GREGORY AND ADAMS, P.C.

ATTORNEYS AT LAW
190 OLD RIDGEFIELD ROAD
WILTON, CT 06897

ESTABLISHED 1964

NEW YORK OFFICE:
156 WEST 56TH STREET, NEW YORK, NY 10012
(212) 757-0434

(203) 762-9000 FAX: (203) 834-1628
WWW.GREGORYANDADAMS.COM

PAUL H. BURNHAM
SUSAN L. GOLDMAN
J. VANCE HANCOCK
J. CASEY HEALY
DERREL M. MASON*
MATTHEW C. MASON*
JAMES D'ALTON MURPHY*⊙
KATHLEEN L. ROYLE*
RALPH E. SLATER
ROGER R. VALKENBURGH *

* ALSO ADMITTED IN NEW YORK
⊙ ALSO ADMITTED IN VERMONT

JULIAN A. GREGORY
(1912 - 2002)

THOMAS T. ADAMS
(1929 - 2015)

PLEASE REPLY TO SENDER:
JAMES D'ALTON MURPHY
DIRECT DIAL: 203-571-6309
jmurphy@gregoryandadams.com

July 15, 2021

For Electronic Filing and Hand Delivery
Inland Wetlands Commission
Town Hall Annex
238 Danbury Road
Wilton, CT 06897
Attn: Mr. Mike Conklin – Director of Environmental Affairs

Re: Connecticut Humane Society. – Application for Significant Regulated Activity
Premises: 863-875 Danbury Road, Wilton, Connecticut

Dear Members of the Commission:

We represent the Connecticut Humane Society ("**CHS**"), a 501(c)(3) organization, which is proposing the redevelopment of the Premises. The redevelopment includes the demolition of the existing on-site structures and the construction of a new single-story 14,243± sf commercial building, parking, driveways, walkways and associated site improvements.

In connection therewith, I enclose eleven (11) copies each of the following:

1. Application for Significant Regulated Activity Permit (one original and ten copies);
2. Location Map;
3. Property and Topographic Survey prepared by Ryan and Faulds Land Surveyors dated January 20, 2021;
4. 500' Vicinity Map (EXH-1) prepared by Redniss & Mead ("**R&M**") dated July 1, 2021;
5. Site Development Plan (SE-1) prepared by R&M dated July 1, 2021;
6. Site Grading Plan (SE-2) prepared by R&M dated July 1, 2021;
7. Site Utility Plan (SE-3) prepared by R&M dated July 1, 2021;
8. Sediment and Erosion Control Plan (SE-4) prepared by R&M dated July 1, 2021;

9. Site Septic Design Plan (SE-5) prepared by R&M dated July 1, 2021;

10. Notes & Details (SE-6) prepared by R&M dated July 1, 2021;

11. Details (SE-7) prepared by R&M dated July 1, 2021;

12. Details (SE-8) prepared by R&M dated July 1, 2021;

13. Soil Data (SE-9) prepared by R&M dated July 1, 2021;

14. Site Engineering Report prepared by R&M dated July 1, 2021;

15. Landscape Plan (LP.1) prepared by Environmental Land Solutions, LLC ("**ELS**") dated July 1, 2021;

16. Details and Notes (LP.2) prepared by ELS dated July 1, 2021;

17. Wetlands Evaluation prepared by ELS dated July 1, 2021;

18. Wetland Delineation Report prepared by Pfizer-Jahnig dated July 31, 2020;

19. Gregory and Adams' letter certifying title to the Premises is vested in the Estate of John J. Allegrezza and the Estate of Mary L. Rondos, as owners under a Contract of Sale to the Connecticut Humane Society executed on April 17, 2020 and April 23, 2020.

20. List of Owners of Property adjoining the Premises.

21. List of Project Professionals.

22. Letter signed by the Connecticut Humane Society as applicant and authorized contract purchaser authorizing Gregory and Adams to act as its agent in connection with this application as described in #19 above.

23. Envelopes addressed to adjacent property owners and 2 envelopes addressed to the applicant c/o Gregory and Adams, P.C.

I also enclose:

1. A check payable to the Town of Wilton in the amount of $1,260.00 in payment of the application fee: and

2. A check in the amount of $45.32 for payment of the certificate of mailing fee.

Due to the unavailability of certain members of the design team in August, we respectfully request that this application be accepted at the Commission's hearing scheduled for July 22, 2021, and that the public hearing be opened at the Commission's meeting scheduled for September 9, 2021.

If you have any questions, please contact me.

Respectfully submitted,
Gregory and Adams, P.C.

By: James D'Alton Murphy/KO
James D'Alton Murphy

JDAM/klr
Enclosures
cc: Mr. James Bias – Connecticut Humane Society
Mr. Thomas Quarticelli, Mr. Michael Tyre and Ms. Debra Seay – Amenta Emma Architects
Mr. Michael Galante – Hardesty & Hanover
Mr. Craig Flaherty and Mr. Vincent Hynes – Redniss & Mead
Ms. Kate Throckmorton – Environmental Land Solutions
M:\Clients\Connecticut Humane Society\2021 Applications to Inlands and Planning and Zoning Commissions\IWCSubmissionLetter(6).doc

INLAND WETLANDS
COMMISSION
Telephone (203) 563-0180
Fax (203) 563-0284

TOWN HALL
238 Danbury Road
Wilton, Connecticut 06897

APPLICATION FOR A SIGNIFICANT REGULATED ACTIVITY

For Office Use Only:

WET#_____

Filing Fee $_____

Wilton Land Record Map# _____

Date of Submission _____

Volume # _____ Page # _____

Date of Acceptance_____

Assessor's Map # _____ Lot# _____

APPLICANT INFORMATION:

Applicant Connecticut Humane Society
c/o Gregory and Adams, P.C.

Address 190 Old Ridgefield Road

Wilton, CT 06897

Telephone 203-571-6309

Email jmurphy@gregoryandadams.com

Agent (if applicable) Gregory and Adams, P.C.

Address 190 Old Ridgefield Road

Wilton, CT 06897

Telephone 203-571-6309

Email jumrphy@gregoryandadams.com

PROJECT INFORMATION:

Property Address 863-875 Danbury Road

Site Acreage 18.32 acres +/-

Acres of altered Wetlands On-Site 0.12 acres for mitigation

Cu. Yds. of Material Excavated 15,785 +/-

Linear Feet of Watercourse 1,113 lf

Cu. Yds. of Material to be Deposited 3,800 +/-

Linear Feet of Open Water 100 lf +/-

Acres of altered upland buffer 2.11 acres

Sq. Ft. of proposed and/or altered impervious coverage 65,540 sf (inclusive of porous asphalt, permeable pavers and gravel areas)
Effective impervious area = 28,452 sf (removing porous areas)

Sq. Ft. of disturbed land in regulated area 92,110 sf

APPLICATION REQUIREMENTS:

Is The Site Within a Public Water Supply Watershed Boundary? NO [X] YES* [ ]

Is The Site Within 500 Feet of a Town Boundary?
NO [X] YES* [ ]

* If the answer is yes, then the applicant is responsible for notifying the appropriate water authority and/or adjoining community's Wetlands Department. Instructions for notification are available at the office of the commission.

Project Description and Purpose: The Connecticut Humane Society, a 501(c)(3) organization, is proposing to redevelop the property. The redevelopment includes the demolition of the existing on-site structures and the construction of a new single-story 14,243 sf commercial building, parking, driveways, walkways and associated site improvements.

In addition, the applicant shall provide eleven (11) collated copies of the following information as well as an electronic submission via email to mike.conklin@wiltonct.org & elizabeth.larkin@wiltonct.org **

- [X] A. Written consent from the owner authorizing the agent to act on his/her behalf
- [X] B. A Location Map at a scale of 1" = 800'
- [X] C. *A Site Plan showing existing and proposed features at a scale not to exceed 1" = 40'* accurate to the level of a A-2 property and T-2 topographic surveys
- [X] D. Sketch Plans depicting the alternatives considered See Biological Evaluation prepared by Environmental Land Solutions, LLC
- [X] E. Engineering Reports and Analysis and additional drawing to fully describe the proposed project
- [X] F. Sedimentation and Erosion Control Plan, including the Construction Sequence
- [X] G. Names and addresses of adjoining property owners
- [X] H. A narrative describing, in detail See Biological Evaluation prepared by Environmental Land Solutions, LLC
  - a. the proposed activity
  - b. the alternatives considered
  - c. impacts
  - d. proposed mitigation measures
- [X] I. Soils Report prepared by a Certified Soil Scientist and Wetlands Map prepared by a Registered Land Surveyor
- [X] J. A Biological Evaluation prepared by a biologist or other qualified professional
- [X] K Description of the chemical and physical characteristics of fill material to be used in the Regulated Area
- [X] L. Description and maps detailing the watershed of the Regulated Area
- [X] M. Envelopes addressed to adjacent neighbors, the applicant, and/or agent, with ***certified*** postage and no return address

****Application materials shall be collated and copies of documents more than two pages in length shall be double sided.**

See Section 7 of the Wetlands and Watercourses Regulations of the Town of Wilton for a more detailed description of applications requirements.

The Applicant or his/her agent certifies that he is familiar with the information provided in this application and is aware of the penalties for obtaining a permit through deception, inaccurate or misleading information.

By signing this application, permission is hereby given to necessary and proper inspections of the subject property by the Commissioners and designated agents of the Commission or consultants to the Commission, at reasonable times, both before and after a final decision has been rendered.

Connecticut Humane Society by its Agent, Gregory and Adams, P.C.

Applicant's Signature: James D'Alton Murphy/CO Date: July 15, 2021

Gregory and Adams, P.C.

Agent's Signature (if applicable): James D'Alton Murphy/CO Date: July 15, 2021

By: James D'Alton Murphy

Connecticut Humane Society 863-875 Danbury Road

Environmental Land Solutions, LLC

Landscape Architecture & Environmental Planning
8 Knight Street, Suite 203, Norwalk, CT 06851
Tel: (203) 855-7879 Fax: (203) 855-7836

July 1, 2021

Inlands Wetlands and Watercourses Commission
Town of Wilton
238 Danbury Road
Wilton, CT 06897

Re: Connecticut Humane Society – Application for a Significant Regulated Activity
863 Danbury Road, Wilton, CT

Dear Commission Members:

The Connecticut Humane Society (CHS) retained Environmental Land Solutions, LLC ("**ELS**") to prepare a biological evaluation for the above referenced application for a wetland permit to allow redevelopment of the above-referenced site. This evaluation includes the review of the following documents.

1. "Property and Topographic Survey" depicting 863 Danbury Road prepared by Redniss & Mead ("R&M"), dated January 20, 2021 for Connecticut Humane Society.

2. Site Development Plan set prepared by Redniss & Mead ("R&M") Sheets SE-1 to SE-5, dated July 1, 2021 for Connecticut Humane Society.

3. "Soil Investigation Report" prepared by Mary Jaehnig, dated July 31, 2020.

4. "Drainage Narrative" prepared by R&M, dated July 1, 2021.

This evaluation will focus on the existing natural resources and the effects of the proposed redevelopment on these resources. This evaluation also describes proposed measures designed to minimize development-related impacts to regulated areas and to enhance the site's overall environmental value. ELS staff has conducted several site inspections on the site the last visit was on June 8, 2021.

EXISTING CONDITIONS

The subject property is 18.33± acres in area, located on the west side of Danbury Road, across from New Street. The parcel is located in the RA1 Residential district. Surrounding properties to the west and north are developed single family residences, to the south is

undeveloped State of Connecticut land (in R-1A zone), to the east are single family residences (R-1A) and two parcels zoned General Business (GB) that currently occupied with retail shops. The site has three curb cuts, supports four single family homes (6 buildings), paved and gravel driveways, lawn area, and an active contractor's yard. All existing residences are served by private wells and onsite septic systems. The area immediately west of existing houses has been used for many years as a contractors yard and is still active. The existing site coverage provided by R&M is1.02± acres.

The property's topography is dramatic with high points along the western ridge line that vary between elevation 440 to 480', down to elevations along Route 7 of elevation 340'. The developed area of the site clusters the existing building among a rocky knoll, that then levels out with Route Seven along the eastern edge of the site. Shallow ledge conditions are found throughout the site.

The undeveloped portions of the site is vegetated with second growth deciduous forest. Upland areas are predominately composed of Sugar and Red Maples, but includes Tulip trees, White Oaks, Ash, and Black Birch averaging 12-24" diameter breast height with an open and sparse understory. The understory is dominated by Euonymus, but includes Tartarian, Morrrows's Honeysuckle, Multiflora Rose, Asiatic Bittersweet, Wineberry, Privet and Japanese Barberry. Groundcover plants among the leaf litter include Pennsylvania Sedge, Path Rush, Goldenrod spp., Asters spp, Poison Ivy and Christmas Fern.

Regulated Wetlands and Watercourses

The property is located in the Norwalk River watershed. An unnamed watercourse bisects the property, flowing within a distinct valley from the northwest to the southeast conveying the stormwater from the adjoining properties. The central section of the onsite watercourse is piped in several sections. A riparian wetland, identified by Mary Jaehnig, Soil Scientist, is associated with the watercourse. It is clear over the history of the property that many portions of the wetland resources have been impacted from filling. The remaining wetland has a wooded tree canopy. The piped section of the watercourse runs from a small pond in the northwest that discharges through a culvert on the south side of the contractors yard. A second watercourse discharges from a culvert near route seven that merges with the central watercourse. The watercourse then flows south into the Route Seven drainage system and eventually to the Norwalk River.

The wetland contains an intermittent watercourse within a well-defined swale. The riparian wetland parallels the watercourses on both sides ranging from 3 to 30'± in width. Mary Jaehnig's soils report notes the wetland soils to be Ridgebury, Leicester and Whitman soils.

The riparian wetland vegetation is a predominate tree cover of Red Maples and includes America Elm, White Oaks, Ash, Black Birch and Beech. The understory is primarily nonnative invasive shrubs and includes Japanese Barberry, Japanese knotweed, Phragmites, Euonymus, Tartarian Honeysuckle, but includes Spicebush and Winterberry. Groundcovers within the wetland and along the watercourse include Wineberry, Garlic Mustard,

Pachysandra, lawn, Christmas Fern, Skunk Cabbage, Asiatic Bittersweet and Woodland Fern.

Due to the existing slopes (over 20%) within the 100' upland review areas of the wetland and watercourse, the regulated upland review areas extend beyond the 100' over most of the site except the northeastern, southern, and southwestern areas where the septic system is proposed. Due to the topography and large undeveloped portions of the site, most all of the site's undeveloped areas will remain wooded.

Wetlands Functions

Based upon professional experience and the publication entitled "The Highway Methodology Workbook *Supplement*, Wetland Functions and Values, *A Descriptive Approach*," prepared by the US Army Corps of Engineers, NEDEP-360-1-30a, September 1999, the watercourse and wetland trap sediments. Within the wider more level topography sediment is deposited and surface water is absorbed. Small seasonal ponding areas provide a source of fresh drinking water for wildlife during the spring and fall seasons when the water is running. Vegetation within these wetlands is capable of nutrient uptake and sediment trapping. Within the lower narrower areas of the corridor the watercourse is feed primarily by surface water.

A review of the online CT DEEP NDDB map (December 2020) indicates that the property lies outside of any delineated "State and Federal Listed Species & Significant Natural Communities" area. In addition, ELS staff observed no species of special concern, threatened species or endangered species on or near the site during their site visits.

PROPOSED CONDITIONS:

CHS proposes to remove the existing improvements on the site and develop a new regional center that will be for a variety of functions, occupying areas of the site that are already developed. The new buildings (14,243 ±sf floor area) will be a single story buildings, with parking, outdoor dog walking areas, and include significant wetland restoration areas. The new building will be located in the vicinity of the existing buildings.

The development will be serviced by on site septic and an on-site well. Tree removal will be required within the site development. Paved and building surfaces will increase, however due to the use of porous pavement the effective impervious surface will actually be reduced.

Activities within the upland review areas

Upland and the extended upland review areas overlap most of the site, due to steep slopes within the site. The proposed site work encompasses 2.06±acres (11.2% of the site) of the upland review area, and includes portions of the building's storm drainage improvements, parking and wetland restoration and buffer enhancements. The following is a list of proposed activities in the upland review areas of the site.

Proposed removal of existing improvements

1. Demolition and removal of all existing building.

2. Abandonment and removal of all existing drainage discharges to watercourse.

3. Abandonment and removal of existing septic systems, some in close proximity to the wetland and watercourse.

Proposed new Development

1. 14,243 ± sf new building.

2. One and one-half (1.5) acres of new surfaces for building, driveway, parking and walkways. This is an increase over the 1.02 acre of existing impervious surfaces. However, due to use of pervious pavement, the effective impervious area will be reduced (0.65 acre pervious pavement, 0.85 ac impervious, total new surface pavements is 1.5 ac.). Refer to R&M Drainage narrative for additional information.

3. Two outdoor dog runs /play areas, one behind the building, and a second tot he north of the building.

4. Earthwork and trenching related to the (up the existing dirt road) septic fields in the far southwest area of the site.

Wetland Restoration work

The primary goals for wetland mitigation work include day-lighting a portion of the existing piped watercourse and expanding and enhancing wetland buffer areas within 25' of wetlands. Refer to exhibits prepared by R&M that show pre and post conditions within 25' and 50' of the existing on site sources. These exhibits clearly demonstrate where these areas will be improved. A summary of wetland improvement, are listed below.

5. Day-lighting a 105' ± lf of piped watercourse.

6. Reconstructed a 25' ± width of wetland buffer along both sides of the day-lighted water course, 5250 ±sf.

7. Removal Japanese Knotweed, and restoring a 3:1 (H:V) slope along the length of the southern (560' ±) watercourses, and replanting a 25' buffer along watercourse to the southern lawn 14,000±sf).

8. Replace headwall to pond outlet.

9. The existing impervious coverage reduction within 25' of the wetland area is 7,025 sf. (75%).

10. The impervious coverage reduction within 50' review area is 3,725 sf or 25%,

However, utilizing pervious pavement creates an effective impervious reduction of 9995 sf or 68%.

Stormwater Management and Treatment

The stormwater drainage design is utilizing Low Impact Development (LID) method of pervious pavement to treat and infiltration the surface flows from new paved areas. A smaller landscape and walk area will be collected in catch basins along the north end of the building along the walks, and discharged to the wetlands.

The pervious paved surfaces will be construction with 18" inches of crushed stone encourage gravel to infiltration and treat stormwater flows, a flush curb will be used to mark and define the pavement. When the pervious pavement is saturated any addition flows will overflow to adjoining grass and landscape area where the water will be further filtered and absorbed before reaching the watercourse. Roof drains will be collected and discharge the existing storm system in Route Seven. The overall system will treat the required water quality volume and detain peak flows for the 10 to 25 storm year event. Refer to R&M Engineering report for additional information.

Dog waste Management

The CHS is well versed at handling dog waste and have some proved protocols in place for all their facilities. These outdoor practices will continue to be used to protect not only wetland resources but include dog and people's health.

1. Solid waste will be immediately scooped up and disposed in sealed bags and placed in a dumpster.

2. Liquid waste is allowed to absorption in the soil or surface.

3. At the fenced dog run behind the building, the pervious pavement surface will be set on 12" of sand to aid in absorption and treatment of runoff, as well as, a newly established vegetated buffer that is 30' to 50' in width. Together these treatments are expected to process nutrients before they reach wetland resources.

Wetland Mitigation (Restoration)

The wetland corridor that crosses the site adjacent to the existing developed areas has been historically piped and narrowed over many years. This development has included a significant wetland restoration in the following areas:

1) 450' wetland buffer restoration, along the perimeter of the southern lawn areas,
2) 100' of day lighted watercourse and planted buffer restoration, immediately behind the new building, and
3) the reconstruction of southern outfall to the existing pond.

These enhancements are expected to restore and expand wetland function to this area in the way of nutrient uptake, infiltration, stabilization and wildlife habit.

IMPACTS, MITIGATION MEASURES AND ALTERNATIVES:

Potential Wetland Resource Impacts

Direct Wetland Impacts: Work in the wetland area is limited to restoration and mitigation work. Restoration work will only result in a beneficial impact to the wetland resources by expanding wetland functions and values for the on site wetlands.

Indirect Impacts to Wetland Resources

Short-term Degradation of Water Quality: During construction, short-term water quality impacts, associated with earth disturbance and erosion and sedimentation will be controlled by the use of properly phased, installed and maintained erosion and sediment controls.

Long-term Degradation of Water Quality: No meaningful stormwater treatment currently exists on the properties. The proposed drainage system primarily employs LID methods to disconnect and infiltration storm flows. Limited use of catch basins targeted at those areas north of the building for small areas of sidewalk and landscape areas. This simplified LID method will successfully treat stormwater runoff by trapping pollutants, mitigate thermal pollution, and infiltrating stormwater runoff. The project will be removing all direct discharges to the watercourse that are located in the work area from existing buildings, as well as existing septic systems close to existing wetland resources. The combination of the removal of the direct discharge of runoff into the watercourse, proposed stormwater management plan, and a code complying septic system will improve the quality of the water leaving the site.

Long-term Diminished of Groundwater Recharge: The proposed use of pervious pavement for the parking lot will allow for infiltration and recharging of the groundwater. No long-term impacts relating to diminished groundwater recharge is anticipated from this development.

Alteration of Hydrology: There will be no change to the existing hydrology of the site. All collected stormwater will continue to flow into the watercourse at the south end of the site, toward the Norwalk River.

Naturalized Wooded buffer: The existing wetland buffer will expanded and enhanced with new have planting and control of invasive species.

Wildlife Habitat: Within the development envelop, a small portion of the site's habitat will change from woodland to developed areas. To enhance the site's wildlife habitat, native trees, shrubs and berry-producing plants will be planted along the edge of the site's maintained landscape edge and within the wetland buffer areas. By removing invasive plants expanded native plant and expanded wetland areas, there is expected to be a net gain for wildlife habitat area that support wildlife on the site.

Best Management Practices

The following Best Management Practices ("**BMPs**") have been incorporated into the plans for the proposed development for the purpose of avoiding and/or minimizing potential adverse impacts to regulated areas, including several Low Impact Development ("**LID**") strategies:

a. *erosion and sedimentation controls* - erosion and sedimentation will be controlled by the use of silt fencing to trap sediments within stormwater runoff, anti-tracking pads to remove sediments from construction vehicle tires, and watering of the site as needed to prevent dust.

b. *catch basins fitted with sumps* - designed to improve water quality by trapping sediments from walk and landscape areas. Any sediments will be periodically removed as needed to maintain the basins in proper working order.

c. *pervious pavements* – Pervious asphalt and walk pavers serve as an alternative to traditional pavements and help reduce runoff by infiltrating. The permeable surfaces allow for rain and snow melts to seep directly through to underlying layers of soil and gravel. Permeable pavements reduces runoff by filtering out pollutants that contribute to water pollution, reduce the need for road salt and can reduce construction costs by reducing the need for some conventional drainage features.

d. *planted buffers* - existing upland buffers will be enhanced by removing existing invasive plants (Japanese Barberry and Asiatic Bittersweet) and replanting the disturbance perimeter with native plants. All temporary disturbances areas will be restored with a mix of native shade trees, understory trees, shrubs, and herbaceous plants within the wetland buffer for wildlife habitat and aesthetic purposes. Planted buffers will also aid to maintain water quality by removing nutrient within stormwater runoff by plant uptake (LID);

Alternatives

In the process of developing the proposed site plan several development concepts were considered before the submitted design was finalized. Reduced copies of these plans can be found at the back of this report. These alternatives included:

1. "No Build". The existing survey (dated 2/19/21) is attached for this first alternative. This alternative reflects the existing conditions of the cluster of 4 homes and an active construction yard adjacent to wetland resources that have been historically impinged upon. This alternative provides no wetland improvement and allows the existing uses to be active on the site.

2. Concept "Plan", by Amenta/Emma Architect, dated December 11, 2019. This plan reflecting an early version of development plan for CHS with a new building placed over the existing piped brook, provides an overall increase in coverage and lost opportunities to daylight watercourse.

3. Progress Site Plan by R&M, dated 2-19-21.
   This plan reflects an earlier version of the current site layout with conventional asphalt and stormwater basins for water quality measure. One of the dog runs is located on the western side of the brook, diminishing the wetland enhancement areas and creating an overall increase of impervious areas and less wetland enhancement over the submitted plans.

4. "Concept Plan 4", prepared by ELS, dated July 2021.
   This plan reflects the current layout without the day-lighting of the watercourse. This plan provides an overall reduction of the wetland enhancements over the proposed plan.

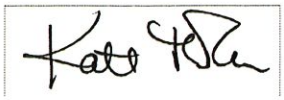
The progress of the above listed design concept plans leads us to the submitted plan set prepared by R&M and ELS. The applicant's team is confident the submitted plan set is superior to the alternatives noted above. The proposed plans provide extensive wetland buffer enhancements and mitigation of previous impacted wetland resources, and provide water quality measures through pervious pavement and vegetation buffers. This design goals create a superior site layout that protects and enhances wetland resources while serving the client's needs and use of the site.

SUMMARY:

The application requests a wetland permit to allow the redevelopment of the 18.3 acre site. A wetland corridor bisects the site. Site work and building construction is proposed within upland review areas. Wetland reconstruction and enhancements are proposed to mitigate past wetland impacts. LID development techniques and BMP's have been incorporated into the site development plans to control and minimize potential secondary impacts to the wetland resources; including, proper sediment and erosion controls, infiltration and treatment of roof and driveway runoff to improve water quality and significant expand native planting and wetland buffers. Collectively these actions will minimize and mitigate potential impacts to wetland resources, during and after construction.

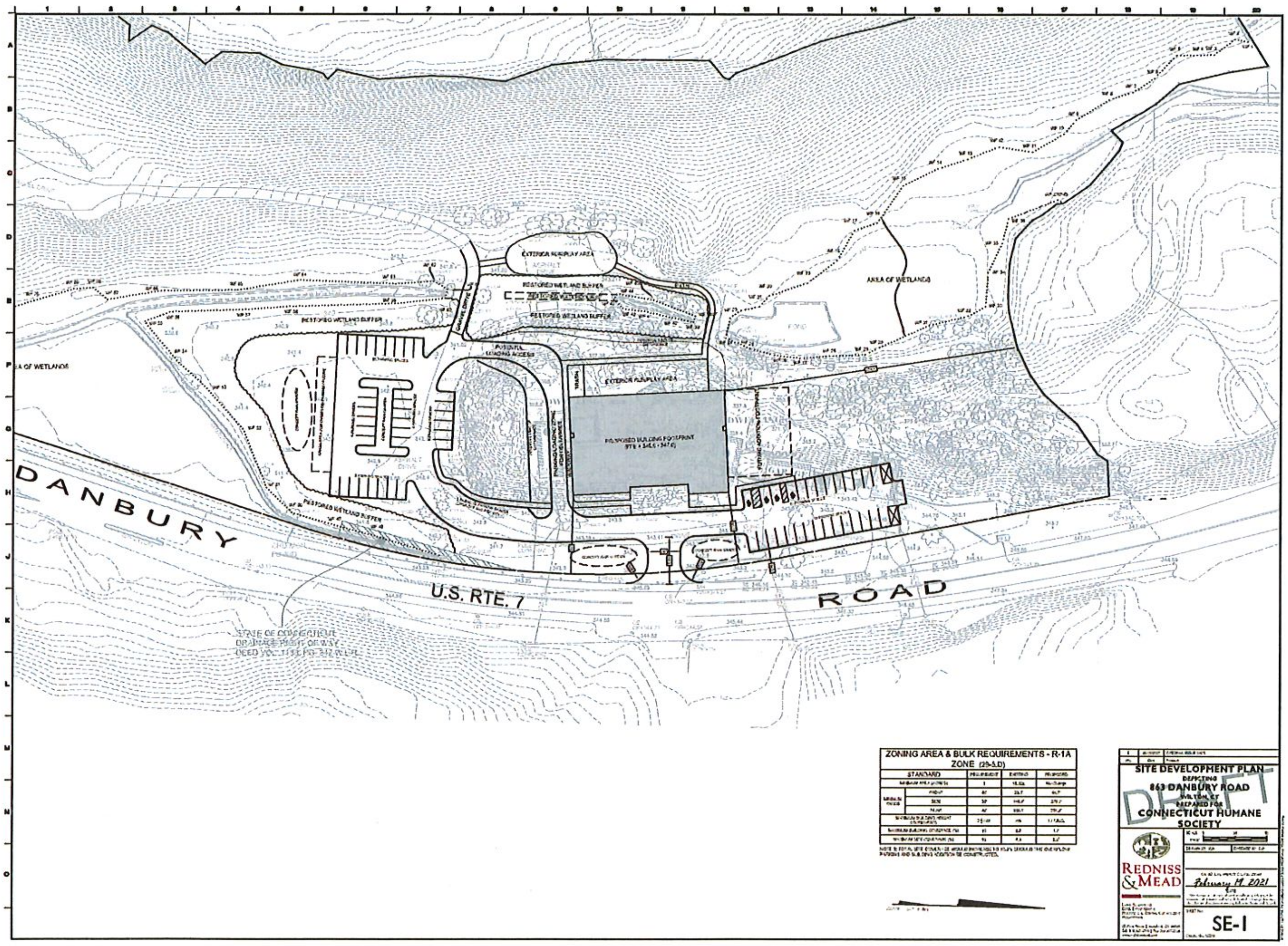
Taken as a whole, the proposed development will protect and maintain the on-site wetland resources and its functions, improve stormwater quality leaving the site, increase groundwater infiltration and restore functions to historically disturbed wetland areas. The proposed development is expected to preserve the existing functions of the wetland while allowing for reasonable use of the site.

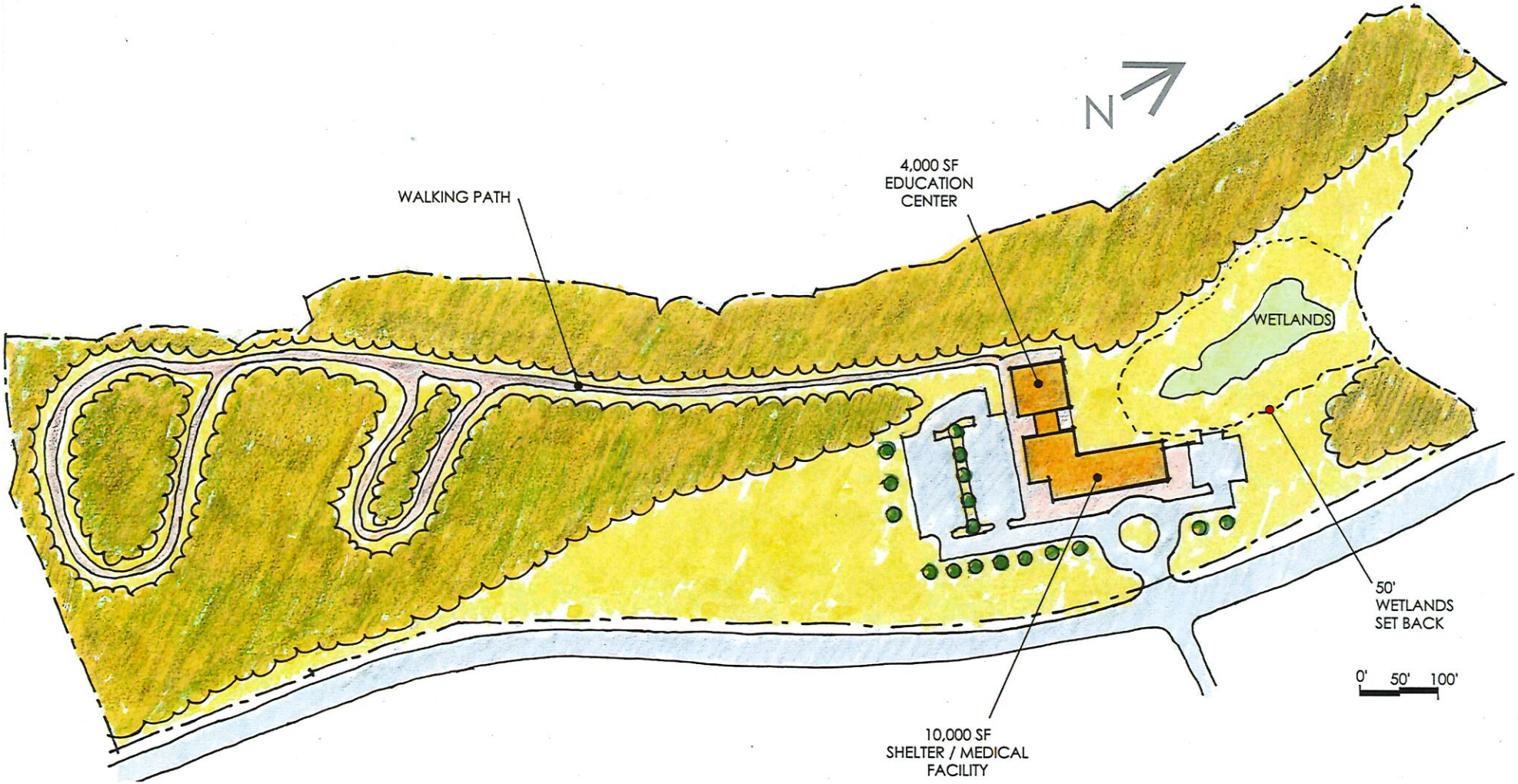
Sincerely,



Kate Throckmorton, ASLA
Registered Landscape Architect, RLA
Certification in Erosion and Sedimentation Control
NOFA Certified Professional

Danbury Road 300-wilton ea


EXTERIOR PLAY AREA
RESTORED WETLAND BUFFER
AREA OF WETLANDS
EXTERIOR PLAY AREA
PROPOSED BUILDING FOOTPRINT
DANBURY
U.S. RTE. 7
ROAD
ZONING AREA & BULK REQUIREMENTS - R-1A ZONE (29-5.D)
STANDARD
SITE DEVELOPMENT PLAN
DEPICTING
863 DANBURY ROAD
WILTON, CT
PREPARED FOR
CONNECTICUT HUMANE SOCIETY
DRAFT
REDNISS & MEAD
February 19, 2021
SE-1



857 DANBURY ROAD | WILTON, CT

DECEMBER 11, 2019

AMENTA|EMMA
ARCHITECTS

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 [illegible]
2. Elevations depicted hereon are based on North American Vertical Datum of 1988 (NAVD88). Computed using GEOID18.
3. Reference is made to Warranty Deed Vol. [illegible], Pg. [illegible] of Wilton Land Records (W.L.R.).
4. Reference is made to Warranty Deed Vol. [illegible], Pg. [illegible] of Wilton Land Records (W.L.R.).
5. Reference is made to Easements and Rights in favor of The State of Connecticut Vol. [illegible], Pg. [illegible] & Vol. [illegible], Pg. [illegible] W.L.R.
6. Reference is made to Map titled "Connecticut State Highway Department Right of Way Map Town of Wilton [illegible]"
7. Reference is made to the following Maps on file with W.L.R.: [illegible]
8. Reference is made to Town of Wilton GIS with regard to supplemental topography outside the delineated limits of field located topography.
9. Reference is made to FEMA Flood Insurance Rate Map (FIRM) Panel No. [illegible], Effective Date [illegible]. Subject Parcel does not lie within a Special Flood Hazard Area.
10. Lot Area = [illegible] S.F. / [illegible] Acres
11. Property lies in R-1A Residence Zone.
12. Limits of Wetland Soils were delineated by [illegible], Soil Scientist and field located by Ryan & Faulds.

