19 Tall Pines – Request for Modification CC Permit 22-19 Jan. 19, 2023

From: **Kevin Ambrosio** <kevin@ambrosiolandscapes.com>
Date: Thu, Jul 13, 2023 at 6:33 PM
Subject: [EXTERNAL] Re: 19 Tall Pines
To: Dr. Tom Failla <conservationplanner@westonct.gov>
Cc: Melissa Agliotta <melissa@ambrosiolandscapes.com>, Bret Holzwarth <b.holzwarth@rednissmead.com>, <j.schanzer@columbia.edu>

Hi Tom,

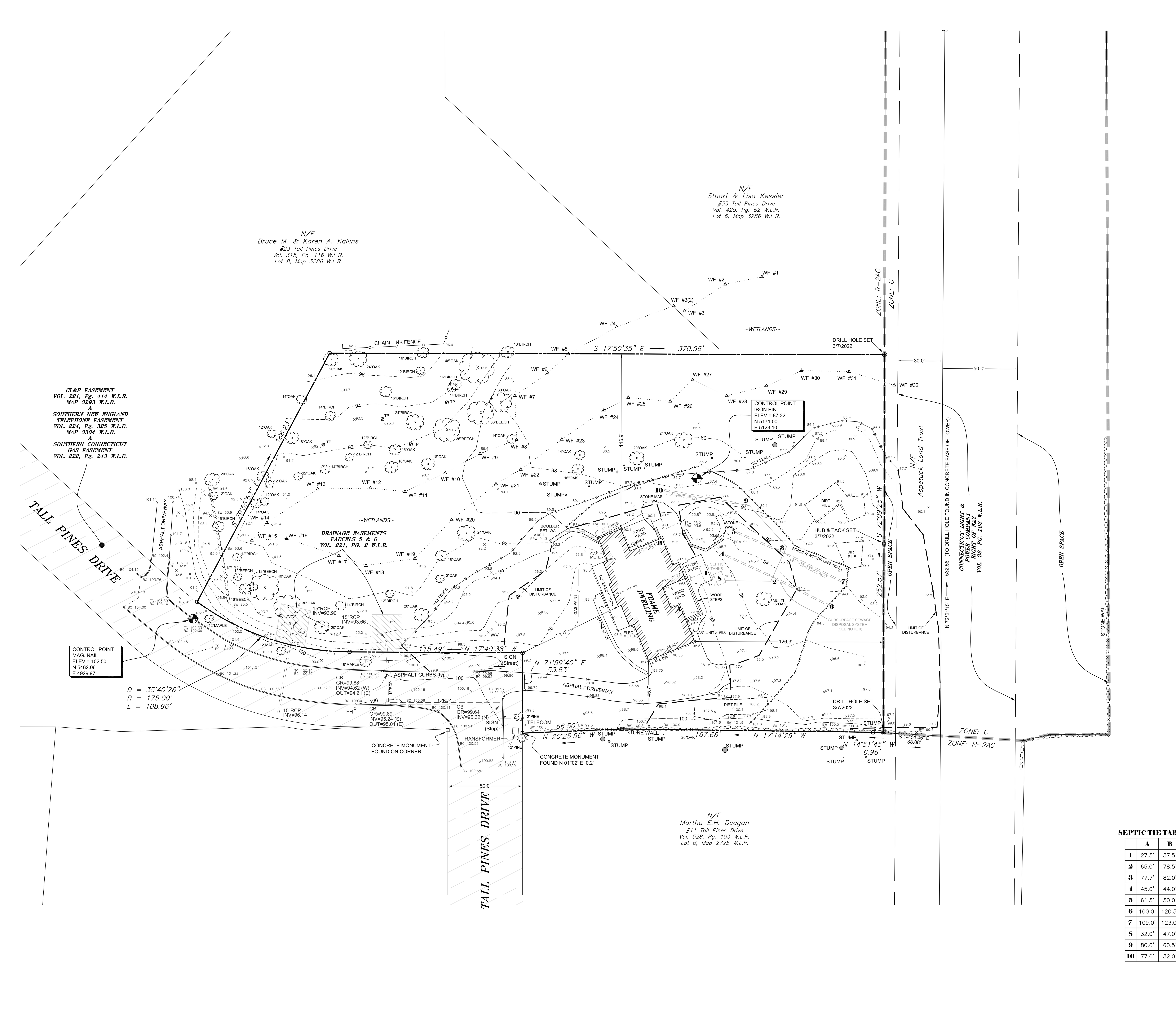
Attached is the electronic file for the revised plan and drainage report dated 2/17/23 that was prepared by Redniss & Mead. The only part of the plan that was revised is the drainage portion of the project. All the site design elements such as the pool, patios, driveway all remain unchanged. The drainage was value engineered to help reduce construction cost by reducing the amount of pipe and eliminating the two separate cultec storage areas. The revised drainage plan now directs the water towards the front yard cultec units which were increased to accommodate the additional water. The cultec units in the rear yard were eliminated. No other changes were made to the plan.

We did not install the silt fence along the rear property line because we need to remove the large boulders along that area. I was hoping we could move the boulders in this area first, then install the silt fence and hay bales afterwards so the erosion controls don't get destroyed. Once we remove the boulders you inspect that section of silt fence at that time. The grade along the rear property is pretty level and all the water runoff will be

heading down hill towards where the stilt fence you inspected today is located. Please let me know if you are ok with this sequence of construction?

If you deem it necessary to have the commision review these minor drainage modifications, I will get you the eight copies of the plans along with a written letter describing the changes by Monday. Please let me know how you would like to proceed with this.

TAX MAP: 27
BLOCK: 3
LOT: 83
ZONE: R-2AC



N/F
Stuart & Lisa Kessler
#35 Tall Pines Drive
Vol. 425, Pg. 62 W.L.R.
Lot 6, Map 3286 W.L.R.
N/F
Bruce M. & Karen A. Kallins
#23 Tall Pines Drive
Vol. 315, Pg. 116 W.L.R.
Lot 8, Map 3286 W.L.R.
NORTH – MAP 3286 W.L.R.
CL&P EASEMENT
VOL. 221, Pg. 414 W.L.R.
MAP 3293 W.L.R.
&
SOUTHERN NEW ENGLAND
TELEPHONE EASEMENT
VOL. 224, Pg. 325 W.L.R.
MAP 3304 W.L.R.
&
SOUTHERN CONNECTICUT
GAS EASEMENT
VOL. 222, Pg. 243 W.L.R.
TALL PINES DRIVE
~WETLANDS~
DRAINAGE EASEMENTS
PARCELS 5 & 6
VOL. 221, PG. 2 W.L.R.
S 17°50'35" E 370.56'
CHAIN LINK FENCE
DRILL HOLE SET
3/7/2022
CONTROL POINT
IRON PIN
ELEV = 87.32
N 5171.00
E 5123.10
FRAME DWELLING
STONE PATIO
WOOD DECK
HUB & TACK SET
3/7/2022
S 72°09'25" W 252.57'
OPEN SPACE
N/F
Aspetuck Land Trust
CONNECTICUT LIGHT & POWER COMPANY RIGHT OF WAY
VOL. 32, PG. 102 W.L.R.
SUBSURFACE SEWAGE DISPOSAL SYSTEM (SEE NOTE 9)
LIMIT OF DISTURBANCE
ASPHALT DRIVEWAY
CONTROL POINT
MAG. NAIL
ELEV = 102.50
N 5462.06
E 4929.97
D = 35°40'26"
R = 175.00'
L = 108.96'
115.49' N 17°40'38" W
N 71°59'40" E
53.63'
66.50' N 20°25'56" W
167.66' N 17°14'29" W
N 14°51'45" W
6.96'
S 14°51'45" E
38.08'
CONCRETE MONUMENT
FOUND ON CORNER
CONCRETE MONUMENT
FOUND N 01°02' E 0.2'
ZONE: C
ZONE: R-2AC
STONE WALL
TALL PINES DRIVE
50.0'
N/F
Martha E.H. Deegan
#11 Tall Pines Drive
Vol. 528, Pg. 103 W.L.R.
Lot B, Map 2725 W.L.R.

NOTES:

1. This survey has been prepared in accordance with Sections 20–300b–1 thru 20–300b–20 of the Regulations of Connecticut State Agencies and the Standards for Surveys and Maps in the State of Connecticut as adopted by the Connecticut Association of Land Surveyors, Inc. as a Property and Topographic Survey the Boundary Determination Category of which is a Resurvey conforming to Horizontal Accuracy Class A–2 and the locations and elevations of which conform to Topographic Accuracy Class T–2. It is intended to depict property boundaries, locations and elevations of improvements and topographic features.
2. Area of the Surveyed Parcel: 95,649 Sq. Ft. (2.1958 Acres).
3. Reference is hereby made to Lot 9, Map 3286 and to Maps 3293, 3304, 2725 & 2687 of the Weston Land Records (W.L.R.).
4. Reference is made to the Deed of Record found in Vol. 646, Pg. 116 W.L.R.
5. Reference is made to Instruments of Record as labeled hereon.
6. Elevations depicted hereon are based on as Assumed datum.
7. Reference is made to FEMA Flood Insurance Rate Map (FIRM) Panel No. 403 of 626, Map No. 09001C0403F, Effective date June 18 , 2010. Subject parcel does not lie in a special Flood Hazard Area, it lies in Zone X.
8. Wetlands depicted hereon were field identified and flagged by Jay Fain Soil Scientist on September 21, 2022 and field located by Redniss & Mead on September 23, 2022.
9. Subsurface sewage disposal system depicted hereon was transcribed from an As–Built Plan provided by Westport Weston Health District dated 12/17/1997.
10. Owner of Record: Jonathan Schanzer and Jessie Li Wang.

SEPTIC TIE TABLE

	A	B
1	27.5'	37.5'
2	65.0'	78.5'
3	77.7'	82.0'
4	45.0'	44.0'
5	61.5'	50.0'
6	100.0'	120.5'
7	109.0'	123.0'
8	32.0'	47.0'
9	80.0'	60.5'
10	77.0'	32.0'

PROPERTY & TOPOGRAPHIC SURVEY
DEPICTING
19 TALL PINES DRIVE
WESTON, CONNECTICUT
PREPARED FOR
JONATHAN SCHANZER

REDNISS & MEAD
Land Surveying
Civil Engineering
Planning & Zoning Consulting
Permitting
22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

Scale: 0 30 60
1"=30'

Drawn By: RJB | Checked By: LWP | Date: 11/2/2022

To my knowledge and belief this map is substantially correct as noted hereon

LAWRENCE W. POSSON, JR. CT. L.S. #18130
11/2/2022
DATE

CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. CALS

Sheet No: PSTS

Comm. No.: 10496–1

N/F
Bruce M. & Karen A. Kallins
#23 Tall Pines Drive
Vol. 315, Pg. 116 W.L.R.
Lot 8, Map 3286 W.L.R.

N/F
Stuart & Lisa Kessler
#35 Tall Pines Drive
Vol. 425, Pg. 62 W.L.R.
Lot 6, Map 3286 W.L.R.

N/F
Martha E.H. Deegan
#11 Tall Pines Drive
Vol. 528, Pg. 103 W.L.R.
Lot B, Map 2725 W.L.R.

N/F
Aspetuck Land Trust

ZONE: R-2AC
ZONE: C

ZONE: C
ZONE: R-2AC

TALL PINES DRIVE

NORTH - MAP 3286 W.L.R.

CHAIN LINK FENCE
100' WETLAND SETBACK
~WETLANDS~
WF #1
WF #2
WF #3(2)
WF #3
WF #4
WF #5
WF #6
WF #7
WF #8
WF #9
WF #10
WF #11
WF #12
WF #13
WF #14
WF #15
WF #16
WF #17
WF #18
WF #19
WF #20
WF #21
WF #22
WF #23
WF #24
WF #25
WF #26
WF #27
WF #28
WF #29
WF #30
WF #31
WF #32
30'
50'
60'
PROPOSED DEER FENCE (APPROXIMATE LOCATION)
SILT FENCE
ASPHALT DRIVEWAY
DOUBLE 6' GATE
STONE MAS. RET. WALL
BOULDER RET. WALL
LEACHING FIELD
SOIL STOCKPILE TO BE SPREAD
STONE WALKWAY AND RETAINING WALLS TO BE REMOVED
SOIL STOCKPILE
GRAVEL PATIO
FIRE PIT
STONE WALK
EXISTING SUBSURFACE SEWAGE DISPOSAL SYSTEM
EXISTING STONE PATIO AND WOOD DECK TO BE REMOVED
TERRACES DESIGNED BY OTHERS, SEE AMBROSIO LANDSCAPE PLANS
LOW STONE WALL (NO FOUNDATION)
LEACHING FIELD (typ.)
STEPPING STONE PATH
25 MIN. FROM LEACHING FIELD
25 MIN. FROM SEPTIC TANK
STONE PATIO
Terrace
PROPOSED PORTICO
MASONRY LANDING/STEPS
PROPOSED DOOR
GATE
BELGIUM BLOCK APRON
ASPHALT MOTOR COURT 40' x 45'
GRAVEL DRIVEWAY
12'
SIGN (Street)
ASPHALT CURBS (typ.)
CURB TO BE REMOVED
PROPOSED CURBCUT TO COMPLY WITH TOWN OF WESTON REGULATIONS
ASPHALT APRON
PROPOSED ASPHALT CURB
FH
SIGN (Stop)
TELECOM
CONCRETE MONUMENT FOUND ON CORNER
CONCRETE MONUMENT FOUND N 01°02' E 0.2'
ASPHALT DRIVEWAY AND BASE TO BE REMOVED
ASPHALT GARAGE COURTYARD 38' x 49'
PROPOSED POOL
POOL EQUIPMENT PAD
31.2'
30.5'
STONE WALL
ASPHALT DRIVEWAY

No.	Date	Revision
3	02/17/2023	PERMIT SUBMISSION
2	02/03/2023	REVISED DRIVEWAY
1	11/09/2022	WETLANDS APPLICATION

SITE DEVELOPMENT PLAN
DEPICTING
19 TALL PINE DR
WESTON, CT
PREPARED FOR
JONATHAN SCHANZER

SCALE: 1"=20' 0 20 40
DRAWN BY: BDH
CHECKED BY: BDH

REDNISS & MEAD
LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING
22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

Bret Holzwarth
BRET D. HOLZWARTH, PT, P.E. 27812
February 17, 2023
DATE

SHEET No:
SE-1
Comm. No.: 10496

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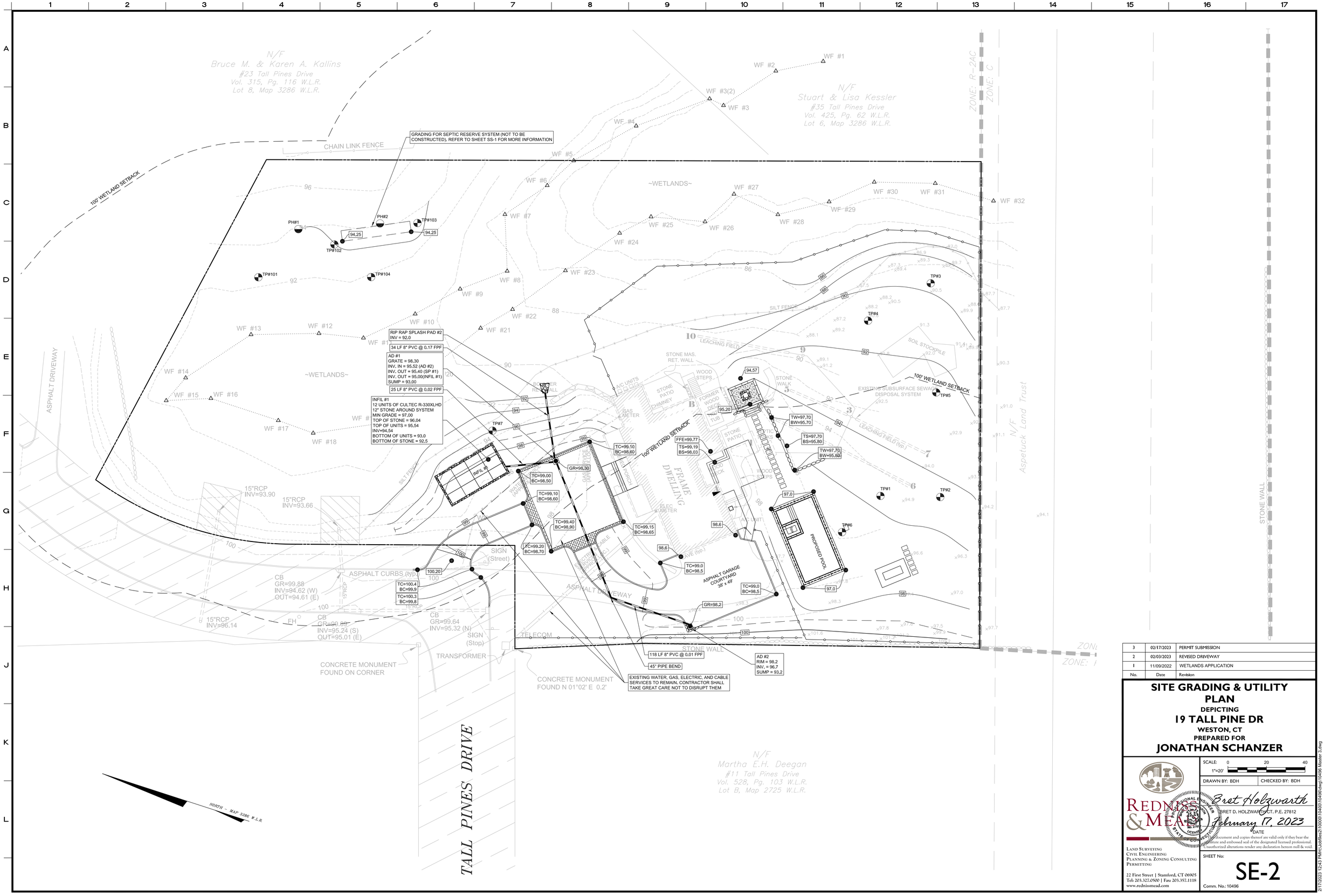

