallow Concentrated Flow, Woods</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland Kv= 5.0 fps</td>
</tr>
<tr>
<td>2.5</td>
<td>102</td>
<td>0.0180</td>
<td>0.67</td>
<td></td>
<td><strong>Shallow Concentrated Flow, Woods</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland Kv= 5.0 fps</td>
</tr>
<tr>
<td>15.5</td>
<td>231</td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>
Summary for Subcatchment 3S: Ex. Area #3

Runoff = 1.47 cfs @ 12.26 hrs, Volume= 6,970 cf, Depth> 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>3,700</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>42,477</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>46,377</td>
<td>55.7</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>46,177</td>
<td>99.57% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>0.43% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.9</td>
<td>54</td>
<td>0.2200</td>
<td>0.18</td>
<td></td>
<td>Sheet Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n= 0.400</td>
<td>P2= 3.35&quot;</td>
</tr>
<tr>
<td>3.7</td>
<td>27</td>
<td>0.1100</td>
<td>0.12</td>
<td></td>
<td>Sheet Flow, woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n= 0.400</td>
<td>P2= 3.35&quot;</td>
</tr>
<tr>
<td>8.7</td>
<td>38</td>
<td>0.0260</td>
<td>0.07</td>
<td></td>
<td>Sheet Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n= 0.400</td>
<td>P2= 3.35&quot;</td>
</tr>
</tbody>
</table>

17.3 119 Total

Summary for Subcatchment 4S: Ex. Area #4

Runoff = 4.60 cfs @ 12.16 hrs, Volume= 17,878 cf, Depth> 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,570</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>22,342</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>85,922</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>110,834</td>
<td>57.2</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>108,264</td>
<td>97.68% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>2,570</td>
<td>2.32% Impervious Area</td>
<td></td>
</tr>
<tr>
<td>Tc</td>
<td>Length</td>
<td>Slope</td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>(min)</td>
<td>(feet)</td>
</tr>
<tr>
<td>5.1</td>
<td>80</td>
<td>0.0625</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>20</td>
<td>0.1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.4</td>
<td>39</td>
<td>0.1150</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.2</td>
<td>67</td>
<td>0.0900</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.9</td>
<td>113</td>
<td>0.0400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.6</td>
<td>319</td>
<td></td>
</tr>
</tbody>
</table>

**Summary for Subcatchment 5S: Ex. Area #5**

Runoff = 1.12 cfs @ 12.16 hrs, Volume= 4,165 cf, Depth> 2.43''

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40''

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,310</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>2,185</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>17,104</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>20,599</td>
<td>62.7</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>19,289</td>
<td>93.64% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>1,310</td>
<td>6.36% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc</th>
<th>Length</th>
<th>Slope</th>
<th>Velocity</th>
<th>Capacity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(min)</td>
<td>(feet)</td>
<td>(ft/ft)</td>
<td>(ft/sec)</td>
<td></td>
</tr>
<tr>
<td>4.9</td>
<td>83</td>
<td>0.0720</td>
<td>0.28</td>
<td></td>
<td><strong>Sheet Flow, Grass</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grass: Short  ( n = 0.150 )  ( P2 = 3.35'' )</td>
</tr>
<tr>
<td>4.5</td>
<td>22</td>
<td>0.0450</td>
<td>0.08</td>
<td></td>
<td><strong>Sheet Flow, Woods</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush  ( n = 0.400 )  ( P2 = 3.35'' )</td>
</tr>
<tr>
<td>0.2</td>
<td>28</td>
<td>0.1430</td>
<td>1.89</td>
<td></td>
<td><strong>Shallow Concentrated Flow, Grass</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland  ( Kv = 5.0 ) fps</td>
</tr>
<tr>
<td>1.0</td>
<td>245</td>
<td>0.0370</td>
<td>3.90</td>
<td></td>
<td><strong>Shallow Concentrated Flow, Paved</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Paved  ( Kv = 20.3 ) fps</td>
</tr>
<tr>
<td>0.1</td>
<td>22</td>
<td>0.0680</td>
<td>3.91</td>
<td></td>
<td><strong>Shallow Concentrated Flow, Grass</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grassed Waterway  ( Kv = 15.0 ) fps</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>10.7</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary for Subcatchment 6S: Ex. Area #6**

Runoff = 0.14 cfs @ 12.08 hrs, Volume= 433 cf, Depth> 2.28''

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40''
Area (sf) | CN | Description
---|---|---
2,284 | 61.0 | >75% Grass cover, Good, HSG B
2,284 | 100.00% Pervious Area

Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs)
---|---|---|---|---
5.0 | | | | |

Direct Entry,

Summary for Subcatchment 7S: Ex. Area #7

Runoff = 2.94 cfs @ 12.11 hrs, Volume= 9,626 cf, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

Area (sf) | CN | Description
---|---|---
10,196 | 98.0 | Paved parking, HSG B
680 | 89.0 | Gravel
23,319 | 61.0 | >75% Grass cover, Good, HSG B
34,195 | 72.6 | Weighted Average
23,999 | 70.18% Pervious Area
10,196 | 29.82% Impervious Area

Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs)
---|---|---|---|---
7.7 | 100 | 0.0340 | 0.22 | Sheet Flow, Grass
Grass: Short n= 0.150 P2= 3.35"

Summary for Link 8L: POC A

Inflow Area = 217,099 sf, 1.88% Impervious, Inflow Depth > 1.92" for 25-Year event
Inflow = 7.36 cfs @ 12.19 hrs, Volume= 34,771 cf
Primary = 7.36 cfs @ 12.19 hrs, Volume= 34,771 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 9L: POC B

Inflow Area = 2,284 sf, 0.00% Impervious, Inflow Depth > 2.28" for 25-Year event
Inflow = 0.14 cfs @ 12.08 hrs, Volume= 433 cf
Primary = 0.14 cfs @ 12.08 hrs, Volume= 433 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Summary for Link 10L: POC C

Inflow Area = 34,195 sf, 29.82% Impervious, Inflow Depth > 3.38" for 25-Year event
Inflow = 2.94 cfs @ 12.11 hrs, Volume= 9,626 cf
Primary = 2.94 cfs @ 12.11 hrs, Volume= 9,626 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 12L: Channel Flow

Inflow Area = 85,666 sf, 0.23% Impervious, Inflow Depth > 1.78" for 25-Year event
Inflow = 2.63 cfs @ 12.27 hrs, Volume= 12,741 cf
Primary = 2.63 cfs @ 12.32 hrs, Volume= 12,728 cf, Atten= 0%, Lag= 3.3 min

Primary outflow = Inflow delayed by 3.2 min, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Link 27L: Ex. Offsite Wetland

Inflow Area = 36,479 sf, 27.95% Impervious, Inflow Depth > 3.31" for 25-Year event
Inflow = 3.07 cfs @ 12.11 hrs, Volume= 10,059 cf
Primary = 3.07 cfs @ 12.11 hrs, Volume= 10,059 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Subcatchment 1S: Ex. Area #1
Runoff Area=21,592 sf  0.00% Impervious  Runoff Depth>2.50"
Flow Length=496'  Tc=20.4 min  CN=55.0  Runoff=0.92 cfs  4,499 cf

Subcatchment 2S: Ex. Area #2
Runoff Area=17,697 sf  0.00% Impervious  Runoff Depth>2.56"
Flow Length=231'  Tc=15.5 min  CN=55.5  Runoff=0.86 cfs  3,768 cf

Subcatchment 3S: Ex. Area #3
Runoff Area=46,377 sf  0.43% Impervious  Runoff Depth>2.57"
Flow Length=119'  Tc=17.3 min  CN=55.7  Runoff=2.19 cfs  9,950 cf

Subcatchment 4S: Ex. Area #4
Runoff Area=110,834 sf  2.32% Impervious  Runoff Depth>2.73"
Flow Length=319'  Tc=10.6 min  CN=57.2  Runoff=6.74 cfs  25,259 cf

Subcatchment 5S: Ex. Area #5
Runoff Area=20,599 sf  6.36% Impervious  Runoff Depth>3.32"
Flow Length=400'  Tc=10.7 min  CN=62.7  Runoff=1.55 cfs  5,693 cf

Subcatchment 6S: Ex. Area #6
Runoff Area=2,284 sf  0.00% Impervious  Runoff Depth>3.14"
Tc=5.0 min  CN=61.0  Runoff=0.20 cfs  597 cf

Subcatchment 7S: Ex. Area #7
Runoff Area=34,195 sf  29.82% Impervious  Runoff Depth>4.41"
Flow Length=100'  Slope=0.0340 '/'  Tc=7.7 min  CN=72.6  Runoff=3.83 cfs  12,555 cf