10[illegible]_PGTS.dwg

ZONING INFORMATION

ITEM	REQUIRED/ PERMITTED
Zone: R-1A RESIDENCE	
FRONT SETBACK	40'
REAR	40'
SIDE	[illegible]
LOT WIDTH	[illegible]
LOT AREA	[illegible] S.F.
BUILDING HEIGHT	35'
No. STORIES	2.5
LOT COVERAGE-BUILDING	[illegible] S.F.
LOT COVERAGE-SITE	[illegible] S.F.

PROPERTY AND TOPOGRAPHIC SURVEY
PREPARED FOR
CONNECTICUT HUMANE SOCIETY
DEPICTING
663 DANBURY AVENUE (U.S. RTE. 7)
WILTON, CONNECTICUT

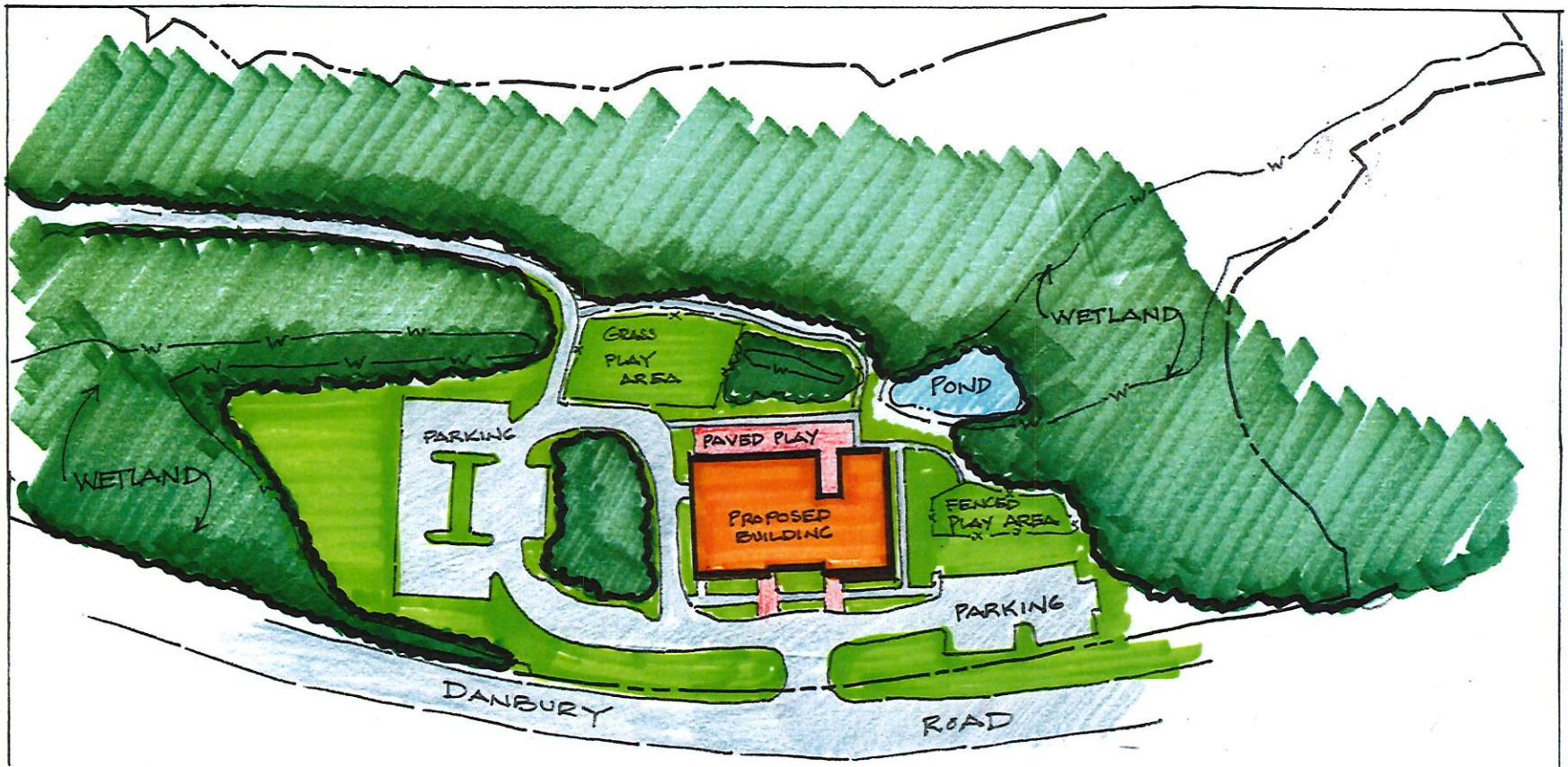
JANUARY 20, 2021

1"=60' (scale bar 0, 60, 120)

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

DOUGLAS R. FAULDS
LAND SURVEYOR CONN. LIC. No. 12362

Ryan and Faulds
LAND SURVEYORS | A Redniss & Mead Company
11 GRUMMAN HILL ROAD
WILTON, CT 06897
PH. (203) 762-9492 ryanandfaulds.com



GRAPHIC SCALE:

0' 25' 50' 100'

July 2021

Concept Plan - 4

Connecticut Humane Society
863 Danbury Road
Wilton, CT

Environmental Land Solutions, LLC
Landscape Architecture & Environmental Planning
8 Knight St., Suite 203, Norwalk, CT 06851
Tel: (203) 855-7879 Fax: (203) 855-7836

PFIZER – JÄHNIG
ENVIRONMENTAL CONSULTING

July 31, 2020

Wetland Delineation Report
Connecticut Humane Society
863 Danbury Road
Wilton, Connecticut

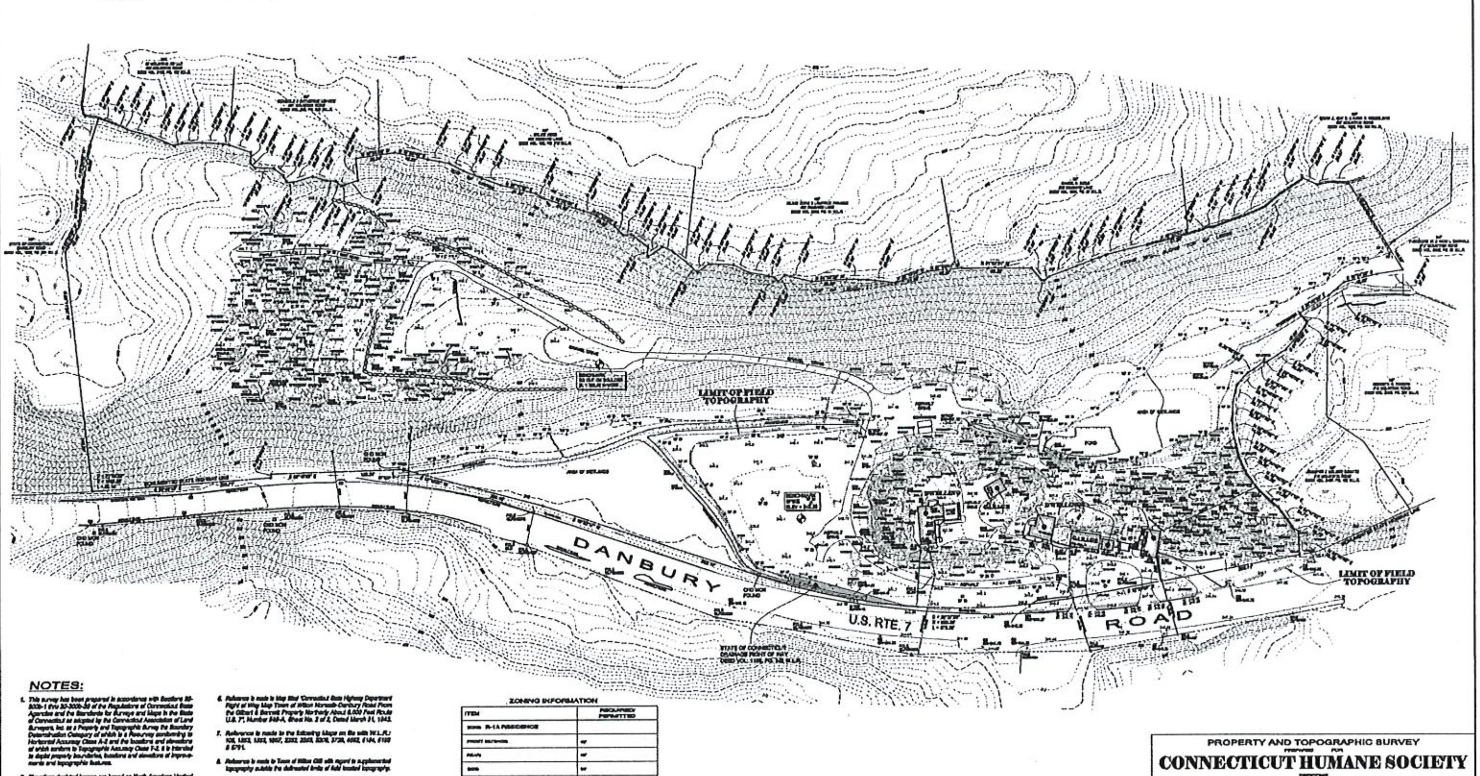
Introduction:
A wetland delineation was conducted at 863 Danbury Road on July 15, 2020 at the request of the Connecticut Humane Society. The 18+ acre parcel is located on the western side of Danbury Road and is developed in the northeast portion.

The topography descends generally from west to east with an upland knoll in the northeast corner. A wetland/watercourse system is located at the base of the steep slopes. The watercourse flows from north to south and flows beneath Danbury Road to the Norwalk River.

Soils:
Soil samples were obtained using a spade and auger. Features noted include color, texture and depth to wetland indicators. Soils were classified according to guidelines established by the USDA NRCS.

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

17 FAIRVIEW AVE. RIDGEFIELD, CT 06877 TEL. (203) 431-8113
MaryJaehnigSoils@gmail.com



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. Elevations depicted hereon are based on North American Vertical Datum of 1988 (NAVD88). Computed using GEOID18.
3. Reference is made to Warranty Deed Vol. 2577, Pg. 185 of Wilton Land Records (W.L.R.).
4. Reference is made to Warranty Deed Vol. 2373, Pg. 325 of Wilton Land Records (W.L.R.).
5. Reference is made to Easements and Rights in favor of The State of Connecticut Vol. 1 165, Pg. 323 & Vol. 1155, Pg. 342 W.L.R.
6. Reference is made to Map titled "Connecticut State Highway Department Right of Way Map Town of Wilton Norwalk-Danbury Road From the Gilbert & Bennett Property Northerly About 5,600 Feet Route U.S. 7", Number 849-A, Sheet No. 2 of 2, Dated March 31, 1943.
7. Reference is made to the following Maps on file with W.L.R.: 105, 1353, 1503, 1957, 2232, 2503, 3305, 3728, 4082, 4144, 6155 & 6791.
8. Reference is made to Town of Wilton GIS with regard to supplemental topography outside the delineated limits of field located topography.
9. Reference is made to FEMA Flood Insurance Rate Map (FIRM) Panel No. 09001C0343F, Effective Date 6/18/2010. Subject Parcel does not lie within a Special Flood Hazard Area.
10. Lot Area = 756,129 S.F. / 14.3333 Acres
11. Property lies in R-1A Residence Zone.
12. Limits of Wetland Soils were delineated by Mary Jaehnig, Soil Scientist and field located by Ryan & Faulds.

ZONING INFORMATION

ITEM	REQUIRED/ PERMITTED
ZONE R-1A RESIDENCE	
FRONT SETBACK	40'
REAR	40'
SIDE	30'
LOT WIDTH	150'
LOT AREA	43,560 S.F.
BUILDING HEIGHT	35'
No. STORIES	2.5
LOT COVERAGE BUILDING	[illegible]
LOT COVERAGE SITE	[illegible]

10068_PSTS.dwg

PROPERTY AND TOPOGRAPHIC SURVEY
PREPARED FOR
CONNECTICUT HUMANE SOCIETY
DEPICTING
663 DANBURY AVENUE (U.S. RTE. 7)
WILTON, CONNECTICUT

0 60 120
1" = 60'

JANUARY 20, 2021

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

DOUGLAS R. FAULDS
LAND SURVEYOR CONN. LIC. No. 13292

Ryan and Faulds
LAND SURVEYORS

11 GRUMMAN HILL ROAD
WILTON, CT 06897
PH. (203) 762-9492 ryanandfaulds.com

The upland soils include Charlton-Chatfield complex of varying slopes and Udorthent, or fill.

Charlton-Chatfield complex consists of the well drained Charlton loam and Chatfield loam in an undulating landscape with stones, boulders and areas of exposed bedrock. The depth to the water table in both loams usually exceeds 6 feet below grade. The depth to bedrock in Charlton loam usually exceeds 5 feet below grade and 20 to 40 inches below grade in Chatfield loam. The upper slopes are reached by a dirt road that ends in a large open field surrounded by woodland.

The Udorthent has been deposited and graded in the flat upland field near Danbury Road. The fill is unknown but boulders and pieces of concrete can be seen on the surface. Fill is also located in the depression between the steep slopes and the developed knoll.

The wetlands consist of Ridgebury, Leicester and Whitman, extremely stony loams. This unit consists of deep, poorly and very poorly drained soils formed in glacial till. Stones and boulders cover much of the surface. The water table is close to the surface from late fall through early spring.

The northern wetland is a scrub/shrub swamp with phragmites. Filling has occurred south of this wetland and the watercourse piped between the small wetland/watercourse and the wetland/watercourse formed between the fill and the base of the slopes. The watercourse enters an undisturbed wooded wetland adjacent to Danbury Road.

Mary Jaehnig

Mary Jaehnig
soil scientist

17 FAIRVIEW AVE. **RIDGEFIELD, CT 06877** **TEL. (203) 431-8113**
MaryJaehnigSoils@gmail.com

GREGORY AND ADAMS, P.C.

ATTORNEYS AT LAW
190 OLD RIDGEFIELD ROAD
WILTON, CT 06897

ESTABLISHED 1964

NEW YORK OFFICE:
156 WEST 56TH STREET, NEW YORK, NY 10012
(212) 757-0434

(203) 762-9000 FAX: (203) 834-1628
WWW.GREGORYANDADAMS.COM

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* ALSO ADMITTED IN NEW YORK
⊙ ALSO ADMITTED IN VERMONT

JULIAN A. GREGORY
(1912 - 2002)

THOMAS T. ADAMS
(1929 - 2015)

PLEASE REPLY TO SENDER:
JAMES D'ALTON MURPHY
DIRECT DIAL: 203-571-6309
jmurphy@gregoryandadams.com

July 14, 2021

Inland Wetlands Commission
Planning and Zoning Commission
Town Hall Annex
238 Danbury Road
Wilton, CT 06897

Re: Connecticut Humane Society – Land Use Applications
Premises: 863-875 Danbury Road, Wilton, CT

Dear Members of the Commissions:

As attorneys for Connecticut Humane Society ("**CHS**"), we hereby certify that:

1. Title to the property located at 863 Danbury Road (Assessor's Map #11, Lot 47) is vested in the Estate of John Allegrezza, c/o Claudette M. Allegrezza, Executrix, by virtue of a Notice issued by the Wilton-Norwalk Probate Court (the "**Court**") dated July 13, 2020 and recorded in Volume 2513 of the Wilton Land Records at Page 463 (a copy of which Notice has been provided to the Commission);

2. Title to the property located at 863 Danbury Road (Assessor's Map #11, Lot 47-1) is vested in the Estate of John Allegrezza c/o Claudette M. Allegrezza, Executrix, by virtue of a Notice issued by the Court dated July 13, 2020 and recorded in Volume 2513 of the Wilton Land Records at Page 463 (a copy of which Notice has been provided to the Commission); and

3. Title to the property located at 875 Danbury Road (Assessor's Map #11, Lot 47-2) is vested in the Estate of Mary L. Rondos c/o Judith Ocsay, Executrix, by virtue of a Notice issued by

the Court dated May 14, 2021 and recorded in Volume 2534 of the Wilton Land Records at Page 614 (a copy of which Notice has been provided to the Commission).

Very truly yours,
GREGORY AND ADAMS, P.C.

By: James D'Alton Murphy
James D'Alton Murphy

JD'AM/ko
Enclosures

Doc ID: 001198810001 Type: LAN
BK 2513 PG 463

RETURN TO

NOTICE FOR LAND RECORDS/
APPOINTMENT OF FIDUCIARY
PC-251 REV. 4/18

STATE OF CONNECTICUT

COURT OF PROBATE

COURT OF PROBATE, Norwalk - Wilton Probate Court	**DISTRICT NO. PD51**
ESTATE OF John J. Allegrezza (20-00310)	DATE OF NOTICE July 13, 2020

DATE OF DEATH	PLACE WHERE LAST DWELT	
June 03, 2019	863 Danbury Road Wilton, CT 06897	DIED TESTATE

FIDUCIARY [*Name, address, and telephone number*]

Claudette M. Allegrezza, 869 Danbury Road, Wilton, CT 06897, (203)885-3228

FIDUCIARY'S POSITION OF TRUST	DATE OF APPOINTMENT
Executrix	7/13/2020

This notice is made and caused to be recorded in the land records of the town wherein the deceased was the owner of real property, or any interest therein, or a mortgage or a lien upon real property.

Stephanie Bergamo, Deputy Chief Clerk

Certified True Copy

COURT SEAL

Judge/Clerk

Received for Record at Wilton, CT
On 07/31/2020 At 2:19:00 pm

Gloria A. Kolbrook

Doc ID: 002982380002 Type: LAN
BK 2534 PG 614-615

RETURN TO:

CERTIFICATE RELEASING
LIENS (NON-TAXABLE ESTATES)
PC-258 REV. 4/18

STATE OF CONNECTICUT

COURT OF PROBATE

NOTE: File with the town clerk in the town where the real property is situated.

COURT OF PROBATE, Norwalk - Wilton Probate Court DISTRICT NO. PD51	
ESTATE OF Mary Rondos, AKA Mary L. Rondos, AKA Mary Lucy Rondos	DATE OF DEATH March 31, 2020

PROPERTY ADDRESS
863-875 Danbury Road, Wilton, CT 06897

MORE PARTICULARLY DESCRIBED AT:
VOLUME/PAGE 507/272 OF THE Wilton LAND RECORDS

This is to certify that satisfactory evidence has been presented to this court that no Connecticut estate tax will be due and the statutory probate fee for the above- referenced estate has been paid in full.

The court releases the following liens with respect to the decedent's interest in each piece of real property listed above:

1. Lien for estate tax due the State of Connecticut in accordance with C.G.S. section 12-398 (e); and

2. Lien for statutory probate fees due the State of Connecticut.

Dated on May 14, 2021.

Douglas Stern, Judge

Certified True Copy

COURT SEAL

Judge/Clerk

FOR COURT USE ONLY

Sent to: GEORGE KONTOGIANNIS Date sent: May 14, 2021

OPINION RE: CONNECTICUT
ESTATE TAX DUE
PC-255 REV. 1/18

STATE OF CONNECTICUT
COURT OF PROBATE

COURT OF PROBATE, Norwalk - Wilton Probate Court **DISTRICT NO. PD51**

ESTATE OF
Mary Rondos, AKA Mary L. Rondos, AKA Mary Lucy Rondos (20-00322)

ORIGINAL CERTIFICATE

This is to certify that:

The decedent resided in this district at the time of his or her death. A copy of the Connecticut estate tax return has been filed in this court. The decedent's taxable estate is less than or equal to the applicable amount that is exempt from the Connecticut estate tax under C.G.S. section 12-392.

ACCORDINGLY,

Pursuant to C.G.S. section 12-392(b)(3)(B), as amended, it is the opinion of the undersigned that no Connecticut estate tax is due.

Dated at: Norwalk, Connecticut on May 14, 2021.

Douglas Stern, Judge

Court Seal

Sent to: GEORGE KONTOGIANNIS
Date: May 14, 2021

DO NOT record this form on the land records.

Received for Record at Wilton, CT
On 06/16/2021 At 1:12:00 pm

Gloria A. Kolarik

Connecticut Humane Society
Application for Significant Regulated Activity Permit

Premises: 863-875 Danbury Road, Wilton, Connecticut
(Assessor's Map #11 - Lots #47, 47-1 and 47-2)

Owners of Property Adjoining the Premises

Map / Lot Number	Owner Name Property Address	Mailing Address (if different)
11-38	Ehtan Mena Vanessa L. Ingersoll 10 New Street Wilton, CT 06897	
11-39	Town of Wilton 872 Danbury Road Wilton, CT 06897	238 Danbury Road Wilton, CT 06897
11-40	Town of Wilton 31 New Street Wilton, CT 06897	238 Danbury Road Wilton, CT 06897
11-41	Town of Wilton 49 New Street Wilton, CT 06897	238 Danbury Road Wilton, CT 06897
11-42	Dorinda A. Traski Stephen D. Traski 856 Danbury Road Wilton, CT 06897	
11-43	Victor Muniz Cheryl Muniz 852 Danbury Road Wilton, CT 06897	
11-44	FOAD LLC 846 Danbury Road Wilton, CT 06897	71 Clifton Place Bridgeport, CT 06606
11-45	William Tait Marion Tait 834 Danbury Road Wilton, CT 06897	
11-46	Scott Tait Jeri Tait 822 Danbury Road Wilton, CT 06897	
11-46-1	Mark C. Bennett Michele J. Bennett 27 Sunset Hill Road Wilton, CT 06897	

11-46-2	Thomas Masone Virginia Masone 28 Sunset Hill Road Wilton, CT 06897	
11-48	Cynthia Forrester 11 Mountain Road Wilton, CT 06897	
11-48-1	Jennifer Donath Holger Donath 15 Mountain Road Wilton, CT 06897	
11-48-2	Kenneth R. Pokora 13 Mountain Road Wilton, CT 06897	
11-51	Carlos DeJesus Chanel DeJesus 17 Mountain Road Wilton, CT 06897	
11-52	Brian J. Kesselman Amy B. Kesselman Aviva R. Kesselman 27 Mountain Road Wilton, CT 06897	
11-53	Daniel H. Berg 20 Irmgard Lane Wilton, CT 06897	
11-54	Xiumei Song Lampros Panagis 32 Irmgard Lane Wilton, CT 06897	
11-55	Bruce Yeko 33 Irmgard Lane Wilton, CT 06897	PO Box 496 Georgetown, CT 06829
24-15	State of Connecticut Danbury Road Wilton, CT 06897	450 Capital Avenue Hartford, CT 06134
24-18	Town of Wilton Danbury Road Wilton, CT 06897	238 Danbury Road Wilton, CT 06897
25-15	Gonzolo Ugarte Catherine Ugarte 81 Mountain Road Wilton, CT 06897	
25-15-1	Daniel Spezzano 85 Mountain Road Wilton, CT 06897	

Connecticut Humane Society

Town of Wilton Land Use Applications

Premises: 863-875 Danbury Road, Wilton, CT

List of Project Professionals

1.	Contract Purchaser/Applicant	Connecticut Humane Society c/o James Bias Executive Director Mailing Address: 701 Russell Road Newington, CT 06111 jbias@cthumane.org (469) 383-1525 Address for Application: c/o Gregory and Adams, P.C. 190 Old Ridgefield Road Wilton, CT 06897 (203) 571-6304
2.	Surveyor	Mr. Douglas R. Faulds Ryan and Faulds Land Surveyors 11 Grumman Hill Road Wilton, CT 06897 (203) 762-9492 d.faulds@rednissmead.com
3.	Engineer	Mr. Craig J. Flaherty Mr. Vincent Hynes Redniss & Mead 22 First Street Stamford, CT 06905 (203) 327-0500 c.flaherty@rednissmead.com v.hynes@rednissmead.com
4.	Landscape Architect	Ms. Kate Throckmorton Environmental Land Solutions, LLC 8 Knight Street Norwalk, CT 06851 (203) 855-7879 kate@elsllc.com

5.	Architect	Mr. Tom Quarticelli Ms. Debra Seay Amenta Emma Architects, P.C. 242 Trumbull Street, Suite 201 Hartford, CT 06103 (860) 549-4725 tquarticelli@amentaemma.com dseay@amentaemma.com
6.	Traffic Engineer	Mr. Michael Galante Mr. Steve Cipolla Hardesty and Hanover, LLC 41 Ruane Street Fairfield, CT 06824 (203) 255-3100 mgalante@hardestyhanover.com scipolla@hardestyhanover.com
7.	Attorney	James D'Alton Murphy, Esq. Kathleen Royle, Esq. Gregory and Adams, P.C. 190 Old Ridgefield Road Wilton, CT 06897 (203) 762-9000 jmurphy@gregoryandadams.com kroyle@gregoryandadams.com

GREGORY AND ADAMS, P.C.

ATTORNEYS AT LAW
190 OLD RIDGEFIELD ROAD
WILTON, CT 06897

ESTABLISHED 1964

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* ALSO ADMITTED IN NEW YORK
⊙ ALSO ADMITTED IN VERMONT

JULIAN A. GREGORY
(1912 - 2002)

THOMAS T. ADAMS
(1929 - 2015)

PLEASE REPLY TO SENDER:
JAMES D'ALTON MURPHY
DIRECT DIAL: 203-571-6309
jmurphy@gregoryandadams.com

May 20, 2021

By E-Mail Only
Connecticut Humane Society
Attn: Mr. James Bias, Executive Director

Re: Connecticut Humane Society – Land Use Applications
Premises: 863-875 Danbury Road, Wilton, Connecticut

Dear Mr. Bias:

As you know, we are in the process of preparing land use applications to various Town of Wilton and State of Connecticut and other government agencies, if applicable. These agencies require written authorization from the applicant and the property owner authorizing Gregory and Adams, P.C to act as its agent in connection with any and all land use matters involving the subject properties. In that you have been authorized by the terms of the Purchase and Sale Agreement to pursue these applications, please sign a copy of this letter as applicant, and on behalf of the owners, and return it to me by email.

Very truly yours,

James D'Alton Murphy
James D'Alton Murphy

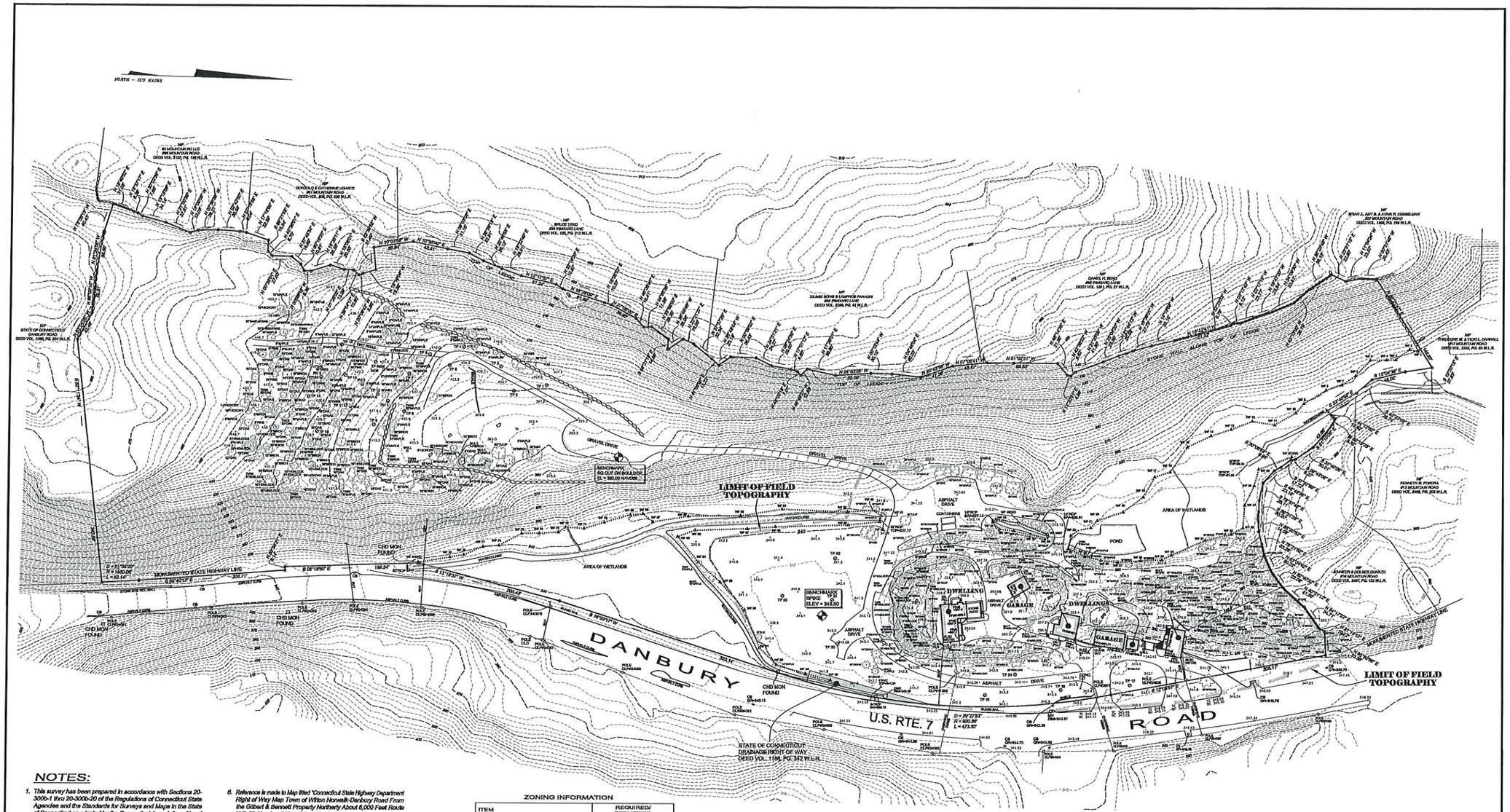
JD'AM/ko

The undersigned hereby authorizes Gregory and Adams, P.C. to act as its agent in connection with the above-referenced matters.