No.	Date	Revision
3	02/17/2023	PERMIT SUBMISSION
2	02/03/2023	REVISED DRIVEWAY
1	11/09/2022	WETLANDS APPLICATION

SITE GRADING & UTILITY PLAN

DEPICTING

19 TALL PINE DR

WESTON, CT

PREPARED FOR

JONATHAN SCHANZER

SCALE: 1"=20' (0, 20, 40)

DRAWN BY: BDH | CHECKED BY: BDH

Brett Holzwarth

BRET D. HOLZWARTH CT, P.E. 27812

February 17, 2023

DATE

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SHEET No: SE-2

Comm. No.: 10496

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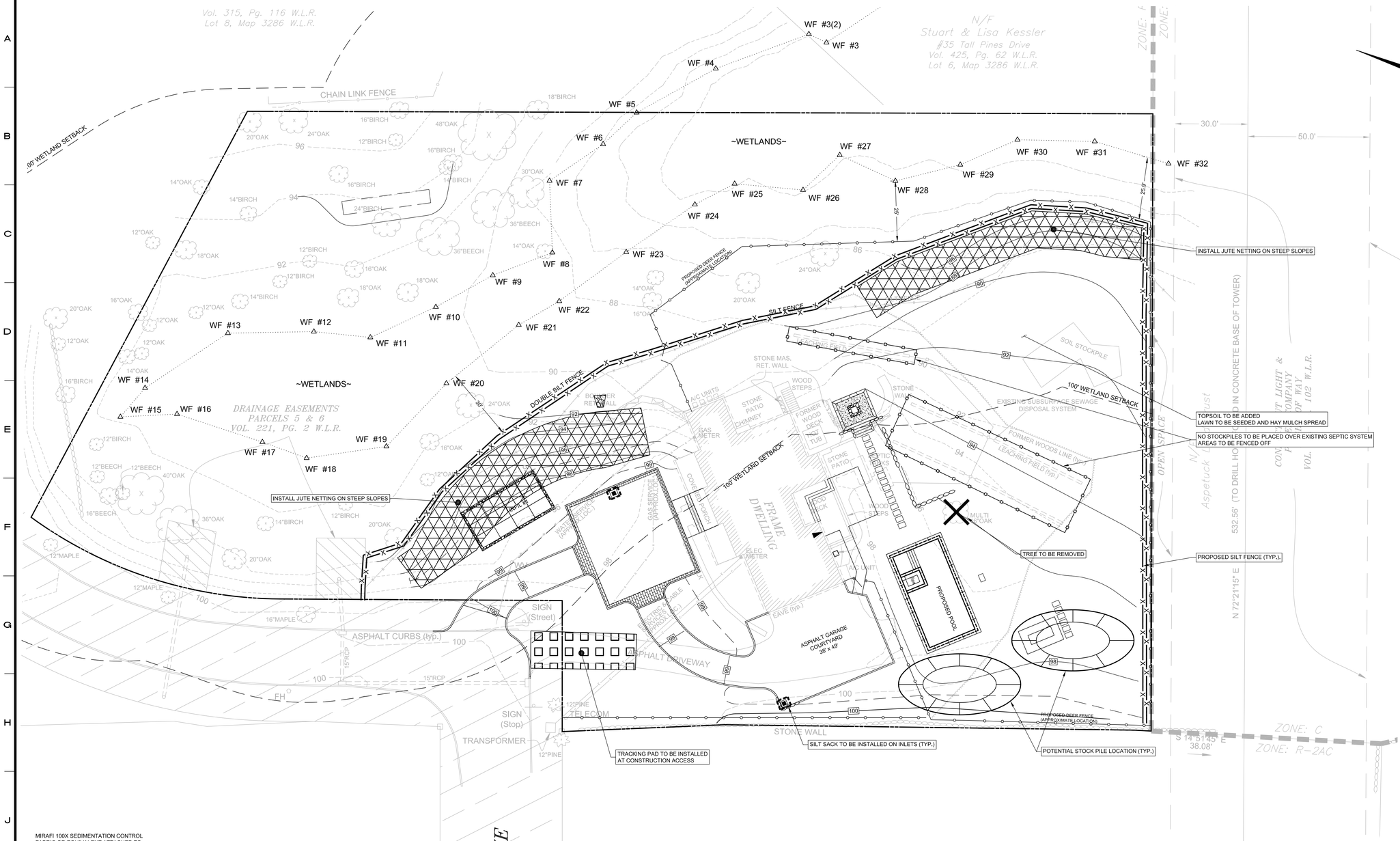
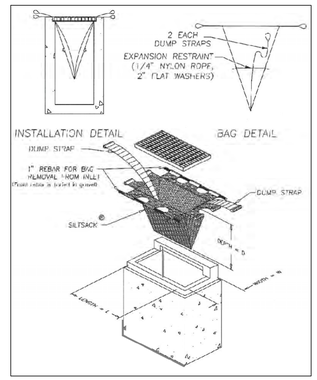
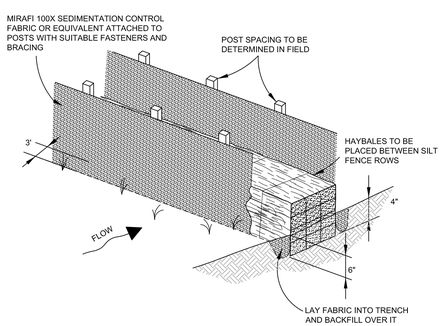
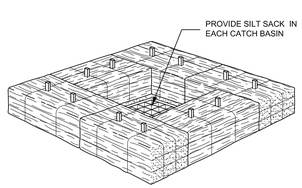




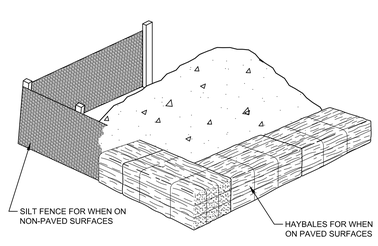
INLET SEDIMENT CONTROL DEVICE
(SILT SACK)
N.T.S.



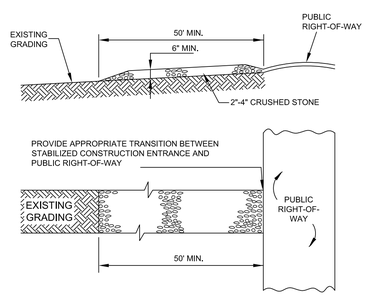
FABRIC & POST SILTATION BARRIER W/ HAY BALES
(DOUBLE-SILT FENCE)
N.T.S.



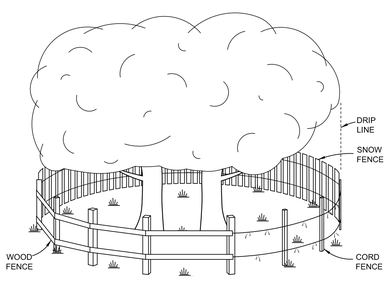
SEDIMENT FILTER FOR CATCH BASINS
N.T.S.



SEDIMENT FILTER FOR STOCK PILE
N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
(TRACKING PAD)
N.T.S.



TREE PROTECTION
(SHOWING ACCEPTABLE TYPES OF FENCING)
N.T.S.

No.	Date	Revision
3	02/17/2023	PERMIT SUBMISSION
2	02/03/2023	REVISED DRIVEWAY
1	11/09/2022	WETLANDS APPLICATION

SEDIMENT & EROSION CONTROL PLAN
DEPICTING
19 TALL PINE DR
WESTON, CT
PREPARED FOR
JONATHAN SCHANZER

SCALE: 1"=20' (0 20 40)
DRAWN BY: BDH | CHECKED BY: BDH

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Brent Holzwarth
BRENT D. HOLZWARTH CT, P.E. 27812
February 17, 2023
DATE

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SHEET No: SE-3
Comm. No.: 10496

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GENERAL NOTES:

1. These drawings are intended only to depict the design of site grading, drainage, sanitary, and sediment & erosion controls. These drawings are for approval purposes only. No construction may begin prior to obtaining all necessary permits and approvals.
2. All survey data, boundary lines, topography, building locations and area calculations are from a survey prepared by Redniss & Mead, Inc. entitled Property and Topographic Survey dated 11/02/2022. Elevations depicted or labeled are based on an associated datum.
3. Limit of Wetlands, depicted hereon, was field identified and flagged by Jay Fain on 09/21/2022 and located by Redniss & Mead, Inc. on 09/23/2022.
4. Refer to soils report prepared by Jay Fain for a description of site soils. There are wetland soil types on the property or within 100' of the property.
5. Property lies in the R-2AC zone.
6. The property lies within the FEMA Flood Zone X. Flood zones as shown on the Flood Insurance Rate Map Community No. 0900IC Panel 0403 Suffix F, effective date June 18, 2010.
7. All construction shall comply with the Town of Weston requirements, the State of Connecticut Basic Building Code, Americans with Disabilities Act (ADA), the Connecticut Guidelines for Soil and Erosion and Sediment Control, OSHA, CT DOT Form 818 (latest edition).
8. All development activities to be undertaken within the street right-of-way and other public lands shall comply fully with town standards unless approved deviation is specifically set forth as part of this application.
9. Contractor shall supply complete shop drawings including manufacturer's product data sheets to the Site Engineer, for all construction material used in conjunction with these drawings. Contractor shall allow a 5 day review period, prior to fabrication and installation.
10. Information on existing utilities has been compiled from various sources including utility company records, municipal record maps and field survey and is not guaranteed to be correct or complete. The contractor is solely responsible for determining actual locations and elevations of all utilities including underground services.
11. The property is served by public water and septic system.
12. Prior to any excavation the Contractor and/or Applicant, in accordance with Public Act 77-350, shall be required to contact "Call Before You Dig" at 1-800-922-4455 for mark-out of underground utilities. Dig test pit(s) at utility crossing(s) to check actual clearances with new utilities prior to construction. If conflicts are found the contractor shall notify the engineer, at which time the sewer in question shall be redesigned. If such redesign is not possible, the existing pipes or utilities shall be relocated to avoid the conflict. Such relocation shall be done with knowledge of and in accordance with the owner of the utility.
13. It shall be the responsibility of the contractor to provide any excavation safeguards, necessary barricades, flagmen, etc., for traffic control and site safety. All work shall be done in accordance with OSHA requirements. The contractor shall be responsible for compliance with OSHA requirements.
14. When preparing the existing site for the proposed development, all materials removed shall be disposed of in conformance with all governing agencies.
15. Remove stumps and brush from site, or chip and use during landscaping. Do not bury stumps on site.
16. Special attention of the contractor is called to the required type and compaction of pipe bedding and backfill specified on these drawings. These requirements will be strictly enforced.
17. Prior to issuance of a Certificate of Occupancy, the Engineering Bureau may require a certification letter stating that the development was constructed in accordance to the approved plans, and an "as-built" drawing shall be submitted
18. The Contractor is responsible for coordinating with a licensed surveyor to prepare an "as-built" plan. The Contractor is responsible to coordinate with a site engineer 48 hours prior to any inspections.
19. The work shall be done in conformance with the contract documents/plans unless changes have been approved in writing by the design engineer prior to the work being done.
20. No pool back wash water may be discharged into or adjacent to inland wetland and watercourse areas per the Health Department regulations.
21. A preconstruction meeting shall be held with the Owner, Architect and Engineer to review the scope of construction. The Contractor shall be responsible to coordinate the preconstruction meeting.

EARTHWORK & GRADING:

22. Grade away from building walls at 2% minimum (typical).
23. Earth slopes shall be no steeper than 2:1 (horz.-vert.)
24. No work shall commence until erosion controls have been inspected and approved by the Wetland Conservation Commission or their designee(s).
25. General fill beyond paved areas shall be free of brush rubbish, stumps and stones larger than 8". Fill shall be placed in compacted layers not to exceed 8" in thickness. The dry density after compaction shall not be less than 95% of the Standard Proctor Test and done in accordance with the requirements of ASTM D698. After compacting, the fill shall be 4" below the required grade as shown on the plan.
26. Disturbed areas shall be top soiled, seeded with grass and mulched in a manner conforming to the recommendations of the "Guidelines for Soil Erosion and Sediment Control", published by The Connecticut Council on Soil and Water Conservation, May 2002.
27. After the areas to be topsoiled have been brought to grade, the subgrade shall be loosened by scarifying to a depth of at least 2" to ensure bonding of the topsoil and subsoil.
28. Fill or topsoil shall not be placed nor compacted while in a frozen or muddy condition or while subgrade is frozen.
29. Excavation for pipes or concrete pavement repair may require either a braced excavation or open cut designed according to the requirements of OSHA, 29 CFR Part 1926. The lateral support systems and slopes should also be designed such that building footings, slabs on grade, adjacent pavement and existing ut ilities are protected and supported and not allowed to settle. The contractor shall be responsible for having a Professional Engineer, registered in the State of Connecticut design the excavation support method. The designs shall be submitted to the owner or his geotechnical engineer for review. The contractor shall submit plans showing the type, limits, design and sequence of construction for the lateral support system.
30. During the excavation, it is anticipated that existing utilities and sewers may be exposed. The contractor shall provide protection and support of these facilities and repair any damage caused by the work in a manner satisfactory to the owner. The condition of the existing facilities shall be observed by the owner's representative who shall determine if the facilities shall be replaced. Replacement of the facilities shall be done in a manner satisfactory to the owner and in compliance with applicable Codes.

STORM AND SANITARY SEWER SYSTEMS:

31. All pipe shall be installed straight and at the vertical and horizontal alignment shown. Pipes shall have a uniform slope as specified.
32. Minimum cover on all pipes shall be two feet (2') unless otherwise noted.
33. All storm pipe specified as Poly Vinyl Chloride Pipe (PVCP) shall be SDR 35 with rubber gasketed joints and meet the requirements of ASTM D3034 and D3212.
34. All sanitary sewer pipe shall be Poly Vinyl Chloride Pipe (PVCP) and shall be Schedule 40 with solvent weld joints.
35. Dig test pits at utility and sewer crossings to check actual clearances with these facilities prior to construction. Dig test pits at the connection points to existing sanitary sewer pipes to confirm that the elevation of the proposed gravity sewer is appropriate. If conflicts are found the contractor shall notify the engineer at which time the sewer in question shall be redesigned. If such redesign is not possible, the existing pipes or utilities shall be relocated to avoid conflict.
36. All catch basins and area drains shall have a two foot (2') sump with bell traps or 90° PVC elbows.
37. Under no circumstances shall trench water be allowed to drain off through sanitary sewer lines.
38. All crushed stone shall be Gradation No. 4 as per CT DOT Form 818, Article M.01.02. Stone shall consist of sound, tough, durable particles free from soft, thin, elongated, laminated, friable, micaceous, or disintegrated pieces of mud, dirt or other deleterious material.
39. At the end of construction, after the site has be fully stabilized, all new and previously existing storm sewer facilities including, but not limited to, catch basins, area drains, manholes, junction boxes, flow control structures, pipes, oil grit separators, permeable pavers and porous pavement shall be fully cleaned with equipment designed for that purpose to the satisfaction of the inspecting engineer.

STORM WATER INFILTRATION SYSTEM:

40. All galleries to handle H-20 loadings and shall comply with the detail. Interior sections to have no end walls. End sections to have one end wall and access cover.
41. There shall be a minimum of one foot (1') of crushed stone on the sides of the outer galleries.
42. There shall be 6" of 1 1/4" crushed stone below all galleries.
43. Connect gallery runs with sections of 6" PVC. Bottom of connection pipes to be flush with bottoms of galleries.
44. The infiltration systems are to remain disconnected until up gradient areas are fully stabilized.
45. The infiltration systems shall be a minimum of 12" above high groundwater and shall be a minimum of 10' from any footing drain.
46. Remove any topsoil and replace with select fill prior to installation of gallery.
47. All non-select fill on the downhill sides of galleries shall be a silty soil (Type SM, SC, or MI as per the Unified Soil Classification System). Native material can be used if it conforms to these requirements.
48. All existing fill material below the infiltration systems shall be removed and select fill shall be installed.
49. Select fill shall be a material with a percolation rate of 1" in 20 minutes or faster after compaction. It shall have no more than 5% fines passing the #200 sieve and no stones larger than 6" and less than 10% passing the #100 sieve and be approved by the Inspecting Engineer.
50. Contact the Design Engineer three (3) days prior to excavation for the galleries. During the excavation, the Design Engineer may revise the elevations of the galleries if field conditions dictate.
51. Maintenance of all onsite drainage facilities shall be the responsibility of the property owner.

UTILITIES:

52. Utilities shown on these plans are "not guaranteed" to be complete or correct. Prior to any site activities, the contractor shall be responsible for verification of clearances of proposed utilities from existing utilities. This verification shall include physical observation by means of test pits of the locations of affected utilities. The contractor shall notify the site engineer immediately of any conflict.
53. Electric, telephone, cable, gas, and water services shall be installed in conformance to the requirements of the governing utility companies.
54. It is the contractor's responsibility to install utilities as shown on this sheet. The contractor shall work with the utility companies and site engineer to insure the installation is in conformance to the requirements of the governing utility company. All conduits shall be concrete encased as may be required by the governing utility company. Proposed electric, telephone, cable, gas and water services are shown for schematic purposes only and are subject to change pending utility company review. These utilities shall be designed by others and installed in conformance to the requirements of the governing utility companies.
55. All proposed utility facilities shall be raised or lowered to be flush with finished grade.
56. Utility connections at building face shall be coordinated with the building contractors.
57. In general, each utility shall have a minimum clearance of three feet to any other underground utility.
58. Any and all utilities abandoned shall be capped or removed in accordance with utility companies' requirements.
59. Detectable Tape shall be used to mark piping listed below. The identification tape shall be buried at least 6-inches to 10-inches below final grade but no closer than 12-inches to the buried utility piping or service.