Link 8L: POC A
Inflow=10.82 cfs  49,153 cf
Primary=10.82 cfs  49,153 cf

Link 9L: POC B
Inflow=0.20 cfs  597 cf
Primary=0.20 cfs  597 cf

Link 10L: POC C
Inflow=3.83 cfs  12,555 cf
Primary=3.83 cfs  12,555 cf

Link 12L: Channel Flow
delayed by 3.2 min
Inflow=3.94 cfs  18,218 cf
Primary=3.94 cfs  18,201 cf

Link 27L: Ex. Offsite Wetland
Inflow=4.01 cfs  13,152 cf
Primary=4.01 cfs  13,152 cf
Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Ex. Area #1
Runoff Area=21,592 sf  0.00% Impervious  Runoff Depth>3.54"
Flow Length=496'  Tc=20.4 min  CN=55.0  Runoff=1.34 cfs  6,374 cf

Subcatchment 2S: Ex. Area #2
Runoff Area=17,697 sf  0.00% Impervious  Runoff Depth>3.61"
Flow Length=231'  Tc=15.5 min  CN=55.5  Runoff=1.26 cfs  5,322 cf

Subcatchment 3S: Ex. Area #3
Runoff Area=46,377 sf  0.43% Impervious  Runoff Depth>3.63"
Flow Length=119'  Tc=17.3 min  CN=55.7  Runoff=3.18 cfs  14,035 cf

Subcatchment 4S: Ex. Area #4
Runoff Area=110,834 sf  2.32% Impervious  Runoff Depth>3.82"
Flow Length=319'  Tc=10.6 min  CN=57.2  Runoff=9.63 cfs  35,309 cf

Subcatchment 5S: Ex. Area #5
Runoff Area=20,599 sf  6.36% Impervious  Runoff Depth>4.50"
Flow Length=400'  Tc=10.7 min  CN=62.7  Runoff=2.13 cfs  7,732 cf

Subcatchment 6S: Ex. Area #6
Runoff Area=2,284 sf  0.00% Impervious  Runoff Depth>4.30"
Tc=5.0 min  CN=61.0  Runoff=0.27 cfs  818 cf

Subcatchment 7S: Ex. Area #7
Runoff Area=34,195 sf  29.82% Impervious  Runoff Depth>5.74"
Flow Length=100'  Slope=0.0340 '/'  Tc=7.7 min  CN=72.6  Runoff=4.97 cfs  16,352 cf

Link 8L: POC A
Inflow=15.51 cfs  68,750 cf
Primary=15.51 cfs  68,750 cf

Link 9L: POC B
Inflow=0.27 cfs  818 cf
Primary=0.27 cfs  818 cf

Link 10L: POC C
Inflow=4.97 cfs  16,352 cf
Primary=4.97 cfs  16,352 cf

Link 12L: Channel Flow
delayed by 3.2 min  Inflow=5.72 cfs  25,732 cf
Primary=5.72 cfs  25,709 cf

Link 27L: Ex. Offsite Wetland
Inflow=5.22 cfs  17,170 cf
Primary=5.22 cfs  17,170 cf
Appendix “J”

HydroCAD Analysis
Proposed Conditions
<table>
<thead>
<tr>
<th>Subcatchment 13S: Area #1</th>
<th>Runoff Area=21,592 sf</th>
<th>0.00% Impervious</th>
<th>Runoff Depth=0.31&quot;</th>
<th>Flow Length=496'</th>
<th>Tc=20.4 min</th>
<th>CN=55.0</th>
<th>Runoff=0.06 cfs</th>
<th>557 cf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcatchment 14S: Area #2</td>
<td>Runoff Area=17,348 sf</td>
<td>5.36% Impervious</td>
<td>Runoff Depth=0.43&quot;</td>
<td>Flow Length=180'</td>
<td>Tc=12.6 min</td>
<td>CN=58.6</td>
<td>Runoff=0.10 cfs</td>
<td>627 cf</td>
</tr>
<tr>
<td>Subcatchment 15S: Area #3</td>
<td>Runoff Area=45,400 sf</td>
<td>0.07% Impervious</td>
<td>Runoff Depth=0.33&quot;</td>
<td>Flow Length=126'</td>
<td>Tc=15.1 min</td>
<td>CN=55.5</td>
<td>Runoff=0.15 cfs</td>
<td>1,236 cf</td>
</tr>
<tr>
<td>Subcatchment 16S: Area #4</td>
<td>Runoff Area=93,608 sf</td>
<td>0.07% Impervious</td>
<td>Runoff Depth=0.34&quot;</td>
<td>Flow Length=284'</td>
<td>Tc=11.5 min</td>
<td>CN=55.8</td>
<td>Runoff=0.34 cfs</td>
<td>7,628 cf</td>
</tr>
<tr>
<td>Subcatchment 17S: Area #5</td>
<td>Runoff Area=22,721 sf</td>
<td>0.39% Impervious</td>
<td>Runoff Depth=0.51&quot;</td>
<td>Flow Length=533'</td>
<td>Tc=9.2 min</td>
<td>CN=60.6</td>
<td>Runoff=0.19 cfs</td>
<td>967 cf</td>
</tr>
<tr>
<td>Subcatchment 18S: Area #6</td>
<td>Runoff Area=3,135 sf</td>
<td>18.18% Impervious</td>
<td>Runoff Depth=0.83&quot;</td>
<td>Tc=5.0 min</td>
<td>CN=67.7</td>
<td>Runoff=0.06 cfs</td>
<td>216 cf</td>
<td></td>
</tr>
<tr>
<td>Subcatchment 19S: Area #7</td>
<td>Runoff Area=10,706 sf</td>
<td>9.63% Impervious</td>
<td>Runoff Depth=0.68&quot;</td>
<td>Flow Length=103'</td>
<td>Slope=0.039'</td>
<td>TC=7.5 min</td>
<td>CN=64.6</td>
<td>Runoff=0.15 cfs</td>
</tr>
<tr>
<td>Subcatchment 24S: Pool House</td>
<td>Runoff Area=1,051 sf</td>
<td>100.00% Impervious</td>
<td>Runoff Depth=3.16&quot;</td>
<td>Tc=5.0 min</td>
<td>CN=98.0</td>
<td>Runoff=0.06 cfs</td>
<td>277 cf</td>
<td></td>
</tr>
<tr>
<td>Subcatchment 25S: Area #2A</td>
<td>Runoff Area=4,854 sf</td>
<td>75.76% Impervious</td>
<td>Runoff Depth=3.16&quot;</td>
<td>Tc=5.0 min</td>
<td>CN=98.0</td>
<td>Runoff=0.06 cfs</td>
<td>915 cf</td>
<td></td>
</tr>
<tr>
<td>Subcatchment 26S: Area #4A</td>
<td>Runoff Area=12,693 sf</td>
<td>28.59% Impervious</td>
<td>Runoff Depth=2.26&quot;</td>
<td>Flow Length=118'</td>
<td>Slope=0.021'</td>
<td>TC=10.4 min</td>
<td>CN=71.8</td>
<td>Runoff=0.28 cfs</td>
</tr>
<tr>
<td>Subcatchment 27S: Roof #1</td>
<td>Runoff Area=3,148 sf</td>
<td>100.00% Impervious</td>
<td>Runoff Depth=3.16&quot;</td>
<td>Tc=5.0 min</td>
<td>CN=98.0</td>
<td>Runoff=0.25 cfs</td>
<td>630 cf</td>
<td></td>
</tr>
<tr>
<td>Subcatchment 28S: Area #7A</td>
<td>Runoff Area=8,925 sf</td>
<td>94.64% Impervious</td>
<td>Runoff Depth=2.94&quot;</td>
<td>Tc=5.0 min</td>
<td>CN=98.0</td>
<td>Runoff=0.68 cfs</td>
<td>2,190 cf</td>
<td></td>
</tr>
<tr>
<td>Subcatchment 29S: Area #4B</td>
<td>Runoff Area=8,400 sf</td>
<td>85.71% Impervious</td>
<td>Runoff Depth=2.85&quot;</td>
<td>Tc=5.0 min</td>
<td>CN=98.1</td>
<td>Runoff=0.63 cfs</td>
<td>1,994 cf</td>
<td></td>
</tr>
<tr>
<td>Pond 24P: Infiltration Trench</td>
<td>Peak Elev=183.68'</td>
<td>Storage=771 cf</td>
<td>Inflow=0.63 cfs</td>
<td>1,994 cf</td>
<td>12' Round Culvert</td>
<td>n=0.011</td>
<td>L=10.0'</td>
<td>S=0.030'</td>
</tr>
<tr>
<td>Pond 25P: Retention System #1</td>
<td>Peak Elev=180.94'</td>
<td>Storage=1,696 cf</td>
<td>Inflow=0.89 cfs</td>
<td>2,689 cf</td>
<td>Outflow=0.06 cfs</td>
<td>1,069 cf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pond 26P: Permeable Pavers Patio</td>
<td>Peak Elev=186.24'</td>
<td>Storage=915 cf</td>
<td>Inflow=0.30 cfs</td>
<td>915 cf</td>
<td>Outflow=0.00 cfs</td>
<td>0 cf</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pond 29P: Permeable Paver Courtyard
Peak Elev=186.94' Storage=1,614 ft³ Inflow=0.93 cfs Outflow=0.35 cfs
Primary=0.75 cfs 7.067 ft³
Secondary=0.93 cfs 3.020 ft³