Connecticut Humane Society

By: _____
James Bias
Its: Executive Director
Duly Authorized

LandUse/Clients/ConnecticutHumaneSociety/2021ApplicationstoIWCandPZC/WorkingFile/AuthorizationLtr.applicantandowner



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. *Elevations depicted hereon are based on North American Vertical Datum of 1988 (NAVD88). Computed using GEOID18.*
3. *Reference is made to Warranty Deed Vol. 2373, Pg. 152 of Wilton Land Records (W.L.R.).*
4. *Reference is made to Warranty Deed Vol. 2373, Pg. 223 of Wilton Land Records (W.L.R.).*
5. *Reference is made to Easements and Rights in favor of The State of Connecticut Vol. 1169, Pg. 323 & Vol. 1188, Pg. 342 W.L.R.*
6. *Reference is made to Map titled "Connecticut State Highway Department Right of Way Map Town of Wilton Norwalk-Danbury Road From the Gilbert & Bennett Property Northerly About 6,000 Feet Route U.S. 7", Number 548-A, Sheet No. 2 of 2, Dated March 31, 1943.*
7. *Reference is made to the following Maps on file with W.L.R.: 105, 1853, 1833, 1857, 2232, 2383, 3208, 3728, 4582, 5184, 5193 & 5791.*
8. *Reference is made to Town of Wilton GIS with regard to supplemented topography outside the delineated limits of field located topography.*
9. *Reference is made to FEMA Flood Insurance Rate Map (FIRM) Panel No. 0900 1C0243F, Effective Date 6/16/2010. Subject Parcel does not lie within a Special Flood Hazard Area.*
10. *Lot Area = 798,123 S.F. / 18.3223 Acres*
11. *Property lies in R-1A Residence Zone.*
12. *Limits of Wetland Soils were delineated by Mary Jasinski, Soil Scientist and field located by Ryan & Faulds.*

ZONING INFORMATION

ITEM	REQUIRED/ PERMITTED
ZONE: R-1A RESIDENCE	
FRONT SETBACK:	40'
REAR:	40'
SIDE:	30'
LOT WIDTH:	150'
LOT AREA:	40,000 S.F.
BUILDING HEIGHT:	30'
No. STORIES:	2.5
LOT COVERAGE- BUILDING:	10% = 79,812 S.F.
LOT COVERAGE- SITE:	15% = 119,718 S.F.

PROPERTY AND TOPOGRAPHIC SURVEY

PREPARED FOR

CONNECTICUT HUMANE SOCIETY

DEPICTING

863 DANBURY AVENUE (U.S. RTE. 7)
WILTON, CONNECTICUT

0 60 120
1"=60'

JANUARY 20, 2021

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

DOUGLAS R. FAULDS
LAND SURVEYOR CONN. LIC. No. 13292

Ryan and Faulds
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11 GRUMMAN HILL ROAD
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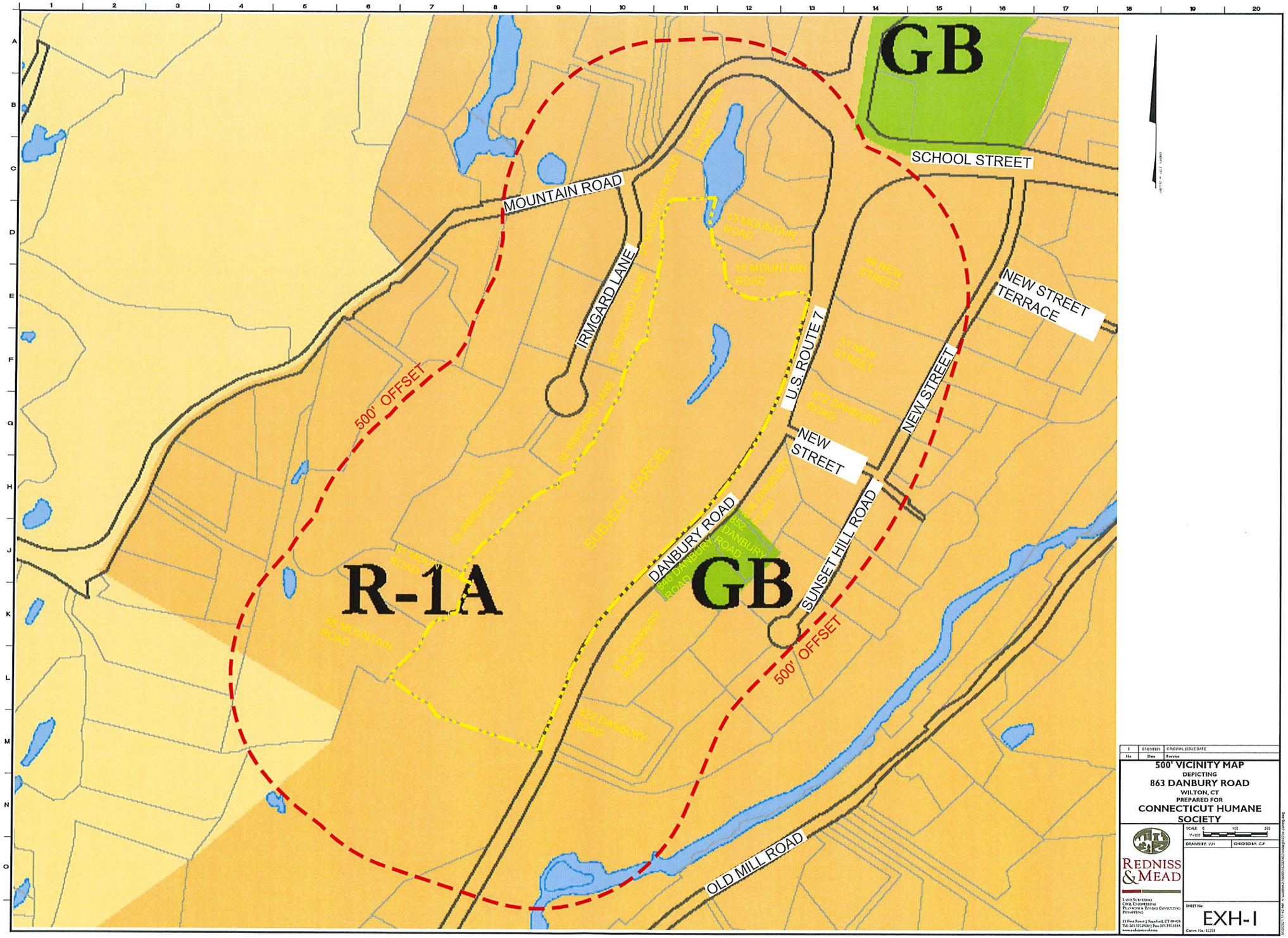
Ph. (203) 762-9492 ryanandfaulds.com

10258_PSTS.dwg



No	Date	Revision
1	07/01/2021	ORIGINAL ISSUE DATE

500' VICINITY MAP
DEPICTING
863 DANBURY ROAD
WILTON, CT
PREPARED FOR
CONNECTICUT HUMANE SOCIETY

SCALE: 0 100 200
1"=100'

DRAWN BY: JJH | CHECKED BY: CJF

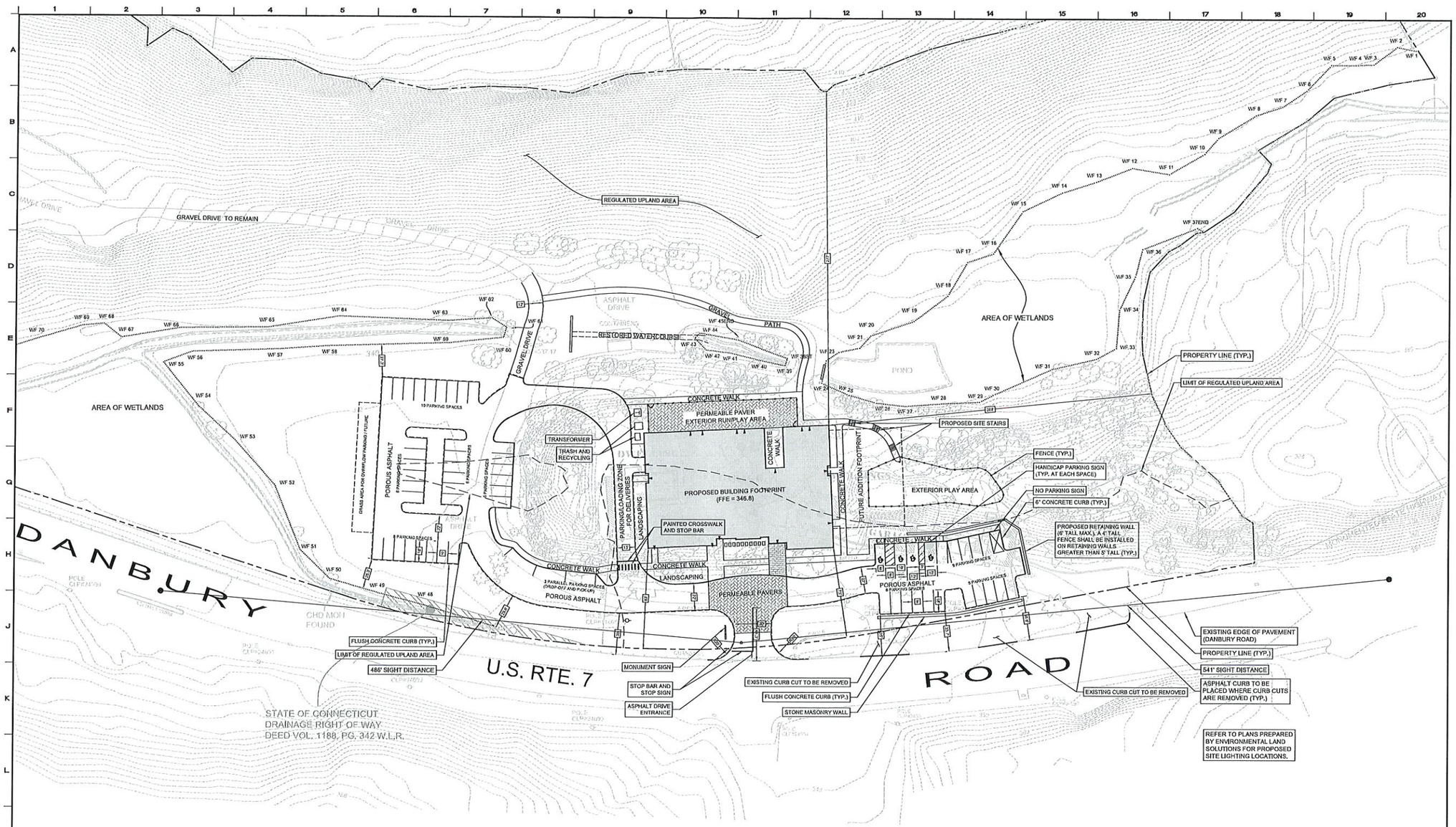
REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

22 First Street | Stamford, CT 06905
Tel: 203.327.0500 | Fax: 203.327.1511
www.redniss.com

SHEET No:
EXH-1

Comm. No.: 12253



PROPOSED LEGEND

- PROPERTY LINE
- LIMIT OF WETLANDS
- 100 LIMIT OF REGULATED UPLAND
- FLUSH CURB
- TRANSITION / 6" TALL CURB
- RETAINING WALL
- PROPOSED BLDG. FOOTPRINT

ZONING AREA & BULK REQUIREMENTS - R-1A ZONE (29-5.D)

STANDARD		REQUIREMENT	EXISTING	PROPOSED
MINIMUM AREA (ACRES)		1	15.32±	No Change
MINIMUM YARDS	FRONT	40'	33.3'	75'
	SIDE	30'	148.9'	269'
	REAR	40'	268.1'	277'
MAXIMUM BUILDING HEIGHT (STORIES/FEET)		2½/35'	n/a	1/24'
MAXIMUM BUILDING COVERAGE (%)		10	0.5	1.8
MAXIMUM SITE COVERAGE (%)		15	6.4	6.7
MAXIMUM FLOOR AREA (29-5.A.3.) (SQUARE FEET)		23,750*		14,243±

*PENDING TEXT AMENDMENT

NORTH ON GRID

No.	Date	Revision
1	07/01/2021	ORIGINAL SUBMISSION

SITE DEVELOPMENT PLAN
DEPICTING
863 DANBURY ROAD
WILTON, CT
PREPARED FOR
CONNECTICUT HUMANE SOCIETY

SCALE: 0 30 60
1"=30'

DRAWN BY: VJH | CHECKED BY: CJF

CRAIG J. FLAHERTY CT. P.E. 21115
July 1, 2021
DATE

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SHEET No.
SE-1

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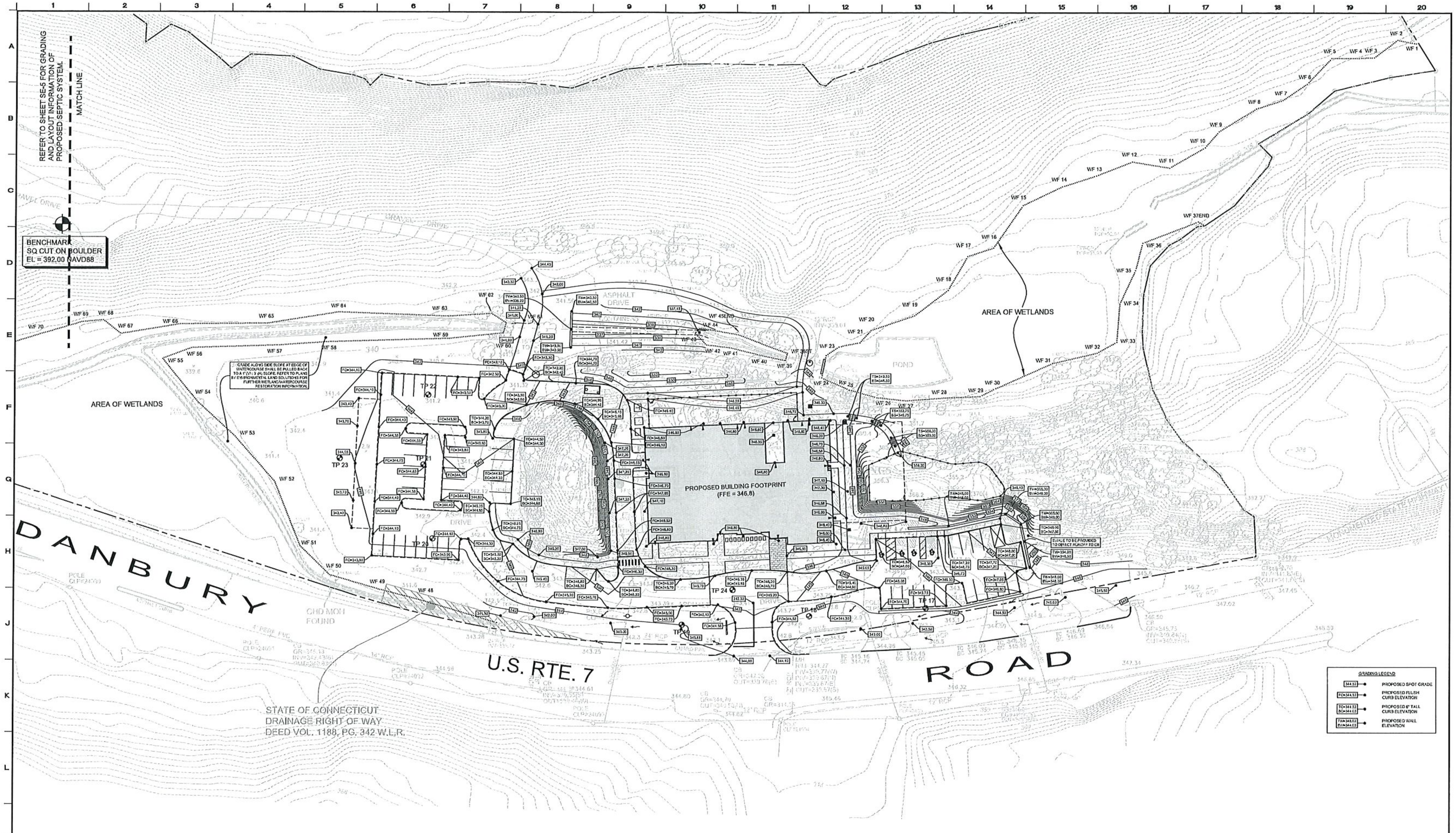

No.	Date	Revision
1	07/01/2021	ORIGINAL SUBMISSION

SITE GRADING PLAN
DEPICTING
863 DANBURY ROAD
WILTON, CT
PREPARED FOR
CONNECTICUT HUMANE SOCIETY

SCALE: 1"=30' (0 — 30 — 60)

DRAWN BY: V.H CHECKED BY: C.F

CRAIG J. FLAHERTY CT. P.E. 21149
July 1, 2021
DATE

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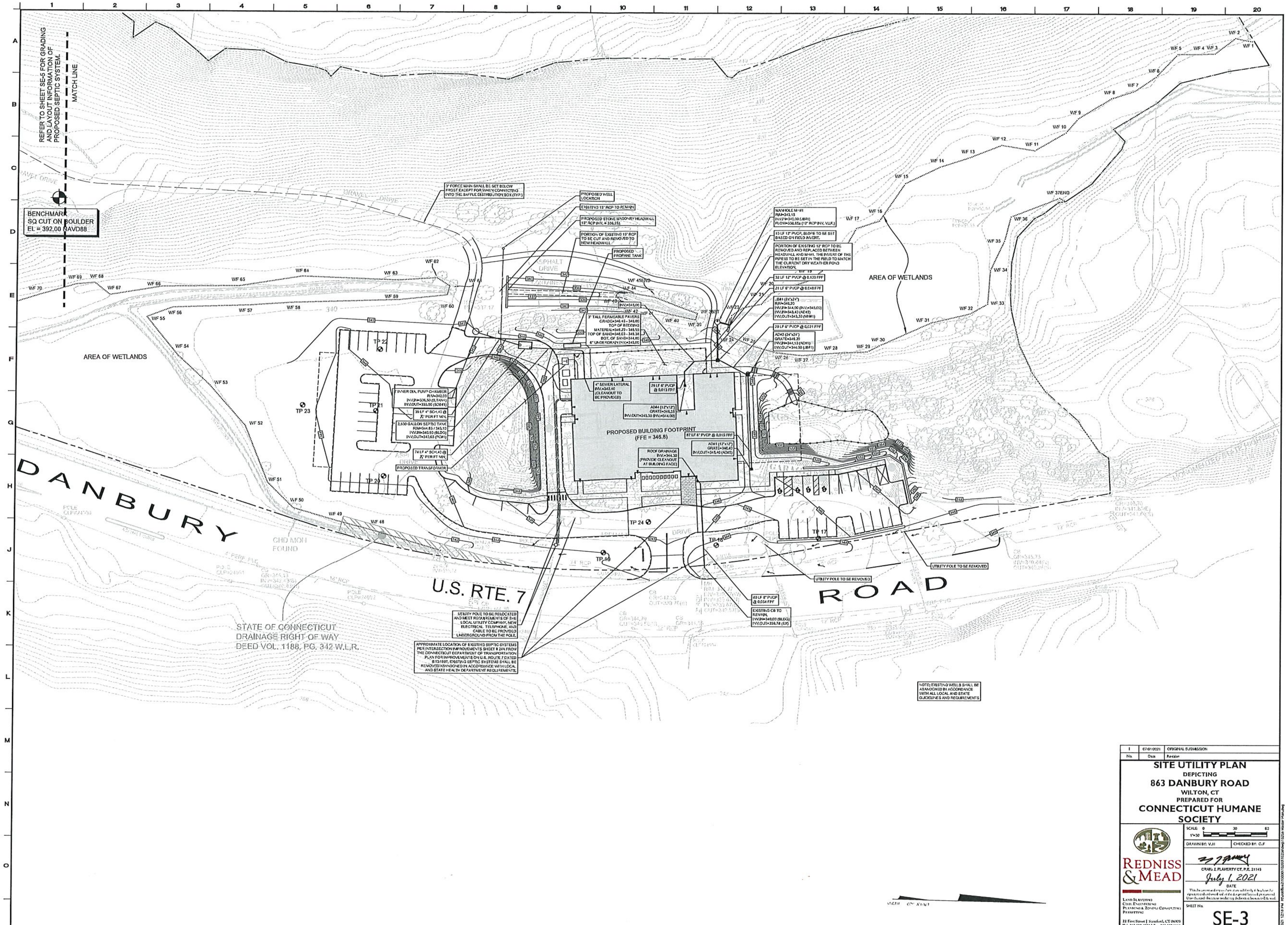

No.	Date	Revision
1	07/01/2021	ORIGINAL SUBMISSION

SITE UTILITY PLAN

DEPICTING

863 DANBURY ROAD

WILTON, CT

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SCALE: 1"=30' 0 30 60

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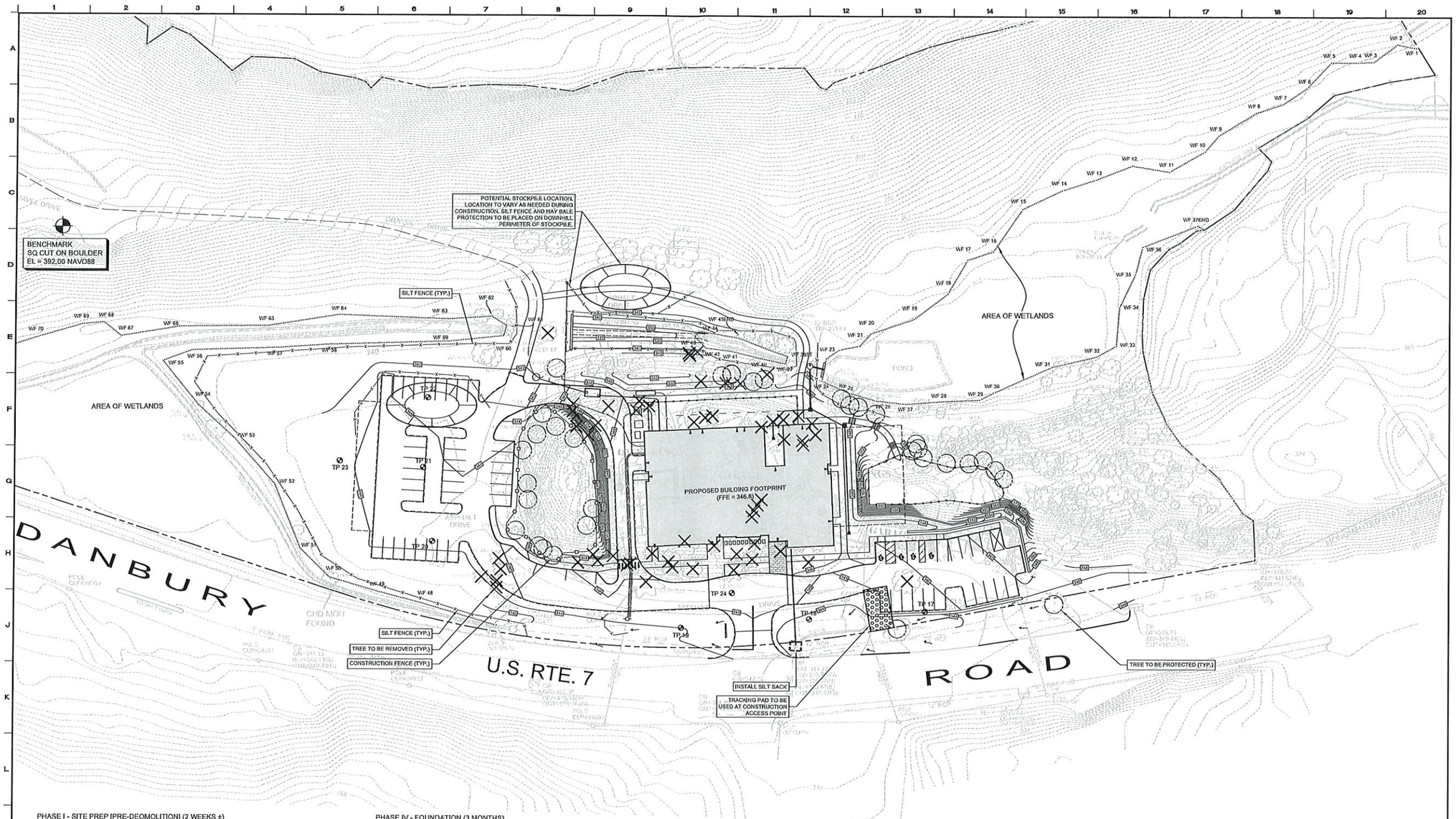
July 1, 2021

DATE

SHEET No.

SE-3

Comm. No.: 10258



PHASE I - SITE PREP (PRE-DEOMOLITION) (2 WEEKS ±)

- INSTALL TRACKING PADS FOR CONSTRUCTION ACCESS
- INSTALL SILT FENCE, CONSTRUCTION FENCE AND PERIMETER FENCE AS SHOWN ON PLANS. REMOVE EXISTING PAVEMENT ONLY AS NECESSARY TO PROCEED.
- INSTALL SILT SACKS IN EACH DRAINAGE INLET

PHASE II - DEMOLITION (2 WEEKS ±)

- ESTABLISH STAGING AREA WITH TRAILER AND TEMPORARY UTILITIES
- ESTABLISH STOCK PILE LOCATIONS
- REMOVE/DEMOLISH EXISTING BUILDINGS AND ACCESSORY STRUCTURES. REMOVE EXISTING PAVEMENT ONLY AS NECESSARY TO PROCEED WITH EACH PHASE OF CONSTRUCTION

PHASE III - MASS EARTHWORK (3 MONTHS)

- CUT TREES TO BE REMOVED AND GRUB AREAS TO BE CLEARED
- REMOVE EXISTING PAVEMENT, UTILITIES, STORM, & SEPTIC STRUCTURES AND CONNECTIONS AS PER THE PLANS AND IN ACCORDANCE TO LOCAL UTILITY COMPANY REQUIREMENTS.
- ROUGH GRADE SITE. GENERAL EARTHWORK, EXCAVATE FOR BUILDING FOUNDATION, INSTALL CONSTRUCTION DEWATERING AND TEMPORARY FILTERING SYSTEM IF NECESSARY. (NOTE: MANAGEMENT OF EXCAVATED MATERIALS DURING THIS PROCESS SHALL BE ACHIEVED BY TEMPORARILY STOCKPILING ONSITE TO THE EXTENT OF CONSTRUCTION STAGING WILL ALLOW AND BY HAULING MATERIAL OFFSITE AS EXCAVATED).

PHASE IV - FOUNDATION (3 MONTHS)

- CONSTRUCT BUILDING FOUNDATIONS
- INSTALL SITE RETAINING WALLS
- INSTALL UNDERGROUND UTILITIES
- INSTALL DETENTION AND INFILTRATION SYSTEMS

PHASE V - FULL BUILD (9 MONTHS)

- CONSTRUCT BUILDING
- INSTALL REMAINING UTILITIES AND STORM INFRASTRUCTURE
- INSTALL POROUS PAVING AND PERMEABLE PAVERS
- INSTALL LANDSCAPING
- REMOVE TEMPORARY SEDIMENT AND EROSION CONTROLS
- STRIPE ALL PARKING AREAS AND INSTALL SITE SIGNAGE
- REMOVE SEDIMENT AND EROSION CONTROLS AND CLEAN AREA DRAIN AND CATCH BASIN SUMPS.

NOTE:

* Some phases may overlap or run in parallel

** The above mentioned 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.

LEGEND
SEDIMENT & EROSION CONTROLS

- SILT FENCE
- HAYBALES @ INLET OR
- TRACKING PAD
- STOCKPILE AREA
- TREE TO BE REMOVED

NORTH

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SEDIMENT & EROSION CONTROL PLAN

DEPICTING

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SCALE 0 30 60
1"=30'

DRAWN BY: VJH | CHECKED BY: CJF

CRAIG J. FLAHERTY CT. P.E. 21143

July 1, 2021
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SHEET No.

SE-4

Carson File: 13258

SEPTIC SYSTEM NOTES:

1. This drawing is intended to depict the design of the septic system and is for approval purposes only. No construction may begin prior to obtaining all necessary permits and approvals.
2. All construction shall be in accordance with the most current State of Connecticut Department of Health Services Technical Standards and Specifications, the Town Health Department approval and any other governing agency.
3. This septic system has not been sized to collect the discharge from a garbage disposal, water softener and/or whirlpool bath filter backwash.
4. There shall be no tubs with capacities equal to or greater than 100 gallons discharging into the septic system.
5. Prior to construction, the Contractor shall contact the Inspecting Engineer and the Town of Wilton Health Department Sanitarian, at least 72 hours prior to starting, to establish the schedule for the inspection program. No work shall commence until required permits have been issued and the an inspection schedule has been established with the engineer and the Health Department. If not, the installation will not be certified.
6. Prior to any excavation, the contractor and/or applicant shall contact "Call Before You Dig" at 1-800-922-4455, for mark out of underground utilities.
7. No trafficking, parking, storage of fill or construction material shall be allowed over the septic system. Install construction fence around septic area prior to any construction activities.
8. No irrigation shall occur within 10' of the existing or proposed septic system.
9. All drainage pipes within 25' of the septic system shall be compliant with Table 2C of the Connecticut Public Health Code Technical Standards for Subsurface Sewage Disposal Systems and equivalent to SCH 40 PVC ASTM D 1785/ ASTM D 2665 with rubber compression gasketed couplings.
10. 10' upstream of structures and within 25' of the septic system, foundation material, bedding, haunching, initial backfill, and the bottom foot of general backfill shall 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.
11. Finished grade shall provide protection cover over all parts of the systems (9" minimum). Final grades may be higher than those shown if grading is done in such a manner as to prevent water ponding on the septic system.
12. Following the inspection of installed systems (prior to backfilling) by the Sanitarian; the finished grading, with 4" minimum top soil, seeding and mulch, shall be completed and shall provide positive drainage of all surfaces.
13. The Owner shall inspect the septic tank annually, and have solids pumped out every two years depending on accumulation.
14. The contractor cannot backfill the septic system until the contractor receives approval from a Professional Engineer and Health Department.
15. Select fill, when used, shall be comprised of clean sand and gravel, free from organic matter and foreign substances. The fill material shall meet the following requirements unless approved by the engineer:

    (A) The fill shall not contain any material larger than three(3) inches.
    (B) Up to 45% of the dry weight of the representative sample may be retained on the #4 sieve.
    (C) The material that passes the #4 sieve is then reweighed and the sieve analysis started.
    (D) The remaining sample shall meet the following wet sieve gradation criteria:

Sieve Size	Percent Passing
#4	100%
#10	70% - 100%
#40	10% - 50% (See Note Below)
#100	0% - 20%
#200	0% - 5%

    (E) Percent Passing the #40 sieve can be increased to no greater than 75% if the percent passing the #100 sieve does not exceed 10% and the #200 sieve does not exceed 5%.

16. The responsibility for the preparation of a leaching area utilizing "select material" is that of the licensed Installer. The installer shall take the necessary steps to protect the underlying naturally occurring soils from overcompaction and siltation once exposed.
17. The select fill percolation rate shall be the same as the design percolation rate or faster and shall percolate slower than 1" in 1 minute.
18. All select fill material must meet the requirements specified in Section VIII A of the State of Connecticut Public Health Code Technical Standards. A sieve analysis must be submitted and approved by the engineer prior to the installation.
19. Fill shall be placed on the perimeter of the trench area and spread with a small crawler, tractor or other approved machinery.
20. Contractor shall contact the certifying engineer and the Health Department at least 24 hours prior to construction; if not, the system installation will not be certified.
21. A Connecticut registered Professional Engineer acceptable to the Director of Health shall inspect construction to insure compliance with the plans.
22. An "As Built" plan, certified by a Professional Land Surveyor shall be submitted to the Department of Health before a "Permit to Use" is issued.

PIPING:

23. All pipes shall be grouted securely into the structure walls.
24. Sewer pipe from the building to the septic tank to be extra heavy 4" C.I.P. ASTM A74 with rubber gasketed joints or Schedule 40 PVC pipe with solvent weld joints. Other gravity pipe to be PVC ASTM SDR 35 D3034 with rubber gasket joints; or equal. No bends shall exceed 45° and all bends must be fittings.
25. All pipe shall be laid on 4" of compacted sand. Initial backfill shall be sand up to 6" above the top of the pipe. Backfill above the sand shall be clean fill compacted in 6" lifts with no stones larger than 12".
26. All piping and plumbing work associated with the pumping system shall be performed by a plumber licensed in the State of Connecticut. All electrical work shall be performed by an electrician licensed in the State of Connecticut.
27. The force main shall be 2" Schedule 40 pressure pipe with solvent cement joints or 2" polyethylene pipe, NSF approved and shall be in accordance with ASTM 2239 and manufacturer's recommended procedure.
28. The force main shall be installed so that its top will be at least 42" below finished grade and no low or high points occur within the pipe run. Pipe shall pitch so it drains towards the pump chamber.
29. Discharge lines shall be equipped with union disconnect fitting or lift-out adapter, and check valve. Leave polypropylene rope or stainless steel chain for future maintenance.