Electric	Red	Caution Electric Line Buried Below
Telephone & Control	Orange	Caution Telephone Line Buried Below
Natural Gas	Yellow	Caution Gas Line Buried Below
Water Systems	Blue	Caution Water Line Buried Below
Fire Protection Systems	Blue	Caution Fire Line Buried Below Sprinkler
Mains	Blue	Caution Sprinkler Line Buried Below Sewer
System	Green	Caution Sewer Line Buried Below
IS & S Communication Conduit	Orange	Conc. N/A

60. Underground-Type Plastic Line Marker: Manufacturer's standard permanent, bright-colored detectable tape, continuous-printed plastic tape, intended for direct-burial service; not less than 6" wide X 4 mils thick

PAVEMENT AND PAVEMENT MARKINGS:

61. Areas of new asphalt shall follow the details on Sheet SHEET #1.
62. Existing features such as but not limited to walks, curbs, and pavement damaged by construction activities shall be repaired at no additional cost to the owner.
63. Saw cut perimeter of area to be excavated. Saw cut shall be straight and vertical.
64. The Contractor shall engage a qualified independent testing agency to perform field inspections and tests and to prepare test reports. Testing agency will conduct and interpret tests and state in each report whether tested work complies with or deviates from specified requirements.
65. Contractor is responsible to place the hot-mix asphalt mix as required in the drawings, details and the applicable Section of the CT DOT FORM 818 (latest edition).
66. Compaction shall be constructed as specified in the CT DOT FORM 818 (latest edition), Section 4.06 specification, the drawings and the details. Testing lab shall verify compaction of each course of pavement as directed by the Site Engineer.
67. The inspecting engineer and contractor will review the testing requirements at the preconstruction meeting. At this meeting, samples to be tested and compaction testing protocol will be discussed. Testing and approval of the subgrade, base course and asphalt layers prior to the installation of the next layer to determine if the work complies or deviates from the specified requirements. Prior to installation of the base course, contractor shall contact inspecting engineer to determine the suitability of the subgrade material, base course and asphalt. Additional excavation or base course may be required.
68. Finished paving shall be free of ''bird baths" and be smooth at the slopes specified on the plans.
69. The pavement shall be protected from vehicular traffic of any kind with the use of barricades, etc. for a minimum period of 24 hours after final rolling. Maintain and protect asphalt surface from scrapes, sears, spills, hydraulic leaks, and any other construction damage for the remainder of construction until Owner's Representative acceptance. Contractor is responsible for clearing, repairing, seal coating, patching, and re-striping as necessary to obtain Owner's Representative's final approval/acceptance.
70. Thicknesses of all layers shown are after compaction. Compact all layers to 95% per ASTM D 1557 (Modified Proctor Method).

SEDIMENT AND EROSION CONTROL NARRATIVE:

The purpose of the Sediment and Erosion Control Plan, details, and notes is to outline a program that minimizes soil erosion during construction. The primary policies of this program are:

a) Trapping particles at source by promptly stabilizing disturbed areas;
b) Avoid concentration of water;
c) Avoid contamination of existing storm drains;
d) Maintenance (weekly maintenance and after storm events) of controls to ensure they are functioning properly;

SEDIMENT AND EROSION CONTROL NOTES:

1. Sheet SHEET 3 is intended to describe the soil sediment and erosion control treatment of this site only. For other details with respect to construction, see appropriate drawings.
2. All sediment and erosion controls shall be done in conformance with the "Connecticut Guidelines for Soil Erosion and Sediment Control" dated May 2002 prepared by The Connecticut Council on Soil and Water Conservation.
3. The contractor is assigned the responsibility for implementing this sediment and erosion control plan. This responsibility includes the installation and maintenance of control measures, informing all parties engaged on the construction site of the requirements and objectives of the plan notifying the Zoning Department of any transfer of this responsibility, and Inland Wetlands and Water Courses Agency that construction is to begin three (3) days prior to commencing work.
4. Temporary sediment control measures and tree protection must be installed in accordance with drawings and manufacturer recommendations prior to work in any upland areas.
5. No construction or construction equipment or storage of materials will be allowed on the downhill side of the silt fence or within fenced off areas, except during construction of the proposed facilities shown beyond the fences.
6. The location of each stockpile will vary throughout the construction period. Excavated silt and earth stockpiles shall be stored on site. Silt fence shall be placed at the base of the stockpile to prevent sediment from leaving the site and to protect storm drains, wetlands and watercourses.
7. Silt fence shall be Mirafi envirofence, Amoco siltstop or equivalent approved by Site Engineer. Filter fabric used shall be Mirafi 100x or equivalent. Install silt fence according to manufacturer's instruction, particularly, bury lower edge of fabric into ground.
8. Land disturbance shall be kept to a minimum. All disturbed area shall be planted in where permanent plantings are called for as soon as practicable. Seed and mulch disturbed areas with grass seed where permanent plantings are not called for, as soon as practicable. Prepare seedbed (4" thick minimum) with topsoil. Seed, rake, roll, water and mulch areas according to mixes below. Water as often as necessary (up to 3 times per day) to establish cover. Mulch seeded areas at 1 to 2 tons/acre with salt hay. Maintain mulch and watering until grass is 3" high with 85% cover. Reseed or overseed if necessary.

Temporary Seed Mix:
Perennial ryegrass 40 lbs/ac. (1 lb/1000 sf.)

Permanent Lawns:
Kentucky Bluegrass 20 lbs/ac.
Creeping Red Fescue 20 lbs/ac.
Perennial Ryegrass 5 lbs/ac.
45 lbs/ac. (1 lb/1000 sf.)

Optimum Seeding Dates:
April 15 through June 15
August 15 through October 1

9. Any disturbed area shall be restored to the preconstruction condition. Existing shrubs shall be carefully dug up, stored in a temporary nursery during the project and replanted as directed by the Owner. The time during which these bushes are out of the ground must be minimized. The contractor shall keep the shrubs watered and out of the direct sun during this time.
10. If disturbed areas can not be seeded immediately due to the time of year, mulch area until seeding can occur; remove mulch and seed and remulch when season permits.
11. Upon installation of each catch basin and area drain, immediately surround it with haybales as per sediment filter detail.
12. Haybales shall be new and are to be replaced whenever their condition deteriorates beyond reasonable usability.
13. Pavement and curbing should be placed as soon as possible after drainage is installed.
14. Loaded trucks shall be covered as required to keep down dust.
15. Affected portions of off site roads and sidewalks must be swept clean when required to keep down dust and prevent safety hazards or at least once a week during construction and as directed by Site Engineer.
16. Dust control to be achieved with watering down disturbed areas as required.
17. After each storm event or once bi-weekly, all sediment and erosion controls shall be inspected. Any corrective actions to mitigate environmental concerns will be ordered by the site engineer or environmental engineer. It is the Owner's responsibility to retain such consultant.
18. Additional sediment and erosion control measures may be installed during the construction period if found necessary by the inspecting engineer or any Governing Agency.
19. All permanent and temporary sediment control devices will be maintained in effective condition throughout the construction period until upland disturbed areas are thoroughly stabilized. Upon completion of work and stabilization of all upland areas, all temporary sediment control devices and tree protection should be removed from the site and any silt disposed of legally.
20. Excavated material from temporary silt traps must be stockpiled on uphill side of silt fence.
21. Periodically and upon completion of the job, clean silt from any effected storm sewer systems including pipes and inlets. Use silt during final landscaping or dispose off-site legally.

CONSTRUCTION PHASING:

The following description of construction phasing is intended to demonstrate a feasible sequence of construction. The actual sequence may vary due to field conditions if approved by the inspecting engineer.

PHASE I: PREPARATION

A. AT LEAST ONE WEEK PRIOR TO THE START OF CONSTRUCTION, THE INSPECTING ENGINEER SHALL MEET WITH THE CONTRACTOR AND OWNER TO REVIEW THE SEDIMENT AND EROSION CONTROL (S&E PLAN), DISCUSS ANY MODIFICATIONS TO CONSTRUCTION SEQUENCE OR S&E PLAN AND TO REVIEW CONTRACTORS LOGISTICS PLAN.
B. ESTABLISH STAGING AREA WITH TRAILERS AND TEMPORARY UTILITIES.
C. INSTALL TRACKING PADS FOR CONSTRUCTION ACCESS.
D. INSTALL SILT FENCE AND PERIMETER FENCE AS SHOWN ON THE PLANS.
E. INSTALL TREE PROTECTION.
F. CUT TREES TO BE REMOVED AND GRUB AREAS TO BE CLEARED.
G. REMOVE EXISTING PAVEMENT ONLY AS NECESSARY TO PROCEED WITH EACH PHASE OF CONSTRUCTION.

PHASE II: CONSTRUCTION

A. ROUGH GRADE SITE. GENERAL EARTHWORK (NOTE: MANAGEMENT OF EXCAVATED MATERIALS DURING THIS PROCESS SHALL BE ACHIEVED BY TEMPORARILY STOCKPILING ONSITE TO THE EXTENT CONSTRUCTION STAGING WILL ALLOW AND BY HAULING MATERIAL OFFSITE AS EXCAVATED).
B. CONSTRUCT FOUNDATION AND BACKFILL AS SOON AS POSSIBLE.
C. INSTALL STORM WATER SYSTEM. THE DRAINAGE UTILITIES WILL BE INSTALLED AND READY TO RECEIVE STORM WATER PRIOR TO THE INSTALLATION OF PAVING.
D. INSTALL SEDIMENT AND EROSION CONTROLS ASSOCIATED WITH DRAINAGE STRUCTURES.
E. EXCAVATE AND INSTALL RETAINING WALLS.
F. FINAL GRADING AND PAVING.
G. SEED & MULCH DISTURBED AREAS AND INSTALL LANDSCAPING AS SOON AS POSSIBLE.
H. MAINTAIN ALL SEDIMENT AND EROSION CONTROLS IN AN EFFECTIVE CONDITION DURING THE CONSTRUCTION PERIOD.

PHASE III: CLEAN UP AFTER ALL AREAS ARE STABILIZED

A. CLEAN EFFECTED PORTION OF ON & OFF SITE ROADS AND DRIVEWAYS.
B. REMOVE ACCUMULATED SILT AND DEBRIS FROM CATCH BASIN SUMPS & PIPES OF EFFECTED ON & OFF SITE STORM DRAINS.
C. REMOVE ACCUMULATED SEDIMENT FROM EFFECTED AREAS AND DISPOSE OF LEGALLY.
D. REMOVE TEMPORARY SEDIMENT AND EROSION CONTROL AND TREE PROTECTION.
E. MAKE ANY NECESSARY REPAIRS TO PERMANENT SEDIMENT AND EROSION CONTROLS SUCH AS PLANTINGS.

TEST PIT DATA

Subsurface Soil Investigation
Soil Profile

Test Pit #: 101 Date: 09/23/2022
Inspector: BDH Sanitarian: LH
Ledge at: 72" Mottling at: N/A
Water at: N/A Roots at: 30"

Depth: 72"	Soil Description
0"-18"	Organics/Forest Litter
18"-29"	Orange Brown Sandy Loam
29"-72"	Light Brown Sand and Gravel, Moderately Compacted

Subsurface Soil Investigation
Soil Profile

Test Pit #: 102 Date: 09/23/2022
Inspector: BDH Sanitarian: LH
Ledge at: N/A Mottling at: N/A
Water at: N/A Roots at: 30"

Depth: 66"	Soil Description
0"-16"	Organics/Forest Litter
16"-42"	Orange Brown Silty Loam
42"-66"	Light Brown Sand and Gravel with Cobbles

Subsurface Soil Investigation
Soil Profile

Test Pit #: 103 Date: 09/23/2022
Inspector: BDH Sanitarian: LH
Ledge at: N/A Mottling at: N/A
Water at: N/A Roots at: 50"

Depth: 73"	Soil Description
0"-10"	Organics/Forest Litter
10"-36"	Orange Brown Silty Loam
36"-73"	Light Brown Sand and Gravel with Boulders

Subsurface Soil Investigation
Soil Profile

Test Pit #: 104 Date: 09/23/2022
Inspector: BDH Sanitarian: LH
Ledge at: 55" Mottling at: 27"
Water at: N/A Roots at: 25"

Depth: 55"	Soil Description
0"-16"	Organics/Forest Litter
16"-27"	Orange Brown Silty Loam
27"-55"	Mottled Sand and Gravel with Boulders

Subsurface Soil Investigation
Soil Profile

Test Pit #: 1 Date: 07/11/2022
Inspector: BDH Sanitarian: AC
Ledge at: N/A Mottling at: 44"
Water at: N/A Roots at: 38"

Depth: 78"	Soil Description
0"-29"	Topsoil, Organics and miscellanious fill
29"-47"	Orange Brown Sandy Loam
47"-78"	Sand and Gravel with Cobbles

Subsurface Soil Investigation
Soil Profile

Test Pit #: 2 Date: 07/11/2022
Inspector: BDH Sanitarian: AC
Ledge at: N/A Mottling at: 44"
Water at: N/A Roots at: 48"

Depth: 84"	Soil Description
0"-36"	Topsoil, Organics and miscellanious fill
36"-55"	Olive Brown Sandy Loam
55"-84"	Compacted Olive Brown Sandy Loam

Subsurface Soil Investigation
Soil Profile

Test Pit #: 3 Date: 07/11/2022
Inspector: BDH Sanitarian: AC
Ledge at: N/A Mottling at: N/A
Water at: 84" Roots at: 84"

Depth: 84"	Soil Description
0"-46"	Fill
46"-84"	Orange Brown Sandy Loam *Contained Disturbed Soils

Subsurface Soil Investigation
Soil Profile

Test Pit #: 4 Date: 07/11/2022
Inspector: BDH Sanitarian: AC
Ledge at: N/A Mottling at: 32"
Water at: 96" Roots at: 20"

Depth: 96"	Soil Description
0"-42"	Organics and miscellanious fill
42"-60"	Orange Brown Sandy Loam
60"-96"	Tan Gravel and Sand

Subsurface Soil Investigation
Soil Profile

Test Pit #: 5 Date: 07/11/2022
Inspector: BDH Sanitarian: AC
Ledge at: N/A Mottling at: 48"
Water at: N/A Roots at: 41"

Depth: 82"	Soil Description
0"-48"	Fill
48"-53"	Orange Brown Sandy Loam
53"-82"	Tan Mottled, Compacted Sand and Gravel *Contained Disturbed Soils

Subsurface Soil Investigation
Soil Profile

Test Pit #: 6 Date: 07/11/2022
Inspector: BDH Sanitarian: AC
Ledge at: N/A Mottling at: 48"
Water at: N/A Roots at: N/A

Depth: 64"	Soil Description
0"-15"	Topsoil/Misc Fill
15"-27"	Orange Brown Sandy Loam
27"-64"	Sand Weathered Rock and Boulders *Contained Disturbed Soils

Subsurface Soil Investigation
Soil Profile

Test Pit #: 7 Date: 07/11/2022
Inspector: BDH Sanitarian: AC
Ledge at: N/A Mottling at: 38"
Water at: N/A Roots at: 30"

Depth: 62"	Soil Description
0"-18"	Organics, Roots, and Topsoil
18"-27"	Brown Sandy Loam and Organics
27"-38"	Orange Brown Sandy Loam
38"-62"	Tan Mottled Sand and Gravel

No.	Date	Revision
3	02/17/2023	PERMIT SUBMISSION
2	01/12/2023	ADDED CONSTRUCTION PHASING NOTES
1	11/09/2022	WETLANDS APPLICATION

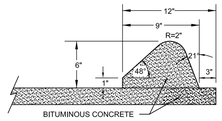
NOTES & SOIL TEST RESULTS
DEPICTING
19 TALL PINE DR
WESTON, CT
PREPARED FOR
JONATHAN SCHANZER

REDNISS & MEAD
LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING
22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

SCALE: N.T.S.
DRAWN BY: BDH CHECKED BY: BDH

Bret Holzwarth
BRET D. HOLZWARTH CT. P.E. 27812
February 17, 2023
DATE

SHEET No: SE-4
Comm. No.: 10496



BITUMINOUS CONCRETE LIP CURBING

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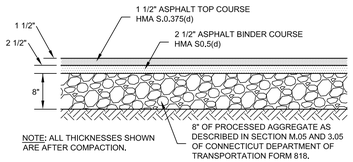

ASPHALT PAVEMENT DETAIL

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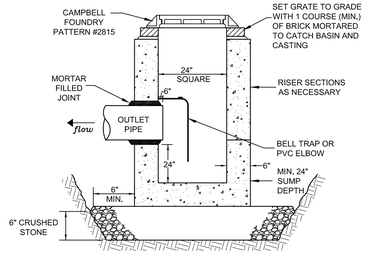
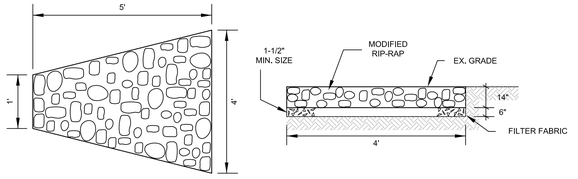


NOTES:

1. ALL CATCH BASIN COMPONENTS TO BE PRE-CAST REINFORCED CONCRETE, ABLE TO WITHSTAND THE APPLIED EARTH LOADS WITH AN H-20 TRUCK LOAD.
2. ALL JOINTS TO BE MORTARED.
3. AREA DRAIN SHALL CONFORM TO ASTM C478.
4. ALL CRUSHED STONE SHALL BE GRADATION NO. 4 AS PER CT D.O.T. FORM 818, ARTICLE M.01.01, STONE SHALL CONSIST OF SOUND, TOUGH, DURABLE PARTICLES FREE FROM SOFT, THIN, ELONGATED, LAMINATED, FRIABLE, MICACEOUS OR DISINTEGRATED PIECES, MUD, DIRT OR OTHER DELETERIOUS MATERIAL.

24" AREA DRAIN

N.T.S.