Link 20L: POC A
Inflow=0.75 cfs 7.067 ft³
Primary=0.75 cfs 7.067 ft³

Link 21L: POC B
Inflow=0.06 cfs 216 ft³
Primary=0.06 cfs 216 ft³

Link 22L: POC C
Inflow=0.45 cfs 2,178 ft³
Primary=0.45 cfs 2,178 ft³

Link 23L: Channel Flow
delayed by 3.2 min Inflow=0.29 cfs 2,420 ft³
Primary=0.29 cfs 2,417 ft³

Link 24L: Level Spreader #1
delayed by 12.1 min Inflow=0.00 cfs 0 ft³
Primary=0.00 cfs 0 ft³

Link 25L: Level Spreader #2
delayed by 17.3 min Inflow=0.06 cfs 1,069 ft³
Primary=0.06 cfs 1,055 ft³

Link 26L: Pr. Offsite Wetland
Inflow=0.49 cfs 2,394 ft³
Primary=0.49 cfs 2,394 ft³

Subcatchment 13S: Area #1
Runoff Area=2,159.2 ft² 0.00% Impervious
Runoff Depth=0.65
Flow Length=496 ft Tc=20.4 min CN=55.6 Runoff=0.18 cfs 1,168 ft³

Subcatchment 14S: Area #2
Runoff Area=1,734.8 ft² 5.36% Impervious
Runoff Depth=0.63
Flow Length=180 ft Tc=12.6 min CN=58.6 Runoff=0.25 cfs 1,206 ft³

Subcatchment 15S: Area #3
Runoff Area=4,400 ft² 0.07% Impervious
Runoff Depth=0.67
Flow Length=126 ft Tc=15.1 min CN=55.5 Runoff=0.43 cfs 2,553 ft³

Subcatchment 16S: Area #4
Runoff Area=93,608 ft² 0.07% Impervious
Runoff Depth=0.69
Flow Length=284 ft Tc=11.5 min CN=58.8 Runoff=1.02 cfs 5,387 ft³

Subcatchment 17S: Area #5
Runoff Area=22,721 ft² 18.39% Impervious
Runoff Depth=0.94
Flow Length=533 ft Tc=0.2 min CN=60.7 Runoff=1.0 cfs 3,609 ft³

Subcatchment 18S: Area #6
Runoff Area=3,135 ft² 18.18% Impervious
Runoff Depth=1.38
Tc=5.0 min CN=67.7 Runoff=0.11 cfs 360 ft³

Subcatchment 19S: Area #7
Runoff Area=10,706 ft² 9.63% Impervious
Runoff Depth=1.18
Flow Length=103 ft Slope=0.390° Tc=7.5 min CN=64.6 Runoff=0.29 cfs 1,052 ft³

Subcatchment 24S: Pool House
Runoff Area=1,051 ft² 100.00% Impervious
Runoff Depth=4.06
Tc=5.0 min CN=98.0 Runoff=0.10 cfs 368 ft³

Subcatchment 25S: Area #2A
Runoff Area=4,854 ft² 75.76% Impervious
Runoff Depth=3.10
Tc=5.0 min CN=69.0 Runoff=0.41 cfs 1,255 ft³

Subcatchment 26S: Area #4A
Runoff Area=12,693 ft² 28.59% Impervious
Runoff Depth=1.64
Flow Length=118 ft Slope=0.210° Tc=12.7 min CN=71.6 Runoff=0.47 cfs 1,736 ft³

Subcatchment 27S: Roof #1
Runoff Area=3,148 ft² 100.00% Impervious
Runoff Depth=4.06
Tc=5.0 min CN=88.0 Runoff=0.31 cfs 1,066 ft³

Subcatchment 28S: Area #7A
Runoff Area=8,925 ft² 94.64% Impervious
Runoff Depth=3.83
Tc=5.0 min CN=96.0 Runoff=0.87 cfs 2,652 ft³

Subcatchment 29S: Area #4B
Runoff Area=8,400 ft² 85.71% Impervious
Runoff Depth=3.74
Tc=5.0 min CN=95.1 Runoff=0.81 cfs 2,615 ft³

Pond 24P: Infiltration Trench
Peak Elev=183.75' Storage=781 ft³ Inflow=0.81 cfs 2,615 ft³
12.0° Round Culvert n=0.01 L=10.0’ S=0.000’° Outflow=0.77 cfs 1,941 ft³

Pond 25P: Retention System #1
Peak Elev=181.14' Storage=1,892 ft³ Inflow=1.27 cfs 4,033 ft³ Outflow=0.28 cfs 2,402 ft³

Pond 26P: Permeable Pavers Patio
Peak Elev=186.75' Storage=1,123 ft³ Inflow=0.41 cfs 1,255 ft³ Outflow=0.01 cfs 137 ft³
Pond 29P: Permeable Paver Courtyard

Peak Elev=187.05' Storage=1,759 cf Inflow=1.19 cfs 3,918 cf
Outflow=0.84 cfs 2,466 cf

Link 26L: POC A
Inflow=0.05 cfs 14.612 cf
Primary=0.05 cfs 14.612 cf

Link 21L: POC B
Inflow=0.61 cfs 360 cf
Primary=0.61 cfs 360 cf

Link 22L: POC C
Inflow=0.13 cfs 3,518 cf
Primary=0.13 cfs 3,518 cf

Link 23L: Channel Flow
delayed by 3.2 min Inflow=0.62 cfs 5,061 cf
Primary=0.62 cfs 5,054 cf

Link 24L: Level Spreader #1
delayed by 12.1 min Inflow=0.01 cfs 137 cf
Primary=0.01 cfs 134 cf

Link 25L: Level Spreader #2
delayed by 17.3 min Inflow=0.28 cfs 2,402 cf
Primary=0.28 cfs 2,384 cf

Link 26L: Pr. Offsite Wetland
Inflow=0.23 cfs 3,878 cf
Primary=0.23 cfs 3,878 cf

Subcatchment 13S: Area #1
Runoff Area=2,158.82 sf 0.00% Impervious Runoff Depth=1.02'
Flow Length=496' Tc=20.4 min CN=55.0 Runoff=0.32 cfs 1,841 cf

Subcatchment 14S: Area #2
Runoff Area=17,348 sf 5.36% Impervious Runoff Depth=1.28'
Flow Length=180' Tc=12.6 min CN=88.6 Runoff=0.42 cfs 1,821 cf

Subcatchment 15S: Area #3
Runoff Area=45,400 sf 0.07% Impervious Runoff Depth=1.06'
Flow Length=126' Tc=15.1 min CN=55.5 Runoff=0.79 cfs 3,997 cf

Subcatchment 16S: Area #4
Runoff Area=93,608 sf 0.07% Impervious Runoff Depth=1.08'
Flow Length=284' Tc=11.5 min CN=55.8 Runoff=1.86 cfs 8,400 cf

Subcatchment 17S: Area #5
Runoff Area=22,721 sf 0.39% Impervious Runoff Depth=1.40'
Flow Length=533' Tc=9.2 min CN=60.0 Runoff=0.70 cfs 2,647 cf

Subcatchment 18S: Area #6
Runoff Area=3,135 sf 18.18% Impervious Runoff Depth=1.93'
Tc=5.0 min CN=67.7 Runoff=0.16 cfs 503 cf

Subcatchment 19S: Area #7
Runoff Area=10,706 sf 9.63% Impervious Runoff Depth=1.69'
Flow Length=103' Tc=0.390' T=7.5 min CN=64.6 Runoff=0.44 cfs 1,505 cf