SEPTIC TANK/ DISTRIBUTION BOXES:

30. The septic tank shall have two chambers, inlet and outlet baffles, gas deflector and outlet filter and shall be able to withstand H-20 loading, refer to detail. Septic tank shall be 2,500 gallon septic tank.
31. Distribution boxes shall be precast concrete. Distribution boxes shall be raised within 12" of finished grade and be watertight. Raise lids with brick, mortar and bituminastic around the structure to comply with the Connecticut Public Health Code. Access cover shall be installed to surface under paved areas.
32. The contractor shall submit shop drawings of all products to Inspecting Engineer for review and approval prior to actual installation. Allow 5 working days for shop drawing review.
33. The septic tanks, pump chambers and distribution boxes shall be set even on a minimum of 6" compacted bedding of sand, gravel or crush stone.
34. The septic tank shall be watertight. Tank leakage testing should be performed utilizing either a vacuum test or water pressure test in accordance with testing requirements from the Connecticut Public Health Code.

PUMP CHAMBER:

35. The contractor shall submit an owners manual for the pump to the owner at the end of construction.
36. Effluent pump to be Goulds Model 3885 WE1532HH or acceptable equivalent. Pump shall be 1 ½ HP or greater with a pump rate of 30 GPM at 92' TDH to the distribution box. Pump off to pump on drawdown range to be 2' which discharges 251 gallons per cycle. Pump shall be ordered with power cord long enough to reach the exterior junction box.
37. The pumping system shall comply with all applicable codes and requirements and be installed in accordance with the manufacturers recommendations.
38. Pump shall be equipped with a control panel and high water alarm (audio & light). Model ST 230 by CSI Controls or equivalent approved by the engineer and shall be located in the primary building near the fuse box.
39. All electrical work shall be done by a licensed electrician. Alarm and pump to be installed on separate circuits. Alarm circuit to have test, on/off and silencer switches. Electrical alarm as shown on the details of reserved capacity above the high water alarm level in the event of a power failure.
40. Underground electric conduits shall be installed in accordance with Town of Wilton requirements to contain electric supply and alarm cables.
41. Force main shall have a ¼" diameter drill hole inside the pump chamber to allow the force main to drain back into the chamber.

PREPARATION OF THE PRIMARY LEACHING AREAS:

42. Prior to placement of leaching facilities look for existing drainage pipes. If such pipes are encountered, contact the design engineer for inspection/redesign.
43. Prior to placement of leaching facilities, remove all trees, grass, topsoil, vegetation, leaves & litter, shrubs, stumps, rocks larger than 24", roots within 5' of the system or under fill footprint. Voids made by stump and rock removal shall be filled with select fill material.
44. Care must be taken so as not to over compact the ground in the leaching area. If such over compaction does occur, the overlying compacted material shall be percolation tested to determine if a redesign or replacement with "select fill" is necessary.
45. Non-select fill may be till, loam, sand or gravel mixture classified as SP, SW, SM, GP, GM, ML per the Unified Soil Classification System. It shall have not more than 40% fines passing the #100 sieve, not more than 8% passing the #200 sieve, and no stones larger than 10". Non-select fill shall not be mechanically compacted but allowed to settle naturally over 3 to 6 month period.

SEPTIC SYSTEM DESIGN DATA:

Total Projected Flow = 0.1 GPD / SF x 14,243 SF = 1,424 GPD
Design Flow = 1,424 GPD x 1.5 (F.S.) = 2,136 GPD

Percolation Rate = 1" in 10.0 min.
Percolation Factor (PF) = 1.0
Depth to Restrictive Layer = {[44"(TP#7) + 54"(TP#8)] / 2 + 34"(TP#9)} / 2 = 41.5"
Hydraulic Gradient = (410.30 - 404.05) / 25 = 25%
Hydraulic Factor (HF) = 16.0
Flow Factor = 2,136 / 300 = 7.12
MLSS Required = PF x HF x FF
1.0 x 16 x 7.12 = 113.9 LF
MLSS Provided = 120 LF

Leaching Area Required = Design Flow / Sewage Application Rate
2,136 GPD / 1.5 = 1,424 SF
Leaching Area Provided = 120 LF x 13.0 SF / LF (CTL-24) = 1,560 SF

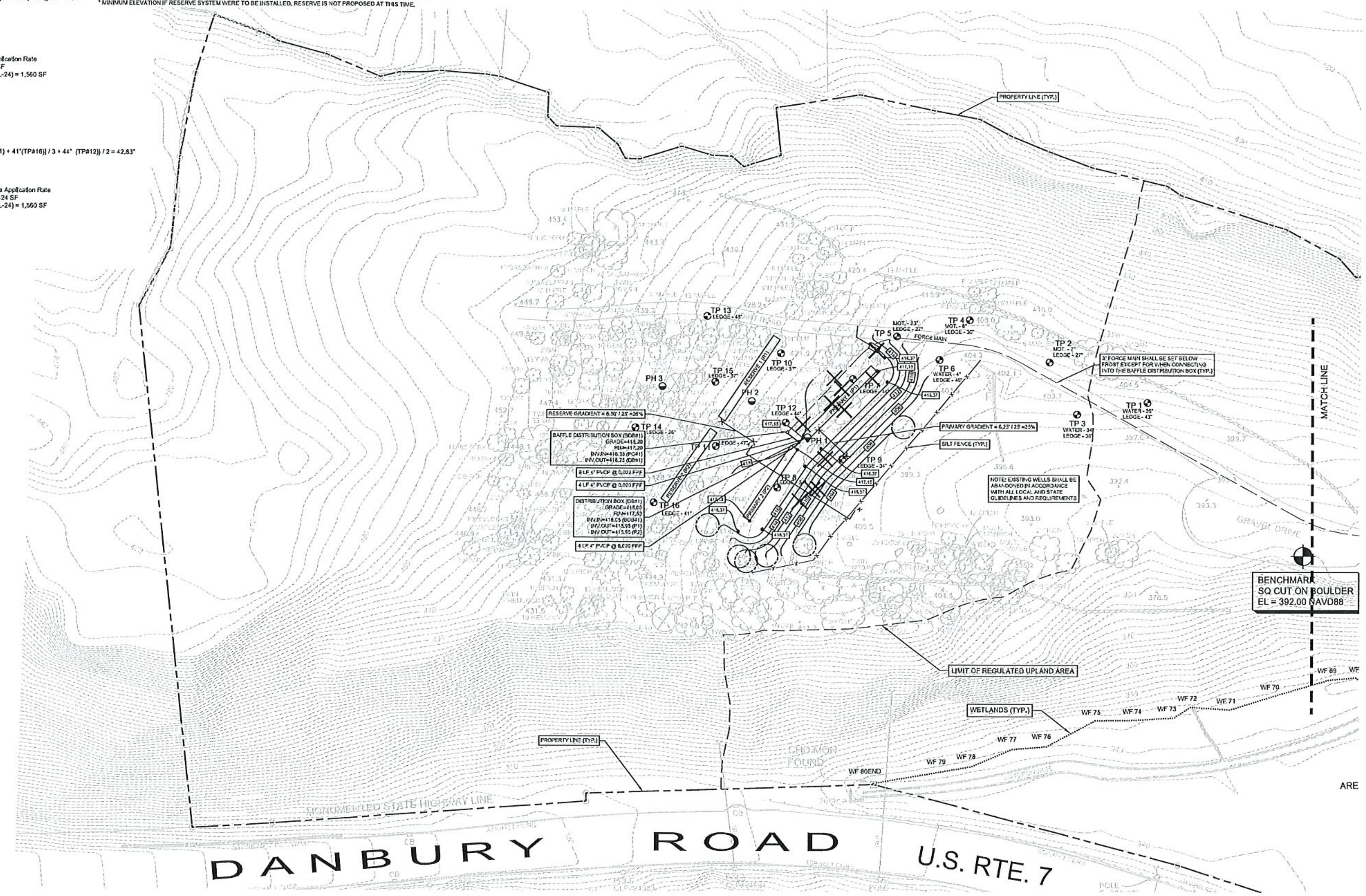
Septic Tank Size = 2,500 gallons
Pump Chamber Size = 1,500 gallons

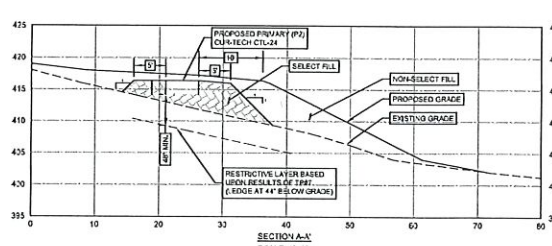
(R1 & 2) Reserve Septic System:

Total Design Flow = 2,136 GPD
Percolation Rate = 1" in 10.0 min.
Percolation Factor (PF) = 1.0
Depth to Restrictive Layer = {[37"(TP#10) + 47"(TP#11) + 41"(TP#16)] / 3 + 44" (TP#12)} / 2 = 42.83"
Hydraulic Gradient = > 15%
Hydraulic Factor (HF) = 14.0
Flow Factor = 7.12
MLSS Required = 1.0 x 14 x 7.12 = 99.7 LF
Leaching Area Required = Design Flow / Sewage Application Rate
2,136 GPD / 1.5 = 1,424 SF
Leaching Area Provided = 120 LF x 13.0 SF / LF (CTL-24) = 1,560 SF
* REFER TO SHEET SE-5 FOR SEPTIC DETAILS

Type of Facility Provided		SF/ LF	LF Provided	Leaching Area Provided	System Elevations			
					Btm.	Top	Inv.In	Min. Finished Grade
P1	CUR-TECH CTL-24	13.0	64	832.0	414.20	416.37	415.87	417.15
P2	CUR-TECH CTL-24	13.0	56	728.0	414.20	416.37	415.87	417.15
R1	CUR-TECH CTL-24	13.0	64	832.0	427.45*	429.62*	429.12*	430.40*
R2	CUR-TECH CTL-24	13.0	56	728.0	427.45*	429.62*	429.12*	430.40*

* MINIMUM ELEVATION IF RESERVE SYSTEM WERE TO BE INSTALLED. RESERVE IS NOT PROPOSED AT THIS TIME.





SECTION A-A'
SCALE: 1"=10'

NOTE:
THIS CROSS-SECTION IS A SPECIFIC SECTION (A-A') THROUGH THE PROPOSED LEACHING FACILITIES. IT SHOULD NOT BE CONSTRUED AS AN "AVERAGE" SECTION ACROSS THE ENTIRE SYSTEM FOR USE IN DETERMINING REQUIRED AMOUNTS OF FILL. IT IS THE RESPONSIBILITY OF THE INSTALLER TO DETERMINE THE REQUIRED AMOUNTS OF FILL.

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SITE SEPTIC DESIGN PLAN
DEPICTING
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SHEET No: SE-5
Comm. No.: 10258

GENERAL NOTES:

PAVEMENT AND PAVEMENT MARKINGS:

EARTHWORK & GRADING:

RETAINING WALLS:

STORM SEWER SYSTEMS:

UTILITIES:

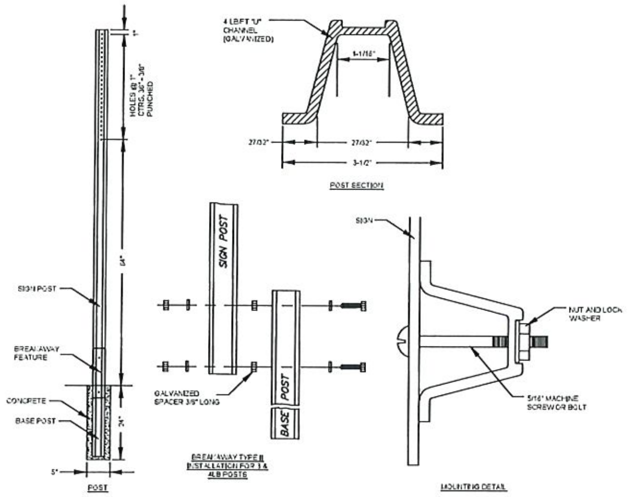
FORM 818 STANDARD CONSTRUCTION & PAVEMENT MARKINGS NOTES:

SEDIMENT AND EROSION CONTROL NARRATIVE:

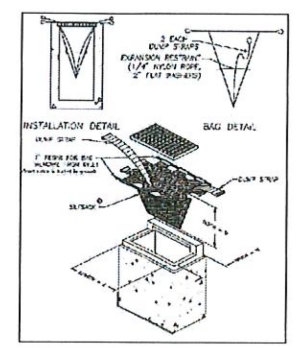
SEDIMENT AND EROSION CONTROL NOTES:

STOP SIGN DETAIL
N.T.S.

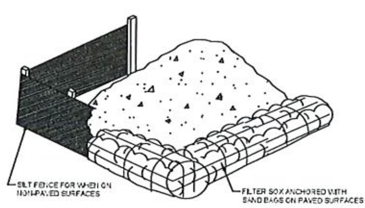
HANDICAPPED PARKING SIGN DETAIL
N.T.S.



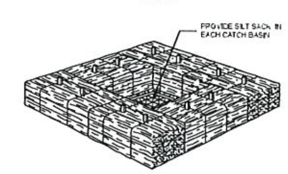
METAL SIGN POST
N.T.S.



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



SEDIMENT FILTER FOR STOCK PILE
N.T.S.



SEDIMENT FILTER FOR CATCH BASINS
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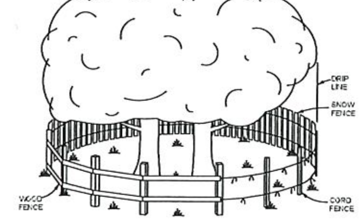
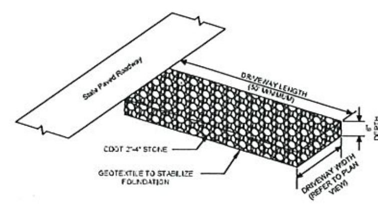
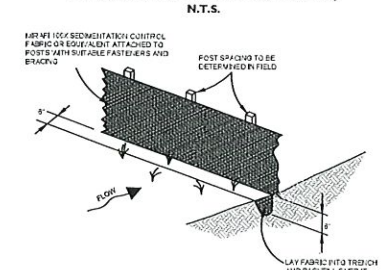


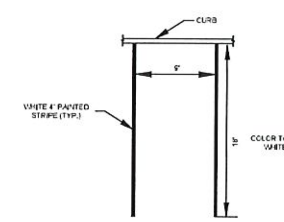
TREE PROTECTION
(SHOWING ACCEPTABLE TYPES OF FENCING)
N.T.S.



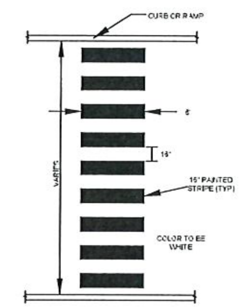
CT DOT TRACKING PAD & TEMPORARY GRAVEL CONSTRUCTION ROAD DETAIL
STABILIZED CONSTRUCTION ENTRANCE
N.T.S.



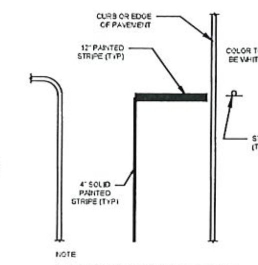
FABRIC & POST SILTATION BARRIER
(SILT FENCE)
N.T.S.



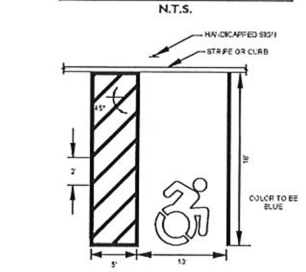
REGULAR PARKING SPACE
N.T.S.



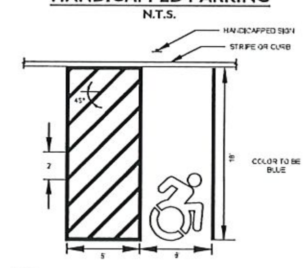
CROSSWALK
N.T.S.



STOP BAR STRIPING
N.T.S.



HANDICAPPED PARKING
N.T.S.



HANDICAPPED VAN PARKING
N.T.S.

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NOTES & DETAILS
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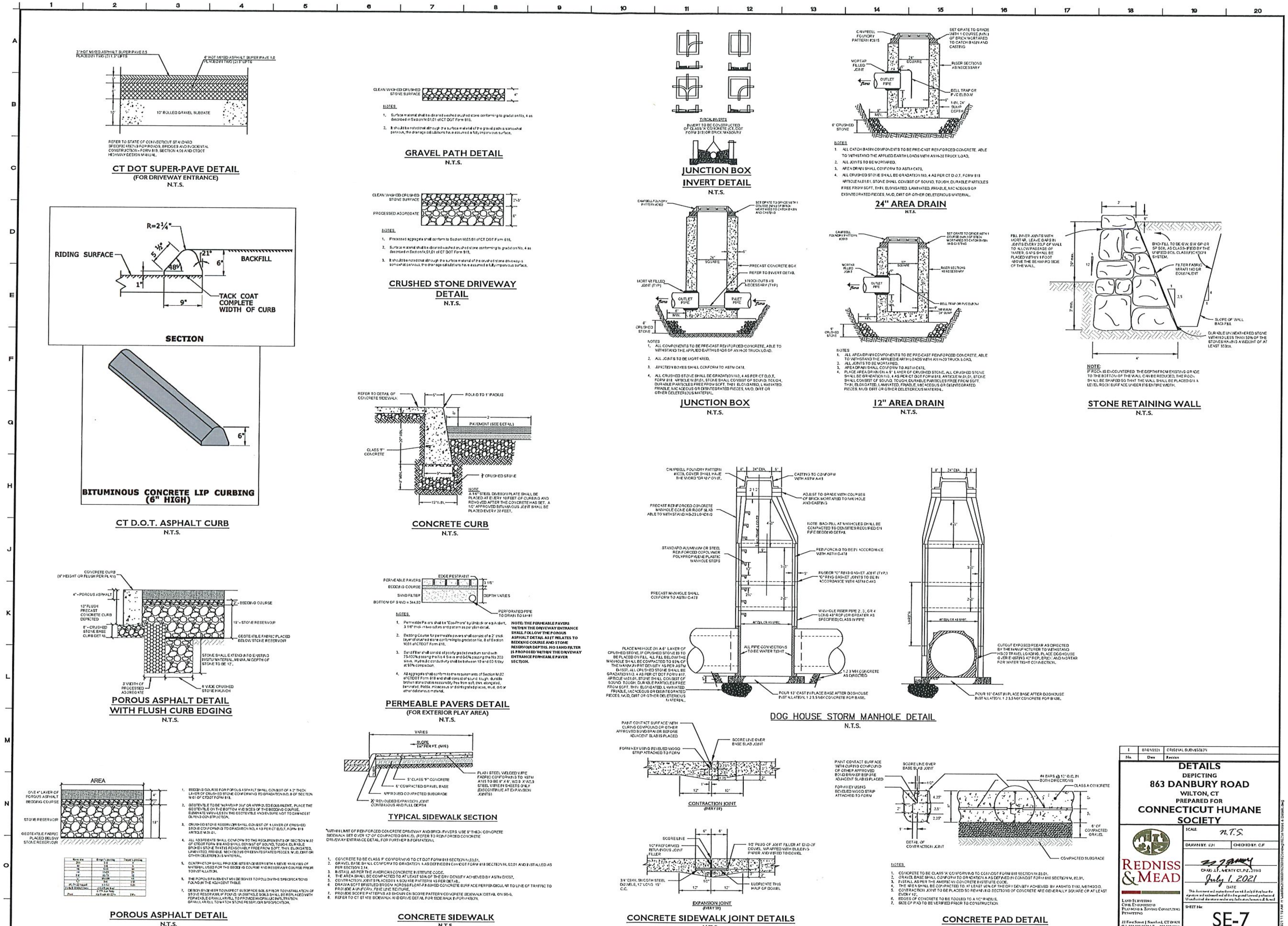
SCALE: N.T.S.

REDNISS & MEAD

CRAIG J. FLAHERTY CT. P.E. 21143

July 1, 2021

SHEET No. **SE-6**



CT DOT SUPER-PAVE DETAIL
(FOR DRIVEWAY ENTRANCE)
N.T.S.
GRAVEL PATH DETAIL
N.T.S.
CRUSHED STONE DRIVEWAY DETAIL
N.T.S.
JUNCTION BOX INVERT DETAIL
N.T.S.
24" AREA DRAIN
N.T.S.
RIDING SURFACE
BACKFILL
TACK COAT COMPLETE WIDTH OF CURB
SECTION
BITUMINOUS CONCRETE LIP CURBING (6" HIGH)
CT D.O.T. ASPHALT CURB
N.T.S.
CONCRETE CURB
N.T.S.
JUNCTION BOX
N.T.S.
12" AREA DRAIN
N.T.S.
STONE RETAINING WALL
N.T.S.
POROUS ASPHALT DETAIL WITH FLUSH CURB EDGING
N.T.S.
PERMEABLE PAVERS DETAIL
(FOR EXTERIOR PLAY AREA)
N.T.S.
DOG HOUSE STORM MANHOLE DETAIL
N.T.S.
TYPICAL SIDEWALK SECTION
POROUS ASPHALT DETAIL
N.T.S.
CONCRETE SIDEWALK
N.T.S.
CONCRETE SIDEWALK JOINT DETAILS
N.T.S.
CONCRETE PAD DETAIL
N.T.S.
1 | 07/01/2021 | ORIGINAL SUBMISSION
No. | Date | Revision
DETAILS
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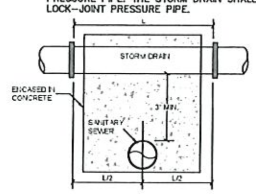
DATE
SHEET No:
SE-7

NOTE:

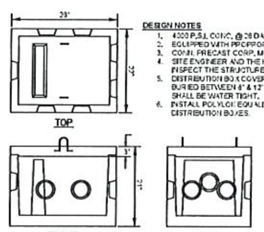
THE JOINTS OF THE PIPE SHALL BE A MINIMUM OF 10' FROM THE POINT OF CROSSING. THE SANITARY SEWER SHALL BE CLASS 150 PRESSURE PIPE. THE STORM DRAIN SHALL BE LOCK–JOINT PRESSURE PIPE.



REQUIREMENTS AS STATED ABOVE WILL APPLY WHEN HORIZONTAL SEPARATION BETWEEN THE STORM & SANITARY LINES ARE LESS THAN 10' AND VERTICAL SEPARATION IS LESS THAN 18".

CROSSINGS OF SANITARY PIPES AND STORM PIPES

N.T.S.

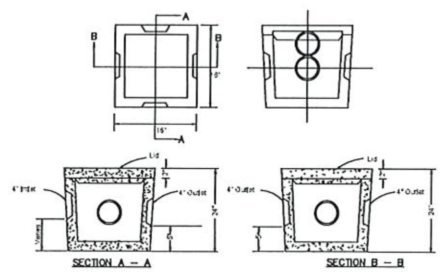


DESIGN NOTES

1. 4000 P.S.I. CONC. @ 28 DAYS.
2. EQUIPPED WITH PROPROPYLENE PIPE SEALS.
3. CONN. PRECAST CORP. MODEL DB 6 WITH BAFFLE OR EQUIV.
4. SITE ENGINEER AND THE HEALTH DEPARTMENT MUST INSPECT THE STRUCTURE PRIOR TO COVERING.
5. DISTRIBUTION BOX COVER TO BE RAISED SO THAT IT IS BURIED BETWEEN 6" & 12" BELOW GRADE. STRUCTURE SHALL BE WATER TIGHT.
6. INSTALL POLYLOK EQUALIZERS TO THE INVERTS OUT OF ALL DISTRIBUTION BOXES.

BAFFLE DISTRIBUTION B-BOX DETAIL

N.T.S.

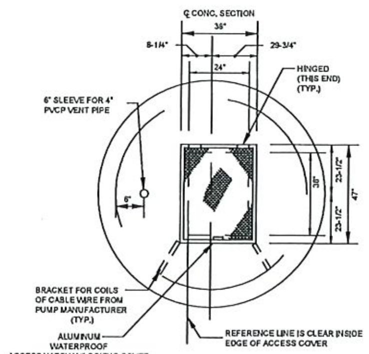


SPECIFICATIONS

1. Concrete 4000 PSI 28 Days
2. Steel Reinforcing as per ASTM Spec. A-15-57T
3. 2 Outlets - 1 Inlet All 4" Dia.
4. Distribution box shown is by EASTERN PRECAST CO.
5. Distribution box cover to be raised so that it is buried between 6" to 12" below grade. Structure shall be water tight.
6. Distribution box exterior shall be painted with heavy bitumastic.
7. It may be necessary to field construct the high overflow invert. The contractor shall make the invert water tight.
8. Install Polylok equalizers to the inverts out of all distribution boxes.

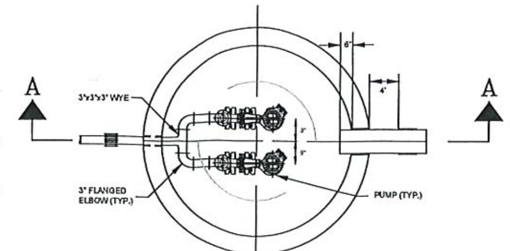
HIGH OVERFLOW DISTRIBUTION BOX DETAIL

N.T.S.



WET WELL PLAN

N.T.S.

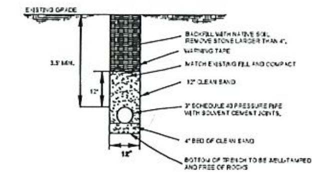


WET WELL PLAN

N.T.S.

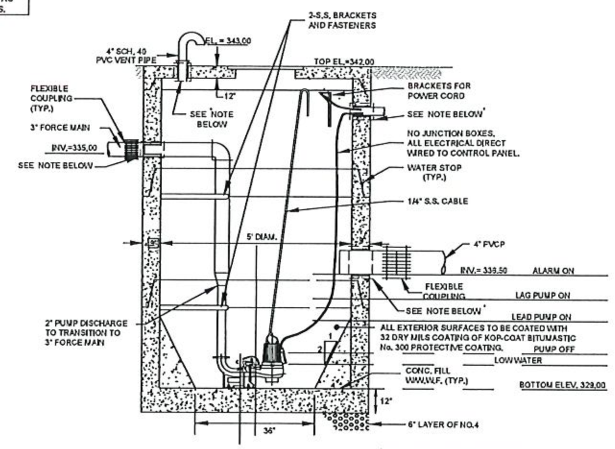
WET WELL SHALL BE PRECAST CONCRETE STRUCTURES ABLE TO WITHSTAND H-20 TRAFFIC LOADING. WALL THICKNESSES SHOWN ARE MINIMUMS ONLY AND SHALL BE INCREASED AS NECESSARY FOR STRUCTURAL PURPOSES.

FLOAT ELEVATIONS TO BE COORDINATED WITH THE PUMP MANUFACTURER



SEPTIC FORCE MAIN DETAIL

N.T.S.



SECTION A-A

N.T.S.

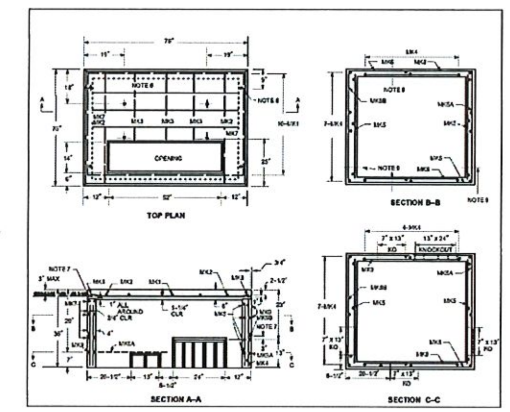
*NOTE: INSTALL LINK-SEAL SLEEVE WITH S.S. HARDWARE

GENERAL:

1. All piping and plumbing work shall be performed by a plumber licensed in the State of Connecticut. All electrical work shall be performed by an electrician licensed in the State of Connecticut.
2. The Owner, the Health Department and the Design Engineer shall be notified three days prior to the commencement of each phase of construction.
3. All work shall be done in accordance with OSHA requirements. The contractor shall be responsible for compliance with OSHA requirements.
4. The contractor shall submit shop drawings of all products and equipment to inspecting engineer for review and approval prior to fabrication, ordering, and installation.
5. Under no circumstances shall trench water be allowed to drain off through sewer lines.
6. Upon the completion of the work, certification will be required by a Registered Professional Engineer to the satisfaction of the Sewer Division, that construction is in accordance with the approved plans.
7. The Forced main shall be 3" PVC pipe SRD21 in accordance with ASTM D-2241 standards.
8. The Forced main shall be installed so that its top will be at least 48" below finished grade. It shall be connected to the existing forced main in accordance with the Connecticut Plumbing Code and the requirements of the City of Stamford.
9. Install thrust blocks at all horizontal and vertical bends of the forced main in accordance with the detail.
10. The new forced main and gravity sewer shall be pressure and leakage tested in accordance with ASTM standards.
11. The Design Engineer and Health Department shall be informed of the testing schedule three days in advance so that they can witness the testing as may be required. The contractor shall provide all equipment and materials needed to perform the test. Should the forced main or gravity sewer fail to pass the test, the contractor shall determine the cause of the failure, remedy the condition and retest the pipe in question in the presence of the Design Engineer and the Health Department.
12. The pumping system shall comply with all applicable codes and requirements and be installed in accordance with the manufacturers recommendations.
13. The equipment described on these plans has been selected because it meets the project requirements. Should the contractor wish to use substitute equipment, the substitution must be approved by the Owner or his representative prior to ordering the substitute equipment.
14. Alarm switch and pumps to be installed on separate circuits.
15. Station Shall be started and adjusted in the field by the supplier with written report supplied to owner.
16. Prior to acceptance, the pumping station shall be tested by the Owner's representative. All mechanical and electrical systems must operate in accordance with the plans. Operation and maintenance manuals for all equipment must be provided to the owner.
17. The pumping system, including emergency power supply shall have a one year warranty.
18. A Representative of the pump manufacturer shall be present at the start up of the pump station.
19. Water lines must be 10 foot minimum away from sewer lines horizontally, or shelved 18" minimum above, and 18" minimum horizontally. If water line and sewer line intersect, sewer line to be encased in concrete 5 feet on either side of where lines intersect.
20. If storm and sewer lines intersect with less that 18" of separation from top of sanitary sewer to bottom of storm, sanitary line to be encased in concreted 5 feet on either side of where lines intersection.
21. 4" sewer pipe to be SDR-35 PVCP.
22. Bedding material to be sand or 3/4" stone.
23. 4 foot minimum cover for pressure lines at time of inspection.

PUMP STATION DETAILS & NOTES

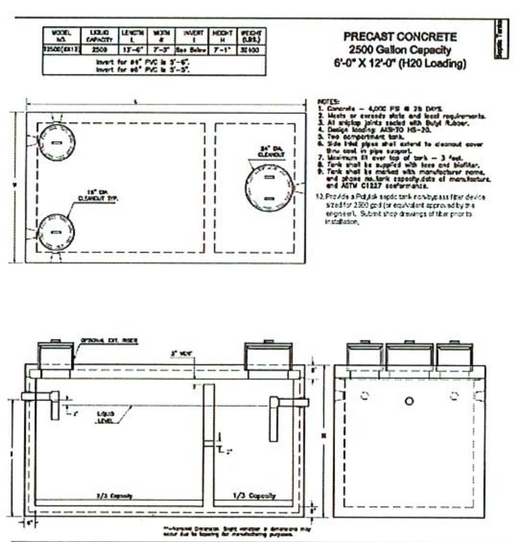
N.T.S.



THREE-PHASE TRANSFORMER PAD

(PRECAST CONCRETE - 76" x70" x 36")

N.T.S.



MODEL NO.	LIQUID CAPACITY	LENGTH L	WIDTH W	INVERT I	HEIGHT H	WEIGHT (LBS.)
2500(6X12)	2500	13'-0"	7'-0"	See Below	7'-1"	32400
Invert for #4" PVC is 5'-6". Invert for #6" PVC is 5'-5".						