RIP-RAP SPLASH PAD

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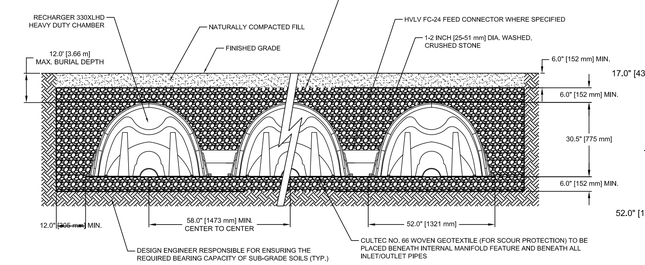
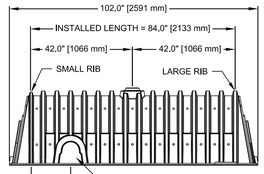
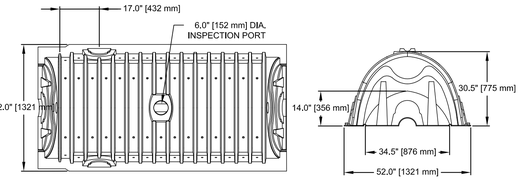


GENERAL NOTES

RECHARGER 330XL HD BY CULTEC, INC. OF BROOKFIELD, CT.
STORAGE PROVIDED = 11.32 CF/FT [1.05 m³/m] PER DESIGN UNIT.
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS

ALL RECHARGER 330XL HD HEAVY DUTY UNITS ARE MARKED WITH A COLOR STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
ALL RECHARGER 330XL HD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS





CULTEC RECHARGER 330XLHD CHAMBER STORAGE = 7.459 CF/FT [0.693 m³/m]
INSTALLED LENGTH ADJUSTMENT = 1.5' [0.46 m]
SIDE PORTAL ACCEPTS CULTEC HVLV FC-24 FEED CONNECTOR

CULTEC RECHARCHER 330HD DETAIL

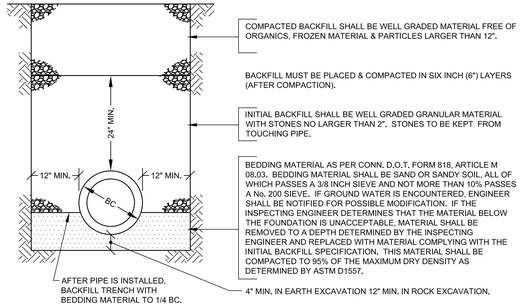
N.T.S.

WATER STOP: 10' UPSTREAM OF STRUCTURES AND WHERE SHOWN. FOUNDATION MATERIAL, BEDDING, HAUNCHING, INITIAL BACKFILL, AND THE BOTTOM FOOT OF GENERAL BACKFILL TO BE REPLACED WITH SM, SC, OR ML SOIL AS PER ``UNIFIED SOIL CLASSIFICATION SYSTEM" WITH MAXIMUM PARTICLE SIZE OF 1-1/2", FOR 3 LINEAR FEET OF TRENCH. WATER STOP TO BE KEYED INTO TRENCH BOTTOM AND WALLS A MINIMUM OF ONE FOOT. NO STONES LARGER THAN 6" SHALL BE WITHIN 12" OF THE PIPE.

ALL FOUNDATION, INITIAL BACKFILL & BACKFILL MATERIAL TO BE APPROVED BY THE INSPECTING ENGINEER.

ANY DEVIATION FROM THESE METHODS & MATERIALS MUST BE APPROVED IN WRITING BY THE INSPECTING ENGINEER.

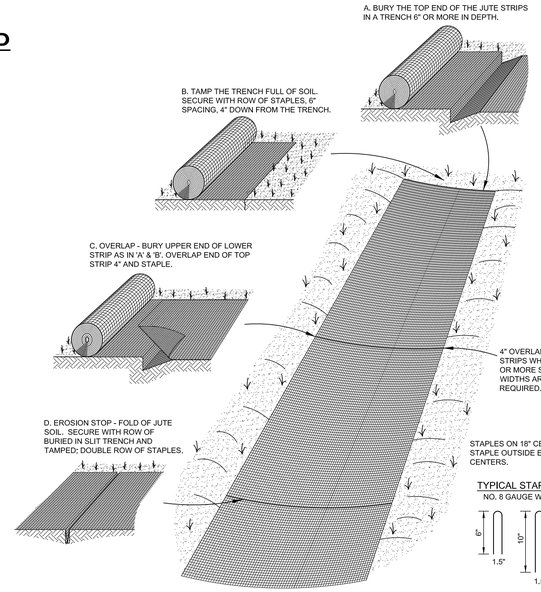
ALL MATERIAL TO BE COMPACTED TO 95% OF THE MAX. DRY DENSITY AS DETERMINED BY ASTM D1557, EXCEPT ``COMPACTED BACKFILL" NOT UNDER PAVEMENT WHICH SHALL BE COMPACTED TO A DENSITY AT LEAST EQUAL TO THAT OF THE ADJACENT UNDISTURBED MATERIAL.



PVC PIPE TRENCH BEDDING DETAIL

(48" DIA. & UNDER)

N.T.S.



INSTALLATION OF JUTE NETTING

(EROSION CONTROL BLANKET)

N.T.S.

No.	Date	Revision
2	02/17/2023	PERMIT SUBMISSION
1	11/09/2022	WETLANDS APPLICATION

DETAILS

DEPICTING

19 TALL PINE DR

WESTON, CT

PREPARED FOR

JONATHAN SCHANZER

REDNISS & MEAD
LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
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SCALE: N.T.S.

DRAWN BY: BDH | CHECKED BY: BDH

ROBERT D. HOLZWARTH CT. P.E. 27812

Bret Holzwarth

February 17, 2023

DATE

SHEET No: SE-5

Comm. No.: 10496

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DRAINAGE REPORT

Prepared For

19 Tall Pines Drive
Weston, CT

Prepared for:	Jonathan Schanzer
Revised on:	February 17, 2023
Issued on:	November 9, 2022
Prepared by:	Redniss & Mead, Inc.

Bret Holzwarth

Bret Holzwarth, P.E.
CT Registration # 27812

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TABLE OF CONTENTS

DRAINAGE NARRATIVE

Introduction

Jonathan Schanzer, owner of 19 Tall Pines Drive in Weston, CT, is proposing improvements to his single-family home and associated site improvements. The property is 2.20 acres in the R-2AC residential zone. The property is on the southeast corner of Tall Pines Drive, at the bend in the road. The rear of the property abuts open space and CL&P easements for their transmission lines.

A Wetland Delineation Report prepared by Jay Fain & Associates indicates the presence of wetland soils within the property. The wetlands are contained within the wooded corridor on the east side of the property. The property lies outside the drinking water supply watershed and outside the100-year flood zone per Federal Emergency Management Agency (FEMA) maps. Hydrologic soil groups were obtained from a soil survey by the U.S. Department of Agriculture (USDA) National Resource Conservation Service (NRCS). The soils within the developed portion of the site are indicated as Hydraulic Soil Group B while the wetland area is soil group D.

Existing Drainage Conditions:

The west portion of the lot is developed with a single-family dwelling, an asphalt driveway, patios and lawn. The east portion of the site is undeveloped woods. Portions of the upland site were recently cleared of trees and vegetation. A stop work order was issued by the Town of Weston and the site contains stockpiles of fill and wood chips. The property is served by public water and a septic system.

The existing onsite impervious coverage is 8,415sf (0.19 acres). The site generally is sloped from west to east and is entirely tributary to the onsite wetland corridor. For this reason, the full site was modeled with one point of concern. Refer to the Existing Drainage Basin Map in Appendix A and the HydroCAD Report in Appendix B for a depiction of the information stated above. Site runoff is eventually tributary to the Aspetuck River.

Runoff for the on-site drainage analysis is calculated using HydroCAD. Rainfall data was determined using NOAA Atlas 14 Point Precipitation Frequency Estimates (included in Appendix D). The 24-hour design storms studied include the 1, 2, 5, 10, 25, 50 and 100-year storm events, with rainfall depths of 2.89, 3.52, 4.55, 5.40, 6.58, 7.45 and 8.39 inches respectively. Rainfall distribution is defined as Type III 24hr by the USDA, NRCS.

Weighted curve numbers, which are based on hydrologic soil type and land cover, were determined for the site using the USDA, NRCS, TR-55 method. Land cover information was

determined from surveys and field inspection. Test pits and percolation tests conducted to determine soil capacity for infiltration and restrictive layers.

Proposed Drainage Conditions

Proposed improvements include an inground pool, driveway modification, terraces and regraded lawn areas. Under proposed conditions, impervious area increases by 1,986 square feet compared to existing conditions. To mitigate this increase, it is proposed to install an underground infiltration systems onsite. Infil #1 is proposed to collect runoff from the revised driveway, front yard and the asphalt garage courtyard. The system consists of twelve Cultec R-330XLHD units surrounded by crushed stone. The outlet control for the infiltration system is a raised outlet pipe from an area drain that discharges downstream to a rip rap splash pad. The system will be in mostly fill areas with 6" of crushed stone below the units. Test pits were performed on 7/11/2022. TP#7 indicated mottling at 38" below existing grade. The bottom of the system is designed one foot above restrictive layers.

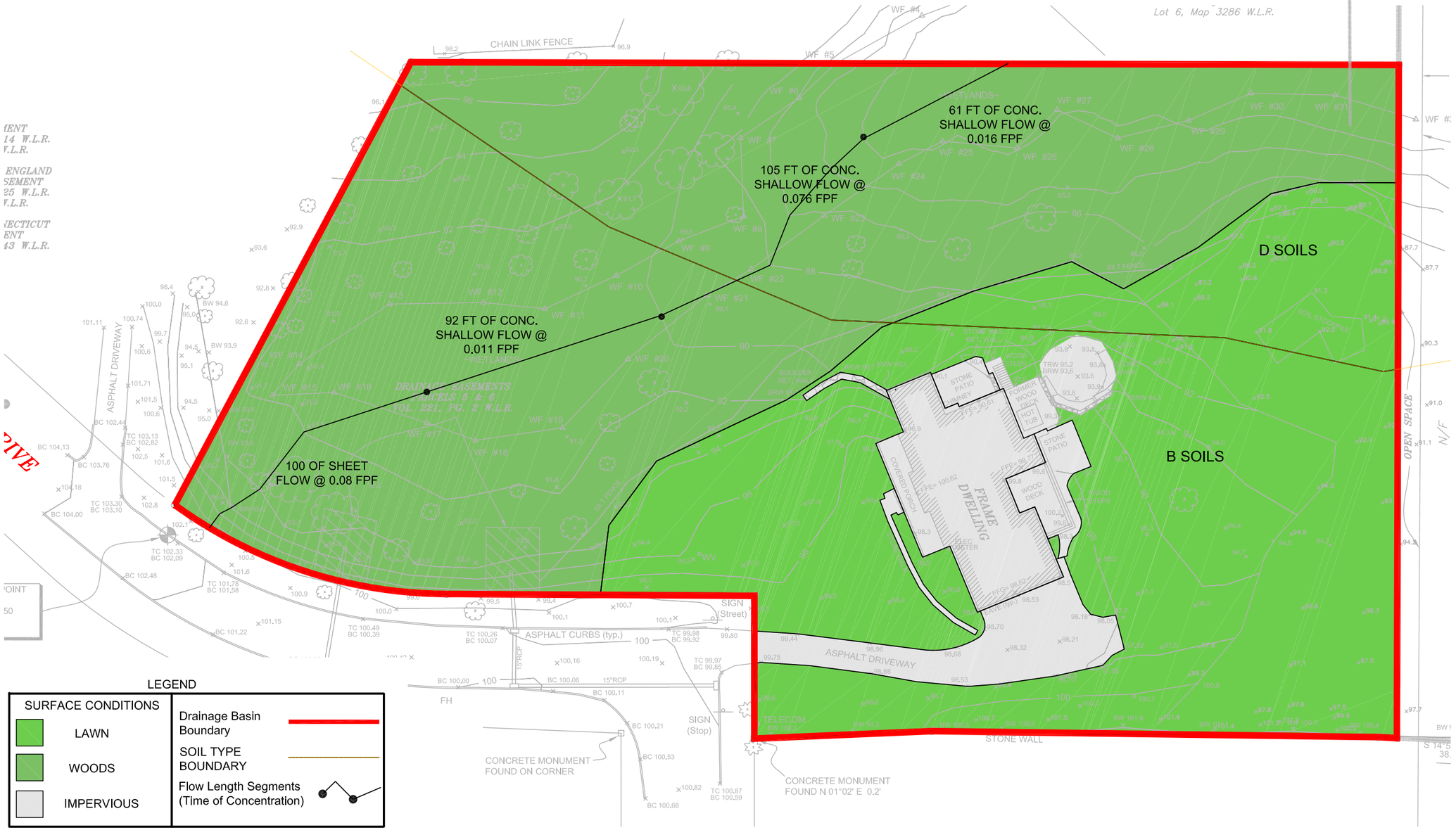
The Cultec system is open bottomed to allow water to infiltrate into the surrounding crushed stone and dissipate into the receiving soil. A portion of the stormwater will infiltrate into the underlying soil, allowing for groundwater recharge and reducing the runoff volume.

The following table indicates the peak rate of runoff for the site in both existing and proposed conditions. The peak flows decrease in all storms up to and including the 100-year storm. Additional information can be found in the HydroCAD report in Appendix B.

Table 1. Existing V.S. Proposed Peak Flows

Return Period (years)	Existing Peak Flow Rate (cfs)	Proposed Peak Flow Rate (cfs)	Change (cfs)	Percent Change (%)
1	0.83	0.65	-0.18	-21.7%
2	1.48	1.19	-0.29	-19.6%
5	2.73	2.68	-0.05	-1.8%
10	3.88	3.81	-0.07	-1.8%
25	5.59	5.45	-0.14	-2.5%
50	6.90	6.69	-0.21	-3.0%
100	8.36	8.02	-0.34	-4.1%

Based on the above, and with proper implementation of the design drawings, construction of this proposed development will not result in adverse hydraulic or hydrologic impacts on adjacent or downstream properties or drainage facilities.



LEGEND

SURFACE CONDITIONS	
LAWN	Drainage Basin Boundary
WOODS	SOIL TYPE BOUNDARY
IMPERVIOUS	Flow Length Segments (Time of Concentration)

DRAINAGE BASIN SUMMARY TABLE			
BASIN	**WEIGHTED CN**	**AREA (SF.)**	**TC (MIN.)**
EXISTING BASIN	68	95,658	17.5

EXISTING DRAINAGE BASIN
19 TALL PINE DRIVE
WESTON, CT

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.357.1118
www.rednissmead.com

COMM. NO.:	DATE:
10496	02/17/2023
	SCALE: 1"=40'

LEGEND

SURFACE CONDITIONS	
LAWN	Drainage Basin Boundary
WOODS	SOIL TYPE BOUNDARY
IMPERVIOUS	Flow Length Segments (Time of Concentration)
GRAVEL	

DRAINAGE BASIN SUMMARY TABLE

BASIN	WEIGHTED CN	AREA (SF.)	TC (MIN.)
INFIL #1 BASIN	81	12,494	5.0
BYPASS BASIN	67	83,160	17.5

PROPOSED DRAINAGE BASIN
19 TALL PINE DRIVE
WESTON, CT

REDNISS & MEAD
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COMM. NO.:	DATE:
10496	02/17/2023
	SCALE: 1"=40'

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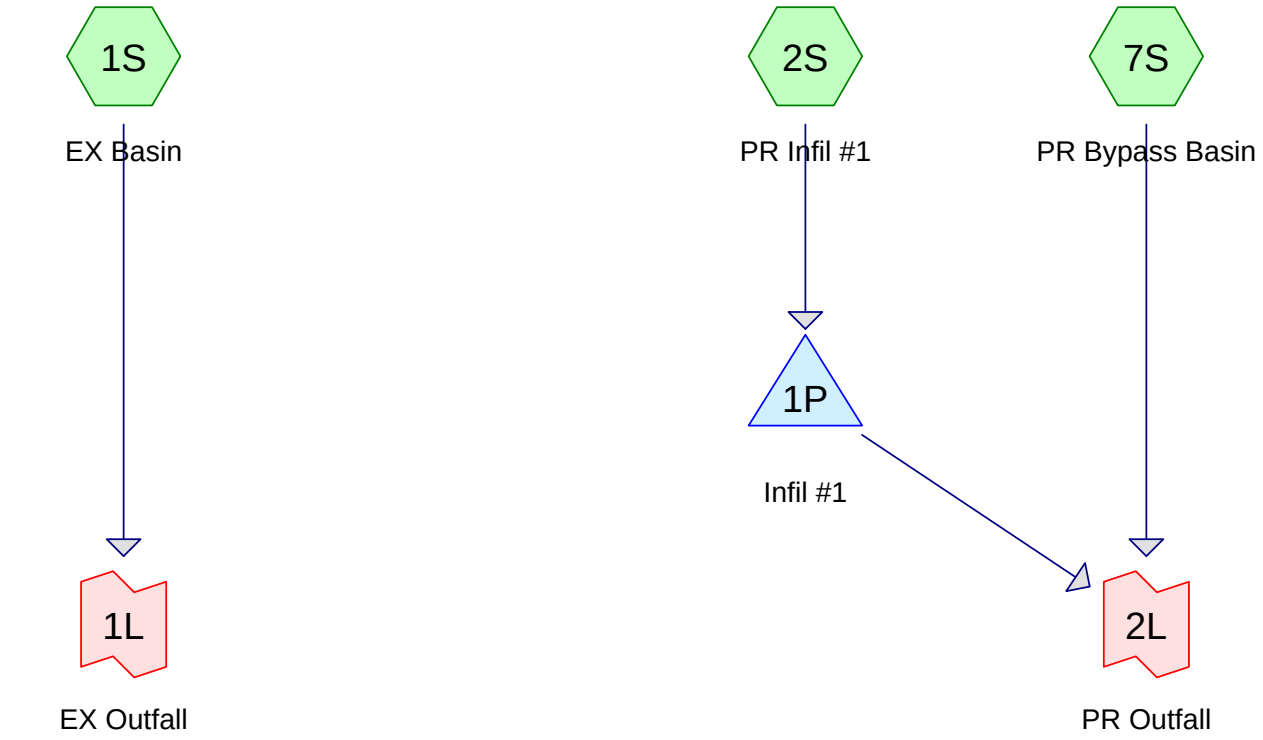
Existing Conditions