Subcatchment 24S: Pool House
Runoff Area=1,051 sf 100.00% Impervious Runoff Depth=4.86'
Tc=5.0 min CN=98.0 Runoff=0.42 cfs 426 cf

Subcatchment 25S: Area #2A
Runoff Area=4,854 sf 75.75% Impervious Runoff Depth=3.86'
Tc=5.0 min CN=89.0 Runoff=0.61 cfs 1,583 cf

Subcatchment 26S: Area #4A
Runoff Area=12,693 sf 28.69% Impervious Runoff Depth=2.24'
Flow Length=118' Tc=10.3 min CN=71.6 Runoff=0.65 cfs 2,366 cf

Subcatchment 27S: Roof #1
Runoff Area=3,148 sf 100.00% Impervious Runoff Depth=4.86'
Tc=5.0 min CN=98.0 Runoff=0.37 cfs 1,275 cf

Subcatchment 28S: Area #7A
Runoff Area=6,925 sf 94.64% Impervious Runoff Depth=4.63'
Tc=5.0 min CN=96.0 Runoff=1.04 cfs 3,443 cf

Subcatchment 29S: Area #4B
Runoff Area=8,420 sf 85.71% Impervious Runoff Depth=4.53'
Tc=5.0 min CN=95.1 Runoff=0.97 cfs 3,169 cf

Pond 24P: Infiltration Trench
Peak Elev=183.79' Storage=605 cf
Inflow=0.97 cfs 3,169 cf
12.0' Round Culvert n=0.011 L=10.0' S=0.030' Outflow=0.93 cfs 2,494 cf

Pond 25P: Retention System #1
Peak Elev=181.42' Storage=2,169 cf
Inflow=1.61 cfs 5,285 cf
Outflow=0.58 cfs 3,647 cf

Pond 26P: Permeable Pavers Patio
Peak Elev=186.81' Storage=1,145 cf
Inflow=0.51 cfs 1,563 cf
Outflow=0.03 cfs 443 cf
Summary for Subcatchment 13S: Area #1

Runoff = 0.62 cfs @ 12.31 hrs, Volume= 3.135 cf, Depth= 1.74"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21,592</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>21,592</td>
<td>100.0% PerVIOUS Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.3</td>
<td>102</td>
<td>0.0980</td>
<td>0.15</td>
<td></td>
<td>Sheet Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush n= 0.400 P2= 3.35&quot;</td>
</tr>
<tr>
<td>2.4</td>
<td>166</td>
<td>0.0540</td>
<td>1.16</td>
<td></td>
<td>Shallow Concentrated Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland K= 5.0 fps</td>
</tr>
<tr>
<td>8.7</td>
<td>228</td>
<td>0.0130</td>
<td>0.57</td>
<td></td>
<td>Shallow Concentrated Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland K= 5.0 fps</td>
</tr>
<tr>
<td>20.4</td>
<td>496 Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary for Subcatchment 14S: Area #2

Runoff = 0.73 cfs @ 12.19 hrs, Volume= 2.973 cf, Depth= 2.06"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>929</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>3,657</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>12,762</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>17,348</td>
<td>58.6</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>16,419</td>
<td>94.6% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>929</td>
<td>5.36% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>15</td>
<td>0.0200</td>
<td>0.12</td>
<td></td>
<td>Sheet Flow, Grass</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grass: Short n= 0.150 P2= 3.35&quot;</td>
</tr>
<tr>
<td>2.1</td>
<td>22</td>
<td>0.0450</td>
<td>0.18</td>
<td></td>
<td>Sheet Flow, Grass</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grass: Short n= 0.150 P2= 3.35&quot;</td>
</tr>
<tr>
<td>6.9</td>
<td>70</td>
<td>0.1570</td>
<td>0.17</td>
<td></td>
<td>Sheet Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush n= 0.400 P2= 3.35&quot;</td>
</tr>
<tr>
<td>1.5</td>
<td>73</td>
<td>0.0270</td>
<td>0.82</td>
<td></td>
<td>Shallow Concentrated Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland K= 5.0 fps</td>
</tr>
<tr>
<td>12.6</td>
<td>180 Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary for Subcatchment 15S: Area #3

Runoff = 1.50 cfs @ 12.23 hrs, Volume= 6.763 cf, Depth= 1.79"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>3,909</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>41,461</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>45,400</td>
<td>55.5</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>45,370</td>
<td>99.93% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>0.07% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc (min)</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td>23</td>
<td>0.0430</td>
<td>0.18</td>
<td></td>
<td>Sheet Flow, Grass</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Grass: Short n= 0.150 P2= 3.35&quot;</td>
</tr>
<tr>
<td>3.8</td>
<td>38</td>
<td>0.2100</td>
<td>0.17</td>
<td></td>
<td>Sheet Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush n= 0.400 P2= 3.35&quot;</td>
</tr>
<tr>
<td>3.7</td>
<td>27</td>
<td>0.1100</td>
<td>0.12</td>
<td></td>
<td>Sheet Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woods: Light underbrush n= 0.400 P2= 3.35&quot;</td>
</tr>
<tr>
<td>5.0</td>
<td>19</td>
<td>0.0260</td>
<td>0.06</td>
<td></td>
<td>Shallow Concentrated Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland K= 5.0 fps</td>
</tr>
<tr>
<td>0.4</td>
<td>19</td>
<td>0.0260</td>
<td>0.81</td>
<td></td>
<td>Shallow Concentrated Flow, Woods</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Woodland K= 5.0 fps</td>
</tr>
<tr>
<td>15.1</td>
<td>126 Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary for Subcatchment 16S: Area #4

Runoff = 3.49 cfs @ 12.18 hrs, Volume= 14.158 cf, Depth= 1.81"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11,429</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>79,922</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>2,220</td>
<td>55.0</td>
<td>Meadow, non-grazed, HSG B</td>
</tr>
<tr>
<td>64</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>93,608</td>
<td>55.8</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>93,544</td>
<td>99.93% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>0.07% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>
Summary for Subcatchment 17S: Area #5

Runoff = 1.18 cfs @ 12.14 hrs, Volume= 4.235 cf, Depth> 2.24"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>88</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>1,878</td>
<td>55.0</td>
<td>Woods, Good, HSG B</td>
</tr>
<tr>
<td>20,755</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>22.721</td>
<td>60.6</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>22.633</td>
<td>99.61% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>88</td>
<td>0.39% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

Summary for Subcatchment 18S: Area #6

Runoff = 0.25 cfs @ 12.08 hrs, Volume= 758 cf, Depth> 2.90"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,051</td>
<td>98.0</td>
<td>Roofs, HSG B</td>
</tr>
<tr>
<td>1,051</td>
<td>100.00% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

Summary for Subcatchment 19S: Area #7

Runoff = 0.70 cfs @ 12.71 hrs, Volume= 2.323 cf, Depth> 2.60"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,031</td>
<td>96.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>9,675</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>10,706</td>
<td>64.6</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>9,675</td>
<td>90.37% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>1,031</td>
<td>9.63% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

Summary for Subcatchment 24S: Pool House

Runoff = 0.16 cfs @ 12.75 hrs, Volume= 539 cf, Depth> 6.16"

Runoff by SCS TR-20 method, Uh=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.40"

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,051</td>
<td>98.0</td>
<td>Roofs, HSG B</td>
</tr>
<tr>
<td>1,051</td>
<td>100.00% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>
### Summary for Subcatchment 25S: Area #2A

Runoff = 0.66 cfs @ 12.07 hrs, Volume = 2.071 cf, Depth = 5.12"  
Runoff by SCS TR-20 method, UHI=SCS, Weighted-CN, Time Span = 0.00-24.00 hrs, dt = 0.01 hrs  
Type III 24-hr 25-Year Rainfall = 6.40"  

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,177</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>3,677</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>4,854</td>
<td>69.0</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>1,177</td>
<td>24.25% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>3,677</td>
<td>75.75% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry,</td>
</tr>
</tbody>
</table>

### Summary for Subcatchment 26S: Area #4A

Runoff = 0.96 cfs @ 12.15 hrs, Volume = 3.466 cf, Depth = 3.28"  
Runoff by SCS TR-20 method, UHI=SCS, Weighted-CN, Time Span = 0.00-24.00 hrs, dt = 0.01 hrs  
Type III 24-hr 25-Year Rainfall = 6.40"  

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9,064</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>3,629</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>12,693</td>
<td>71.6</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>9,064</td>
<td>71.41% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>3,629</td>
<td>28.59% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.7</td>
<td>118</td>
<td>0.0210</td>
<td>0.18</td>
<td></td>
<td>Sheet Flow, Grass</td>
</tr>
</tbody>
</table>