NOTES:
1. Concrete – 4,000 PSI @ 28 DAYS.
2. Meets or exceeds state and local requirements.
3. All snaplap joints sealed with Butyl Rubber.
4. Design loading: AASHTO HS–20.
5. Two compartment tank.
6. Side inlet pipes shall extend to cleanout cover thru cast in pipe support.
7. Maximum fill over top of tank – 3 feet.
8. Tank shall be supplied with tees and biofilter.
9. Tank shall be marked with manufacturer name, and phone no. tank capacity, date of manufacture, and ASTM C1227 conformance.
10. Provide a Polylok septic tank non-bypass filter device sized for 2500 gpd (or equivalent approved by the engineer). Submit shop drawings of filter prior to installation.

SEPTIC TANK SIZING

ST#1 (2,500 GALLONS)

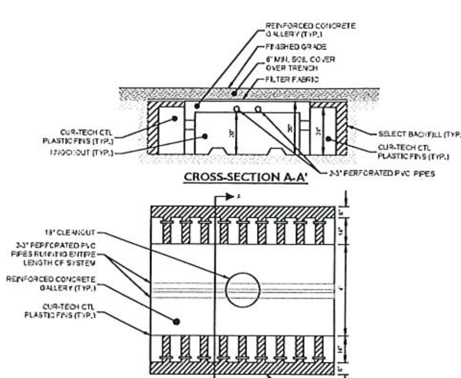
INSIDE DIMENSIONS
L = Length = 12 ft
W = Width = 6 ft
H = Height (bottom to invert out) = 4.75 ft
A = Cross Sectional Area = W * H = 6 x 4.75 = 28.5 sf
WP = Wetted Perimeter = (2 * H) + W = (2x4.75) + 6 = 15.5 ft

FLOW RATE TO SEPTIC TANK
Q avg/day = 1,424 gal/day = 59.33 gal/hr = 7.93 cf/hr
Q design/day = 2,136 gal/day = 89 gal/hr = 11.9 cf/hr

DETENTION TIME
V avg/day = Velocity = Q/A = (7.93 cf/hr) / (28.5 sf) = 0.28 ft/hr
V design/day = Velocity = Q/A = (11.9 cf/hr) / (28.5 sf) = 0.418 ft/hr
DT avg/day = Detention Time = L/V = 12 ft / 0.28 ft/hr = 42.85 hrs
DT design/day = Detention Time = L/V = 12 ft / 0.418 ft/hr = 28.7 hrs
Detention time > 2 hours

2,500 GALLON SEPTIC TANK

N.T.S.



NOTES

1. CONCRETE GALLERY TO BE SUPPLIED BY CT PRECAST FOR USE WITH THE CUR-TECH SYSTEM.
2. SELECT BACKFILL TO BE EITHER WASHED CONCRETE SAND CONFORMING TO ASTM C-33 OR SELECT FILL CONFORMING TO THE CT PUBLIC HEALTH CODE.
3. BREAK OUT ANY CHAMBER END KNOCKOUTS THAT ARE TO BE SET AGAINST ANOTHER CHAMBER. KNOCKOUTS ON ANY CHAMBER NOT SET AGAINST ANOTHER SHALL REMAIN.
4. INSTALLATION SHALL FOLLOW MANUFACTURER'S GUIDELINES.

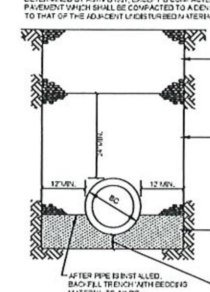
CUR-TECH CTL-24 GALLERY SYSTEM

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.



COMPACTED BACKFILL SHALL BE WELL GRADED MATERIAL FREE OF ORGANICS, FROZEN MATERIAL & PARTICLES LARGER THAN 12".

BACKFILL MUST BE PLACED & COMPACTED IN SIX INCH (6") LAYERS (AFTER COMPACTION).

INITIAL BACKFILL SHALL BE WELL GRADED GRANULAR MATERIAL WITH STONES NO LARGER THAN 2". STONES TO BE KEPT FROM TOUCHING PIPE.

BEDDING MATERIAL AS PER CONN. D.O.T. FORM 817, ARTICLE M 06.03. BEDDING MATERIAL SHALL BE SAND OR SANDY SOIL ALL OF WHICH PASSES A 3/8 INCH SIEVE AND NOT MORE THAN 10% PASSES A No. 200 SIEVE. IF GROUND WATER IS ENCOUNTERED, ENGINEER SHALL BE NOTIFIED FOR POSSIBLE MODIFICATION. IF THE INSPECTING ENGINEER DETERMINES THAT THE MATERIAL BELOW THE FOUNDATION IS UNACCEPTABLE MATERIAL SHALL BE REMOVED TO A DEPTH DETERMINED BY THE INSPECTING ENGINEER AND REPLACED WITH MATERIAL COMPLYING WITH THE INITIAL BACKFILL SPECIFICATION. THIS MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D1557.

PVC/RCP PIPE TRENCH BEDDING DETAIL

(48" DIA. & UNDER)

N.T.S.

PREFERRED:

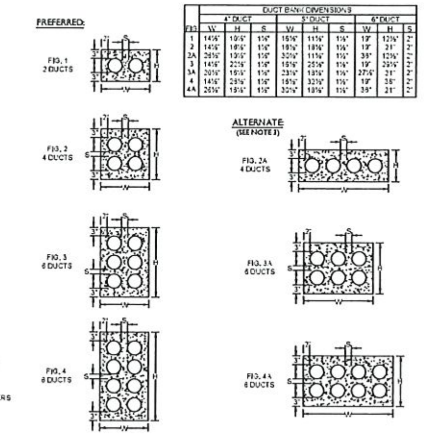


FIG	DUCT BANK DIMENSIONS: 4" DUCT W	H	S	5" DUCT W	H	S	6" DUCT W	H	S
1	14½"	10½"	1½"	15⅝"	11⅝"	1½"	19"	12½"	2"
2	14½"	18½"	1½"	15⅝"	18⅝"	1½"	19"	21"	2"
2A	26½"	10½"	1½"	30⅝"	11⅝"	1½"	39"	12½"	2"
3	14½"	22½"	1½"	15⅝"	25⅝"	1½"	19"	29½"	2"
3A	20½"	15½"	1½"	23⅛"	18⅝"	1½"	27½"	21"	2"
4	14½"	29½"	1½"	15⅝"	32⅝"	1½"	19"	38"	2"
4A	26½"	15½"	1½"	30⅝"	18⅝"	1½"	39"	21"	2"

NOTES

1. AT MANHOLES CONDUIT BANKS SHALL BE PER FIGS. 1, 2, 3 OR 4.
2. MINIMUM COVER FROM TOP OF A CONDUIT BANK TO THE PAVEMENT OR EARTH SURFACE TO BE
 a) STATE HIGHWAYS - 36"
 b) RAILROAD TRACKS - 60"
 c) ALL OTHER AREAS - 24"
3. IN THE CONDUIT RUN BETWEEN MANHOLES IF OBSTRUCTIONS ARE ENCOUNTERED OR TO REDUCE TRENCH DEPTH, FIGS. 2A, 3A OR 4A ARE PERMISSIBLE.
4. CONCRETE SHALL BE 2500 P.S.I., 1/2" MAXIMUM STONE, 6"-9" SLUMP OF SUCH CONSISTENCY THAT SPADING WILL INSURE THE FLOW OF CONCRETE BETWEEN AND UNDER THE INDIVIDUAL DUCTS, BUT NOT SO WET AS TO FLOAT THE DUCTS. FOR TIER BUILDUP CONSTRUCTION A STIFFER CONSISTENCY SHOULD BE USED.
5. DUCTS SHALL BE SCHEDULE 40 PVC.

CONDUIT BANK CONSTRUCTION

N.T.S.

No.	Date	Revision
1	07/01/2021	ORIGINAL SUBMISSION

DETAILS

DEPICTING

863 DANBURY ROAD

WILTON, CT

PREPARED FOR

CONNECTICUT HUMANE SOCIETY

SCALE: N.T.S.

DRAWN BY: VJH | CHECKED BY: CJF

CRAIG J. FLAHERTY CT. P.E. 21149

July 1, 2021

DATE

This document and copies thereof are valid only if they bear the signature and embossed seal of the designated licensed professional. Unauthorized alterations render any declaration hereon null & void.

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

SHEET No: SE-8

Comm. No.: 10258

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Subsurface Soil Investigation — Soil Profile

Test Pit #: 1 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 43" — Mottling at: N/A
Water at: 36" — Roots at: 24"

Depth: 43"	Soil Description
0"-8"	Topsoil
8"-24"	Orange brown silty loam with sand
24"-43"	Brown silty loam with sand & fractured rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 2 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 27" — Mottling at: 7"
Water at: 9" — Roots at: N/A

Depth: 27"	Soil Description
0"-6"	Topsoil
6"-27"	Orange brown silty loam with fractured rock

Note: Seepage @ 7"

Subsurface Soil Investigation — Soil Profile

Test Pit #: 3 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 38" — Mottling at: N/A
Water at: 34" — Roots at: N/A

Depth: 38"	Soil Description
0"-6"	Topsoil
6"-18"	Brown silty loam
18"-38"	Brown silty loam with Trace sand & fractured rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 4 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 30" — Mottling at: 8"
Water at: 12" — Roots at: N/A

Depth: 30"	Soil Description
0"-8"	Topsoil
8"-30"	Brown silty loam with rock & mottles

Subsurface Soil Investigation — Soil Profile

Test Pit #: 5 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 27" — Mottling at: 23"
Water at: 23" — Roots at: 19"

Depth: 27"	Soil Description
0"-4"	Topsoil
4"-27"	Orange brown silty loam with sand

Subsurface Soil Investigation — Soil Profile

Test Pit #: 6 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 40" — Mottling at: N/A
Water at: 4" — Roots at: N/A

Depth: 40"	Soil Description
0"-5"	Topsoil
5"-40"	Brown silty loam

Note: Seepage @ 12"

Subsurface Soil Investigation — Soil Profile

Test Pit #: 7 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 44" — Mottling at: N/A
Water at: N/A — Roots at: 27"

Depth: 44"	Soil Description
0"-7"	Topsoil
7"-14"	Brown silty loam
14"-44"	Orange brown silty loam with sand

Subsurface Soil Investigation — Soil Profile

Test Pit #: 8 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 54" — Mottling at: N/A
Water at: N/A — Roots at: 35"

Depth: 54"	Soil Description
0"-9"	Topsoil
9"-16"	Brown silty loam
16"-31"	Orange brown silty loam
31"-54"	Brown silty loam with fine sand & rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 9 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 34" — Mottling at: N/A
Water at: N/A — Roots at: 32"

Depth: 34"	Soil Description
0"-9"	Topsoil
9"-34"	Orange brown silty loam with rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 10 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 37" — Mottling at: N/A
Water at: N/A — Roots at: 24"

Depth: 37"	Soil Description
0"-5"	Topsoil
5"-37"	Orange brown silty loam with rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 11 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 47" — Mottling at: N/A
Water at: N/A — Roots at: 36"

Depth: 47"	Soil Description
0"-11"	Topsoil
11"-47"	Orange brown silty loam with rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 12 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 44" — Mottling at: N/A
Water at: N/A — Roots at: 33"

Depth: 44"	Soil Description
0"-8"	Topsoil
8"-44"	Orange brown silty loam with rock & boulders

Subsurface Soil Investigation — Soil Profile

Test Pit #: 13 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 48" — Mottling at: N/A
Water at: N/A — Roots at: 35"

Depth: 48"	Soil Description
0"-7"	Topsoil
7"-48"	Orange brown silty loam with rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 14 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 26" — Mottling at: N/A
Water at: N/A — Roots at: 16"

Depth: 26"	Soil Description
0"-6"	Topsoil
6"-26"	Orange brown silty loam with rock & boulders

Subsurface Soil Investigation — Soil Profile

Test Pit #: 15 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 37" — Mottling at: N/A
Water at: N/A — Roots at: 29"

Depth: 37"	Soil Description
0"-9"	Topsoil
9"-37"	Orange brown silty loam

Subsurface Soil Investigation — Soil Profile

Test Pit #: 16 — Date: 03/02/2021
Inspector: VJH — Sanitarian: Jennifer Zbell
Ledge at: 41" — Mottling at: N/A
Water at: N/A — Roots at: 22'

Depth: 41"	Soil Description
0"-8"	Topsoil
8"-24"	Orange brown silty loam
24"-41"	Grey silty fine sandy loam

Subsurface Soil Investigation — Soil Profile

Test Pit #: 17 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: N/A — Mottling at: 12"
Water at: 32" @ time of reading — Roots at: 24"

Depth: 36"	Soil Description
0"-5"	Topsoil
5"-36"	Brown silty loam

Note: Seepage @ 15"

Subsurface Soil Investigation — Soil Profile

Test Pit #: 18 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: N/A — Mottling at: 9"
Water at: 11" — Roots at: N/A

Depth:	Soil Description
0"-8"	Topsoil
8"-16"	Brown silty loam

Subsurface Soil Investigation — Soil Profile

Test Pit #: 19 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: N/A — Mottling at: 8"
Water at: 17" — Roots at: N/A

Depth: 36"	Soil Description
0"-5"	Topsoil
5"-13"	Brown silty loam
13"-36"	Brown slurry

Subsurface Soil Investigation — Soil Profile

Test Pit #: 20 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: N/A — Mottling at: 3"
Water at: 54" — Roots at: N/A

Depth: 59"	Soil Description
0"-3"	Topsoil
3"-41"	General fill (mottling directly above)
41"-46"	Original topsoil
46"-54"	Brown silty loam with fine sands

Subsurface Soil Investigation — Soil Profile

Test Pit #: 21 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: 37" — Mottling at: N/A
Water at: N/A — Roots at: N/A

Depth: 37"	Soil Description
0"-3"	Topsoil
3"-37"	General fill

Subsurface Soil Investigation — Soil Profile

Test Pit #: 22 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: N/A — Mottling at: N/A
Water at: 35" — Roots at: N/A

Depth: 39"	Soil Description
0"-3"	Topsoil
3"-39"	General fill

Note: Seepage @ 17"

Subsurface Soil Investigation — Soil Profile

Test Pit #: 23 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: 50" — Mottling at: 28"
Water at: N/A — Roots at: N/A

Depth: 50"	Soil Description
0"-6"	Topsoil
6"-28"	General fill
28"-33"	Original topsoil (mottling above)
33"-50"	Brown silty loam with sand & rock

Subsurface Soil Investigation — Soil Profile

Test Pit #: 24 — Date: 03/03/2021
Inspector: VJH — Sanitarian: N/A
Ledge at: 28" — Mottling at: 16"
Water at: 19" — Roots at: 12"

Depth: 28"	Soil Description
0"-7"	Topsoil
7"-16"	Brown silty loam
16"-28"	Orange brown silty loam

Recorded By: AJP — Date: 03/03/21
Hole: 1 — Project: 10258
Depth: 18.5" — Diameter: 8"
2:00 PM — 19:39 hrs

Minimum Uniform Drop: 12/16 Inches in 5 minutes

Percolation Rate = 1"drop in 6.67 minutes

Time	Reading In Inches Total	Increment Drop In Inches
9:39 AM	6 8/16	-
9:44 AM	10 2/16	3 10/16
9:49 AM	11 6/16	1 4/16
9:54 AM	12 4/16	14/16
9:59 AM	13	12/16
10:04 AM	13 12/16	12/16
10:09 AM	14 8/16	12/16
10:14 AM	5 8/16	REFILL
10:19 AM	8 12/16	3 4/16
10:24 AM	10	1 4/16
10:29 AM	11	1
10:34 AM	11 12/16	12/16
10:39 AM	12 8/16	12/16
10:44 AM	13 4/16	12/16

Recorded By: AJP — Date: 03/03/21
Hole: 2 — Project: 10258
Depth: 19" — Diameter: 8"
2:00 PM — 19:35 hrs

Minimum Uniform Drop: 12/16 Inches in 5 minutes

Percolation Rate = 1"drop in 6.67 minutes

Time	Reading In Inches Total	Increment Drop In Inches
9:35 AM	6	-
9:40 AM	8	2
9:45 AM	9	1
9:50 AM	10	1
9:55 AM	10 12/16	12/16
10:00 AM	11 6/16	10/16
10:05 AM	12	10/16
10:10 AM	6 4/16	REFILL
10:15 AM	7 8/16	1 4/16
10:20 AM	8 6/16	14/16
10:25 AM	9 4/16	14/16
10:30 AM	10	12/16
10:35 AM	10 12/16	12/16
10:40 AM	11 8/16	12/16

Recorded By: AJP — Date: 03/03/21
Hole: 3 — Project: 10258
Depth: 18" — Diameter: 8"
2:00 PM — 19:35 hrs

Minimum Uniform Drop: 8/16 Inches in 5 minutes

Percolation Rate = 1"drop in 10.00 minutes

Time	Reading In Inches Total	Increment Drop In Inches
9:37 AM	6	-
9:42 AM	8 10/16	2 10/16
9:47 AM	10 2/16	1 8/16
9:52 AM	11 2/16	1
9:57 AM	11 14/16	12/16
10:02 AM	12 10/16	12/16
10:07 AM	13 6/16	12/16
10:12 AM	6 6/16	REFILL
10:17 AM	8 4/16	1 14/16
10:22 AM	9 4/16	1
10:27 AM	10 4/16	1
10:32 AM	12	1 12/16
10:37 AM	12 10/16	10/16
10:42 AM	13 2/16	8/16
10:47 AM	13 10/16	8/16
10:52 AM	14 2/16	8/16

No.	Date	Revision
1	07/01/2021	ORIGINAL SUBMISSION

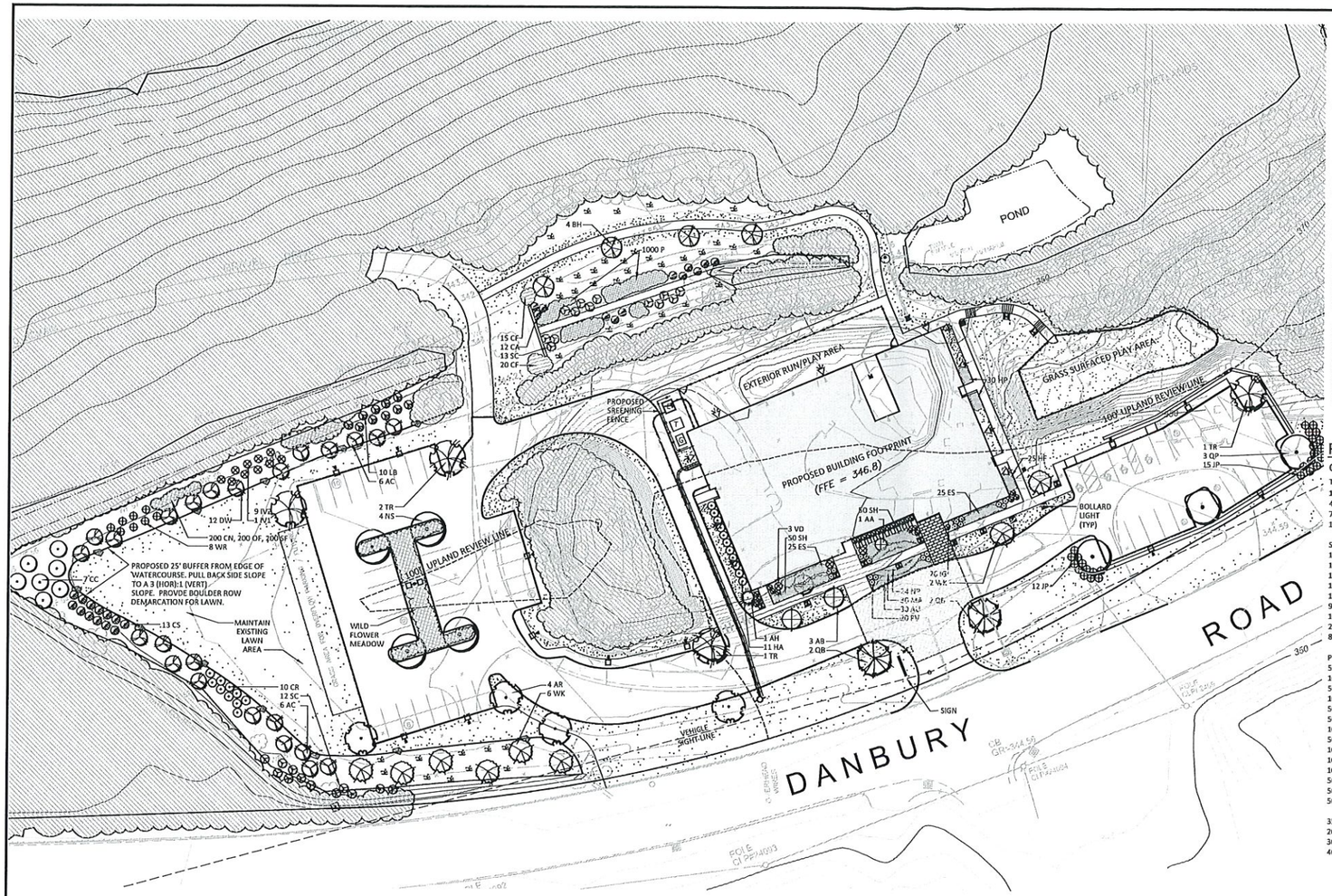
SOIL DATA
DEPICTING
863 DANBURY ROAD
WILTON, CT
PREPARED FOR
CONNECTICUT HUMANE SOCIETY

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: VJH — CHECKED BY: CJF

CRAIG J. FLAHERTY CT. P.E. 21149
July 1, 2021
DATE

SHEET No: SE-9
Comm. No.: 10258



PLANT LIST-BUILDING

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
SHADE TREES					
4	AR	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY MAPLE	2-2.5" CAL.	B&B
3	AB	AMELANCHIER 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SHAD	8-9' HT.	B&B
8	WK	CRATAEGUS 'WINTER KING'	WINTER KING HAWTHORN	2-2.5" CAL.	B&B
4	NS	NYSSA SYLVATICA	BLACK GUM	2-2.5" HT.	B&B
2	QB	QUERCUS BICOLOR	SWAMP WHITE OAK	2-2.5" CAL.	B&B
3	QP	QUERCUS PALUSTRIS	PIN OAK	2-2.5" CAL.	B&B
4	TR	TILIA AMERICANA 'RED REDMOND'	REDMOND LINDEN	2-2.5" CAL.	B&B
EVERGREEN					
1	AH	ILEX OPACA	AMERICAN HOLLY	5-6' HT.	B&B
SHRUBS					
1	AA	ARONIA ARBUTIFOLIA 'BRILLIANTISSIMA'	RED CHOKEBERRY	2-3' HT.	CONT.
11	HA	HYDRANGEA 'ANNABELLE'	ANNEBELLE HYDRANGEA	2-3' HT.	CONT.
26	IG	ILEX GLABRA 'SHAMROCK'	COMPACT INKBERRY	2-3' HT.	CONT.
27	JF	JUNIPERUS X PFITERZERIANA	PFITZER JUNIPER	2-3' HT.	CONT.
3	VD	VIBURNUM DENTATUM 'BLUE MUFFIN'	BLUE MUFFIN ARROWWOOD	36-42" HT.	CONT.
PERENNILAS					
30	AU	ARCTOSTAPHYLOS UVA-URSA	BEARBERRY	1 GAL.	CONT.
50	ES	ERAGROSTIS SPECTABILIS	PURPLE LOVE GRASS	1 GAL.	CONT.
25	HF	HOSTA 'FRAGRANT DREAM'	FRANGENAT DREAM HOSTA	1 GAL.	CONT.
30	HP	HOSTA 'PATRIOT'	PATRIOT HOSTA	1 GAL.	CONT.
30	MA	MOLINA ARUNDINACEA	TALL PURPLE MOOR GRASS	1 GAL.	CONT.
20	PV	PANICUM VIRGATUM 'HANSE HERMS'	HANSE HERMS SWITCHGRASS	1 GAL.	CONT.
100	SH	SPROOBOLUS HETEROLEPSIS	PRAIRE DROPSEED	1 GAL.	CONT.

PLANT LIST-WETLAND

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
TREES					
12	AC	AMELANCHIER CANADENSIS	SHADBLOW	5-6' HT.	B&B
4	BH	BETULA NIGRA 'HERITAGE'	HERITAGE BIRCH	9-10' HT.	B&B
7	CC	CERCIS CANADENSIS	RED BUD	9-10' HT.	B&B
12	DW	CORNUS FLORIDA	FLOWERING DOGWOOD	6-7' HT.	B&B
SHRUBS					
15	BB	CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	2-3' HT.	CONT.
12	CA	CLETHRA ALNIFOLIA	CLETHRA	3-4' HT.	CONT.
10	CR	CORNUS RACEMOSA	GREY DOGWOOD	2-3' HT.	CONT.
13	CS	CORNUS SERICEA	RED OSIER DOGWOOD	2-3' HT.	CONT.
1	IV1	ILEX VERTICILLATA 'SOUTHERN GENTLEMAN'	SOUTHERN GENTLEMAN HOLLY	2-3' HT.	CONT.
9	IV2	ILEX VERTICILLATA 'WINTER RED'	WINTER RED WINTERBERRY	2-3' HT.	CONT.
10	LB	LINDERA BENZOIN	SPICEBUSH	2-3' HT.	CONT.
25	SC	SAMBUCUS CANADENSIS	ELDERBERRY	2-3' HT.	CONT.
8	WR	VIBURNUM CASSINOIDES	NORTHERN WILD RAISIN	2-3' HT.	CONT.
PERENNIALS (1000 PLUGS FROM THE LIST BELOW)					
50	P	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	CONT.
100	P	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	PLUG	CONT.
50	P	ATHYRIUM FILIX-FEMINA	LADY FERN	PLUG	CONT
100	P	CAREX STRICTA	TUSSOCK SEDGE	PLUG	CONT
50	P	DENNSTAEDTIA PUNCTILOBA	HAYSCENTED FERN	PLUG	CONT.
50	P	EUTROCHIUM DUBIUM 'LITTLE JOE'	LITTLE JOE-PYE-WEED	PLUG	CONT.
100	P	IRIS VERSICOLOR	BLUE FLAG IRIS	PLUG	CONT.
50	P	MATTEUCCIA STRUTHIOPTERIS	OSTRICH FERN	PLUG	CONT.
100	P	ONOCLEA SENSIBILIS	SENSITIVE FERN	PLUG	CONT.
100	P	OSMUNDA CINNAMOMEA	CINNAMON FERN	PLUG	CONT.
100	P	OSMUNDA REGALIS	ROYAL FERN	PLUG	CONT.
50	P	POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	PLUG	CONT.
50	P	VERBENA HASTATA	BLUE VERVAIN	PLUG	CONT.
50	P	VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	PLUG	CONT.
35	CF	POLYSTICHUM ACROSTICHOIDES	CHRISTMAS FERN	1 GAL.	CONT
200	OS	ONOCLEA SENSIBILIS	SENSITIVE FERN	1 QRT.	CONT.
300	OC	OSMUNDA CINNAMOMEA	CINNAMON FERN	1 GAL.	CONT.
400	OR	OSMUNDA REGALIS	ROYAL FERN	1 GAL.	CONT.

LEGEND

- PROPERTY LINE
- WETLAND LINE
- 100' WATERCOURSE UPLAND REVIEW LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- NEW FENCE WITH GATE
- EX. EVERGREEN/DECIDUOUS TREE TO REMAIN (APPROX. LOCATION)
- NEW EVERGREEN TREE
- NEW DECIDUOUS SHADE TREE
- NEW SMALL FLOWERING TREE
- NEW SHRUB
- NEW / EX. LAWN
- TREE LINE TO REMAIN (APPROX.)
- NEW LIGHT POLE
- NEW WALL MOUNTED LIGHT FIXTURE
- NEW BOLLARD LIGHT
- NEW UPLAND MEADOW
- NEW DUMPSTER LOCATION
- NEW BOULDER DEMARCATION BARRIER
- NEW BUILDING/ADDITION

GENERAL NOTES:

1. EXISTING AND PROPOSED SITE INFORMATION TAKEN FROM A DIGITAL AUTOCADD SITE PLAN SUPPLIED BY REDNISS & MEAD, DATED XXXXX.
2. CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 TO HAVE UNDERGROUND UTILITY LINES MARKED BY THEM PRIOR TO START OF ANY EXCAVATION WORK.
3. EXACT LOCATION OF PROPOSED PLANTINGS AND SPECIES TYPES MAY VARY FROM THIS PLAN BASED ON SITE PLAN REVISIONS AND/OR ACTUAL FIELD CONDITIONS.
4. PLANT SPECIES SUBSTITUTIONS MAY BE MADE WITH THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING. SUBSTITUTED PLANTS SHALL BE AT AN EQUAL OR GREATER SIZE AS NOTED USING A SIMILAR TYPE PLANT.
5. IN THE EVENT OF A DISCREPANCY BETWEEN THE QUANTITIES OF PLANTS IN THE "PLANT LIST" AND THE ACTUAL QUANTITIES SHOWN ON THE PLAN, THE PLAN SHALL GOVERN.

GRAPHIC SCALE
0' 15' 30' 60'

PROJECT NORTH

REVISIONS:

DRAWING TITLE: LANDSCAPE PLAN

PROJECT:
CONNECTICUT HUMAN SOCIETY
863 DANBURY ROAD
WILTON, CONNECTICUT

ENVIRONMENTAL LAND SOLUTIONS, LLC
Landscape Architecture and Environmental Planning
8 KNIGHT STREET, SUITE 203
NORWALK, CONNECTICUT 06851
Tel: (203) 855-7879 Fax: (203) 855-7836
info@elsllc.net www.elsllc.net

DATE: JULY 1, 2021
SCALE: 1"=30'
DRAWING NO.: LP.1

GENERAL INVASIVE PLANT SPECIES CONTROL NOTES:

1. REMOVAL OF NONNATIVE INVASIVE PLANTS TO BE ONGOING OVER A THREE (3) YEAR PERIOD (OR LONGER). SCOPE OF WORK MAY VARY YEAR TO YEAR BASED ON FINANCIAL LIMITATIONS.
2. THE LANDSCAPE CONTRACTOR SHALL CONTACT THE PROJECT ENVIRONMENTAL CONSULTANT WITH ANY QUESTIONS REGARDING THE CONTROL OR IDENTIFICATION OF INVASIVE NONNATIVE SPECIES.
3. THE LANDSCAPE CONTRACTOR SHALL FOLLOW THE METHODS AND RECOMMENDATIONS RECOMMENDED BY THE HERBICIDE MANUFACTURER AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS. A PERMIT FROM DEEP IS REQUIRED FOR ANY PESTICIDE APPLICATION TO A BODY OF WATER.
4. ALL CUT OR PULLED INVASIVE NONNATIVE PLANT MATERIALS SHALL BE DISPOSED OF APPROPRIATELY AND COMPLY WITH THE 2004 DEEP / UCONN "GUIDELINES FOR DISPOSAL OF TERRESTRIAL INVASIVE PLANTS." ALL CUTTINGS SHALL BE COLLECTED AND PLACED ONSITE ON A PLASTIC TARP (OR ON AN ASPHALT PAVEMENT AREA) AND SUN DRIED UNTIL DEAD. AVOID CUTTINGS FROM BEING IN CONTACT WITH ANY SOIL. DEAD PLANTS SHALL BE BAGGED AND DEPOSITED AT AN INCINERATOR WASTE FACILITY (NOT A COMPOSTING FACILITY).
5. START CONTROL OF INVASIVE PLANT SPECIES PRIOR TO THE START OF EARTH MOVING ACTIVITIES. CONTROL NONNATIVE INVASIVE SPECIES AS FOLLOWS:
   A. FOR JAPANESE KNOTWEED, ASIATIC BITTERSWEET, AND AILANTHUS CONTROL.
      STEP #1 (PRIOR TO HERBICIDE TREATMENT): CUT PLANT DOWN TO GRADE LEVEL DURING THE GROWING SEASON (LATE SUMMER OR EARLY FALL IS PREFERABLE). REMOVE ASIATIC BITTERSWEET ROOTS IF FEASIBLE. DISPOSE OF CUT PLANT MATERIAL AS OUTLINED ABOVE.
      STEP #2: IMMEDIATELY AFTER CUTTING, TREAT CUT STEMS WITH AN APPROPRIATE HERBICIDE (SUCH AS ROUND-UP) AT THE RATE AND METHODS RECOMMENDED BY THE MANUFACTURER. CARE SHALL BE TAKEN TO AVOID HERBICIDE CONTACT WITH NATIVE OR OTHER DESIRABLE VEGETATION.
      STEP #3: CHECK CONTROL AREA MONTHLY DURING THE GROWING SEASON FOR NEW GROWTH. SPOT TREAT NEW GROWTH WITH AN APPROPRIATE HERBICIDE AS NEEDED FOR CONTROL.
   B. FOR MUGWORT CONTROL.
      STEP #1: PULL PORCELAINBERRY PLANTS (INCLUDING ROOTS IF FEASIBLE) FROM THE GROUND DURING THE SPRING AND EARLY SUMMER MONTHS. HOWEVER, MANUAL CONTROL MAY BE DIFFICULT BECAUSE OF THEIR HE EXTENSIVE ROOT SYSTEM. IF PORCELAINBERRY IS CUT AT GRADE, TREAT CUT STEMS SYSTEMIC HERBICIDE.
      STEP #2: FOLLOW UP WITH BOTH MANUAL REMOVAL AND HERBICIDE TREATMENT MONTHLY UNTIL CONTROLLED.
   C. FOR PHRAGMITES CONTROL (ONLY IN PROPOSED WORK AREAS).
      STEP #1: CUT BACK IN MID SUMMER AND APPLY HERBICIDE (GLYPHOSATE) WHEN REGROWTH REACHES 2-3' TALL. GLYPHOSATE IS MOST ACTIVE IN LATE SUMMER WHEN PHRAGMITES IS IN FULL BLOOM. REPEAT HERBICIDE TREATMENT WILL LIKELY BE NECESSARY.
      STEPS 2: AFTER 2 TO 3 WEEKS FOLLOWING HERBICIDE APPLICATIONS, CUT OR MOW DOWN THE STALKS TO STIMULATE THE EMERGENCE AND GROWTH OF OTHER PLANTS PREVIOUSLY SUPPRESSED.
6. CARE SHALL BE TAKEN TO AVOID HERBICIDE CONTACT WITH NATIVE OR OTHER DESIRABLE VEGETATION. IN AREAS WHERE NATIVE PLANTS ARE GROWING NEAR PLANTS TO BE CONTROLLED, THE HERBICIDE SHALL NOT BE SPRAYED ONTO THE TARGET PLANTS. IN THESE AREAS THE HERBICIDE SHALL BE APPLIED WITH A BRUSH OR CLOTH.