Proposed Conditions



Subcat Reach Pond Link

Routing Diagram for 10496 Hydrocad (2023-02-08)
Prepared by Redniss & Mead, Inc, Printed 2/17/2023

Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX Basin Runoff Area=95,658 sf 8.80% Impervious Runoff Depth>0.57"
Flow Length=358' Tc=17.5 min CN=68 Runoff=0.83 cfs 0.104 af

Subcatchment 2S: PR Infil #1 Runoff Area=12,494 sf 47.97% Impervious Runoff Depth>1.23"
Tc=5.0 min CN=81 Runoff=0.42 cfs 0.029 af

Subcatchment 7S: PR Bypass Basin Runoff Area=83,160 sf 5.07% Impervious Runoff Depth>0.53"
Flow Length=358' Tc=17.5 min CN=67 Runoff=0.65 cfs 0.084 af

Pond 1P: Infil #1 Peak Elev=95.47' Storage=994 cf Inflow=0.42 cfs 0.029 af
8.0" Round Culvert n=0.010 L=34.0' S=0.1000 '/' Outflow=0.02 cfs 0.007 af

Link 1L: EX Outfall Inflow=0.83 cfs 0.104 af
Primary=0.83 cfs 0.104 af

Link 2L: PR Outfall Inflow=0.65 cfs 0.091 af
Primary=0.65 cfs 0.091 af

Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX Basin Runoff Area=95,658 sf 8.80% Impervious Runoff Depth>0.91"
Flow Length=358' Tc=17.5 min CN=68 Runoff=1.48 cfs 0.166 af

Subcatchment 2S: PR Infil #1 Runoff Area=12,494 sf 47.97% Impervious Runoff Depth>1.72"
Tc=5.0 min CN=81 Runoff=0.60 cfs 0.041 af

Subcatchment 7S: PR Bypass Basin Runoff Area=83,160 sf 5.07% Impervious Runoff Depth>0.86"
Flow Length=358' Tc=17.5 min CN=67 Runoff=1.19 cfs 0.136 af

Pond 1P: Infil #1 Peak Elev=95.54' Storage=1,008 cf Inflow=0.60 cfs 0.041 af
8.0" Round Culvert n=0.010 L=34.0' S=0.1000 '/' Outflow=0.07 cfs 0.019 af

Link 1L: EX Outfall Inflow=1.48 cfs 0.166 af
Primary=1.48 cfs 0.166 af

Link 2L: PR Outfall Inflow=1.19 cfs 0.155 af
Primary=1.19 cfs 0.155 af

Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX Basin Runoff Area=95,658 sf 8.80% Impervious Runoff Depth>1.56"
Flow Length=358' Tc=17.5 min CN=68 Runoff=2.73 cfs 0.285 af

Subcatchment 2S: PR Infil #1 Runoff Area=12,494 sf 47.97% Impervious Runoff Depth>2.59"
Tc=5.0 min CN=81 Runoff=0.90 cfs 0.062 af

Subcatchment 7S: PR Bypass Basin Runoff Area=83,160 sf 5.07% Impervious Runoff Depth>1.49"
Flow Length=358' Tc=17.5 min CN=67 Runoff=2.25 cfs 0.237 af

Pond 1P: Infil #1 Peak Elev=95.79' Storage=1,061 cf Inflow=0.90 cfs 0.062 af
8.0" Round Culvert n=0.010 L=34.0' S=0.1000 '/' Outflow=0.46 cfs 0.039 af

Link 1L: EX Outfall Inflow=2.73 cfs 0.285 af
Primary=2.73 cfs 0.285 af

Link 2L: PR Outfall Inflow=2.68 cfs 0.276 af
Primary=2.68 cfs 0.276 af

Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX Basin Runoff Area=95,658 sf 8.80% Impervious Runoff Depth>2.16"
Flow Length=358' Tc=17.5 min CN=68 Runoff=3.88 cfs 0.395 af

Subcatchment 2S: PR Infil #1 Runoff Area=12,494 sf 47.97% Impervious Runoff Depth>3.34"
Tc=5.0 min CN=81 Runoff=1.16 cfs 0.080 af

Subcatchment 7S: PR Bypass Basin Runoff Area=83,160 sf 5.07% Impervious Runoff Depth>2.08"
Flow Length=358' Tc=17.5 min CN=67 Runoff=3.22 cfs 0.331 af

Pond 1P: Infil #1 Peak Elev=96.06' Storage=1,112 cf Inflow=1.16 cfs 0.080 af
8.0" Round Culvert n=0.010 L=34.0' S=0.1000 '/' Outflow=0.97 cfs 0.057 af

Link 1L: EX Outfall Inflow=3.88 cfs 0.395 af
Primary=3.88 cfs 0.395 af

Link 2L: PR Outfall Inflow=3.81 cfs 0.387 af
Primary=3.81 cfs 0.387 af

Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX Basin Runoff Area=95,658 sf 8.80% Impervious Runoff Depth>3.06"
Flow Length=358' Tc=17.5 min CN=68 Runoff=5.59 cfs 0.560 af

Subcatchment 2S: PR Infil #1 Runoff Area=12,494 sf 47.97% Impervious Runoff Depth>4.41"
Tc=5.0 min CN=81 Runoff=1.52 cfs 0.105 af

Subcatchment 7S: PR Bypass Basin Runoff Area=83,160 sf 5.07% Impervious Runoff Depth>2.96"
Flow Length=358' Tc=17.5 min CN=67 Runoff=4.69 cfs 0.472 af

Pond 1P: Infil #1 Peak Elev=96.52' Storage=1,113 cf Inflow=1.52 cfs 0.105 af
8.0" Round Culvert n=0.010 L=34.0' S=0.1000 '/' Outflow=1.49 cfs 0.082 af

Link 1L: EX Outfall Inflow=5.59 cfs 0.560 af
Primary=5.59 cfs 0.560 af

Link 2L: PR Outfall Inflow=5.45 cfs 0.554 af
Primary=5.45 cfs 0.554 af

Summary for Subcatchment 1S: EX Basin

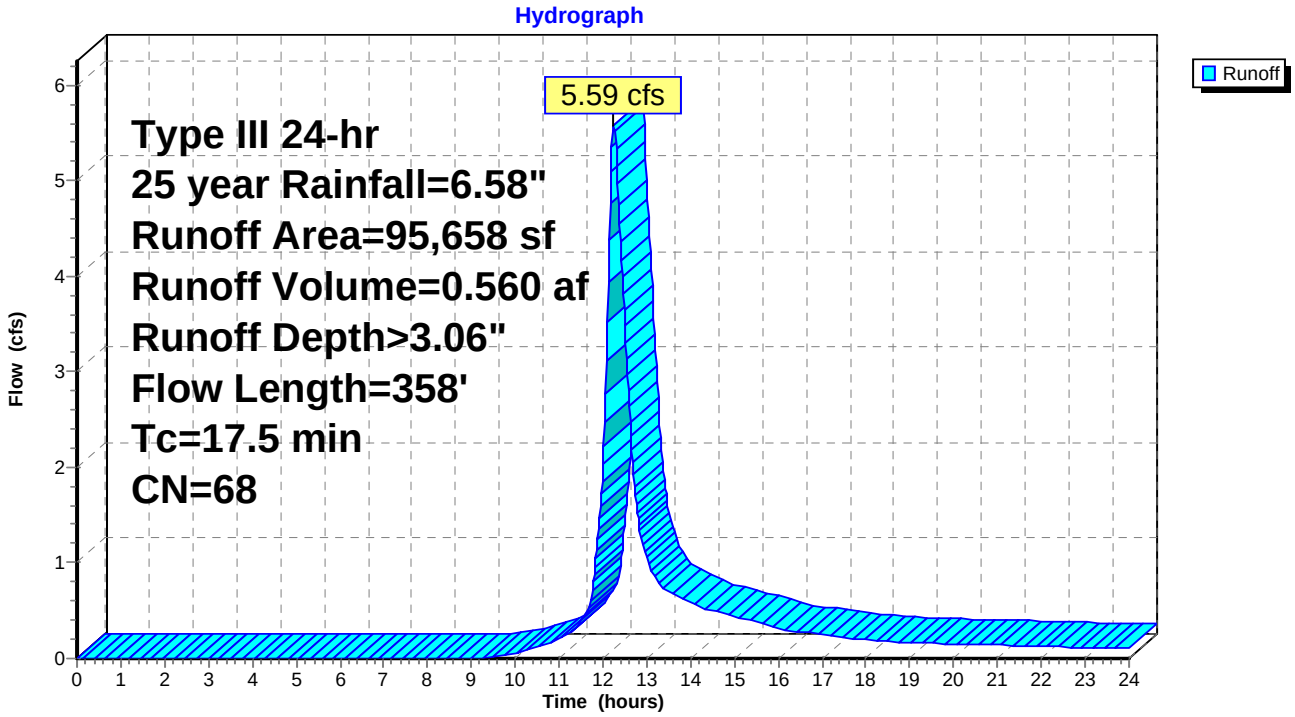
Runoff = 5.59 cfs @ 12.25 hrs, Volume= 0.560 af, Depth> 3.06"
Routed to Link 1L : EX Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25 year Rainfall=6.58"

Area (sf)	CN	Description
26,519	55	Woods, Good, HSG B
24,692	77	Woods, Good, HSG D
29,613	61	>75% Grass cover, Good, HSG B
6,419	80	>75% Grass cover, Good, HSG D
8,415	98	Roofs, HSG B
95,658	68	Weighted Average
87,243		91.20% Pervious Area
8,415		8.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0800	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.54"
2.9	92	0.0110	0.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	105	0.0760	1.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	61	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.5	358	Total			

Subcatchment 1S: EX Basin



Summary for Subcatchment 2S: PR Infil #1

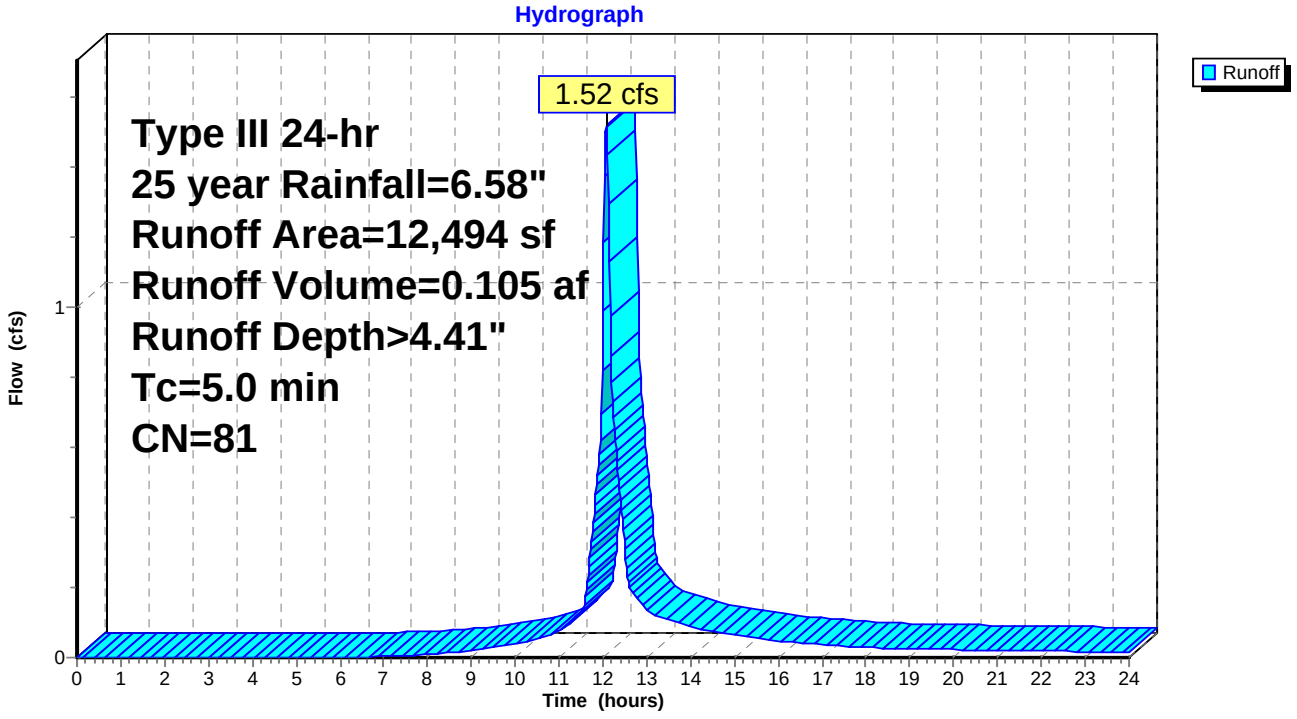
Runoff = 1.52 cfs @ 12.07 hrs, Volume= 0.105 af, Depth> 4.41"
Routed to Pond 1P : Infil #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25 year Rainfall=6.58"

Area (sf)	CN	Description
5,993	98	Paved parking, HSG B
5,461	61	>75% Grass cover, Good, HSG B
1,040	85	Gravel roads, HSG B
12,494	81	Weighted Average
6,501		52.03% Pervious Area
5,993		47.97% Impervious Area

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

Subcatchment 2S: PR Infil #1



Summary for Subcatchment 7S: PR Bypass Basin

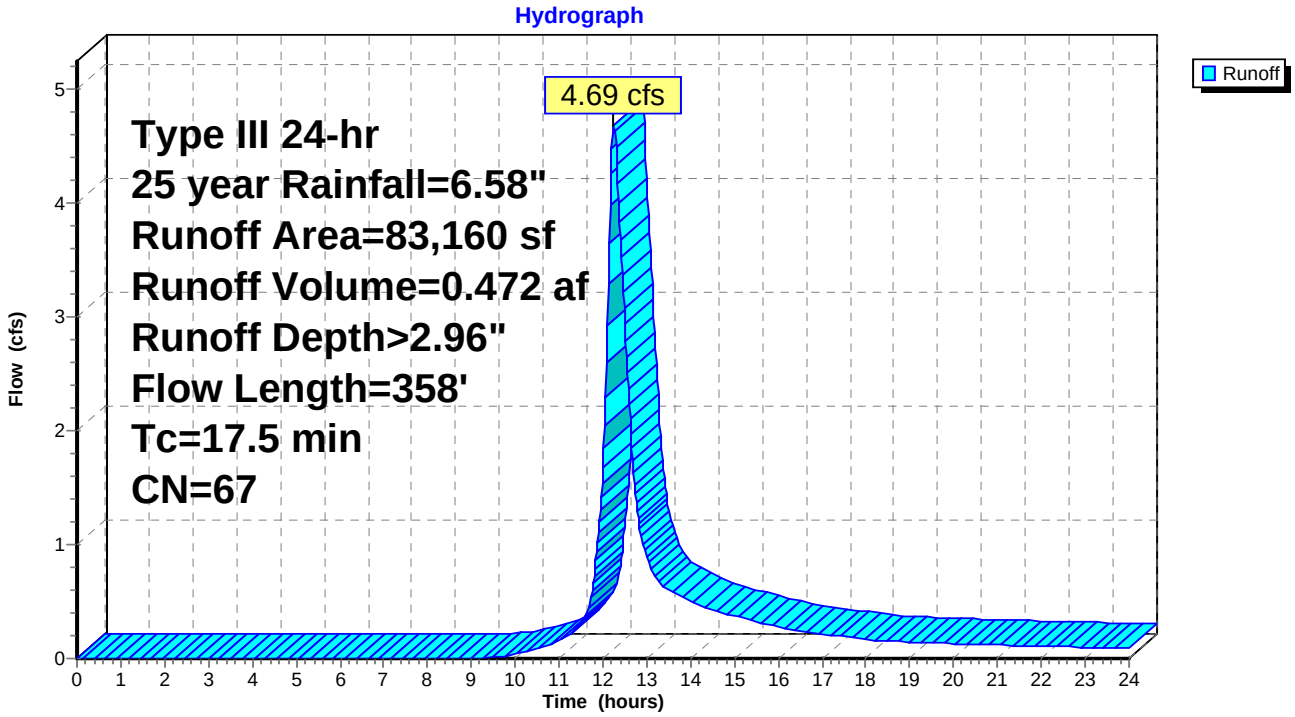
Runoff = 4.69 cfs @ 12.25 hrs, Volume= 0.472 af, Depth> 2.96"
Routed to Link 2L : PR Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Type III 24-hr 25 year Rainfall=6.58"

Area (sf)	CN	Description
26,074	55	Woods, Good, HSG B
24,714	77	Woods, Good, HSG D
21,654	61	>75% Grass cover, Good, HSG B
6,395	80	>75% Grass cover, Good, HSG D
4,215	98	Roofs, HSG B
108	96	Gravel surface, HSG B
83,160	67	Weighted Average
78,945		94.93% Pervious Area
4,215		5.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.7	100	0.0800	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.54"
2.9	92	0.0110	0.52		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	105	0.0760	1.38		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	61	0.0160	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
17.5	358	Total			

Subcatchment 7S: PR Bypass Basin



Summary for Pond 1P: Infil #1

Inflow Area = 0.287 ac, 47.97% Impervious, Inflow Depth > 4.41" for 25 year event
Inflow = 1.52 cfs @ 12.07 hrs, Volume= 0.105 af
Outflow = 1.49 cfs @ 12.08 hrs, Volume= 0.082 af, Atten= 2%, Lag= 0.2 min
Primary = 1.49 cfs @ 12.08 hrs, Volume= 0.082 af
Routed to Link 2L : PR Outfall