### Summary for Subcatchment 27S: Roof #1

Runoff = 0.47 cfs @ 12.07 hrs, Volume = 1.615 cf, Depth = 6.16"  
Runoff by SCS TR-20 method, UHI=SCS, Weighted-CN, Time Span = 0.00-24.00 hrs, dt = 0.01 hrs  
Type III 24-hr 25-Year Rainfall = 6.40"  

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,148</td>
<td>98.0</td>
<td>Roofs, HSG B</td>
</tr>
<tr>
<td>3,148</td>
<td>100.00% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry,</td>
</tr>
</tbody>
</table>

### Summary for Subcatchment 28S: Area #7A

Runoff = 1.32 cfs @ 12.07 hrs, Volume = 4,404 cf, Depth = 5.92"  
Runoff by SCS TR-20 method, UHI=SCS, Weighted-CN, Time Span = 0.00-24.00 hrs, dt = 0.01 hrs  
Type III 24-hr 25-Year Rainfall = 6.40"  

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>478</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>8,447</td>
<td>98.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>8,925</td>
<td>96.0</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>478</td>
<td>5.36% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>8,447</td>
<td>94.64% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry,</td>
</tr>
</tbody>
</table>

### Summary for Subcatchment 29S: Area #4B

Runoff = 1.23 cfs @ 12.07 hrs, Volume = 4,072 cf, Depth = 5.82"  
Runoff by SCS TR-20 method, UHI=SCS, Weighted-CN, Time Span = 0.00-24.00 hrs, dt = 0.01 hrs  
Type III 24-hr 25-Year Rainfall = 6.40"  

<table>
<thead>
<tr>
<th>Area (sf)</th>
<th>CN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>480</td>
<td>61.0</td>
<td>&gt;75% Grass cover, Good, HSG B</td>
</tr>
<tr>
<td>7,200</td>
<td>96.0</td>
<td>Paved parking, HSG B</td>
</tr>
<tr>
<td>8,400</td>
<td>95.1</td>
<td>Weighted Average</td>
</tr>
<tr>
<td>1,200</td>
<td>14.29% Pervious Area</td>
<td></td>
</tr>
<tr>
<td>7,200</td>
<td>85.71% Impervious Area</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tc</th>
<th>Length (feet)</th>
<th>Slope (ft/ft)</th>
<th>Velocity (ft/sec)</th>
<th>Capacity (cfs)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Direct Entry,</td>
</tr>
</tbody>
</table>

### Summary for Pond 24P: Infiltration Trench

Inflow Area = 8,400 sf, 85.71% Impervious, Inflow Depth = 5.82" for 25-Year event  

Iflow = 1.23 cfs @ 12.07 hrs, Volume = 4,072 cf  
Outflow = 1.18 cfs @ 12.09 hrs, Volume = 3,395 cf, Atten = 4%, Lag = 1.3 min  
Primary = 1.18 cfs @ 12.09 hrs, Volume = 3,395 cf  

Routing by Dyn-Stor-Ind method, Time Span = 0.00-24.00 hrs, dt = 0.01 hrs
8 Fox Run Lane 8-27-21
Type III 24-hr 25-Year Rainfall=6.40" Printed 8/25/2021
Prepared by RVDI
HydroCAD® 10.02-24 s/n 07353 © 2018 HydroCAD Software Solutions LLC Page 16

Peak Elev= 183.67' @ 12.09 hrs Surf.Area= 720 sf Storage= 826 cf
Plug-Flow detention time= 123.0 min calculated for 3,394 cf (83% of inflow)
Center-of-Mass det. time= 55.2 min (815.4 - 760.2)

<table>
<thead>
<tr>
<th>Volume</th>
<th>Invert</th>
<th>Area Storage</th>
<th>Storage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>181.00</td>
<td>1,238 cf</td>
<td>6.00W x 120.0'L x 4.30'H crushed Stone</td>
</tr>
<tr>
<td>device</td>
<td></td>
<td></td>
<td>3,096 cf Overall x 40.0% Voids</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Device</th>
<th>Routing</th>
<th>Invert</th>
<th>Outlet Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Primary</td>
<td>183.30'</td>
<td>12.0' Round Culvert</td>
</tr>
<tr>
<td>L=10.0' CPP, square edge headwall, Ks= 0.500</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inlet / Outlet Inverts= 183.30' / 183.00' S= 0.0300&quot; Cc= 0.900</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n= 0.011, Flow Area= 0.79 sf</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Primary OutFlow Max=1,18 cfs @ 12.09 hrs HW=183.67' TW=181.31' (Dynamic Tailwater)
1=Culvert (Inlet Controls 1.18 cfs @ 2.57 fps)

Summary for Pond 26P: Permeable Pavers Patio

Inflow Area = 4,954 sf, 75.75% Impervious, Inflow Depth > 5.12" for 25-Year event
Inflow = 0.66 cfs @ 12.07 hrs, Volume= 2.071 cf
Outflow = 0.14 cfs @ 12.48 hrs, Volume= 949 cf, Atten= 79%, Lag= 24.6 min
Primary = 0.14 cfs @ 12.48 hrs, Volume= 949 cf
Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 186.98' @ 12.48 hrs Surf.Area= 1,200 sf Storage= 1,214 cf
Plug-Flow detention time= 259.4 min calculated for 948 cf (46% of inflow)
Center-of-Mass det. time= 140.7 min (925.3 - 784.6)

<table>
<thead>
<tr>
<th>Volume</th>
<th>Invert</th>
<th>Area Storage</th>
<th>Storage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>184.00'</td>
<td>1,877 cf</td>
<td>stone (Prismatic) Listed below (Recalc) 4,692 cf Overall x 40.0% Voids</td>
</tr>
<tr>
<td>184.00'</td>
<td>1,020</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>186.60'</td>
<td>1,020</td>
<td>4,692</td>
<td>4,692</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Device</th>
<th>Routing</th>
<th>Invert</th>
<th>Outlet Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Primary</td>
<td>186.70'</td>
<td>4.0' Vert. Orifice/Grate</td>
</tr>
</tbody>
</table>

Summary for Pond 29P: Permeable Paver Courtyard

Inflow Area = 12,073 sf, 96.04% Impervious, Inflow Depth > 5.98" for 25-Year event
Inflow = 1.15 cfs @ 12.15 hrs, Volume= 4,562 cf, Atten= 36%, Lag= 5.1 min
Primary = 1.15 cfs @ 12.15 hrs, Volume= 4,562 cf
Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 187.27' @ 12.15 hrs Surf.Area= 3,280 sf Storage= 2,043 cf
Plug-Flow detention time= 162.4 min calculated for 4,562 cf (76% of inflow)
Center-of-Mass det. time= 77.8 min (830.0 - 762.1)

<table>
<thead>
<tr>
<th>Volume</th>
<th>Invert</th>
<th>Area Storage</th>
<th>Storage Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>185.70'</td>
<td>2,808 cf</td>
<td>stone (Prismatic) Listed below (Recalc) 6,520 cf Overall x 40.0% Voids</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------</td>
<td>----------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>185.70</td>
<td>3,260</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>187.70</td>
<td>3,260</td>
<td>6,520</td>
<td>6,520</td>
</tr>
</tbody>
</table>

Device Routing

- #1 Primary

8.0° Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

**Summary for Link 20L: POC A**

- Inflow Area = 227,667 sf, 73.32% Impervious, Inflow Depth > 2.00' for 25-Year event
- Inflow = 6.75 cfs @ 12.20 hrs, Volume= 37,916 cf
- Primary = 6.75 cfs @ 12.20 hrs, Volume= 37,916 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

**Summary for Link 21L: POC B**

- Inflow Area = 3,135 sf, 18.18% Impervious, Inflow Depth > 2.90' for 25-Year event
- Inflow = 0.25 cfs @ 12.08 hrs, Volume= 758 cf
- Primary = 0.25 cfs @ 12.08 hrs, Volume= 758 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

**Summary for Link 22L: POC C**

- Inflow Area = 22,779 sf, 55.43% Impervious, Inflow Depth > 3.63' for 25-Year event
- Inflow = 1.83 cfs @ 12.12 hrs, Volume= 6,886 cf
- Primary = 1.83 cfs @ 12.12 hrs, Volume= 6,886 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

**Summary for Link 23L: Channel Flow**

- Inflow Area = 89,194 sf, 5.20% Impervious, Inflow Depth > 1.86' for 25-Year event
- Inflow = 2.75 cfs @ 12.23 hrs, Volume= 13,816 cf
- Primary = 2.75 cfs @ 12.23 hrs, Volume= 13,816 cf, Atten= 0%, Lag= 3.2 min