JAPANESE KNOTWEED CONTROL:

1. DURING THE FIRST SEASON OF CONTROL (AND AS NEEDED), THE LANDSCAPE CONTRACTOR SHALL MEET ONSITE WITH THE PROJECT LANDSCAPE ARCHITECT TO REVIEW CONTROL OF JAPANESE KNOTWEED AS DESCRIBED BELOW. ADDITIONAL SITE MEETINGS MAY BE WARRANTED AS NEEDED.
2. THE LANDSCAPE CONTRACTOR SHALL CONTINUE THE CONTROL AS OUTLINED BELOW FOR A THREE (3) YEAR CONTINUOUS PERIOD.
3. ALL CUT OR PULLED PLANT MATERIALS SHALL BE DISPOSED OF APPROPRIATELY AND COMPLY WITH THE 2004 DEEP / UCONN "GUIDELINES FOR DISPOSAL OF TERRESTRIAL INVASIVE PLANTS." ALL CUTTINGS SHALL BE COLLECTED AND PLACED ONSITE ON A PLASTIC TARP (OR ON AN ASPHALT PAVEMENT AREA) AND SUN DRIED UNTIL DEAD. AVOID CUTTINGS FROM BEING IN CONTACT WITH ANY SOIL. DEAD PLANTS SHALL BE BAGGED AND DEPOSITED AT AN INCINERATOR WASTE FACILITY (NOT A COMPOSTING FACILITY).
4. JAPANESE KNOTWEED CONTROL SHALL BE AS FOLLOWS WITH MODIFICATIONS AS NEEDED:
   STEP #1: APRIL - JULY: CUT JAPANESE KNOTWEED MONTHLY TO JUST ABOVE GRADE. ALL CUTTINGS SHALL BE COLLECTED AND PLACE ON A PLASTIC TARP (OR ON AN ASPHALT PAVEMENT AREA) AND SUN DRIED UNTIL DEAD. AVOID CUTTINGS FROM BEING IN CONTACT WITH ANY SOIL. DEAD PLANTS SHALL BE BAGGED AND DEPOSITED AT AN INCINERATOR WASTE FACILITY (NOT A COMPOSTING FACILITY).
   STEP #2: AUGUST - NOVEMBER: THOROUGHLY TREAT NEW GROWTH WITH AN APPROPRIATE HERBICIDE, SUCH AS ROUNDUP IN UPLAND AREAS AND IMAZAPYR (TRADE NAME: HABITAT) IN WET CONDITIONS, MONTHLY AT THE RATES AND METHODS RECOMMENDED BY THE MANUFACTURER. DO NOT APPLY SO HEAVILY THAT HERBICIDE WILL DRIP OFF LEAVES. DO NOT CUT DOWN TREATED PLANTS UNTIL THE FOLLOWING MARCH.
   STEP #3: REPEAT STEP #1 AND #2 FOR A THREE YEAR PERIOD OR AS NEEDED IF KNOTWEED STANDS ARE PERSISTENT.
   STEP #4: WHEN STANDS OF JAPANESE KNOTWEED ARE NO LONGER PERSISTENT, CONTINUE TO INSPECT AREA MONTHLY DURING THE GROWING SEASON. IF JAPANESE KNOTWEED PLANTS ARE FOUND RESPROUTING IN LIMITED AREAS, REMOVE INDIVIDUAL PLANTS BY HAND GRUBBING LEAVES AND ROOTS. ALL GRUBBED PLANT PARTS SHALL BE SUN DRIED UNTIL DEAD AND AVOIDING ANY CONTACT WITH ANY SOIL.
   STEP #5: AFTER THE TWO THREE YEAR CONTROL PERIOD IF STANDS OF JAPANESE KNOTWEED PLANTS RESPOUT, PROCEED BACK TO STEP #1 ABOVE.

WATERCOURSE RECONSTRUCTION MANAGEMENT NOTES:

1. DO NOT FERTILIZE MITIGATION AREAS UNLESS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.
2. MOW MITIGATION SEEDED AREAS MONTHLY TO A 4-6" HEIGHT DURING THE FIRST GROWING SEASON AFTER SEEDING TO CONTROL WEED PLANTS.
3. DURING THE FIRST GROWING SEASON, WATER PLANTINGS AS NEEDED UNTIL THEY BECOME ESTABLISHED.
4. DURING THE FIRST TWO GROWING SEASONS AFTER THE INITIAL SEEDING OF THE RESTORED AREA, RESEEDING BARE AND THINLY VEGETATED AREAS WITH THE SPECIFIED SEED MIXTURE.
5. ROUTINE YEARLY MAINTENANCE:
   A. REMOVAL OF LITTER, AND DEAD, DISEASED, OR UNHEALTHY PLANT WHICH ARE A SAFETY HAZARD
   B. REMOVAL OF INVASIVE NONNATIVE PLANT SPECIES CAN BE DONE BY HAND PULLING, CUTTING, OR SPOT HERBICIDE TREATMENTS. NONNATIVE INVASIVE PLANTS PULLED OR CUT SHALL BE LEFT ON THE GROUND SOIL FREE IN A SUNNY LOCATION FOR THEIR ROOTS TO DRY. TUBEROUS WEED PLANTS (SUCH AS JAPANESE KNOTWEED AND PHRAGMITES) SHALL BE LEFT SOIL FREE ON AN IMPERVIOUS BARRIER (SUCH AS BLACK PLASTIC, DRIVEWAYS AND WALKS) UNTIL DEAD SO THAT THEY DO NOT RE-SPROUT. DO NOT REMOVE PULLED OR CUT NONNATIVE INVASIVE PLANTS FROM THE SITE UNTIL DEAD.

WATERCOURSE RECONSTRUCTION NOTES:

1. THE WETLAND CREATION SITE SHALL HAVE A 6-8" LAYER OF WETLAND SOIL MIX CONSISTING OF AN EQUAL VOLUMES OF ORGANIC AND MINERAL MATERIALS. WELL-DECOMPOSED CLEAN LEAF COMPOST IS THE PREFERRED SOIL AMENDMENT TO ACHIEVE THESE STANDARDS. WETLAND SOILS SHALL HAVE A MINIMUM OF 7 TO 21 PERCENT ORGANIC MATTER ON A DRY WEIGHT BASIS. "CLEAN" REFERS TO BEING WEED FREE, CONTAINING A NEGLIGIBLE AMOUNT OF PHYSICAL CONTAMINANTS SUCH AS PLASTIC, AND A LACK OF CHEMICAL CONTAMINANTS THAT MIGHT POSE A HAZARD TO PLANTS OR ANIMALS. ONSITE STOCKPILED TOPSOIL MAY BE USED IN WETLAND SOIL MIX IF SUITABLE. COMMERCIAL PEAT IS NOT SUITABLE AS A SOIL AMENDMENTS WITHOUT THE PRIOR APPROVAL OF THE WETLAND SCIENTIST SINCE ITS HARVESTING METHODS ARE GENERALLY DESTRUCTIVE TO WETLANDS.
2. AVOID SOIL COMPACTION BY HEAVY MACHINERY IN THE WATERCOURSE RECREATION AND BUFFER AREAS SINCE THIS MAY ADVERSELY AFFECT PLANTINGS AND/OR MAY RESULT IN PERCHING OF WATER. IF USE OF HEAVY MACHINERY CANNOT BE AVOIDED, LOOSEN BY DISKING OR SOME OTHER TREATMENT TO LOOSEN THE SOIL SURFACE PRIOR TO PLANTING.
3. ADD COARSE WOODY DEBRIS, SUCH AS LOGS, STUMPS, SMALLER BRANCHES, AND STANDING SNAGS (BUT NOT WOOD CHIPS OR MULCH MADE FROM WOOD), OVER THE CREATED WETLAND AREAS. COARSE WOODY DEBRIS SHALL BE IN VARIOUS STAGES OF DECOMPOSITION AND SALVAGED FROM NATURAL AREAS CLEARED FOR THE OTHER ELEMENTS OF THE PROJECT WHERE FEASIBLE. IN AREAS WHICH MAY BECOME FLOODED, ANCHOR OR PARTIALLY BURY SNAGS AND OTHER LARGER COMPONENTS OF WOODY DEBRIS INTO THE SOIL.

PLANTING NOTES:

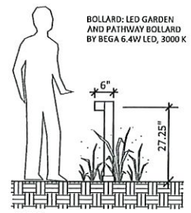
1. CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 TO HAVE UNDERGROUND UTILITY LINES MARKED BY THEM PRIOR TO START OF ANY EXCAVATION WORK.
2. EXACT LOCATION OF PROPOSED PLANTINGS AND SPECIES TYPES MAY VARY FROM THIS PLAN BASED ON SITE PLAN REVISIONS AND/OR ACTUAL FIELD CONDITIONS.
3. SPRAY NEW PLANTINGS IMMEDIATELY AFTER INSTALLATION WITH A WHITE-TAILED DEER REPELLENT AND CONTINUE AS NEEDED TO MAINTAIN PLANTS FREE OF SIGNIFICANT DEER BROWSING.
4. PROTECT NEW DECIDUOUS TREE TRUNKS WITH 4' HT. CHICKEN-WIRE FENCING (OR OTHER PROTECTIVE NETTING) AS NEEDED TO PREVENT DEER RUBBING.
5. PLANT SPECIES SUBSTITUTIONS MAY BE MADE WITH THE APPROVAL OF THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING. SUBSTITUTED PLANTS SHALL BE AT AN EQUAL OR GREATER SIZE AS NOTED USING A SIMILAR TYPE PLANT.
6. MULCH AREAS AROUND NEW TREES AND SHRUBS WITH A 3" THICK LAYER OF SHREDDED CEDAR BARK MULCH. NEW TREES SHALL EACH HAVE A 5' MIN. DIA. MULCHED BED AND NEW SHRUBS SHALL EACH HAVE A MINIMUM 3' DIAMETER MULCHED BED. AREAS WITHIN 4" OF TREE TRUNKS SHALL BE MAINTAINED FREE OF MULCH.
7. PLANTING METHODS SHALL BE IN ACCORDANCE WITH THE "AMERICAN STANDARDS FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
8. THE CONTRACTOR SHALL VERIFY WITH THE PROJECT ENGINEER THAT THE NEW PLANTINGS DO NOT INTERFERE WITH EXISTING AND/OR PROPOSED UTILITIES, SIGHT LINES, AND/OR STRUCTURES.
9. IN THE EVENT OF A DISCREPANCY BETWEEN THE QUANTITIES OF PLANTS IN THE "PLANT LIST" AND THE ACTUAL QUANTITIES SHOWN ON THE PLAN, THE PLAN SHALL GOVERN.
10. THIS PLAN FOR PLANTING PURPOSES ONLY. SEE PLANS BY OTHERS FOR ADDITIONAL INFORMATION.
11. THE LANDSCAPE CONTRACTOR SHALL TEST THE SOIL IN AREAS TO BE LANDSCAPED FOR DETERMINING THE NEED OF ADDING SOIL AMENDMENTS TO SUPPORT PROPER PLANT GROWTH. SUCH AMENDMENTS SHALL BE PROVIDED BY THE LANDSCAPE CONTRACTOR IF NEEDED.
12. WETLAND PLANT MATERIAL AVAILABLE FROM PINELANDS NURSERY & SUPPLY (800-667-2729). NEW WETLAND PLANTINGS SHALL HAVE BEEN GROWN IN HYDRIC CONDITIONS THAT MIMIC WETLANDS.
13. THE BOULDER DEMARCATION ROW SHALL BE COMPOSED OF TWO-MAN BOULDERS (2 CUBIC FEET) OR LARGER SPACED A MAXIMUM OF 20' ON CENTER. MAINTAINED LANDSCAPED AREAS (SUCH AS LAWN) WILL BE PERMITTED TO THE UPHILL SIDE OF THE BOULDER ROW. LAND TO THE DOWN HILL SIDE OF THE BOULDER ROW SHALL BE MAINTAINED IN A NATURAL UNMAINTAINED WOODED STATE (OR UNMANICURED VEGETATIVE STATE) (OR AS A MEADOW THAT IS MOWN ONCE PER YEAR DURING THE LATE FALL OR WINTER MONTHS TO A 4-6" HEIGHT. THE BOULDERS MAY BE PARTIALLY SUNKEN INTO THE GROUND WITH A MINIMUM OF 8-12" EXPOSED ABOUT THE FINAL GRADE.

SEEDING NOTES:

1. SEED AREAS PER PLAN AT THE METHODS AND 125% THE APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. THE SEED SHALL BE SPREAD ON THE PREPARED SOIL, LIGHTLY RAKED TO ESTABLISH GOOD SOIL CONTACT AFTER SOWING, AND MULCHED WITH A 2 INCH LOOSE LAYER OF CLEAN OAT STRAW OR COMMERCIAL WOOD FIBER PRODUCTS APPLIED BY HAND OR BY HYDROSEEDING ON SLOPES LESS THAN 10%. SEEDED AREAS ON SLOPES ON OR GREATER THAN 10% SHALL BE COVERED WITH A PLASTIC-FREE AND 100% BIODEGRADABLE (INCLUDING ANCHOR STAPLES) EROSION CONTROL BLANKET. A NURSE CROP OF PERENNIAL RYE GRASS AT THE RATE OF 40 LBS./ACRE SHALL BE ADDED TO THE SEED MIX ON SLOPES OF EXCESS OF 10% AND AS SPECIFIED. SEED MIX SUBSTITUTIONS SHALL BE EQUIVALENT TO THAT SPECIFIED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO USE. UNLESS OTHERWISE SPECIFIED, MAINTAIN SEEDED AREAS AS RECOMMENDED BY THE MANUFACTURER. EXCEPT FOR LAWN AREAS, DO NOT FERTILIZE AREAS TO BE SEEDED UNLESS SPECIFIED BY THE MANUFACTURER. SEED AREAS AS PER THE FOLLOWING SCHEDULE:
   A. LAWN (AROUND BUILDING AND PARKING LOT):
      SEED DISTURBED LAWN AREAS WITH "BLACK BEAUTY FESCUE" OR APPROVED EQUAL, SEEDING RATES SHALL BE AT THE MANUFACTURER'S RECOMMENDED SEEDING RATE. FERTILIZE AT THE RATE, AS RECOMMENDED BY A ON SITE SOIL TEST.
   B. SHADY LAWN AREAS (ADJACENT TO WALKS WEST OF THE BUILDING:
      SEED SHADY LAWN AREAS WITH "SMART SEED DENSE SHADE MIX" BY PENNINGTON SEED INC. OR APPROVED EQUIVALENT. APPLY SOIL AMENDMENTS AS RECOMMENDED BY THE MANUFACTURER.
   C. STEEP SLOPES:
      SEED THIS AREA WITH "NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS" BY ERNST SEEDS (ERNMX-181).
   D. WETLAND BUFFERS (UPLAND AREAS):
      SEED THIS AREA WITH "NEW ENGLAND CONSERVATION / WILDLIFE SEED MIX" BY FROM NEW ENGLAND WETLAND PLANTS, INC. (413-548-8000).
   E. DAY LIGHTED WATERCOURSE CORRIDOR:
      SEED THIS AREA WITH "WETMIX" BY NEW ENGLAND WETLAND PLANTS, INC. (413-548-8000).
   F. WILD FLOWER MEADOW IN PARKING LOT:
      SEED THIS AREA WITH "SHOWY NORTHEAST NATIVE WILDFLOWER & GRASS MIX", BY ERNST SEED #153.
2. IF SPECIFIED SEEDING CAN NOT OCCUR DUE TO SEASONAL AND WEATHER CONDITIONS, TEMPORARY SEED DISTURBED UPLAND AREAS WITH A MIXTURE OF ANNUAL RYE AT 20 LBS./ACRE, PERENNIAL RYE AT 20 LBS./ACRE, AND REDTOP AT 2 LBS./ACRE AND DISTURBED WETLAND AREAS WITH ANNUAL RYE AT THE RATE OF 30 LBS./ACRE. MULCHING, WITHOUT SEEDING, MAY BE USED DURING THE NON-GROWING SEASON IN ACCORDANCE WITH THE THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL (2002)".
3. THE SEED SHALL BE SPREAD ON PREPARED SOIL, RAKED LIGHTLY TO ESTABLISH GOOD SOIL CONTACT, AND MULCHED WITH A 2 INCH LOOSE LAYER OF CLEAN OAT STRAW OR COMMERCIAL WOOD FIBER PRODUCTS APPLIED BY HAND OR BY HYDROSEEDING ON SLOPES LESS THAN 10%. SEEDED AREAS THAT ARE ON SLOPES ON OR GREATER THAN 10% SHALL BE COVERED WITH AN EROSION CONTROL BLANKET (INCLUDING ANCHOR STAPLES) THAT IS PLASTIC-FREE AND 100% BIODEGRADABLE OR PHOTODEGRADABLE WITHIN TWO YEARS.

LANDSCAPE LIGHTING NOTES:

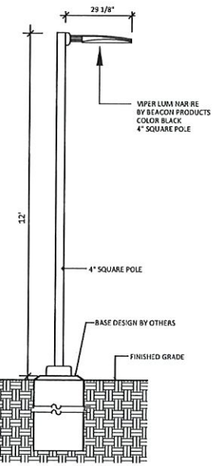
1. SITE LIGHTING INFORMATION ON PLAN WAS PREPARED BY OTHERS AND IS SHOWN ONLY FOR GENERAL REFERENCE PURPOSES.
2. SITE LIGHTING INFORMATION AND LIGHTING PLANS PREPARED BY ENVIRONMENTAL LAND SOLUTIONS, LLC ARE DESIGNED FOR GENERAL LANDSCAPE AESTHETIC PURPOSES ONLY. LIGHTING INFORMATION SHOWN ON THIS PLAN SHALL NOT BE USED FOR SECURITY OR SAFETY PURPOSES.
3. LOCATION AND TYPE OF LIGHT FIXTURES ARE TYPICAL AND MAY VARY BASED ON ACTUAL FIELD CONDITIONS, SITE AND ARCHITECTURAL PLAN REVISIONS, USE OF EXISTING LIGHTING (IF ANY), NEW BUILDING MOUNTED LIGHTING, AESTHETICS, AND CONSULTATIONS WITH LIGHTING CONSULTANT AND/OR MANUFACTURER.
4. THIS PLAN ASSUMES THAT THE BUILDING WILL HAVE WALL MOUNTED FIXTURES (BY OTHERS) TO LIGHT THE FACADE AND ADJACENT LANDSCAPE AREAS (INCLUDING WALKS AND DOORS).
5. INSTALL LIGHT FIXTURES AS RECOMMENDED BY THE MANUFACTURER.
6. LIGHT POLES ADJACENT TO PARKING SPACES SHALL BE SET AT LEAST 3' OFF THE CURB LINE TO PREVENT BEING BUMPED BY VEHICLES.



BOLLARD: LED GARDEN AND PATHWAY BOLLARD BY BEGA 6.4W LED, 3000 K

NOTES:
1. INSTALL BOLLARD AS RECOMMENDED BY THE MANUFACTURER.

BOLLARD LIGHT
SCALE: NOT TO SCALE



NOTE:
1. LIGHT FIXTURE & POLE BY BEACON PRODUCTS.
2. POLE AND FIXTURE COLOR SHALL BE BLACK.
3. INSTALL LIGHT POLE AND FOOTING PER MANUFACTURER'S RECOMMENDATIONS.

LIGHT POLE (TYP.)
SCALE: NOT TO SCALE

REVISIONS:

DRAWING TITLE: DETAILS AND NOTES

PROJECT: CONNECTICUT HUMANE SOCIETY
863 DANBURY ROAD
WILTON, CONNECTICUT

ENVIRONMENTAL LAND SOLUTIONS, LLC
Landscape Architecture and Environmental Planning
8 KNIGHT STREET, SUITE 203
NORWALK, CONNECTICUT 06851
Tel: (203) 855-7879 Fax: (203) 855-7836
info@elsllc.net www.elsllc.net

SEAL:

DATE: JULY 1, 2021
SCALE: 1"=20'
DRAWING No.: LP.2

SITE ENGINEERING REPORT

Prepared For

863 Danbury Road
Wilton, CT

Prepared by
Redniss & Mead, Inc.
22 First Street
Stamford, CT
(203) 327-0500

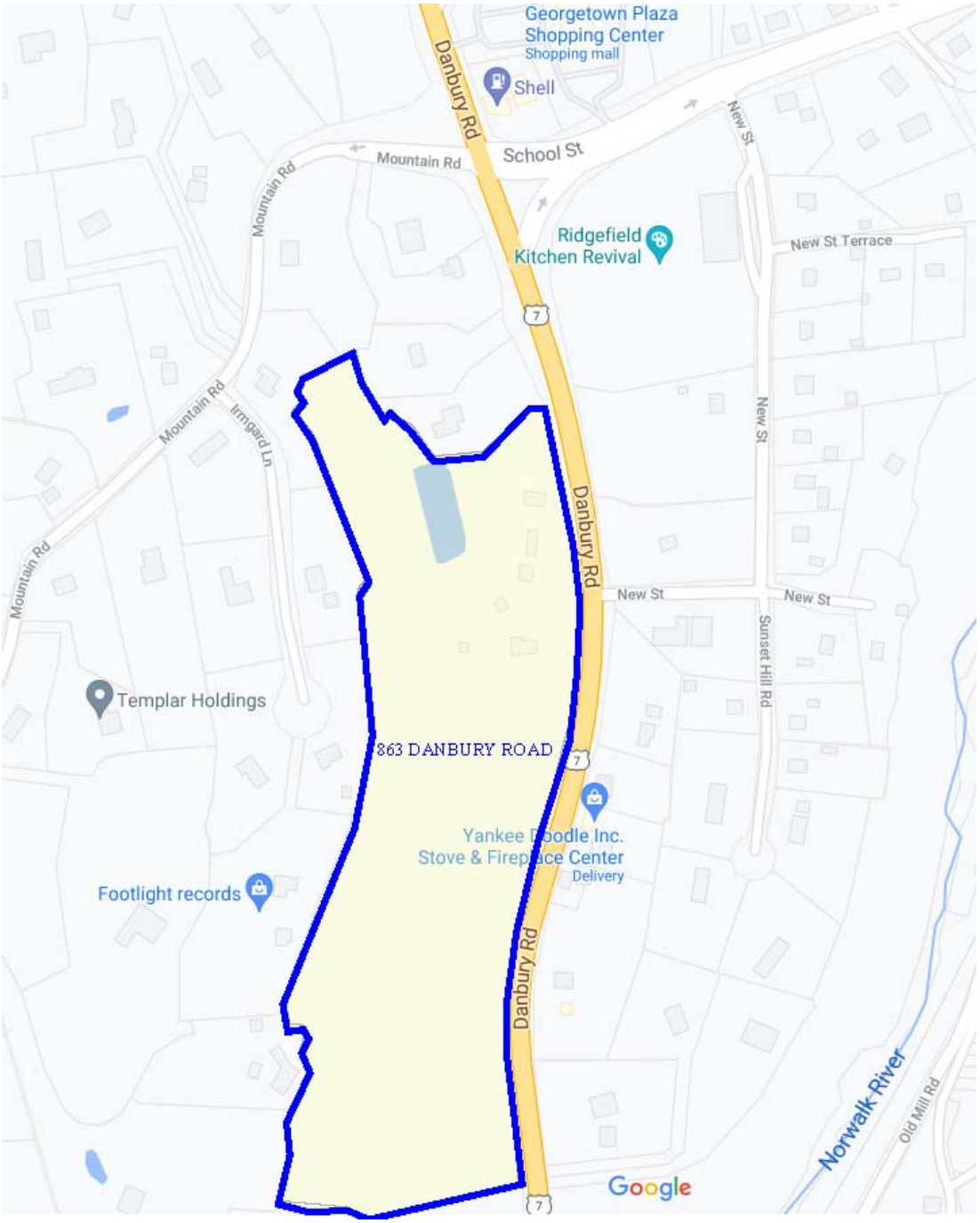
Issued on
July 1, 2021

Craig J. Flaherty, P.E.
CT Lic. No. 21149

TABLE OF CONTENTS

APPENDICES

Orientation



REDNISS & MEAD

Drainage Narrative

Project Description

The Connecticut Humane Society is proposing to redevelop the property located at 863 Danbury Road in Wilton, CT. The redevelopment includes the demolition of the existing on-site structures and the construction of a new single-story commercial building, parking, driveways, walkways, and associated site improvements. The parcel is approximately 18.32 acres and lies within the R-1A zone. Reference is made to the Civil Site Plan set prepared by Redniss & Mead, Inc. dated 7/1/2021 and Property and Topographic Survey dated 1/20/2021.

Existing Conditions

The site is currently developed with six buildings (four dwellings and two detached garages), asphalt parking and driveways, gravel driveways, sidewalks, and other ancillary site improvements. In total, the site is approximately 18.32 acres. For the purpose of this report an on-site area of approximately 10.12 acres is studied. The study area contains 1.02 ± acres of impervious coverage. The remaining portion of the site consists of watercourses, wetlands, landscaping and wooded area. There is no formal storm water quality system on site under existing conditions. There are State owned storm drainage facilities in Danbury Road which discharge into the watercourse on the parcel. There is an existing State of Connecticut Drainage Right-of-Way recorded for the above-mentioned discharge (Deed Vol. 1188, Pg. 342 W.L.R.). The Connecticut DOT District 3, on February 16th, 2021 confirmed there are no known drainage concerns at this location attributable to the site.

Storm water runoff from the property generally drains toward the on-site watercourses that bisect the property. In particular, this report focuses on two segments of watercourse and the study point is their intersection: the first starts in the northeast corner of the site and flows toward the south/southeast; and the second starts along the eastern property line and flows toward the south/southwest. Refer to the Existing Drainage Basin Exhibits (Appendix 1) for the breakdown of tributary area and the location of the discharge study point. Ultimately, the watercourse continues southeast where it is collected via a 30" RCP pipe and connected into the Danbury Road drainage system, with an eventual outfall into the Norwalk River. Including offsite area, the total tributary area to the study point is 66.8± acres (12.3± acres of impervious coverage). As part of this drainage report, each of the two segments of watercourse (West Basin and East Basin) are analyzed, using Hydrocad software, to compare existing and proposed peak flow rates.

The west basin is 35.71± acres (7.56± acres onsite area), of which 4.95± acres is impervious coverage (0.52± acres onsite impervious coverage). Runoff from offsite areas generally sheet flow onto the subject property and eventually into the watercourse or into the town owned drainage infrastructure within Irmgard Lane and Mountain Road where it then piped directly to the head of the watercourse. The onsite runoff is tributary to the watercourse via overland sheet flow.

The east basin is 31.14± acres (2.56± acres onsite area), of which 7.39± acres is impervious coverage (0.50± acres onsite impervious coverage). A majority of the offsite area within this basin is collected via existing catch basins within Danbury Road and piped directly into the watercourse. Runoff

from the onsite areas sheet flow overland into the watercourse. Onsite impervious coverage discharges at grade and sheet flows to the watercourse.

Proposed Conditions

Under proposed conditions, the existing buildings and improvements will be razed and replaced with a new single-story commercial building (approximately 14,490 square feet of floor area), surface parking (59 parking spaces), and associated site amenities and improvements. In all, impervious coverage on the property is increased by 0.48± acres (1.50± acres in total). However, the new driveways and parking areas will be either porous asphalt or permeable pavers, both of which have crushed stone reservoirs below, which will result in an effective impervious coverage of 0.65 acres (or a decrease of approximately 0.37 acres). Reference is made to the site and utility plans prepared by Redniss & Mead, Inc.

The proposed improvements are primarily kept to the eastern portion of the property (along Danbury Road), with the exception of gravel surfaces and the proposed septic system. Site constraints include steep slopes, watercourse and wetland limits, and shallow depths to ledge and/or groundwater. Considering these constraints, the proposed onsite storm system was designed with an emphasis on maintaining peak flow attenuation and providing water quality improvements via surface treatments where practicable. To that point, a system of porous asphalt and permeable pavers are proposed.

The driveway and parking areas are split into seven porous basins (Porous 1 (P1) through Porous 7 (P7)). The porous asphalt and permeable paver systems within these basins consist of the same profile: porous pavement over 2" of stone bedding course and 18" of crushed stone reservoir. Each has a high overflow set using a flush concrete curb (weir) at the low elevation within each basin. An additional porous basin (P8) is provided at the exterior play area to the west of the building and consists of permeable pavers over 2" of stone bedding and a 1.4'+ sand filter. Each of the noted porous basins is sized to treat the tributary water quality volume.

Within the west basin, tributary area increases by 0.05 acres. The total tributary area under proposed conditions is 35.76± acres with 5.00± acres of impervious coverage (0.57 acres of which is onsite). The offsite runoff will continue to flow into the watercourse as it does under existing conditions. Porous basins P6 through P8 are tributary to the west basin and provide treatment for approximately 0.39 acres of impervious coverage. Untreated impervious coverage within the west basin consists of gravel paths and drives and a portion of concrete walkway. In total, the crushed stone reservoirs provide 3,637 ft^3 of water quality volume (1,406 ft^3 required). With the proposed porous asphalt and permeable pavers, the discharge for the western watercourse segment is decreased from 73.21 cfs under existing conditions to 72.66 cfs under proposed conditions (25-year storm event).

Within the east basin, tributary area decreases by 0.05 acres. The total tributary area under proposed conditions is 31.09± acres with 7.82± acres of impervious coverage (0.93 acres of which is onsite). The offsite runoff will continue to flow into the watercourse as it does under existing conditions. Porous basins P1 through P5 are tributary to the east basin and provide treatment for approximately 0.59 acres of impervious coverage. Untreated impervious coverage within the east basin consists of a small portion of the driveway entrance and the building roof; building roof is generally considered clean as it relates to stormwater runoff. In total, the crushed stone reservoirs provide 4,820 ft^3 of water quality

volume (2,070 ft^3 required). With the proposed porous asphalt and permeable pavers and a decrease in tributary area, the discharge for the eastern watercourse segment is decreased from 67.69 cfs under existing conditions to 67.07 cfs under proposed conditions (25-year storm event).

For purposes of this report, the 10 and 25-year storm events were compared. Note that the rainfall rates used are based upon the National Oceanic and Atmospheric Administration (NOAA) National Weather Service Hydrometeorological Design Studies Center Precipitation Frequency Data Server (PFDS) for the area. The NRCS Soil Survey indicates that soils within the studied watershed are within Hydrologic Soil Group classifications A, B, and D; refer to appendix 4 for soil data.