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 96.52' @ 12.08 hrs Surf.Area= 507 sf Storage= 1,113 cf

Plug-Flow detention time= 125.3 min calculated for 0.082 af (78% of inflow)
Center-of-Mass det. time= 45.4 min (851.9 - 806.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	92.50'	450 cf	**16.00'W x 31.50'L x 3.54'H Field A** 1,785 cf Overall - 659 cf Embedded = 1,126 cf x 40.0% Voids
#2A	93.00'	659 cf	**Cultec R-330XLHD** x 12 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 3 rows
#3	95.40'	6 cf	**2.00'D x 1.80'H Vertical Cone/Cylinder**
		1,115 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	95.40'	**8.0" Round Culvert** L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 95.40' / 92.00' S= 0.1000 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.49 cfs @ 12.08 hrs HW=96.52' (Free Discharge)
1=Culvert (Inlet Controls 1.49 cfs @ 4.26 fps)

Pond 1P: Infil #1 - Chamber Wizard Field A

Chamber Model = Cultec R-330XLHD (Cultec Recharger® 330XLHD)
Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
Row Length Adjustment= +1.50' x 7.45 sf x 3 rows

52.0" Wide + 6.0" Spacing = 58.0" C-C Row Spacing

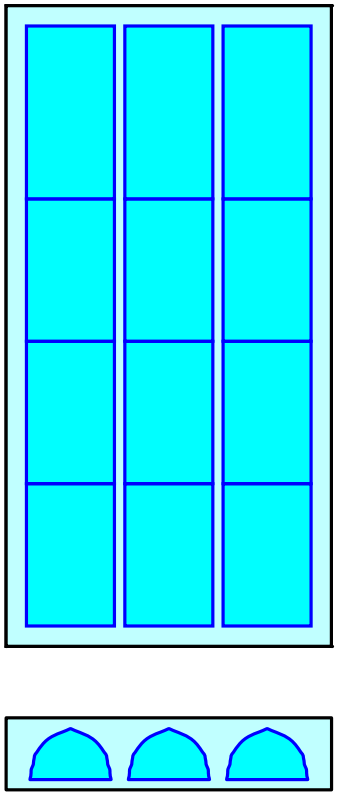
4 Chambers/Row x 7.00' Long +1.50' Row Adjustment = 29.50' Row Length +12.0" End Stone x 2 = 31.50' Base Length
3 Rows x 52.0" Wide + 6.0" Spacing x 2 + 12.0" Side Stone x 2 = 16.00' Base Width
6.0" Stone Base + 30.5" Chamber Height + 6.0" Stone Cover = 3.54' Field Height

12 Chambers x 52.2 cf +1.50' Row Adjustment x 7.45 sf x 3 Rows = 659.4 cf Chamber Storage

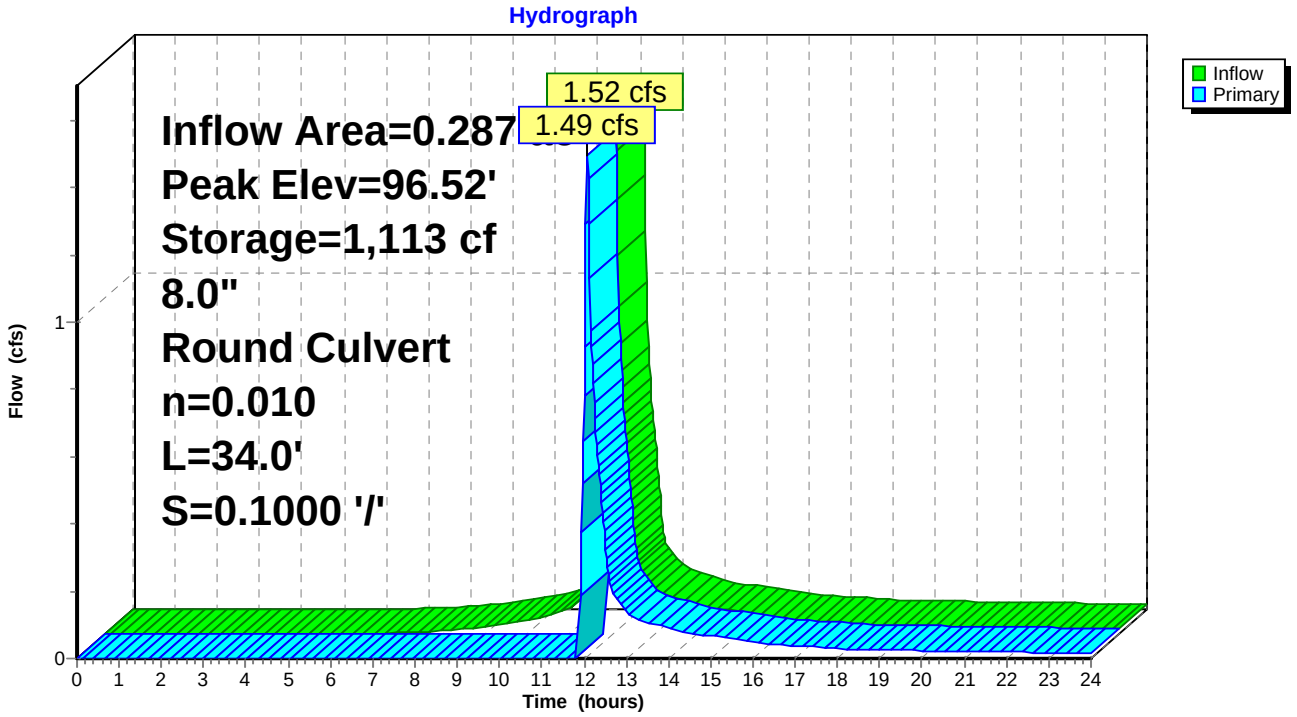
1,785.0 cf Field - 659.4 cf Chambers = 1,125.6 cf Stone x 40.0% Voids = 450.2 cf Stone Storage

Chamber Storage + Stone Storage = 1,109.6 cf = 0.025 af
Overall Storage Efficiency = 62.2%
Overall System Size = 31.50' x 16.00' x 3.54'

12 Chambers
66.1 cy Field
41.7 cy Stone



Pond 1P: Infil #1



Stage-Area-Storage for Pond 1P: Infil #1

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
92.50	0	93.03	113	93.56	330
92.51	2	93.04	117	93.57	334
92.52	4	93.05	121	93.58	338
92.53	6	93.06	126	93.59	342
92.54	8	93.07	130	93.60	346
92.55	10	93.08	134	93.61	350
92.56	12	93.09	138	93.62	354
92.57	14	93.10	142	93.63	358
92.58	16	93.11	146	93.64	362
92.59	18	93.12	150	93.65	366
92.60	20	93.13	154	93.66	370
92.61	22	93.14	158	93.67	374
92.62	24	93.15	163	93.68	378
92.63	26	93.16	167	93.69	382
92.64	28	93.17	171	93.70	386
92.65	30	93.18	175	93.71	390
92.66	32	93.19	179	93.72	394
92.67	34	93.20	183	93.73	398
92.68	36	93.21	187	93.74	402
92.69	38	93.22	191	93.75	406
92.70	40	93.23	195	93.76	410
92.71	42	93.24	199	93.77	414
92.72	44	93.25	203	93.78	417
92.73	46	93.26	208	93.79	421
92.74	48	93.27	212	93.80	425
92.75	50	93.28	216	93.81	429
92.76	52	93.29	220	93.82	433
92.77	54	93.30	224	93.83	437
92.78	56	93.31	228	93.84	441
92.79	58	93.32	232	93.85	445
92.80	60	93.33	236	93.86	449
92.81	62	93.34	240	93.87	453
92.82	65	93.35	244	93.88	457
92.83	67	93.36	248	93.89	461
92.84	69	93.37	252	93.90	465
92.85	71	93.38	256	93.91	469
92.86	73	93.39	261	93.92	473
92.87	75	93.40	265	93.93	477
92.88	77	93.41	269	93.94	481
92.89	79	93.42	273	93.95	485
92.90	81	93.43	277	93.96	488
92.91	83	93.44	281	93.97	492
92.92	85	93.45	285	93.98	496
92.93	87	93.46	289	93.99	500
92.94	89	93.47	293	94.00	504
92.95	91	93.48	297	94.01	508
92.96	93	93.49	301	94.02	512
92.97	95	93.50	305	94.03	516
92.98	97	93.51	309	94.04	520
92.99	99	93.52	313	94.05	524
93.00	101	93.53	317	94.06	528
93.01	105	93.54	322	94.07	532
93.02	109	93.55	326	94.08	536

Stage-Area-Storage for Pond 1P: Infil #1 (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
94.09	539	94.62	739	95.15	914
94.10	543	94.63	743	95.16	917
94.11	547	94.64	746	95.17	920
94.12	551	94.65	750	95.18	922
94.13	555	94.66	753	95.19	925
94.14	559	94.67	757	95.20	928
94.15	563	94.68	760	95.21	931
94.16	567	94.69	764	95.22	934
94.17	571	94.70	767	95.23	936
94.18	575	94.71	771	95.24	939
94.19	578	94.72	774	95.25	942
94.20	582	94.73	778	95.26	944
94.21	586	94.74	781	95.27	947
94.22	590	94.75	785	95.28	950
94.23	594	94.76	788	95.29	952
94.24	598	94.77	792	95.30	955
94.25	602	94.78	795	95.31	957
94.26	606	94.79	799	95.32	960
94.27	609	94.80	802	95.33	962
94.28	613	94.81	805	95.34	965
94.29	617	94.82	809	95.35	967
94.30	621	94.83	812	95.36	970
94.31	625	94.84	815	95.37	972
94.32	628	94.85	819	95.38	974
94.33	632	94.86	822	95.39	977
94.34	636	94.87	826	95.40	979
94.35	640	94.88	829	95.41	981
94.36	644	94.89	832	95.42	983
94.37	647	94.90	836	95.43	986
94.38	651	94.91	839	95.44	988
94.39	655	94.92	842	95.45	990
94.40	659	94.93	845	95.46	992
94.41	662	94.94	849	95.47	994
94.42	666	94.95	852	95.48	997
94.43	670	94.96	855	95.49	999
94.44	673	94.97	858	95.50	1,001
94.45	677	94.98	862	95.51	1,003
94.46	681	94.99	865	95.52	1,005
94.47	685	95.00	868	95.53	1,007
94.48	688	95.01	871	95.54	1,009
94.49	692	95.02	874	95.55	1,011
94.50	696	95.03	877	95.56	1,013
94.51	699	95.04	880	95.57	1,015
94.52	703	95.05	884	95.58	1,017
94.53	707	95.06	887	95.59	1,019
94.54	710	95.07	890	95.60	1,021
94.55	714	95.08	893	95.61	1,023
94.56	717	95.09	896	95.62	1,025
94.57	721	95.10	899	95.63	1,027
94.58	725	95.11	902	95.64	1,029
94.59	728	95.12	905	95.65	1,031
94.60	732	95.13	908	95.66	1,034
94.61	735	95.14	911	95.67	1,036

Stage-Area-Storage for Pond 1P: Infil #1 (continued)

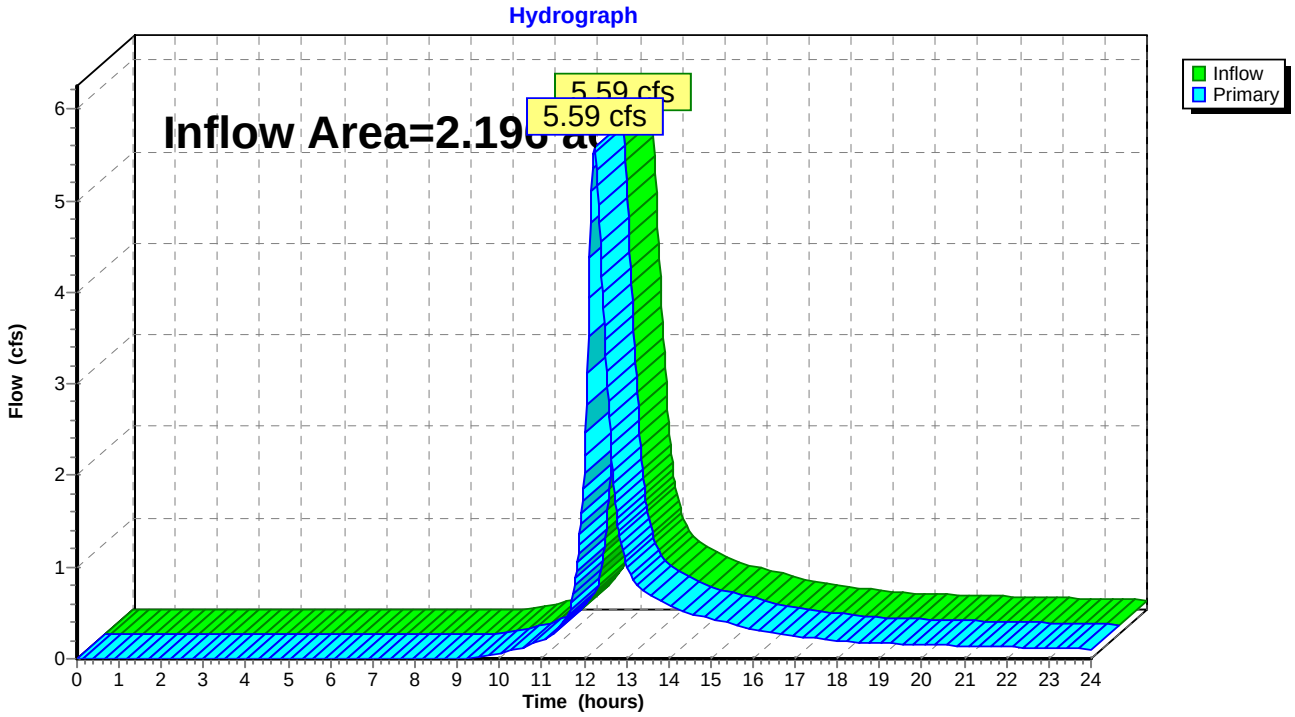
Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
95.68	1,038	96.21	1,112	96.74	1,114
95.69	1,040	96.22	1,112	96.75	1,114
95.70	1,042	96.23	1,112	96.76	1,114
95.71	1,044	96.24	1,112	96.77	1,114
95.72	1,046	96.25	1,112	96.78	1,114
95.73	1,048	96.26	1,112	96.79	1,114
95.74	1,050	96.27	1,112	96.80	1,114
95.75	1,052	96.28	1,112	96.81	1,114
95.76	1,054	96.29	1,112	96.82	1,114
95.77	1,056	96.30	1,112	96.83	1,114
95.78	1,058	96.31	1,113	96.84	1,114
95.79	1,060	96.32	1,113	96.85	1,114
95.80	1,062	96.33	1,113	96.86	1,114
95.81	1,064	96.34	1,113	96.87	1,114
95.82	1,066	96.35	1,113	96.88	1,114
95.83	1,068	96.36	1,113	96.89	1,114
95.84	1,070	96.37	1,113	96.90	1,114
95.85	1,072	96.38	1,113	96.91	1,114
95.86	1,074	96.39	1,113	96.92	1,114
95.87	1,077	96.40	1,113	96.93	1,114
95.88	1,079	96.41	1,113	96.94	1,114
95.89	1,081	96.42	1,113	96.95	1,115
95.90	1,083	96.43	1,113	96.96	1,115
95.91	1,085	96.44	1,113	96.97	1,115
95.92	1,087	96.45	1,113	96.98	1,115
95.93	1,089	96.46	1,113	96.99	1,115
95.94	1,091	96.47	1,113	97.00	1,115
95.95	1,093	96.48	1,113	97.01	1,115
95.96	1,095	96.49	1,113	97.02	1,115
95.97	1,097	96.50	1,113	97.03	1,115
95.98	1,099	96.51	1,113	97.04	1,115
95.99	1,101	96.52	1,113	97.05	1,115
96.00	1,103	96.53	1,113	97.06	1,115
96.01	1,105	96.54	1,113	97.07	1,115
96.02	1,107	96.55	1,113	97.08	1,115
96.03	1,109	96.56	1,113	97.09	1,115
96.04	1,111	96.57	1,113	97.10	1,115
96.05	1,112	96.58	1,113	97.11	1,115
96.06	1,112	96.59	1,113	97.12	1,115
96.07	1,112	96.60	1,113	97.13	1,115
96.08	1,112	96.61	1,113	97.14	1,115
96.09	1,112	96.62	1,113	97.15	1,115
96.10	1,112	96.63	1,114	97.16	1,115
96.11	1,112	96.64	1,114	97.17	1,115
96.12	1,112	96.65	1,114	97.18	1,115
96.13	1,112	96.66	1,114	97.19	1,115
96.14	1,112	96.67	1,114	97.20	**1,115**
96.15	1,112	96.68	1,114		
96.16	1,112	96.69	1,114		
96.17	1,112	96.70	1,114		
96.18	1,112	96.71	1,114		
96.19	1,112	96.72	1,114		
96.20	1,112	96.73	1,114		

Summary for Link 1L: EX Outfall

Inflow Area = 2.196 ac, 8.80% Impervious, Inflow Depth > 3.06" for 25 year event
Inflow = 5.59 cfs @ 12.25 hrs, Volume= 0.560 af
Primary = 5.59 cfs @ 12.25 hrs, Volume= 0.560 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link 1L: EX Outfall