Primary outflow = Inflow delayed by 3.2 min, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

**Summary for Link 24L: Level Spreader #1**

- Inflow Area = 4,854 sf, 75.75% Impervious, Inflow Depth > 2.35' for 25-Year event
- Inflow = 0.14 cfs @ 12.48 hrs, Volume= 944 cf
- Primary = 0.14 cfs @ 12.48 hrs, Volume= 944 cf, Atten= 0%, Lag= 12.1 min

Primary outflow = Inflow delayed by 12.1 min, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
8 Fox Run Lane 8-27-21
Type III 24-hr 100-Year Rainfall=9.10"
Prepared by RVDI  Printed 8/25/2021
HydroCAD® 10.00-24 s/n 07363 © 2018 HydroCAD Software Solutions LLC

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-ind method

Subcatchment 13S: Area #1
Runoff Area=21,592 sf  0.00% Impervious  Runoff Depth=3.54"  
Flow Length=498'  Tc=20.4 min  CN=55.0  Runoff=1.34 cfs  6,374 cf

Subcatchment 14S: Area #2
Runoff Area=17,348 sf  5.36% Impervious  Runoff Depth=3.99"  
Flow Length=187'  Tc=12.6 min  CN=58.6  Runoff=1.49 cfs  5,774 cf

Subcatchment 15S: Area #3
Runoff Area=45,400 sf  0.07% Impervious  Runoff Depth=3.61"  
Flow Length=126'  Tc=15.1 min  CN=55.6  Runoff=2.25 cfs  13,654 cf

Subcatchment 16S: Area #4
Runoff Area=93,608 sf  0.07% Impervious  Runoff Depth=3.65"  
Flow Length=284'  Tc=11.5 min  CN=55.8  Runoff=7.51 cfs  28,468 cf

Subcatchment 17S: Area #5
Runoff Area=22,721 sf  0.39% Impervious  Runoff Depth=4.25"  
Flow Length=533'  Tc=11.2 min  CN=60.6  Runoff=2.32 cfs  8,038 cf

Subcatchment 18S: Area #6
Runoff Area=3,135 sf  18.18% Impervious  Runoff Depth=5.13"  
Tc=5.0 min  CN=67.7  Runoff=0.45 cfs  1,341 cf

Subcatchment 19S: Area #7
Runoff Area=10,706 sf  9.63% Impervious  Runoff Depth=4.74"  
Flow Length=103'  Slope=0.0390'  Tc=7.5 min  CN=64.6  Runoff=1.30 cfs  4,232 cf

Subcatchment 24S: Pool House
Runoff Area=1,051 sf  100.00% Impervious  Runoff Depth=8.85"  
Tc=5.0 min  CN=98.0  Runoff=0.22 cfs  775 cf

Subcatchment 25S: Area #2A
Runoff Area=4,854 sf  75.75% Impervious  Runoff Depth=7.76"  
Tc=5.0 min  CN=89.0  Runoff=0.98 cfs  3,140 cf

Subcatchment 26S: Area #4A
Runoff Area=12,893 sf  28.59% Impervious  Runoff Depth=6.61"  
Flow Length=118'  Slope=0.0210'  Tc=10.7 min  CN=71.6  Runoff=1.64 cfs  5,935 cf

Subcatchment 27S: Roof #1
Runoff Area=3,148 sf  100.00% Impervious  Runoff Depth=8.85"  
Tc=5.0 min  CN=98.0  Runoff=0.67 cfs  2,323 cf

Subcatchment 28S: Area #7A
Runoff Area=8,925 sf  94.64% Impervious  Runoff Depth=8.61"  
Tc=5.0 min  CN=98.0  Runoff=1.89 cfs  6,406 cf

Subcatchment 29S: Area #4B
Runoff Area=4,400 sf  85.71% Impervious  Runoff Depth=8.60"  
Tc=5.0 min  CN=95.1  Runoff=1.77 cfs  5,933 cf

Pond 24P: Infiltration Trench
Peak Elev=184.01'  Storage=687 cf  Inflow=1.77 cfs  5,935 cf
12.0' Round Culvert r=0.11 L=10.0' S=0.0300' Outflow=1.71 cfs  5,273 cf

Pond 25P: Retention System #1
Peak Elev=183.29'  Storage=3,624 cf  Inflow=3.40 cfs  11,984 cf
Outflow=2.32 cfs  10,313 cf

Pond 26P: Permeable Pavers Patio
Peak Elev=187.69'  Storage=1,506 cf  Inflow=0.98 cfs  3,140 cf
Outflow=0.38 cfs  2,014 cf
OPERATIONS AND MAINTENANCE PLAN REPORT

For

8 Fox Run Lane
Greenwich, Connecticut

Prepared For

Jennifer Yorke

March 17, 2021
Revised: April 26, 2021
Stormwater Management Practices
Maintenance Declaration
Stormwater Management Practices Maintenance Declaration

THIS DECLARATION is made this date, ______________, 20___, by and between the Town of Greenwich, a municipal corporation with principal offices located at 101 Field Point Road, Greenwich, CT 06830 and

Jennifer Yorke
[Owner(s) Name]

8 Fox Run Lane
[Address]

hereinafter referred to as “Owner(s)” of the “Property” as more fully described in a deed recorded in Book __7750__ at Page __216__ of the Greenwich Land Records. In accordance with the Town of Greenwich Drainage Manual as Amended, the “Owner(s)” agree to install and maintain stormwater management practice(s) on the subject Property in accordance with approved plans and conditions. The Owner further agrees to the terms stated in this document to ensure that the stormwater management practice(s) continues serving the intended function in perpetuity. This Declaration includes the following exhibits located in the project files of one or all of the following Town of Greenwich Departments:

- Building Division – Permit # ________________
- Inland Wetlands and Watercourses Agency – Application # ________________
- Planning and Zoning – Application # ________________

Exhibit A: Long-term Maintenance Plan that prescribes those activities that must be carried out to maintain compliance with this Declaration. Approved Maintenance Plan dated __April 26, 2021__.

Exhibit B: Improvement Location Survey depicting “As-Built” conditions and showing an accurate location of each stormwater management practice affected by this Declaration. Approved Improvement Location Survey dated ________________.

Note: After construction has been verified and accepted by the Town of Greenwich for the stormwater management practices, this declaration shall be recorded by the Owner on the Greenwich Land Records and copies of the recorded document shall be submitted to all of the following Town of Greenwich Departments involved in the approval:

- Building Division
- Inland Wetlands and Watercourses Agency
- Planning and Zoning

Through this Declaration, the Owner(s) hereby subjects the Property to the following covenants, conditions, and restrictions:

1. The Owner(s), at its expense, shall secure from any affected owners of land all easements and releases of rights-of-way necessary for utilization of the stormwater practices identified in Exhibit B and shall record them with the Town Clerk. These easements and releases of rights-of-way shall
not be altered, amended, vacated, released or abandoned without prior written approval of the Town of Greenwich.

2. The Owner(s) shall be solely responsible for the installation, maintenance and repair of the stormwater management practices, drainage easements and associated landscaping identified in Exhibit B in accordance with the Operation and Maintenance Plan (Exhibit A).

3. No alterations or changes to the stormwater management practice(s) identified in Exhibit B shall be permitted unless they are deemed to comply with this Declaration and are approved in writing by the Town of Greenwich.

4. The Owner(s) shall retain the services of a qualified inspector (as described in Exhibit A) to operate and ensure the maintenance of the stormwater management practice(s) identified in Exhibit B in accordance with the Operation and Maintenance Plan (Exhibit A).

5. The Owners(s) must maintain all records (logs, invoices, reports, data, etc.) and have them readily available for inspection at all times. Inspection Documentation must be maintained as frequently as required in Exhibit A.

6. The Town of Greenwich or its designee is authorized to access the property as necessary to conduct inspections of the stormwater management practices or drainage easements to ascertain compliance with the intent of this Declaration and the activities prescribed in Exhibit A. Upon written notification by the Town of Greenwich or their designee of required maintenance or repairs, the Owner(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the Town of Greenwich. The Owner(s) shall be liable for the failure to undertake any maintenance or repairs so that the public health, safety, general welfare or the environment shall not be endangered.