Storm Event (year)	East Basin			West Basin		
	Existing Conditions (cfs)	Proposed Conditions (cfs)	Reduction from Existing (%)	Existing Conditions (cfs)	Proposed Conditions (cfs)	Reduction from Existing (%)
10	47.28	46.66	-1.3	50.49	50.07	-0.8
25	67.69	67.07	-0.9	73.21	72.66	-0.8

Storm Event (year)	Overall Study Point		
	Existing Conditions (cfs)	Proposed Conditions (cfs)	Reduction from Existing (%)
10	97.73	96.72	-1.0
25	140.89	139.73	-0.8

Water Quality Improvements

The site impervious area increases by 0.48 acres to 1.50 acres in total for the site under proposed conditions. As this includes approximately 0.85 acres of porous asphalt and permeable pavers which are proposed for the driving surfaces within the site, the effective impervious coverage is 0.65 acres (or a decrease of approximately 0.37 acres). In addition to the reduction in effective impervious coverage, water quality from the proposed development will be improved as compared to existing conditions via the following methods:

1. Implementation of water quality and groundwater recharge designs where none exist under existing conditions.

2. Refer to detail sheet SE-7 for design information of the porous asphalt and permeable paver systems. The systems will consist of 4" porous surface placed above two layers of crushed stone (2" bedding course and 18" reservoir); note, the profile of the permeable paver exterior play area varies in that it consists of a 2" bedding course over a varied depth (minimum 1.4') of sand filter. In total, there is approximately 0.98 acres of impervious coverage treated via the pervious systems. Refer to the below chart for the total required water quality volume and total provided for the tributary area:

Reservoir	Required WQV (cf)	Provided WQV (cf)
Porous #1	515	1,007
Porous #2	250	657
Porous #3	337	1,612
Porous #4	227	631
Porous #5	741	913
Porous #6	684	1,711
Porous #7	420	439
Porous #8	302	1,487

3. The groundwater recharge volume for the site (652 cf) is met via the porous asphalt and permeable paver systems.

4. Implementation of a wetlands mitigation plan that will include removal of invasive plants, restore portions of the watercourse and surrounding upland area, and remove a majority of the existing impervious coverage from within 25' of the wetlands.

5. A detailed Sediment and Erosion Control Plan, including a system of both temporary and permanent controls, is designed to minimize erosion, and contain and properly dispose of any accumulation of sediment during construction.

Conclusion

The proposed storm water management system is designed to accommodate a "25-year" storm and provide water quality improvements. Pursuant to the proper implementation of the design plans, there will be no adverse impacts to adjacent or downstream properties or town/state facilities from the proposed development.

Other Zoning Criteria

Refer to Appendix 6 for zoning exhibits, including information as it relates to protections of slopes, earthwork calculations (grade cuts/fills), and average grade plane calculations. Note, the maximum contiguous disturbed area where slopes exceed 15% is approximately 11,750 sf, which is below the minimum requirements for slope alteration of both slopes exceeding 15% (15,000 sf) and 35% (11,972 sf) as required by section 29-9.I.2 of the Zoning Regulations of the Town of Wilton.

Septic System Narrative

The Connecticut Humane Society is proposing to redevelop the property located at 863 Danbury Road in Wilton, CT. The redevelopment includes the demolition of the existing on-site structures and the construction of a new single-story commercial building, parking, driveways, walkways, and associated site improvements. The parcel is approximately 18.32 acres and lies within the R-1A zone. Reference is made to the Civil Site Plan set prepared by Redniss & Mead, Inc. dated 7/1/2021 and Property and Topographic Survey dated 1/20/2021.

As there is no municipal sanitary sewer available to the project site, the proposed building will be served by a septic system located uphill on the southern end of the parcel. The system will consist of a 2,500-gallon septic tank and a duplex pump chamber which will pump uphill, with an 870' long, three-inch force main, to 120 linear feet of Cur-Tech CTL-24's. Soil testing was observed by the Town of Wilton Health Department and this office on March 2, 2021. The septic system design calculations, design details, and soil testing data are included within the site plan package (sheets SE-4, SE-5, SE-8, and SE-9). Further calculations as it relates to projected wastewater generation and pump sizing are provided within Appendix 5 of this report. It is worth noting that the projected wastewater generation is based upon available water usage data from other Connecticut Humane Society facilities, which average approximately 0.10 gallons per day per square foot. The sizing of the proposed septic system is based upon this flow rate and an applied factor of safety of 1.5.

Appendix 1

NORTH – CCS NAD83

MOUNTAIN ROAD

SOIL TYPE - B

SOIL TYPE - B

MOUNTAIN ROAD

IRMGARD LANE

WEST BASIN

SOIL TYPE - D

DANBURY ROAD U.S. RTE. 7

EAST BASIN

SOIL TYPE - A

SOIL TYPE - B

SOIL TYPE - B

NEW STREET

SCHOOL STREET

SUNSET HILL ROAD

NEW STREET

NEW STREET

DRAINAGE BASIN SUMMARY TABLE		
BASIN	CN	SIZE (ac)
EAST BASIN	67.7	31.13
WEST BASIN	66.2	35.71

LEGEND

DRAINAGE BASIN BOUNDARY

SOIL CLASSIFICATION BOUNDARY

EXISTING OVERALL DRAINAGE BASIN EXHIBIT

863 DANBURY ROAD

WILTON, 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

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NORTH – CCS NAD83

SOIL TYPE - B

SOIL TYPE - B

WEST BYPASS BASIN

SOIL TYPE - D

R6 P7 P8

P5

P4 P3 P2 P1

DANBURY ROAD U.S. RTE. 7

EAST BYPASS BASIN

SOIL TYPE - A

SOIL TYPE - B

SOIL TYPE - B

DRAINAGE BASIN SUMMARY TABLE		
BASIN	CN	SIZE (ac)
EAST BYPASS BASIN	67.7	30.28
POROUS 1	83.7	0.17
POROUS 2	80.9	0.10
POROUS 3	83.6	0.13
POROUS 4	79.5	0.10
POROUS 5	81.1	0.30
WEST BYPASS BASIN	66.0	35.12
POROUS 6	82.2	0.26
POROUS 7	73.9	0.26
POROUS 8	83.4	0.11

LEGEND

DRAINAGE BASIN BOUNDARY

SOIL CLASSIFICATION BOUNDARY

PROPOSED OVERALL DRAINAGE BASIN EXHIBIT

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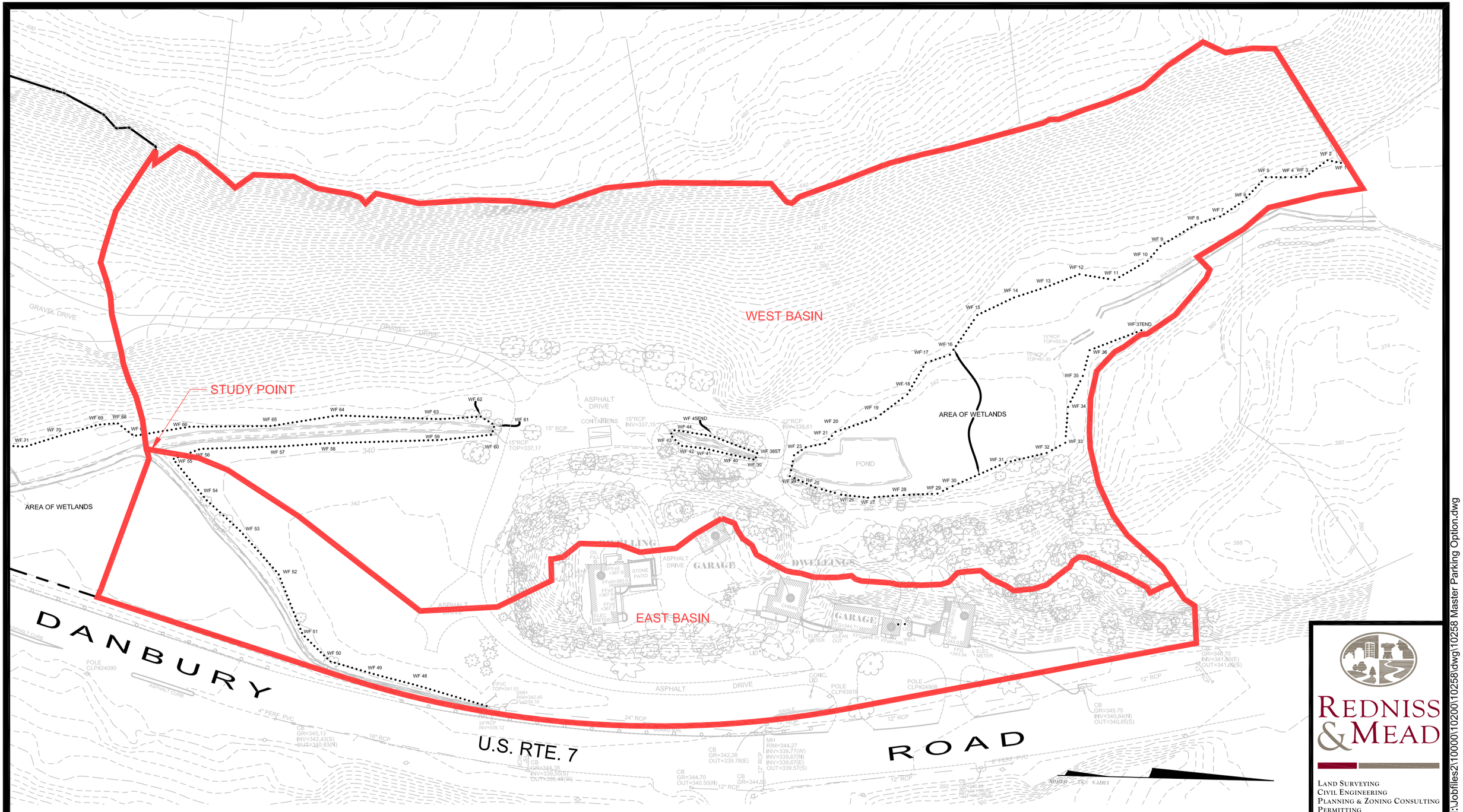

EXISTING ON-SITE DRAINAGE BASIN EXHIBIT

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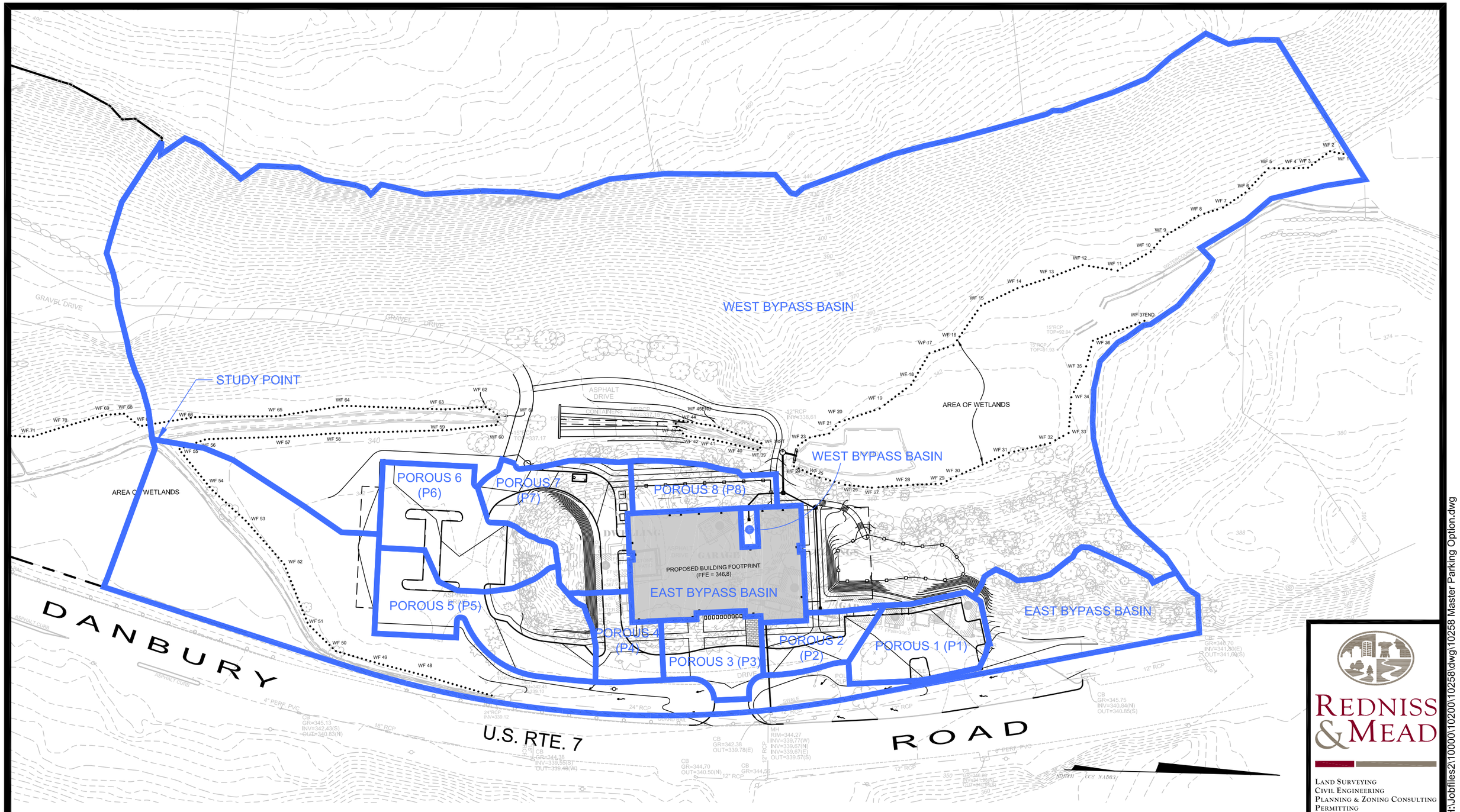

PROPOSED ON-SITE DRAINAGE BASIN EXHIBIT

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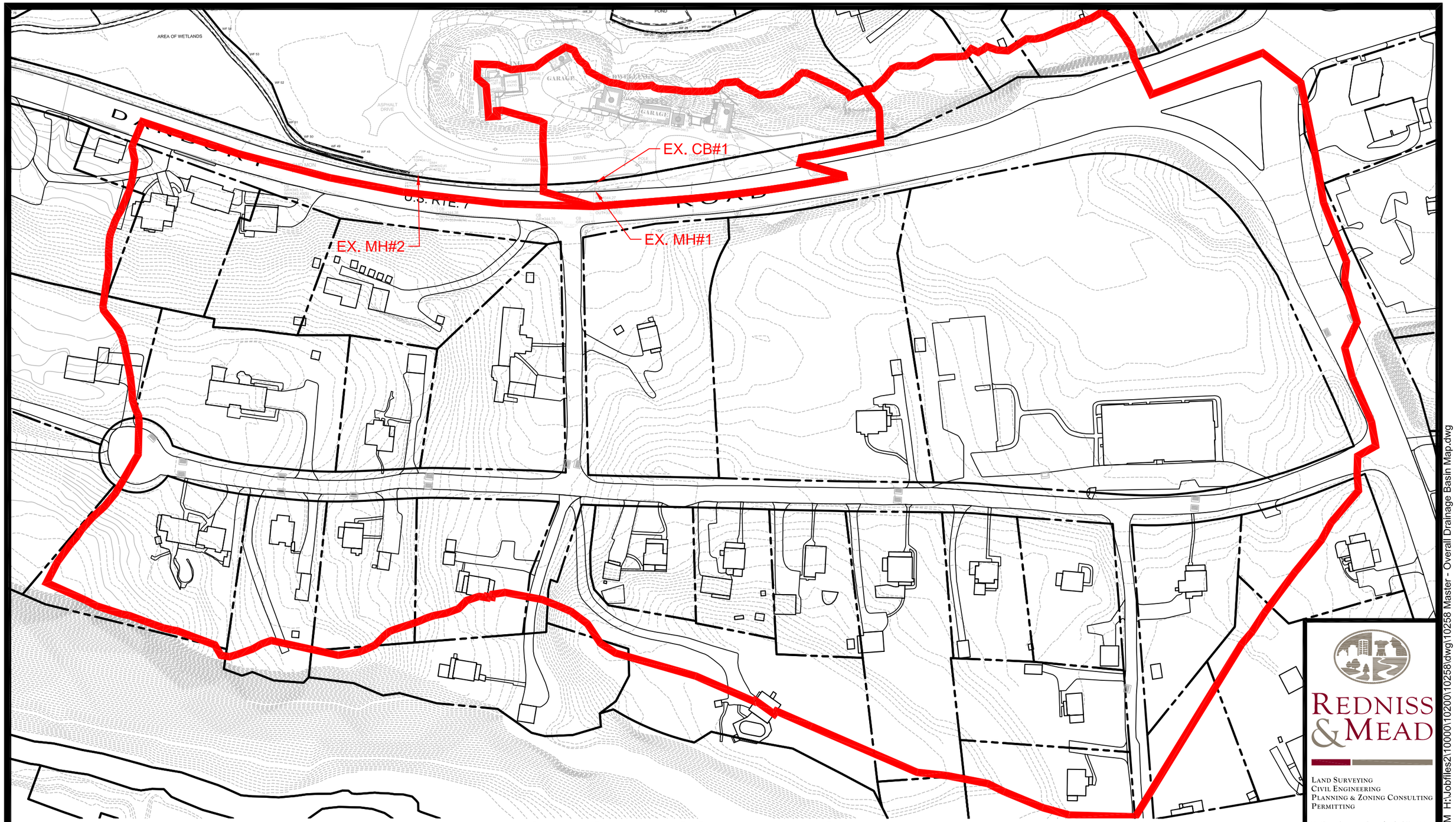

EXISTING PIPE CONVEYANCE EXHIBIT

863 DANBURY ROAD
WILTON, CT

NORTH — CCS NAD83

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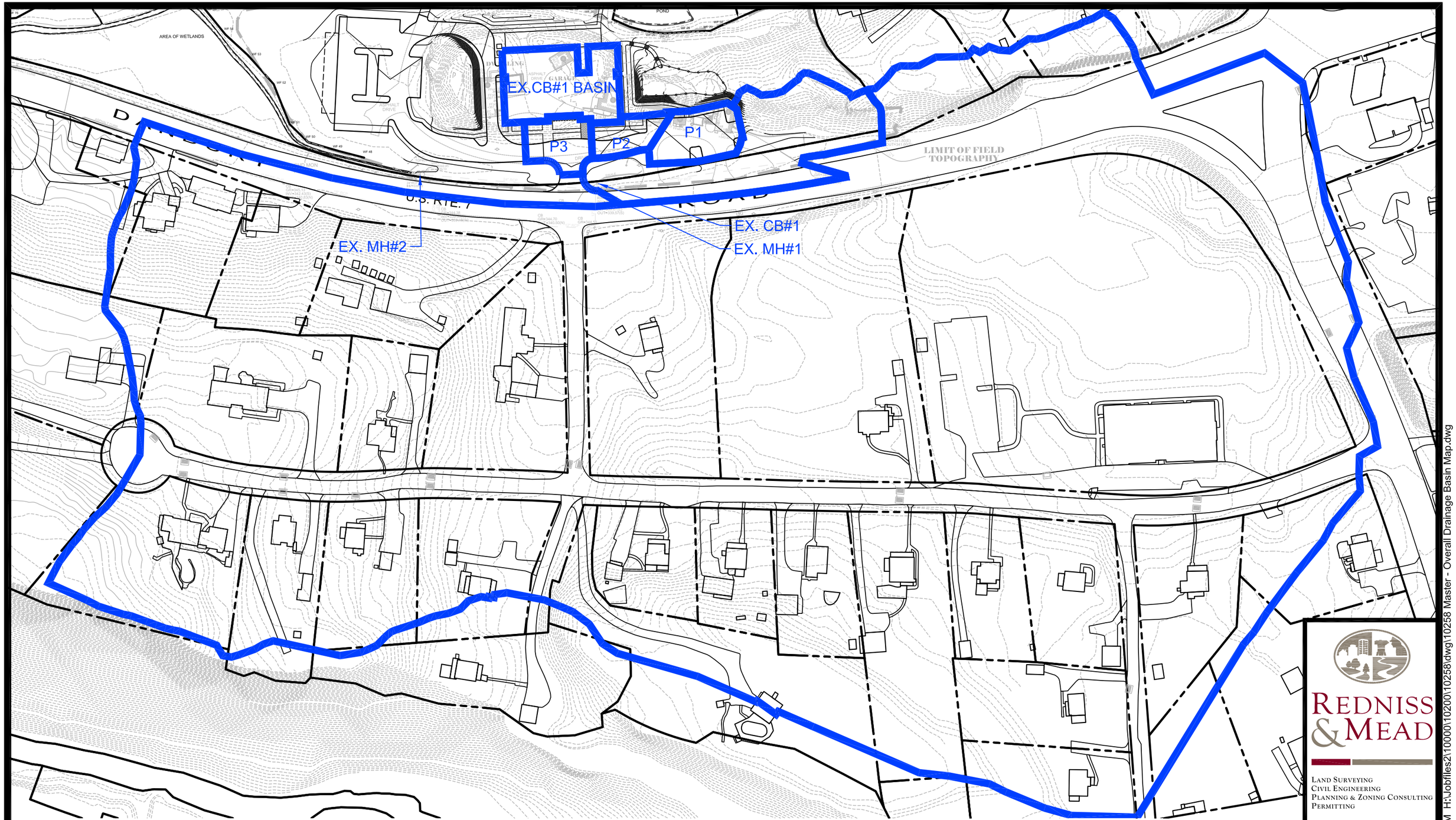

PROPOSED PIPE CONVEYANCE EXHIBIT

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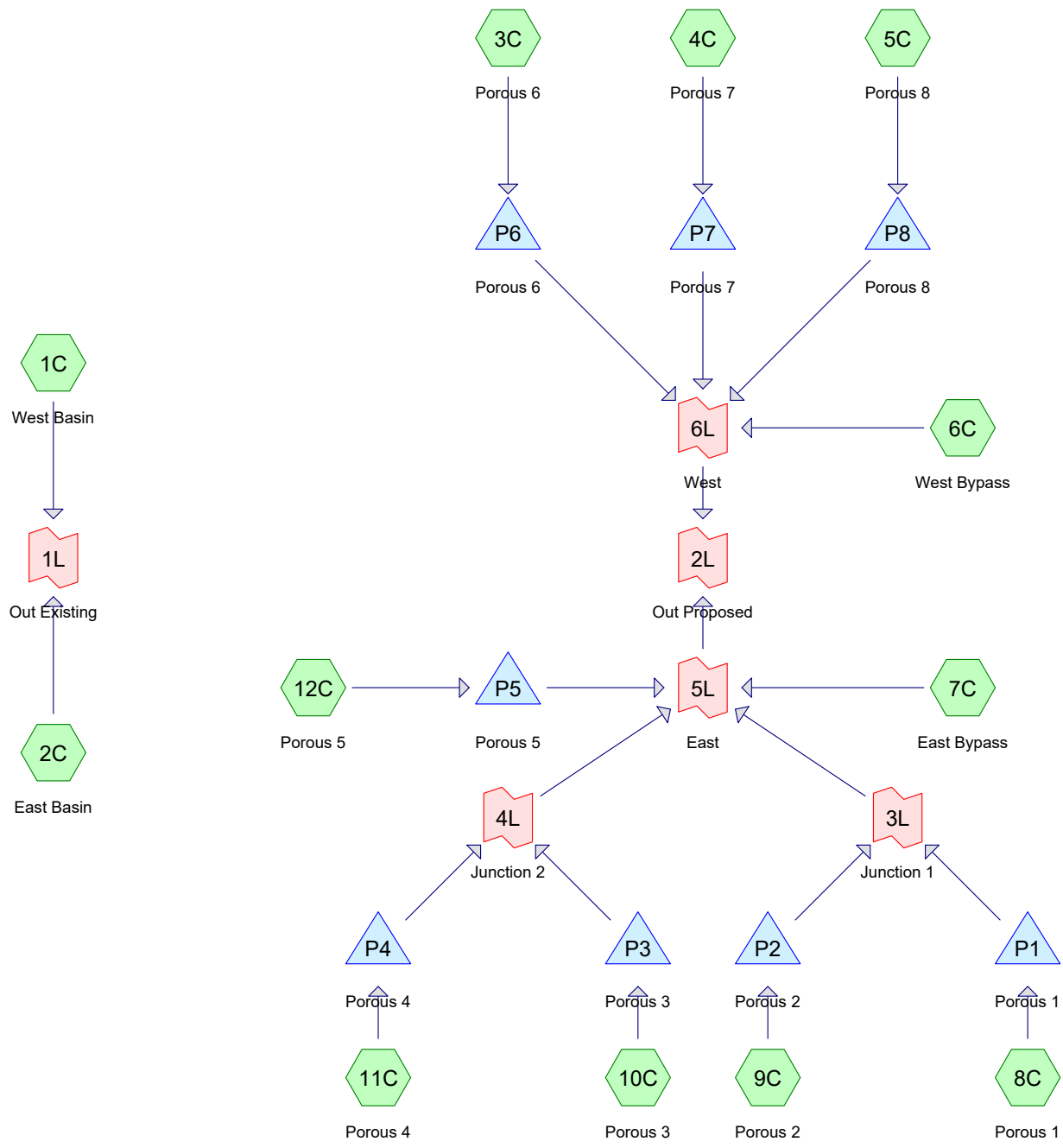
Appendix 2



Subcat Reach Pond Link

Routing Diagram for 10258 hydrocad 1

Prepared by {enter your company name here}, Printed 6/24/2021

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.57	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.48	2
3	25-Year	Type III 24-hr		Default	24.00	1	6.66	2
4	100-Year	Type III 24-hr		Default	24.00	1	8.49	2

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+Trans method - Pond routing by Stor-Ind method

Subcatchment 1C: West Basin Runoff Area=35.707 ac 13.87% Impervious Runoff Depth>0.84"
Flow Length=985' Tc=26.4 min CN=66.2 Runoff=18.49 cfs 2.505 af

Subcatchment 2C: East Basin Runoff Area=31.131 ac 23.71% Impervious Runoff Depth>0.92"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=18.15 cfs 2.384 af

Subcatchment 3C: Porous 6 Runoff Area=11,337 sf 2.38% Impervious Runoff Depth>1.85"
Tc=5.0 min CN=82.2 Runoff=0.59 cfs 0.040 af

Subcatchment 4C: Porous 7 Runoff Area=11,373 sf 7.35% Impervious Runoff Depth>1.28"
Tc=5.0 min CN=73.9 Runoff=0.39 cfs 0.028 af

Subcatchment 5C: Porous 8 Runoff Area=4,967 sf 15.40% Impervious Runoff Depth>1.95"
Tc=5.0 min CN=83.4 Runoff=0.27 cfs 0.019 af

Subcatchment 6C: West Bypass Runoff Area=35.124 ac 13.12% Impervious Runoff Depth>0.83"
Flow Length=985' Tc=26.4 min CN=66.0 Runoff=17.90 cfs 2.435 af

Subcatchment 7C: East Bypass Runoff Area=30.282 ac 23.78% Impervious Runoff Depth>0.92"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=17.66 cfs 2.319 af

Subcatchment 8C: Porous 1 Runoff Area=7,524 sf 9.04% Impervious Runoff Depth>1.97"
Tc=5.0 min CN=83.7 Runoff=0.41 cfs 0.028 af

Subcatchment 9C: Porous 2 Runoff Area=4,365 sf 17.18% Impervious Runoff Depth>1.76"
Tc=5.0 min CN=80.9 Runoff=0.21 cfs 0.015 af

Subcatchment 10C: Porous 3 Runoff Area=5,707 sf 21.55% Impervious Runoff Depth>1.96"
Tc=5.0 min CN=83.6 Runoff=0.31 cfs 0.021 af

Subcatchment 11C: Porous 4 Runoff Area=4,406 sf 8.08% Impervious Runoff Depth>1.65"
Tc=5.0 min CN=79.5 Runoff=0.20 cfs 0.014 af

Subcatchment 12C: Porous 5 Runoff Area=13,103 sf 6.53% Impervious Runoff Depth>1.77"
Tc=5.0 min CN=81.1 Runoff=0.65 cfs 0.044 af

Pond P1: Porous 1 Peak Elev=344.73' Storage=1,031 cf Inflow=0.41 cfs 0.028 af
Outflow=0.01 cfs 0.005 af

Pond P2: Porous 2 Peak Elev=344.25' Storage=639 cf Inflow=0.21 cfs 0.015 af
Outflow=0.00 cfs 0.000 af

Pond P3: Porous 3 Peak Elev=343.94' Storage=933 cf Inflow=0.31 cfs 0.021 af
Outflow=0.00 cfs 0.000 af

Pond P4: Porous 4 Peak Elev=344.93' Storage=607 cf Inflow=0.20 cfs 0.014 af
Outflow=0.00 cfs 0.000 af

Pond P5: Porous 5	Peak Elev=343.91' Storage=920 cf Inflow=0.65 cfs 0.044 af Outflow=0.21 cfs 0.023 af
Pond P6: Porous 6	Peak Elev=343.00' Storage=1,712 cf Inflow=0.59 cfs 0.040 af Outflow=0.01 cfs 0.001 af
Pond P7: Porous 7	Peak Elev=342.17' Storage=455 cf Inflow=0.39 cfs 0.028 af Outflow=0.17 cfs 0.018 af
Pond P8: Porous 8	Peak Elev=345.17' Storage=332 cf Inflow=0.27 cfs 0.019 af Outflow=0.09 cfs 0.014 af
Link 1L: Out Existing	Inflow=36.63 cfs 4.889 af Primary=36.63 cfs 4.889 af
Link 2L: Out Proposed	Inflow=35.97 cfs 4.815 af Primary=35.97 cfs 4.815 af
Link 3L: Junction 1	Inflow=0.01 cfs 0.005 af Primary=0.01 cfs 0.005 af
Link 4L: Junction 2	Inflow=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af
Link 5L: East	Inflow=17.86 cfs 2.348 af Primary=17.86 cfs 2.348 af
Link 6L: West	Inflow=18.12 cfs 2.467 af Primary=18.12 cfs 2.467 af

Total Runoff Area = 133.685 ac Runoff Volume = 9.853 af Average Runoff Depth = 0.88"
81.84% Pervious = 109.411 ac 18.16% Impervious = 24.274 ac

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+Trans method - Pond routing by Stor-Ind method

Subcatchment 1C: West Basin Runoff Area=35.707 ac 13.87% Impervious Runoff Depth>2.06"
Flow Length=985' Tc=26.4 min CN=66.2 Runoff=50.49 cfs 6.144 af

Subcatchment 2C: East Basin Runoff Area=31.131 ac 23.71% Impervious Runoff Depth>2.19"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=47.28 cfs 5.680 af

Subcatchment 3C: Porous 6 Runoff Area=11,337 sf 2.38% Impervious Runoff Depth>3.53"
Tc=5.0 min CN=82.2 Runoff=1.11 cfs 0.077 af

Subcatchment 4C: Porous 7 Runoff Area=11,373 sf 7.35% Impervious Runoff Depth>2.74"
Tc=5.0 min CN=73.9 Runoff=0.87 cfs 0.060 af

Subcatchment 5C: Porous 8 Runoff Area=4,967 sf 15.40% Impervious Runoff Depth>3.65"
Tc=5.0 min CN=83.4 Runoff=0.50 cfs 0.035 af

Subcatchment 6C: West Bypass Runoff Area=35.124 ac 13.12% Impervious Runoff Depth>2.05"
Flow Length=985' Tc=26.4 min CN=66.0 Runoff=49.22 cfs 5.996 af

Subcatchment 7C: East Bypass Runoff Area=30.282 ac 23.78% Impervious Runoff Depth>2.19"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=45.99 cfs 5.525 af

Subcatchment 8C: Porous 1 Runoff Area=7,524 sf 9.04% Impervious Runoff Depth>3.68"
Tc=5.0 min CN=83.7 Runoff=0.76 cfs 0.053 af

Subcatchment 9C: Porous 2 Runoff Area=4,365 sf 17.18% Impervious Runoff Depth>3.40"
Tc=5.0 min CN=80.9 Runoff=0.41 cfs 0.028 af

Subcatchment 10C: Porous 3 Runoff Area=5,707 sf 21.55% Impervious Runoff Depth>3.67"
Tc=5.0 min CN=83.6 Runoff=0.58 cfs 0.040 af

Subcatchment 11C: Porous 4 Runoff Area=4,406 sf 8.08% Impervious Runoff Depth>3.26"
Tc=5.0 min CN=79.5 Runoff=0.40 cfs 0.028 af

Subcatchment 12C: Porous 5 Runoff Area=13,103 sf 6.53% Impervious Runoff Depth>3.42"
Tc=5.0 min CN=81.1 Runoff=1.24 cfs 0.086 af

Pond P1: Porous 1 Peak Elev=344.82' Storage=1,102 cf Inflow=0.76 cfs 0.053 af
Outflow=0.29 cfs 0.029 af

Pond P2: Porous 2 Peak Elev=344.35' Storage=673 cf Inflow=0.41 cfs 0.028 af
Outflow=0.10 cfs 0.013 af