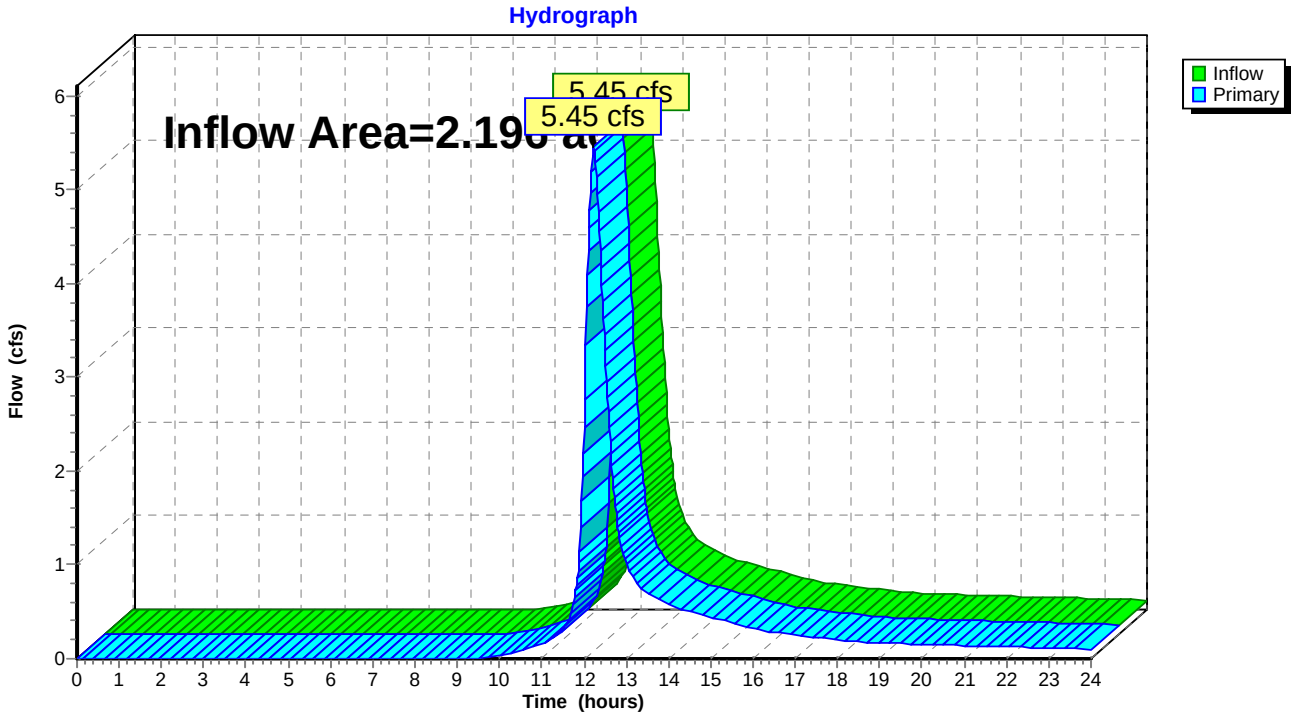


Summary for Link 2L: PR Outfall

Inflow Area = 2.196 ac, 10.67% Impervious, Inflow Depth > 3.03" for 25 year event
Inflow = 5.45 cfs @ 12.23 hrs, Volume= 0.554 af
Primary = 5.45 cfs @ 12.23 hrs, Volume= 0.554 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs

Link 2L: PR Outfall



Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX Basin Runoff Area=95,658 sf 8.80% Impervious Runoff Depth>3.76"
Flow Length=358' Tc=17.5 min CN=68 Runoff=6.90 cfs 0.689 af

Subcatchment 2S: PR Infil #1 Runoff Area=12,494 sf 47.97% Impervious Runoff Depth>5.22"
Tc=5.0 min CN=81 Runoff=1.79 cfs 0.125 af

Subcatchment 6S: PR Infil #2 Runoff Area=5,312 sf 53.99% Impervious Runoff Depth>5.22"
Tc=5.0 min CN=81 Runoff=0.76 cfs 0.053 af

Subcatchment 7S: PR Bypass Basin Runoff Area=83,160 sf 5.07% Impervious Runoff Depth>3.66"
Flow Length=358' Tc=17.5 min CN=67 Runoff=5.82 cfs 0.582 af

Pond 1P: Infil #1 Peak Elev=96.84' Storage=1,114 cf Inflow=1.79 cfs 0.125 af
8.0" Round Culvert n=0.010 L=34.0' S=0.1000 '/' Outflow=1.77 cfs 0.101 af

Pond 5P: Rain Garden Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af

Pond 7P: Infil #2 Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af

Link 1L: EX Outfall Inflow=6.90 cfs 0.689 af
Primary=6.90 cfs 0.689 af

Link 2L: PR Outfall Inflow=6.69 cfs 0.683 af
Primary=6.69 cfs 0.683 af

Time span=0.00-24.00 hrs, dt=0.02 hrs, 1201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 1S: EX Basin Runoff Area=95,658 sf 8.80% Impervious Runoff Depth>4.55"
Flow Length=358' Tc=17.5 min CN=68 Runoff=8.36 cfs 0.832 af

Subcatchment 2S: PR Infil #1 Runoff Area=12,494 sf 47.97% Impervious Runoff Depth>6.11"
Tc=5.0 min CN=81 Runoff=2.08 cfs 0.146 af

Subcatchment 6S: PR Infil #2 Runoff Area=5,312 sf 53.99% Impervious Runoff Depth>6.11"
Tc=5.0 min CN=81 Runoff=0.88 cfs 0.062 af

Subcatchment 7S: PR Bypass Basin Runoff Area=83,160 sf 5.07% Impervious Runoff Depth>4.43"
Flow Length=358' Tc=17.5 min CN=67 Runoff=7.08 cfs 0.705 af

Pond 1P: Infil #1 Peak Elev=97.23' Storage=1,115 cf Inflow=2.08 cfs 0.146 af
8.0" Round Culvert n=0.010 L=34.0' S=0.1000 '/' Outflow=2.06 cfs 0.123 af

Pond 5P: Rain Garden Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af

Pond 7P: Infil #2 Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af

Link 1L: EX Outfall Inflow=8.36 cfs 0.832 af
Primary=8.36 cfs 0.832 af

Link 2L: PR Outfall Inflow=8.02 cfs 0.828 af
Primary=8.02 cfs 0.828 af

NOAA Atlas 14, Volume 10, Version 3
Location name: Weston, Connecticut, USA*
Latitude: 41.1961°, Longitude: -73.346°
Elevation: 201.92 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.365** (0.282-0.466)	**0.425** (0.328-0.543)	**0.524** (0.403-0.670)	**0.605** (0.463-0.780)	**0.718** (0.532-0.954)	**0.803** (0.583-1.08)	**0.891** (0.628-1.24)	**0.985** (0.662-1.40)	**1.11** (0.722-1.63)	**1.22** (0.770-1.80)
10-min	**0.517** (0.399-0.659)	**0.602** (0.465-0.769)	**0.741** (0.571-0.949)	**0.857** (0.657-1.10)	**1.02** (0.754-1.35)	**1.14** (0.827-1.54)	**1.26** (0.889-1.75)	**1.40** (0.940-1.98)	**1.58** (1.02-2.30)	**1.72** (1.09-2.56)
15-min	**0.608** (0.470-0.776)	**0.708** (0.547-0.905)	**0.872** (0.671-1.12)	**1.01** (0.771-1.30)	**1.20** (0.887-1.59)	**1.34** (0.973-1.81)	**1.49** (1.05-2.06)	**1.64** (1.11-2.33)	**1.86** (1.20-2.71)	**2.03** (1.28-3.01)
30-min	**0.845** (0.653-1.08)	**0.985** (0.761-1.26)	**1.21** (0.935-1.56)	**1.40** (1.08-1.81)	**1.67** (1.23-2.21)	**1.87** (1.35-2.51)	**2.07** (1.45-2.86)	**2.28** (1.53-3.23)	**2.56** (1.66-3.73)	**2.77** (1.75-4.11)
60-min	**1.08** (0.837-1.38)	**1.26** (0.975-1.61)	**1.56** (1.20-1.99)	**1.80** (1.38-2.31)	**2.13** (1.58-2.83)	**2.39** (1.73-3.22)	**2.65** (1.86-3.66)	**2.91** (1.96-4.13)	**3.26** (2.11-4.74)	**3.51** (2.22-5.21)
2-hr	**1.39** (1.08-1.76)	**1.64** (1.28-2.08)	**2.05** (1.59-2.61)	**2.40** (1.85-3.06)	**2.87** (2.14-3.79)	**3.23** (2.35-4.33)	**3.59** (2.54-4.95)	**3.99** (2.69-5.62)	**4.53** (2.95-6.56)	**4.96** (3.15-7.30)
3-hr	**1.60** (1.25-2.02)	**1.90** (1.48-2.40)	**2.39** (1.86-3.03)	**2.80** (2.17-3.57)	**3.37** (2.52-4.44)	**3.80** (2.78-5.08)	**4.24** (3.02-5.84)	**4.73** (3.20-6.63)	**5.41** (3.52-7.81)	**5.96** (3.79-8.75)
6-hr	**2.01** (1.58-2.52)	**2.40** (1.89-3.02)	**3.06** (2.39-3.85)	**3.60** (2.80-4.55)	**4.34** (3.27-5.69)	**4.90** (3.62-6.53)	**5.48** (3.93-7.54)	**6.15** (4.18-8.58)	**7.11** (4.64-10.2)	**7.90** (5.04-11.5)
12-hr	**2.47** (1.96-3.08)	**2.98** (2.35-3.71)	**3.80** (2.99-4.76)	**4.49** (3.51-5.64)	**5.43** (4.12-7.08)	**6.13** (4.56-8.14)	**6.88** (4.97-9.43)	**7.75** (5.28-10.7)	**9.01** (5.90-12.8)	**10.1** (6.44-14.6)
24-hr	**2.89** (2.30-3.58)	**3.52** (2.80-4.36)	**4.55** (3.61-5.65)	**5.40** (4.26-6.74)	**6.58** (5.02-8.54)	**7.45** (5.58-9.85)	**8.39** (6.11-11.5)	**9.50** (6.50-13.1)	**11.2** (7.35-15.8)	**12.6** (8.09-18.1)
2-day	**3.22** (2.58-3.96)	**3.99** (3.20-4.91)	**5.25** (4.19-6.48)	**6.30** (4.99-7.81)	**7.74** (5.95-10.0)	**8.80** (6.64-11.6)	**9.96** (7.33-13.6)	**11.4** (7.81-15.6)	**13.6** (8.96-19.1)	**15.5** (9.98-22.1)
3-day	**3.49** (2.81-4.27)	**4.33** (3.48-5.31)	**5.72** (4.58-7.03)	**6.87** (5.47-8.48)	**8.45** (6.52-10.9)	**9.61** (7.28-12.6)	**10.9** (8.05-14.9)	**12.5** (8.57-17.0)	**14.9** (9.85-20.9)	**17.0** (11.0-24.2)
4-day	**3.75** (3.02-4.57)	**4.64** (3.74-5.67)	**6.10** (4.90-7.48)	**7.32** (5.84-9.01)	**8.99** (6.95-11.5)	**10.2** (7.76-13.4)	**11.6** (8.55-15.7)	**13.2** (9.10-18.0)	**15.8** (10.4-22.1)	**18.0** (11.6-25.5)
7-day	**4.49** (3.64-5.45)	**5.47** (4.43-6.64)	**7.06** (5.70-8.61)	**8.39** (6.73-10.3)	**10.2** (7.93-13.0)	**11.6** (8.79-15.0)	**13.0** (9.63-17.5)	**14.8** (10.2-19.9)	**17.4** (11.5-24.2)	**19.6** (12.7-27.7)
10-day	**5.22** (4.25-6.31)	**6.24** (5.08-7.56)	**7.92** (6.42-9.62)	**9.32** (7.50-11.4)	**11.2** (8.74-14.2)	**12.7** (9.64-16.3)	**14.2** (10.5-18.9)	**16.0** (11.1-21.5)	**18.6** (12.4-25.7)	**20.8** (13.5-29.2)
20-day	**7.39** (6.06-8.89)	**8.54** (6.99-10.3)	**10.4** (8.49-12.6)	**12.0** (9.70-14.5)	**14.1** (11.0-17.6)	**15.7** (12.0-20.0)	**17.4** (12.8-22.8)	**19.2** (13.4-25.6)	**21.7** (14.5-29.8)	**23.7** (15.4-33.1)
30-day	**9.19** (7.56-11.0)	**10.4** (8.56-12.5)	**12.4** (10.2-14.9)	**14.1** (11.5-17.0)	**16.4** (12.8-20.4)	**18.2** (13.9-22.9)	**19.9** (14.6-25.8)	**21.8** (15.2-28.9)	**24.2** (16.2-33.1)	**26.1** (17.0-36.3)
45-day	**11.4** (9.41-13.6)	**12.7** (10.5-15.2)	**14.9** (12.2-17.8)	**16.7** (13.6-20.1)	**19.2** (15.0-23.7)	**21.1** (16.1-26.4)	**23.0** (16.9-29.5)	**24.9** (17.5-32.9)	**27.3** (18.3-37.1)	**29.0** (19.0-40.2)
60-day	**13.2** (11.0-15.7)	**14.6** (12.1-17.4)	**16.9** (13.9-20.2)	**18.8** (15.4-22.6)	**21.4** (16.9-26.4)	**23.5** (18.0-29.3)	**25.5** (18.7-32.5)	**27.4** (19.3-36.1)	**29.8** (20.1-40.4)	**31.5** (20.6-43.5)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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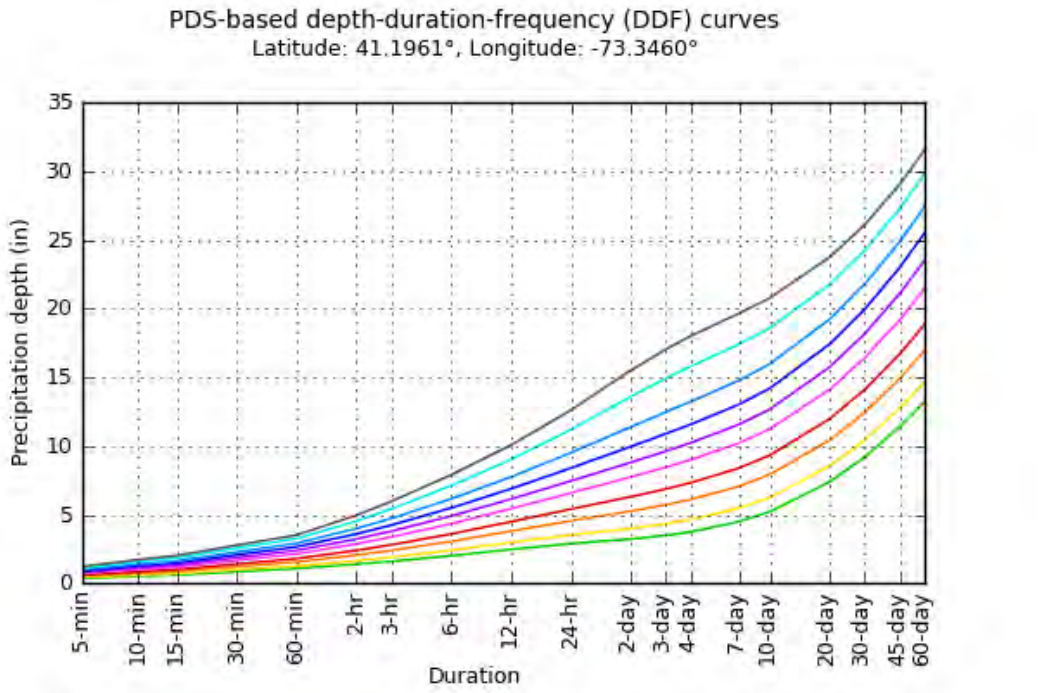
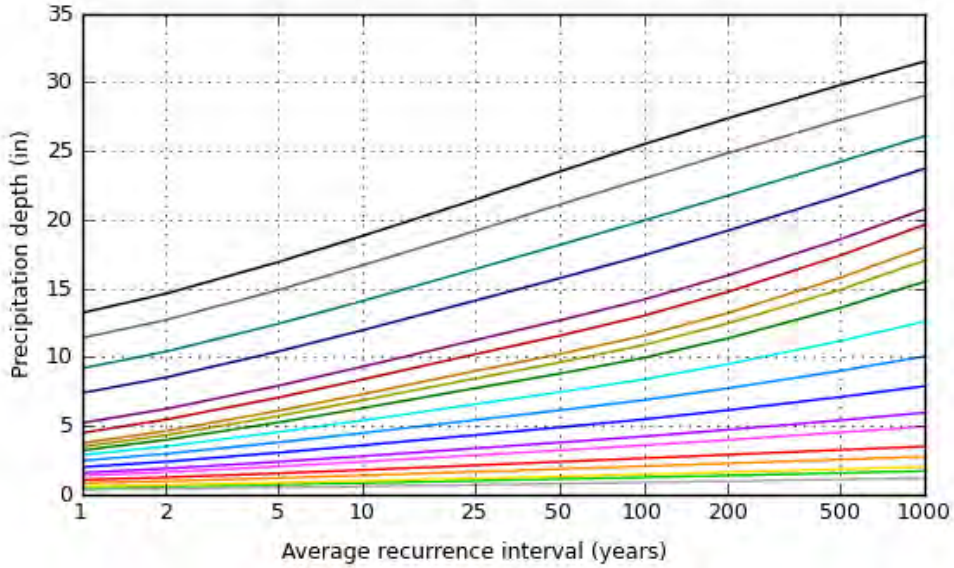
PF graphical





NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Mon Jul 18 14:13:25 2022

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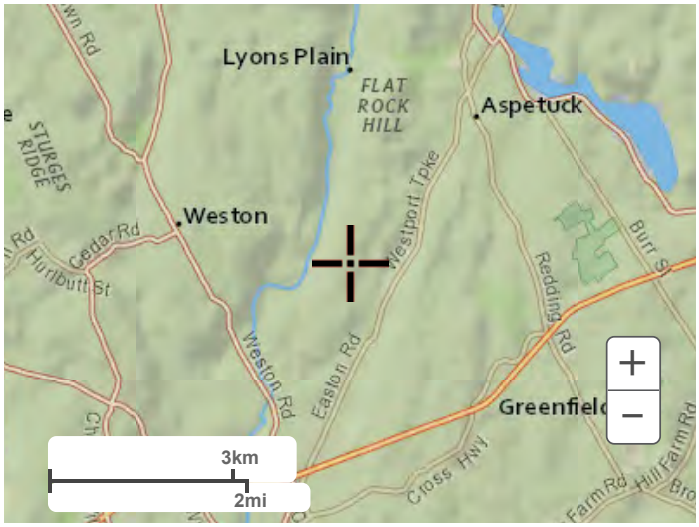
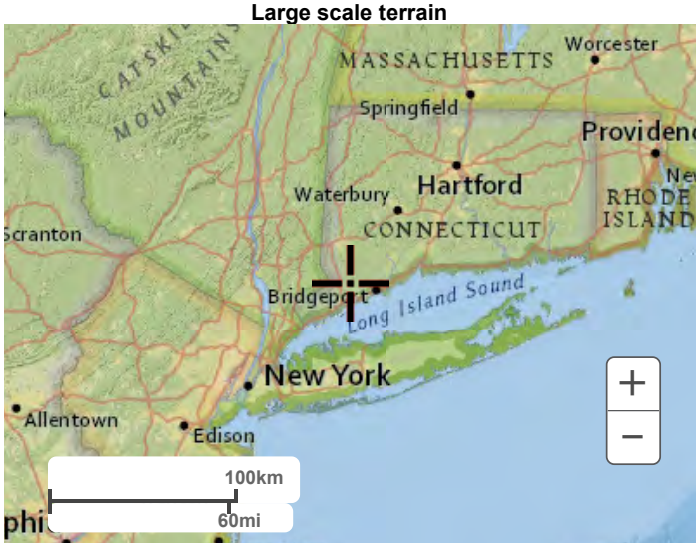
Maps & aerials

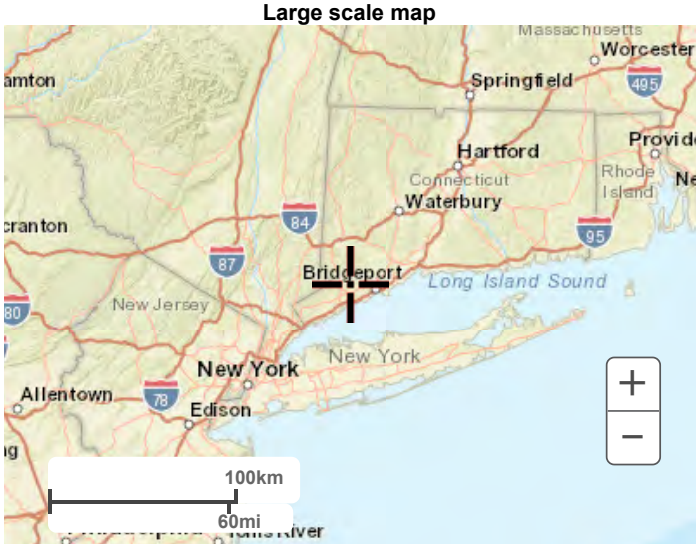
Small scale terrain



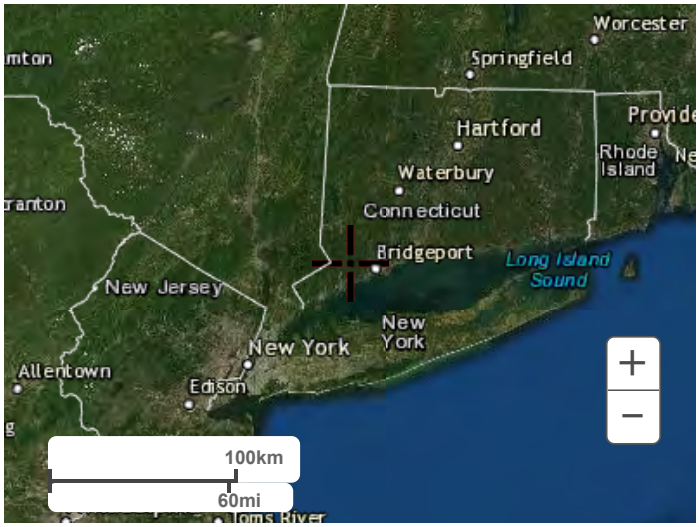
Large scale terrain



Large scale map



Large scale aerial



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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

United States Department of Agriculture

NRCS

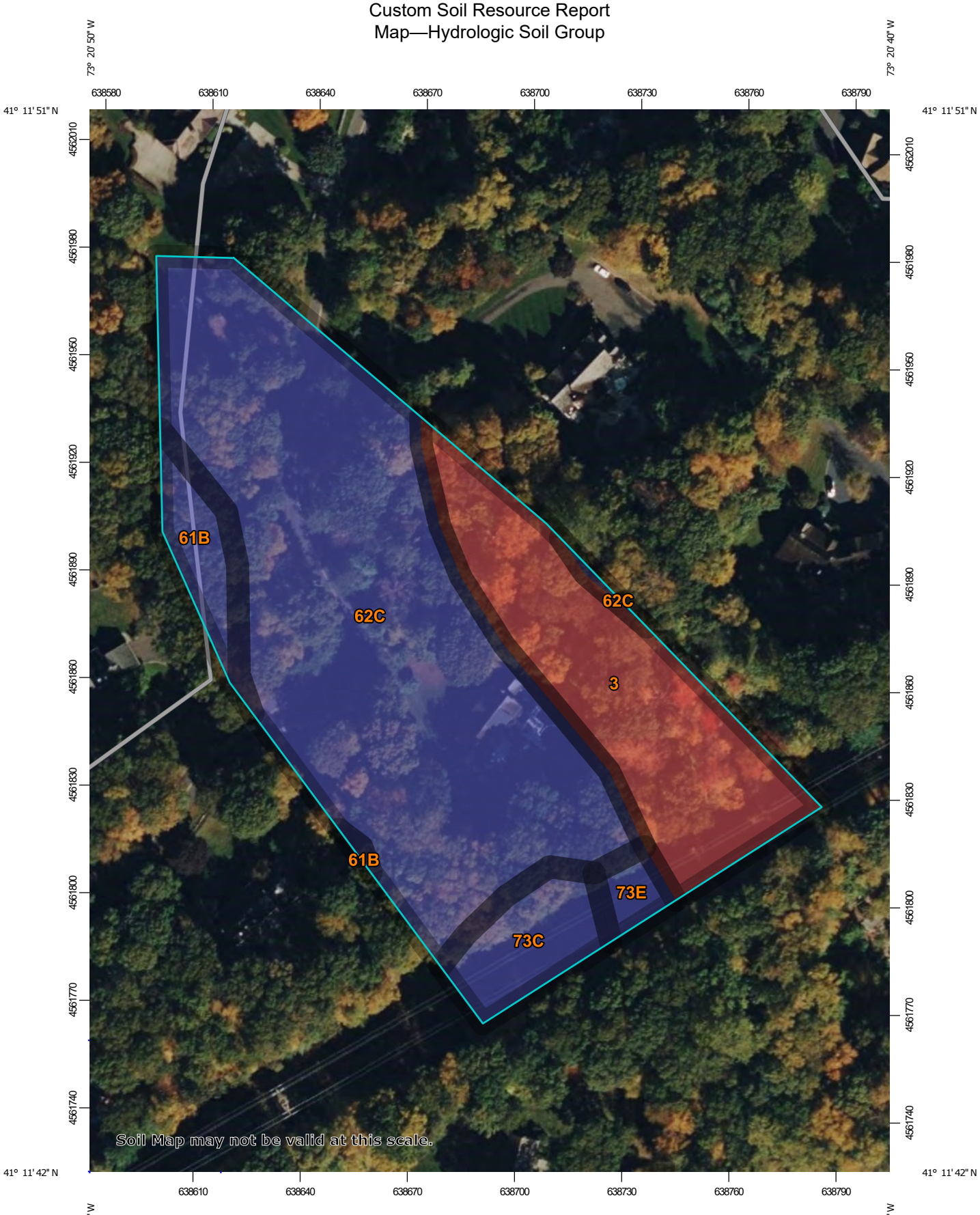
Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut

July 18, 2022

Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:1,440 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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

MAP LEGEND

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

Soils

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

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

Soil Rating Points
- 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

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 21, Sep 7, 2021

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

Date(s) aerial images were photographed: Oct 8, 2020—Oct 14, 2020

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	D	1.2	24.3%
61B	Canton and Charlton fine sandy loams, 0 to 8 percent slopes, very stony	B	0.2	4.4%
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	B	3.0	63.5%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	0.3	6.0%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	B	0.1	1.8%
Totals for Area of Interest			**4.7**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

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SOILS MAPPING & WETLAND/WATERCOURSE DELINEATION REPORT
19 TALL PINES, WESTON, CT 06883

PROPERTY LOCATION AND DESCRIPTION:

LAND USE: **Single Family Residential** ACRES: **2.2±**

ADDRESS: **19 Tall Pines**
Weston, CT 06883

REPORT COMPLETED FOR:

NAME: Jonathon Schonzer & Jessica Wong

MAILING ADDRESS: 19 Tall Pines
Weston, CT 06883

WETLANDS/WATERCOURSE JURISDICTION

The Inland Wetlands and Watercourses Act (Connecticut General Statutes §22a-38) define inland wetlands as "land, including submerged land, which consists of any soil types designated as poorly drained, very poorly drained, alluvial, and floodplain." Water courses are defined in the act as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the state or any portion thereof."

MAPPING AND DELINEATION METHODOLOGY

Soils analysis, as described in this report, is intended as an inventory and evaluation of the existing soil characteristics on the subject property. A first order soil survey in accordance with the principles and practices noted in the USDA publication *Soil Survey Manual* (1993) was completed at the site. Soil units mapped in the field correspond with those in the USDA publication *Soil Survey of Connecticut*.

Wetland identification was based on the presence of poorly drained, very poorly drained, alluvial, or floodplain soils and submerged land (e.g. a pond). These and other soil types were identified by observation of soil morphology (soil texture, color, structure, etc.). To observe the morphology of the property's soils, numerous two-foot deep test pits and/or hand borings were completed throughout the site. Transects were located perpendicular to and at representative points along the perceived boundaries of the wetland areas identified on the property. Soil morphologies were observed at soil sampling points along the transects. Sampling began well outside the bounds of the wetland and continued towards it until inland wetland soils were observed. This point on each transect was marked (flagged) with an orange surveyor's tape labeled "Wetland Boundary". The complete boundary of every wetland area is located along the lines that connect these sequentially numbered boundary points.

Intermittent watercourses were delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: A) evidence of scour or deposits of recent alluvium or detritus, B) the presence of standing or flowing water for a duration longer than a particular storm incident, and C) the presence of hydrophytic vegetation. Surveyor's tape, which was labeled "Wetland Boundary" and sequentially numbered, was placed at critical points to demarcate the boundary of each delineated watercourse.

The wetland and watercourse boundaries are subject to change until adopted by local or state regulatory agencies.

DATE AND CONDITIONS AT TIME OF INSPECTION

DATE: September 21, 2022 INSPECTED BY: Jay Fain

WEATHER: Warm, Sunny

SOIL MOISTURE CONDITIONS: [ ] DRY [X] MOIST [ ] WET FROST DEPTH: N/A SNOW DEPTH: N/A

CERTIFICATION

JAY FAIN, PRINCIPAL, SOIL SCIENTIST

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WETLAND/WATERCOURSE IDENTIFIED

FLAG NUMBERS	WETLAND TYPE	SOIL TYPE	COMMENTS
1-32	**Red Maple Swamp Intermittent Watercourse**	**Rn – Ridgebury, Leicester, and Whitman soils, extremely stony**	Well-Defined

SOIL MAP UNITS

Each soil map unit that was identified on the property represents a specific area on the landscape and consists of one or more soils for which the unit is named. Other soils (inclusions that are generally too small to be delineated separately) may account for 10 to 15 percent of the map unit. The mapped units are identified in the following table by name and symbol and typical characteristics (parent material, drainage class, high water table, depth to bedrock, and slope) of each unit are provided. These are generally the primary characteristics to be considered in land use planning and management. A narrative that defines each characteristic and describes their land use implications follows the table. Complete descriptions of each soil map unit can be found in the *Soil Survey of Connecticut*.

UPLAND SOILS

SOIL		PARENT MATERIAL	SLOPE %	DRAINAGE CLASS	HIGH WATER TABLE			DEPTH TO BEDROCK (in)
SYM.	NAME				DEPTH (ft)	KIND	MOS.	
CrC	Charleton-Chatfield, fine Sandy Loam, very stony	Coarse-loamy melt-out till Coarse-loamy melt-out till	3-15	Well drained Well drained	>6.0 >6.0	-- --	-- --	>72 20-40

WETLAND SOILS

SOIL		PARENT MATERIAL	SLOPE %	DRAINAGE CLASS	HIGH WATER TABLE			DEPTH TO BEDROCK (in)
SYM.	NAME				DEPTH (ft)	KIND	MOS.	
Rn	Ridgebury Leicester Whitman Extremely stony fine sandy loam	Compact Glacial Till Loose Glacial Till Compact Glacial Till	0-8 0-3 0-3	Poorly Drained Poorly Drained Very Poorly Drained	0.0-1.5 0.0-1.5 0.0-0.5	Perched Apparent Perched	Nov-May Nov-May Sep-Jun	>60 >60 >60

SOIL CHARACTERISTICS: DEFINITIONS AND LAND USE IMPLICATIONS

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

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

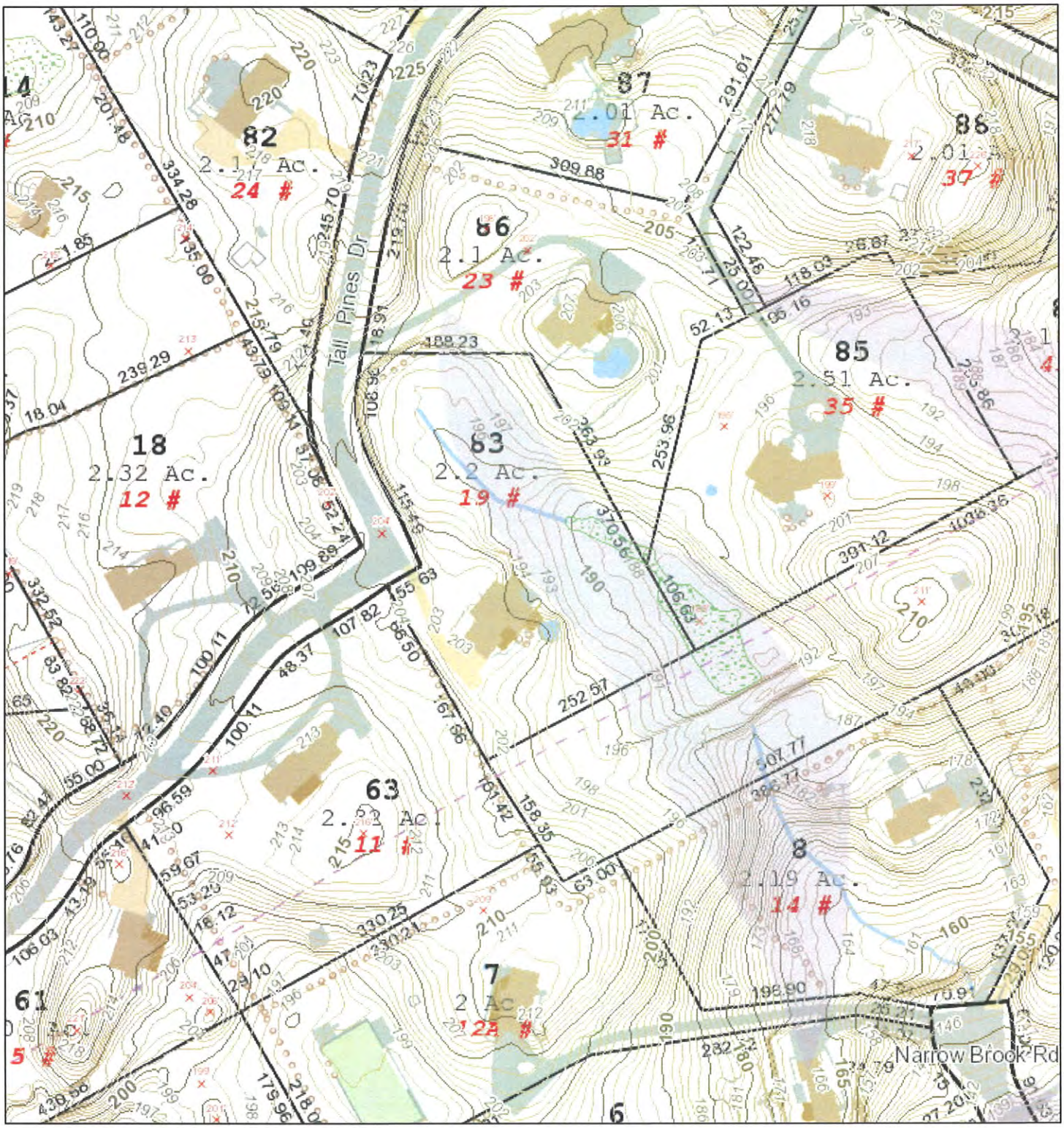
SLOPE: Generally, soils with steeper slopes increase construction costs, increase the potential for erosion and sedimentation impacts, and reduce the feasibility of locating subsurface sanitary disposal facilities.

DRAINAGE CLASS: Drainage class refers to the frequency and duration of periods of soil saturation or partial saturation during soil formation. Seven classes of natural drainage classes exist. They range from excessively drained, where water is removed from the soil very rapidly, to very poorly drained, where water is removed so slowly that free water remains at or near the soil surface during most of the growing season. Soil drainage affects the type and growth of plants found in an area. When landscaping or gardening, drainage class information can be used to assure that proposed plants are adapted to existing drainage conditions or that necessary alterations to drainage conditions (irrigation or drainage systems) are provided to assure plant survival.

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

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

Town of Weston, CT



November 9, 2022

1:1,800

0 0.015 0.03 0.06 mi

0 0.0225 0.045 0.09 km

USDA - NRCS