7. If the Owner(s) does not keep the stormwater management practice(s) in reasonable order and condition, or complete maintenance activities in accordance with the Operation and Maintenance Plan contained in Exhibit A, or the required maintenance or repairs under 6 above within the specified time frames, the Town of Greenwich is authorized, but not required, to perform the specified inspections, maintenance or repairs in order to preserve the intended functions of the practice(s) and prevent the practice(s) from becoming a threat to public health, safety, general welfare or the environment. In the case of an emergency, as determined by the Town of Greenwich, no notice shall be required prior to the Town of Greenwich performing emergency maintenance or repairs. The Town of Greenwich may levy the costs and expenses of such inspections, maintenance, repairs and appropriate fees against the Owner(s). The Town of Greenwich at the time of entering upon said stormwater management practice for the purpose of maintenance or repair may file a notice of lien upon the property affected by the lien. If said costs and expenses are not paid by the Owner(s), the Town of Greenwich may pursue the collection of same through appropriate court actions.

8. The Owner(s) hereby conveys to the Town of Greenwich an easement over, on and in the Property for the purpose of access to the stormwater management practice(s) for the inspection, maintenance and repair thereof, should the Owner(s) fail to properly inspect, maintain and repair the practice(s). The Town of Greenwich's execution of any repair or maintenance does not alter the Owner(s) responsibility to maintain in future.
9. The Owner(s) agrees that this Declaration shall be recorded and that the land described in a deed recorded in Book __7750__ at Page __216__ of the Greenwich Land Records shall be subject to the covenants and obligations contained herein, and this Declaration shall bind all current and future owners of the property.

10. The Owner(s) agrees in the event that the Property is sold, transferred, or leased to provide information to the new owner, operator, or lessee regarding proper inspection, maintenance and repair of the stormwater management practice(s). The information shall accompany the first deed transfer and include Exhibits A and B and this Declaration. The transfer of this information shall also be required with any subsequent sale, transfer or lease of the Property.

11. The Owner(s) agree that the rights, obligations and responsibilities hereunder shall commence upon execution of the Declaration.

12. The parties whose signatures appear below hereby represent and warrant that they have the authority and capacity to sign this declaration and bind the respective parties hereto.

13. The Proprietor, its agents, representatives, successors and assigns shall defend, indemnify and hold the Town of Greenwich harmless from and against any claims, demands, actions, damages, injuries, costs or expenses of any nature whatsoever, hereinafter “Claims”, fixed or contingent, known or unknown, arising out of or in any way connected with the design, construction, use, maintenance, repair or operation (or omissions in such regard) of the storm drainage system referred to in the permit as Exhibit “A” hereto, appurtenances, connections and attachments thereto which are the subject of this Declaration. The Proprietor, its agents, representatives, successors and assigns shall not be required to indemnify the Town, its officers, agents, servants, or employees, against any such damages occasioned solely by acts or omissions of the Town, its officers, agents, servants or employees, other than supervisory acts or omissions of the Town, its officers, agents; servants, or employees, in connection with such Claims or the enforcement of this Declaration.
IN WITNESS WHEREOF, the “Owner(s)” have executed this Declaration on this _____ day of ____________________, 20_____.

By: ________________________________________________
[Owner(s)]

By: ________________________________________________
[Owner(s)]

STATE OF CONNECTICUT
 )
COUNTY OF FAIRFIELD
 ) ss: Greenwich

The foregoing instrument was acknowledged before me on this ________ day of
__________________, 20____, by _____________________________________________, the
[Owner(s)]

“Owner(s)” of _____________________________
[Address]

______________________________
Notary Public

My Commission Expires On:

WHEN RECORDED RETURN COPY TO:
[All of the following departments involved in approval:
Building Division, Inland Wetlands & Watercourses Agency, and Planning & Zoning]
Exhibit “A”

Operation and Maintenance
Plan With Log
Exhibit A
Operations and Maintenance Plan
8 Fox Run Lane

Scope:

The purpose of the Operations and Maintenance Plan is to ensure that the existing and proposed stormwater components installed at 8 Fox Run Lane are maintained in operational condition throughout the life of the project. The service procedures associated with this plan shall be performed as required by the parties legally responsible for their maintenance.

Recommended Frequency of Service:

As further defined below, all stormwater components should be checked on a periodic basis and kept in full working order. Ultimately, the required frequency of inspection and service will depend on runoff quantities, pollutant loading, and clogging due to debris. At a minimum, we recommend that all stormwater components be inspected and serviced twice per year, once before winter begins and once during spring cleanup.

Qualified Inspector:

The inspections must be completed by an individual experienced in the construction and maintenance of stormwater drainage systems. Once every five years the inspections must be completed by a professional engineer.

Service Procedures:

1. Catch Basins & Drainage Inlets:
   a. Catch basins and drainage inlets shall be completely cleaned of accumulated debris and sediments at the completion of construction.
   b. For the first year, catch basins and drainage inlets shall be inspected on a quarterly basis.
   c. Any accumulated debris within the catch basins/inlets shall be removed and any repairs as required.
   d. From the second year onward, visual inspections shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
   e. Accumulated debris within the catch basins/inlets shall be removed and repairs made as required.
   f. Accumulated sediments shall be removed at which time they are within 12 inches of the invert of the outlet pipe.
   g. Any additional maintenance required per the manufacturer's specifications shall also be completed.

2. Storm Drainage Piping and Manholes/Junction Boxes:
   a. All storm drainage piping shall be completely flushed of debris and accumulated sediment at the completion of construction.
   b. Manholes/Junction Boxes shall be inspected and repaired on an annual basis.
   c. Unless system performance indicates degradation of piping, comprehensive video inspection of storm drainage piping shall occur once every ten years.
d. Any additional maintenance required per the manufacturer’s specifications shall also be completed.

3. **Stormwater Control Structures:**

   a. All control structures (orifice, weir, etc.) shall be completely cleaned of accumulated debris and sediments at the completion of construction. Any repairs shall be performed.
   b. For the first year, control structures (orifice, weir, etc.) shall be inspected on a quarterly basis.
   c. Any accumulated debris shall be removed and any repairs made to the control structures (orifice, weir, etc.) as required.
   d. From the second year onward, visual inspections shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
   e. Accumulated debris shall be removed and repairs made as required.
   f. Any additional maintenance required per the manufacturer’s specifications shall also be completed.

4. **Drainage Outfalls/Splash Pads/Scour Holes/Level Spreaders:**

   a. All outfalls shall be completely cleaned of accumulated debris and sediments at the completion of construction. Any repairs to outlet protection material (rip rap) shall be performed.
   b. For the first year, outfalls shall be inspected on a quarterly basis.
   c. Any accumulated debris shall be removed and any repairs made to the outfalls as required.
   d. From the second year onward, visual inspections shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
   e. Accumulated debris shall be removed and repairs made as required.
   f. Any erosion shall be promptly repaired and the cause of the erosion shall be identified and corrected.
   g. Any additional maintenance required per the manufacturer’s specifications shall also be completed.

5. **Drywells and Infiltration Systems:**

   a. All drywells/infiltrators shall be completely cleaned of accumulated debris and sediments upon the completion of construction.
   b. For the first year, the drywells/infiltrators shall be inspected on a quarterly basis.
   c. Any accumulated debris within the drywells/infiltrators shall be removed and any repairs made to the units as required.
   d. From the second year onward, visual inspection shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
   e. Accumulated debris within the units shall be removed and repairs made as required.
   f. Any additional maintenance required per the manufacturer’s specifications shall also be completed.

6. **Porous Pavement (Pervious Concrete, Porous Asphalt, Permeable Interlocking Concrete Pavers, Flexi pave, Etc.):**

   a. Changing the porous pavement surface to an impervious surface requires the review and approval of the Town of Greenwich DPW Engineering Division.
b. Clean and vacuum (Regenerative Air Vacuum for Permeable Interlocking Concrete Pavers) the porous pavement upon the completion of construction.

c. Check for standing water on the surface of the pavement after a precipitation event. If standing water remains within 30 minutes after rainfall had ended, cleaning of porous pavement is recommended.

d. Vacuum sweeper shall be used regularly to remove sediment and organic debris on the pavement surface. The sweeper may be fitted with water jets.

e. Pavement vacuuming should occur during spring cleanup following the last snow event to remove accumulated debris, at a minimum.

f. Pavement vacuuming should occur during fall cleanup to remove dead leaves, at a minimum.

g. Power washing can be an effective tool for cleaning clogged areas. See manufacturer's specifications.

h. Check for debris accumulating on pavement, especially debris buildup in winter. For loose debris, a power/leaf blower or gutter broom can be used to remove leaves and trash.

i. In the event that the porous surface becomes clogged an engineer must be retained to determine how to restore the porous surface to its original condition.

j. Any additional maintenance required per the manufacturer's specifications shall also be completed.

7. Roof Gutters:

   a. Remove accumulated debris and inspect for damage. Any damage should be repaired as required.

Disposal of Debris and Sediment:

All debris and sediment removed from the stormwater structures and bioretention/biofiltration basins shall be disposed of legally. There shall be no dumping of silt or debris into or in proximity to any inland or tidal wetlands.

Maintenance Records:

The Owners(s) must maintain all records (logs, invoices, reports, data, etc.) and have them readily available for inspection at all times.
Operations and Maintenance Log (Page 1 of 3)
8 Fox Run Lane

<table>
<thead>
<tr>
<th>Type of Inspection:</th>
<th>□ Spring</th>
<th>□ Fall</th>
<th>□ Other</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Inspector’s Name:</th>
<th>Date of Inspection:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affiliation:</th>
<th>Phone #:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Catch Basins & Drainage Inlets:**
- Has accumulated debris been removed from grates? □ Yes □ No □ N/A
- Do any basins require additional repair? (identify below): □ Yes □ No □ N/A
- Have sumps been cleaned of sediment? □ Yes □ No □ N/A

**Notes:**

**Storm Drainage Piping and Manholes/Junction Boxes:**
- Has accumulated debris been removed? □ Yes □ No □ N/A
- Do any manholes require additional repair? (identify below): □ Yes □ No □ N/A
- Is there any evidence of stormwater piping failure? □ Yes □ No □ N/A
- Has a comprehensive video inspection been completed? □ Yes □ No □ N/A

**Notes:**

**Stormwater Control Structures:**
- Has accumulated debris been removed? □ Yes □ No □ N/A
- Are any repairs required? (identify below): □ Yes □ No □ N/A
- Have orifices and weirs been cleaned of debris? □ Yes □ No □ N/A

**Notes:**
Operations and Maintenance Log (Page 2 of 3)
8 Fox Run Lane

Drainage Outfalls/Splash Pads/Scour Holes/Level Spreaders:
- Have all drainage outlets been cleared of debris? □ Yes □ No □ N/A
- Have all outlet protections been inspected/repaired? □ Yes □ No □ N/A
- Have all erosion issues been repaired? □ Yes □ No □ N/A

Notes:

Drywells and Infiltration Systems:
- Have units been cleared of debris/sediments? □ Yes □ No □ N/A
- Do units require additional repair? (identify below): □ Yes □ No □ N/A
- Has draining times of system been verified? □ Yes □ No □ N/A

Notes:

Porous Pavement:
- Has pavement been vacuumed? □ Yes □ No □ N/A
- Has draining times been verified? □ Yes □ No □ N/A

Notes:

Roof Gutters:
- Has accumulated debris been removed from gutters? □ Yes □ No □ N/A
- Do any gutters require additional repair? (identify below): □ Yes □ No □ N/A

Notes:
Operations and Maintenance Log (Page 3 of 3)
8 Fox Run Lane

Please make additional notes/observations and particular concerns below. Also record any additional maintenance that has been performed:

Signature of Inspector: __________________________  Date: __________________________
DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA) CERTIFICATION
PRE-CONSTRUCTION

Property Address: 8 Fox Run Lane

Building Permit No.: 

Tax Account No.: 10-1127

PLANS & DRAINAGE SUMMARY REPORT INFORMATION

Engineering Firm: Rocco V. D'Andrea, Inc.

Design Plans Date: 8/27/2021

Drainage Report Date: 8/27/2021

PROPERTY INFORMATION FOR DIRECTLY CONNECTED IMPERVIOUS AREA (DCIA)

<table>
<thead>
<tr>
<th>Total Impervious Area</th>
<th>Total Impervious Area</th>
<th>Total Disconnected</th>
<th>Total Directly Connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Existing Conditions (SF)¹</td>
<td>Under Proposed Conditions (SF)¹</td>
<td>Impervious Area Under Proposed Conditions (SF)²</td>
<td>Impervious Area Under Proposed Conditions (SF)³</td>
</tr>
<tr>
<td>14,276.00</td>
<td>30,584.00</td>
<td>27,872.00</td>
<td>2,712.00</td>
</tr>
</tbody>
</table>

¹ Impervious surfaces include but are not limited to roofs (including green roofs), buildings, houses, walks, patios, walls, tennis/sport courts (all surface types must be counted), landscape ponds, pools, paved streets/drives/parking areas constructed with concrete, asphalt, compacted dirt, gravel, or permeable pavements.

² All impervious surfaces that are directed to stormwater BMPs that meet the water quality volume (WQV) standard will be considered disconnected impervious cover. Acceptable stormwater BMPs are Bioretention (infiltrating/filtering), Constructed Stormwater Wetlands, Extended Dry Detention Basins (infiltration required), Gravel Wetlands, Constructed Wet Stormwater Ponds, Sand/Organic Filters (sand filters, tree filters, stormwater planters, etc.), Infiltration Systems (drywells, Culverts, etc.), Permeable Pavement Areas (infiltrating/filtering), Green Roofs, and Disconnected Impervious Area (must meet all the standards under Simple Disconnection on page 44 and 45 of the Drainage Manual).

³ Subtract the Total Disconnected Impervious Area Under Proposed Conditions (SF) from the Total Impervious Area Under Proposed Conditions (SF).

Engineer’s Signature: [Signature]

Date: 8/27/2021

Engineer’s Seal

Form SC-107

February 2021
AFFIDAVIT

STATE OF CONNECTICUT  )
COUNTY OF FAIRFIELD  ) : GREENWICH

I, Anthony L. D’Andrea, being first duly sworn, do hereby certify that on October 18, 2021, I caused to be mailed, postage prepaid, to those persons whose names are set forth, attached hereto, a copy of the notice attached hereto. Said persons were the record owners, as of September 27, 2021 as shown on the Town Tax Assessor’s Office records of property abutting the property belonging to Jennifer Yorke (8 Fox Run Lane) for whom an application has been filed with the Greenwich Planning & Zoning Commission seeking Final Site Plan approval and Special Permit to construct a dwelling in excess of 150,000 cubic feet.

Anthony L. D’Andrea, PE&LS

Subscribed and sworn to before me on
October 18, 2021

Alicia Melillo
Notary Public
My Commission Expires 4/30/2026
Adjacent Property Owners
8 Fox Run Lane
Yorke
Tax ID #10-1127
September 27, 2021

Tax Acct. No. 10-1699
Sylvan and Simmone Chackman
11 Vineyard Lane
Greenwich CT 06831

Tax Acct. No. 10-1046
Matthew Stirling, Jr.
3 Fox Run Lane
Greenwich CT 06831

Tax Acct. No. 10-3181
Emilce Analis Song
5 Fox Run Lane
Greenwich CT 06831

Tax Acct. No. 10-1662
Sidney Goodfriend
115 Zaccheus Mead Lane
Greenwich CT 06831

Tax Acct. No. 10-2484
Audrey McNiff
102 Zaccheus Mead Lane
Greenwich CT 06831

Tax Acct. No. 10-3501
Randolph Post Eddy
Kelly Fife
2 Ashton Drive
Greenwich CT 06831

Tax Acct. No. 10-3510/S
Mark and Sherrie Feder
1 Ashton Drive
Greenwich CT 06831

Tax Acct. No. 10-2534
Laxman Narasimhan
85 Zaccheus Mead Lane
Greenwich CT 06831

Tax Acct. No. 10-1273
Sonia Kingshott
107 Zaccheus Mead Lane
Greenwich CT 06831

Tax Acct. No. 10-1320
Andrew Philipp
14 Fox Run Lane
Greenwich CT 06831
October 18, 2021

Re: Greenwich Planning and Zoning Commission
    Yorke Residence
    8 Fox Run Lane
    Parcel ID: 10-1127

Dear Adjacent Property Owner:

Our office is representing Jennifer Yorke, owner of property located at 8 Fox Run Lane in Greenwich. On behalf of our client, we have filed an application with the Greenwich Planning and Zoning Commission (P&Z) seeking approval of Final Site Plan and Special Permit to construct a dwelling in excess of 150,000 cubic feet.

This letter serves as written notice of the application as defined in Section 6-14(a)(16) of the Town of Greenwich Building Zone Regulations.

If you have any questions concerning the above matter, please contact our office or the office of the Greenwich Planning and Zoning Commission.

Sincerely,

ROCCO V. D'ANDREA, INC.

Anthony L. D'Andrea, PE&LS

ALD:adm
20QP_P&ZNotice

cc: Jennifer Yorke
    Greenwich Planning and Zoning Commission