Pond P3: Porous 3 Peak Elev=344.55' Storage=1,615 cf Inflow=0.58 cfs 0.040 af
Outflow=0.01 cfs 0.003 af

Pond P4: Porous 4 Peak Elev=345.05' Storage=647 cf Inflow=0.40 cfs 0.028 af
Outflow=0.09 cfs 0.013 af

Pond P5: Porous 5 Peak Elev=343.93' Storage=938 cf Inflow=1.24 cfs 0.086 af
Outflow=1.24 cfs 0.065 af

Pond P6: Porous 6 Peak Elev=343.02' Storage=1,732 cf Inflow=1.11 cfs 0.077 af
Outflow=0.39 cfs 0.037 af

Pond P7: Porous 7 Peak Elev=342.24' Storage=470 cf Inflow=0.87 cfs 0.060 af
Outflow=0.87 cfs 0.049 af

Pond P8: Porous 8 Peak Elev=345.34' Storage=483 cf Inflow=0.50 cfs 0.035 af
Outflow=0.29 cfs 0.030 af

Link 1L: Out Existing Inflow=97.73 cfs 11.824 af
Primary=97.73 cfs 11.824 af

Link 2L: Out Proposed Inflow=96.72 cfs 11.761 af
Primary=96.72 cfs 11.761 af

Link 3L: Junction 1 Inflow=0.31 cfs 0.043 af
Primary=0.31 cfs 0.043 af

Link 4L: Junction 2 Inflow=0.09 cfs 0.016 af
Primary=0.09 cfs 0.016 af

Link 5L: East Inflow=46.66 cfs 5.648 af
Primary=46.66 cfs 5.648 af

Link 6L: West Inflow=50.07 cfs 6.113 af
Primary=50.07 cfs 6.113 af

Total Runoff Area = 133.685 ac Runoff Volume = 23.750 af Average Runoff Depth = 2.13"
81.84% Pervious = 109.411 ac 18.16% Impervious = 24.274 ac

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+Trans method - Pond routing by Stor-Ind method

Subcatchment 1C: West Basin Runoff Area=35.707 ac 13.87% Impervious Runoff Depth>2.94"
Flow Length=985' Tc=26.4 min CN=66.2 Runoff=73.21 cfs 8.752 af

Subcatchment 2C: East Basin Runoff Area=31.131 ac 23.71% Impervious Runoff Depth>3.09"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=67.69 cfs 8.014 af

Subcatchment 3C: Porous 6 Runoff Area=11,337 sf 2.38% Impervious Runoff Depth>4.62"
Tc=5.0 min CN=82.2 Runoff=1.44 cfs 0.100 af

Subcatchment 4C: Porous 7 Runoff Area=11,373 sf 7.35% Impervious Runoff Depth>3.73"
Tc=5.0 min CN=73.9 Runoff=1.18 cfs 0.081 af

Subcatchment 5C: Porous 8 Runoff Area=4,967 sf 15.40% Impervious Runoff Depth>4.75"
Tc=5.0 min CN=83.4 Runoff=0.64 cfs 0.045 af

Subcatchment 6C: West Bypass Runoff Area=35.124 ac 13.12% Impervious Runoff Depth>2.92"
Flow Length=985' Tc=26.4 min CN=66.0 Runoff=71.49 cfs 8.552 af

Subcatchment 7C: East Bypass Runoff Area=30.282 ac 23.78% Impervious Runoff Depth>3.09"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=65.84 cfs 7.796 af

Subcatchment 8C: Porous 1 Runoff Area=7,524 sf 9.04% Impervious Runoff Depth>4.78"
Tc=5.0 min CN=83.7 Runoff=0.98 cfs 0.069 af

Subcatchment 9C: Porous 2 Runoff Area=4,365 sf 17.18% Impervious Runoff Depth>4.48"
Tc=5.0 min CN=80.9 Runoff=0.54 cfs 0.037 af

Subcatchment 10C: Porous 3 Runoff Area=5,707 sf 21.55% Impervious Runoff Depth>4.77"
Tc=5.0 min CN=83.6 Runoff=0.74 cfs 0.052 af

Subcatchment 11C: Porous 4 Runoff Area=4,406 sf 8.08% Impervious Runoff Depth>4.32"
Tc=5.0 min CN=79.5 Runoff=0.53 cfs 0.036 af

Subcatchment 12C: Porous 5 Runoff Area=13,103 sf 6.53% Impervious Runoff Depth>4.50"
Tc=5.0 min CN=81.1 Runoff=1.62 cfs 0.113 af

Pond P1: Porous 1 Peak Elev=344.87' Storage=1,150 cf Inflow=0.98 cfs 0.069 af
Outflow=0.82 cfs 0.045 af

Pond P2: Porous 2 Peak Elev=344.41' Storage=692 cf Inflow=0.54 cfs 0.037 af
Outflow=0.31 cfs 0.022 af

Pond P3: Porous 3 Peak Elev=344.57' Storage=1,627 cf Inflow=0.74 cfs 0.052 af
Outflow=0.05 cfs 0.015 af

Pond P4: Porous 4 Peak Elev=345.11' Storage=666 cf Inflow=0.53 cfs 0.036 af
Outflow=0.29 cfs 0.022 af

Pond P5: Porous 5 Peak Elev=343.94' Storage=944 cf Inflow=1.62 cfs 0.113 af
Outflow=1.61 cfs 0.092 af

Pond P6: Porous 6 Peak Elev=343.05' Storage=1,758 cf Inflow=1.44 cfs 0.100 af
Outflow=1.17 cfs 0.061 af

Pond P7: Porous 7 Peak Elev=342.26' Storage=474 cf Inflow=1.18 cfs 0.081 af
Outflow=1.18 cfs 0.071 af

Pond P8: Porous 8 Peak Elev=345.42' Storage=556 cf Inflow=0.64 cfs 0.045 af
Outflow=0.39 cfs 0.040 af

Link 1L: Out Existing Inflow=140.89 cfs 16.766 af
Primary=140.89 cfs 16.766 af

Link 2L: Out Proposed Inflow=139.73 cfs 16.716 af
Primary=139.73 cfs 16.716 af

Link 3L: Junction 1 Inflow=0.98 cfs 0.067 af
Primary=0.98 cfs 0.067 af

Link 4L: Junction 2 Inflow=0.29 cfs 0.037 af
Primary=0.29 cfs 0.037 af

Link 5L: East Inflow=67.07 cfs 7.992 af
Primary=67.07 cfs 7.992 af

Link 6L: West Inflow=72.66 cfs 8.724 af
Primary=72.66 cfs 8.724 af

Total Runoff Area = 133.685 ac Runoff Volume = 33.648 af Average Runoff Depth = 3.02"
81.84% Pervious = 109.411 ac 18.16% Impervious = 24.274 ac

Summary for Subcatchment 1C: West Basin

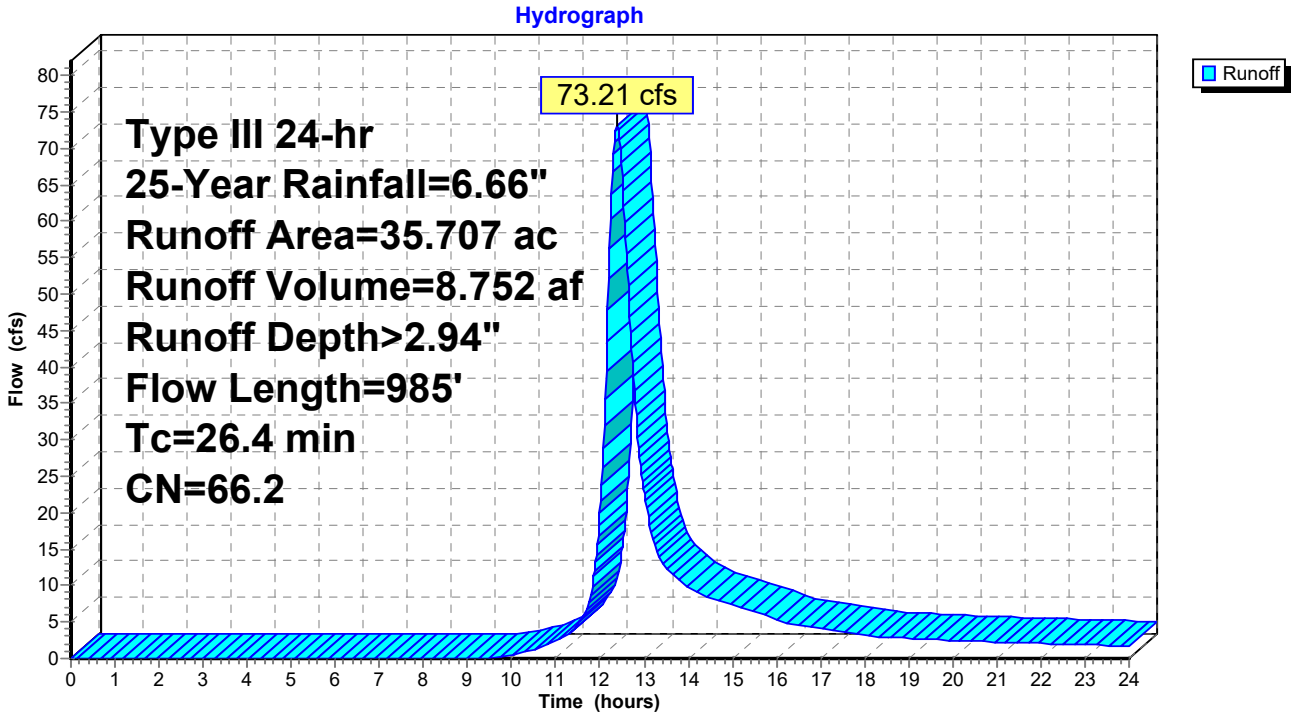
Runoff = 73.21 cfs @ 12.38 hrs, Volume= 8.752 af, Depth> 2.94"
Routed to Link 1L : Out Existing

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=6.66"

	Area (ac)	CN	Description
	0.517	98.0	Paved parking, HSG B
	7.047	61.0	>75% Grass cover, Good, HSG B
*	4.434	98.0	Paved parking, HSG B, Offsite
*	23.510	61.0	>75% Grass cover, Good, HSG B, Offsite
*	0.199	80.0	>75% Grass cover, Good, HSG D, Offsite
	35.707	66.2	Weighted Average
	30.756		86.13% Pervious Area
	4.951		13.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
2.3	755	0.1166	5.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	51	0.0880	6.02		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	79	0.1203	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.0					**Direct Entry, Pipe flow**
26.4	985	Total			

Subcatchment 1C: West Basin



Summary for Subcatchment 2C: East Basin

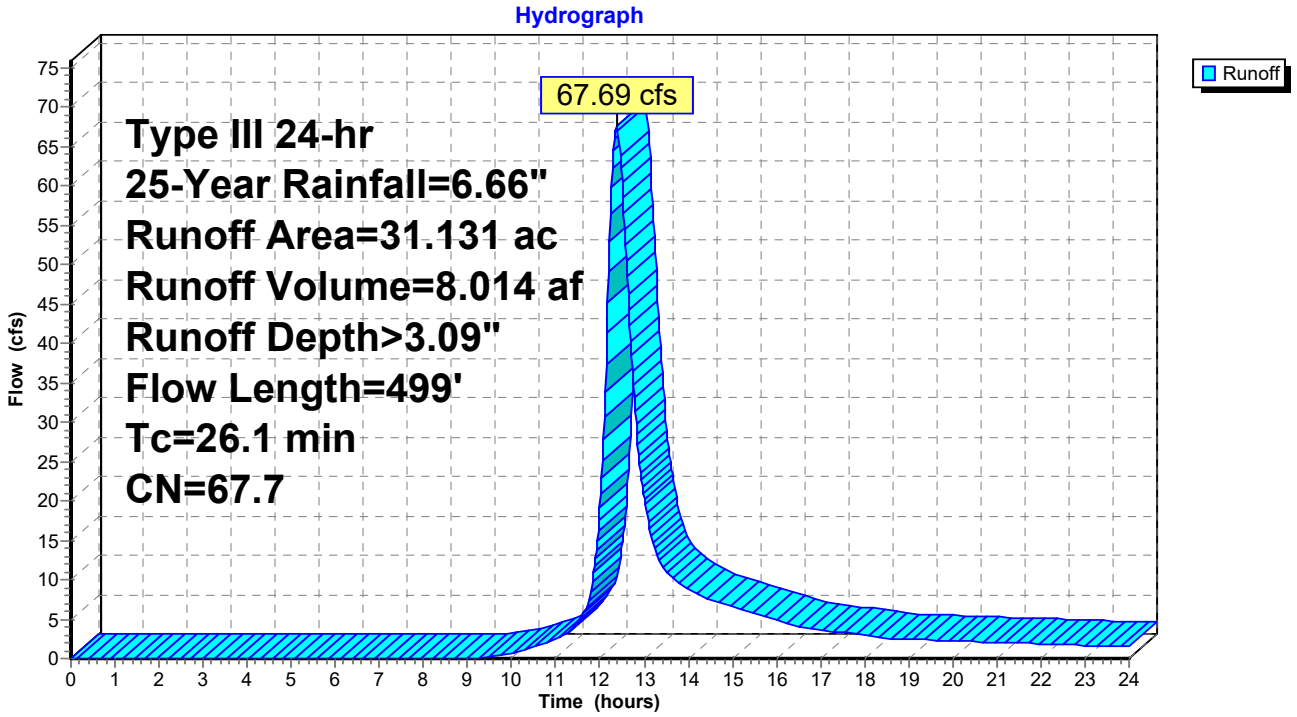
Runoff = 67.69 cfs @ 12.38 hrs, Volume= 8.014 af, Depth> 3.09"
Routed to Link 1L : Out Existing

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=6.66"

	Area (ac)	CN	Description
	0.501	98.0	Paved parking, HSG B
	1.698	61.0	>75% Grass cover, Good, HSG B
	0.358	39.0	>75% Grass cover, Good, HSG A
*	6.880	98.0	Paved parking, HSG B, Offsite
*	19.151	61.0	>75% Grass cover, Good, HSG B, Offsite
*	2.543	39.0	>75% Grass cover, Good, HSG A, Offsite
	31.131	67.7	Weighted Average
	23.750		76.29% Pervious Area
	7.381		23.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.2	74	0.0135	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
2.7	29	0.2760	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
0.5	140	0.0710	4.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	256	0.0820	5.81		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry, Pipe Flow**
26.1	499	Total			

Subcatchment 2C: East Basin



Summary for Subcatchment 3C: Porous 6

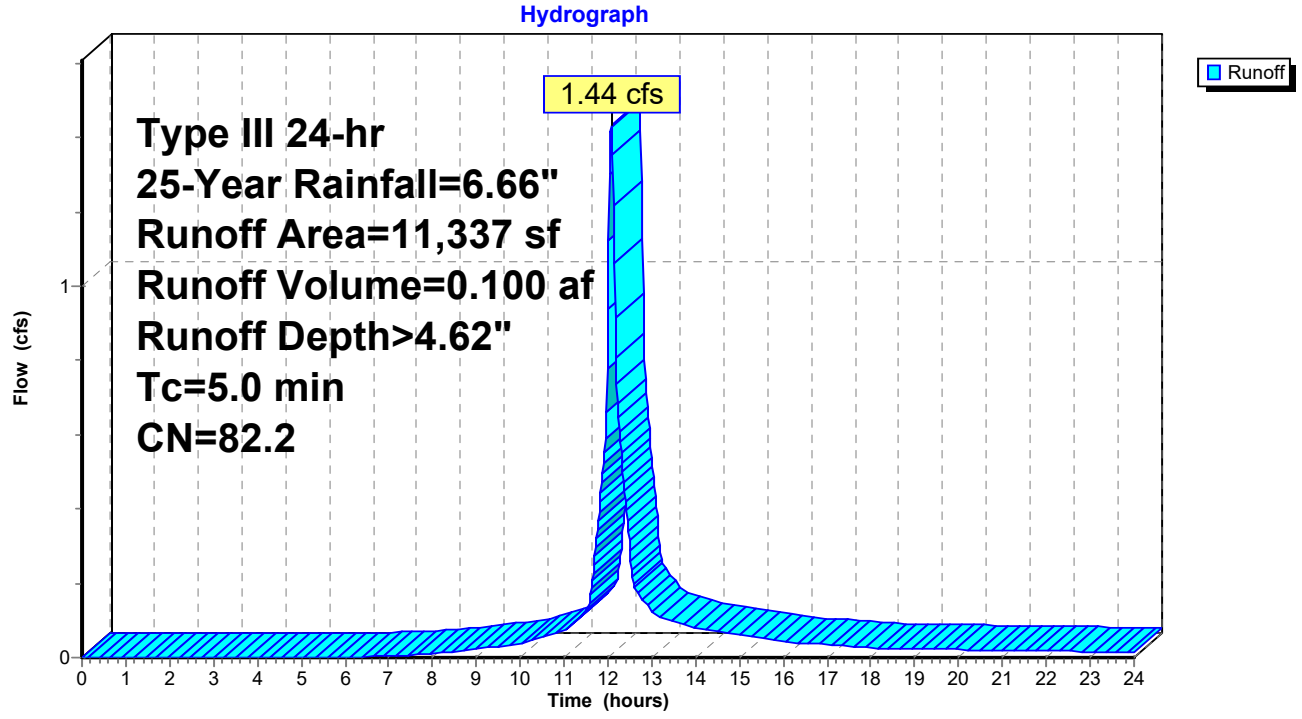
Runoff = 1.44 cfs @ 12.07 hrs, Volume= 0.100 af, Depth> 4.62"
Routed to Pond P6 : Porous 6

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=6.66"

	Area (sf)	CN	Description
	270	98.0	Paved parking, HSG B
*	8,217	89.0	Porous Pavement, HSG B
	2,850	61.0	>75% Grass cover, Good, HSG B
	11,337	82.2	Weighted Average
	11,067		97.62% Pervious Area
	270		2.38% Impervious Area

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

Subcatchment 3C: Porous 6



Summary for Subcatchment 4C: Porous 7

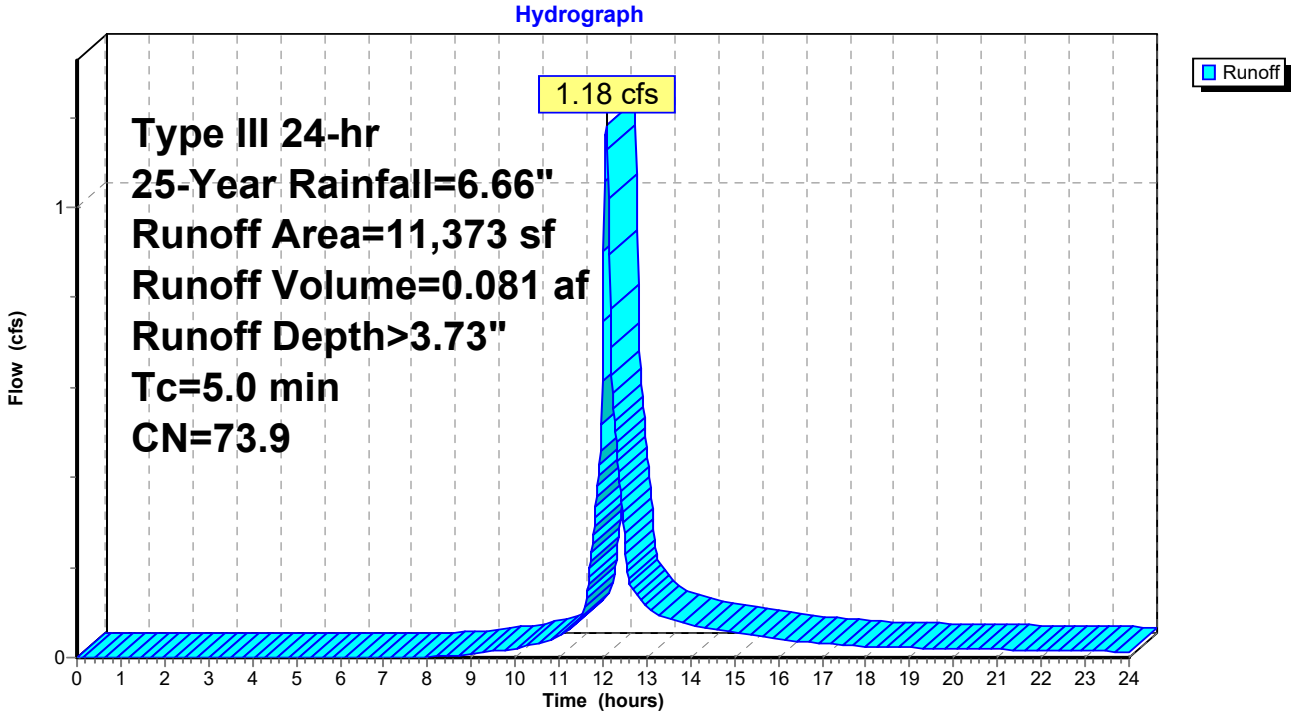
Runoff = 1.18 cfs @ 12.08 hrs, Volume= 0.081 af, Depth> 3.73"
Routed to Pond P7 : Porous 7

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=6.66"

	Area (sf)	CN	Description
	836	98.0	Paved parking, HSG B
*	4,119	89.0	Porous Pavement, HSG B
	6,418	61.0	>75% Grass cover, Good, HSG B
	11,373	73.9	Weighted Average
	10,537		92.65% Pervious Area
	836		7.35% Impervious Area

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

Subcatchment 4C: Porous 7



Summary for Subcatchment 5C: Porous 8

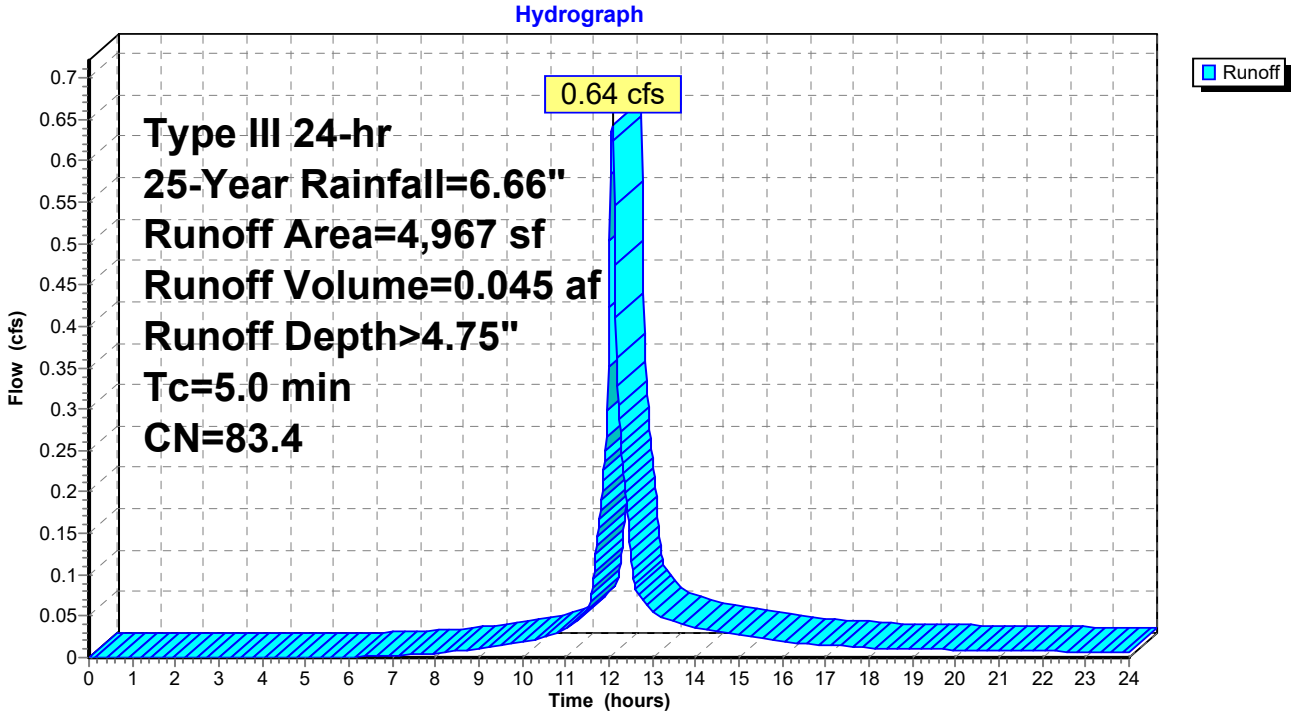
Runoff = 0.64 cfs @ 12.07 hrs, Volume= 0.045 af, Depth> 4.75"
Routed to Pond P8 : Porous 8

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=6.66"

	Area (sf)	CN	Description
	765	98.0	Paved parking, HSG B
*	2,967	89.0	Porous Pavement, HSG B
	1,235	61.0	>75% Grass cover, Good, HSG B
	4,967	83.4	Weighted Average
	4,202		84.60% Pervious Area
	765		15.40% Impervious Area

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

Subcatchment 5C: Porous 8



Summary for Subcatchment 6C: West Bypass

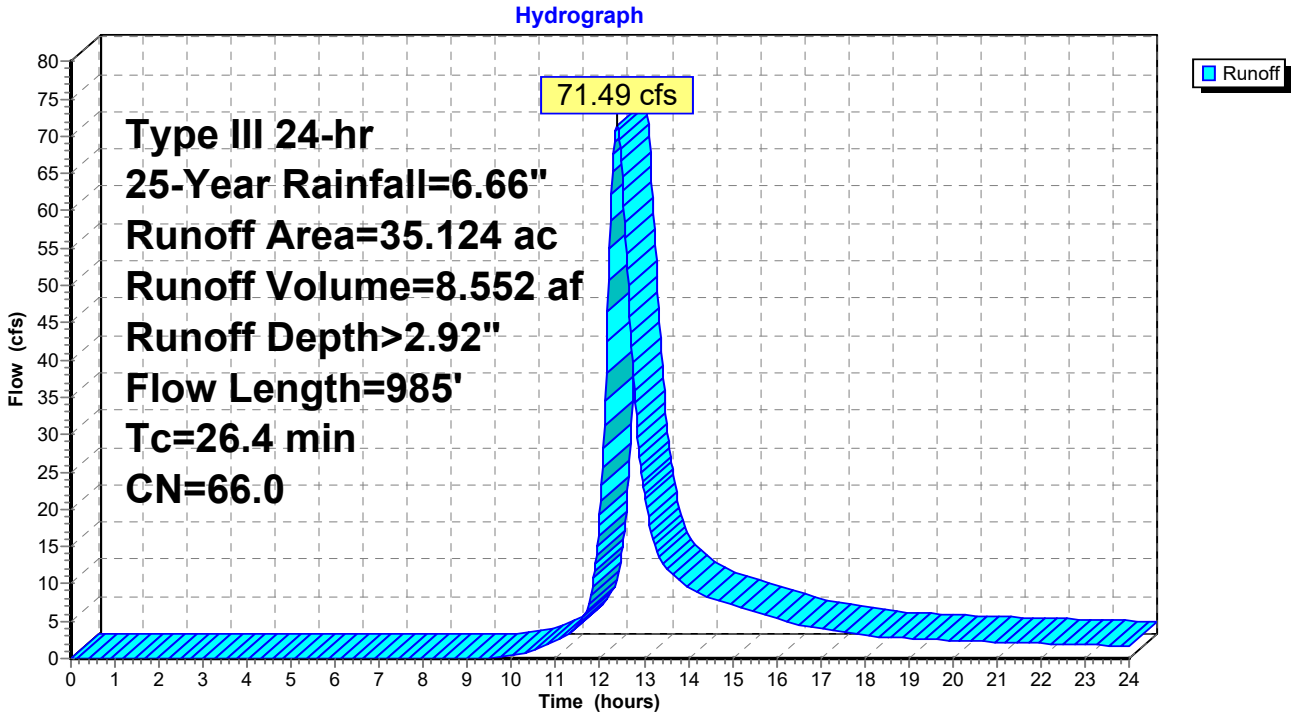
Runoff = 71.49 cfs @ 12.38 hrs, Volume= 8.552 af, Depth> 2.92"
Routed to Link 6L : West

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=6.66"

	Area (ac)	CN	Description
	0.174	98.0	Paved parking, HSG B
	6.807	61.0	>75% Grass cover, Good, HSG B
*	4.434	98.0	Paved parking, HSG B, Offsite
*	23.510	61.0	>75% Grass cover, Good, HSG B, Offsite
*	0.199	80.0	>75% Grass cover, Good, HSG D, Offsite
	35.124	66.0	Weighted Average
	30.516		86.88% Pervious Area
	4.608		13.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	100	0.0200	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
2.3	755	0.1166	5.50		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	51	0.0880	6.02		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	79	0.1203	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.0					**Direct Entry, Pipe flow**
26.4	985	Total			

Subcatchment 6C: West Bypass



Summary for Subcatchment 7C: East Bypass

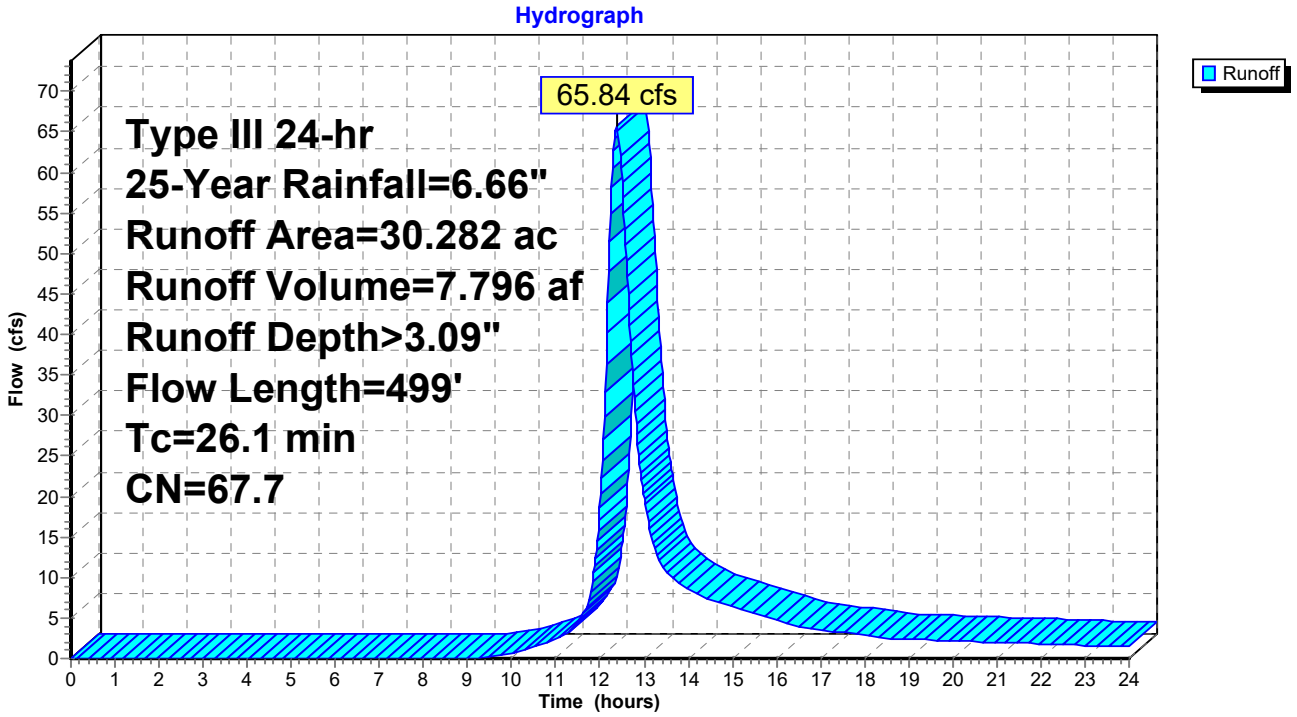
Runoff = 65.84 cfs @ 12.38 hrs, Volume= 7.796 af, Depth> 3.09"
Routed to Link 5L : East

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=6.66"

	Area (ac)	CN	Description
	0.347	98.0	Paved parking, HSG B
	1.064	61.0	>75% Grass cover, Good, HSG B
	0.289	39.0	>75% Grass cover, Good, HSG A
*	6.855	98.0	Paved parking, HSG B, Offsite
*	19.151	61.0	>75% Grass cover, Good, HSG B, Offsite
*	2.576	39.0	>75% Grass cover, Good, HSG A, Offsite
	30.282	67.7	Weighted Average
	23.080		76.22% Pervious Area
	7.202		23.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.2	74	0.0135	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
2.7	29	0.2760	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
0.5	140	0.0710	4.29		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	256	0.0820	5.81		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry, Pipe Flow**
26.1	499	Total			

Subcatchment 7C: East Bypass



Summary for Subcatchment 8C: Porous 1

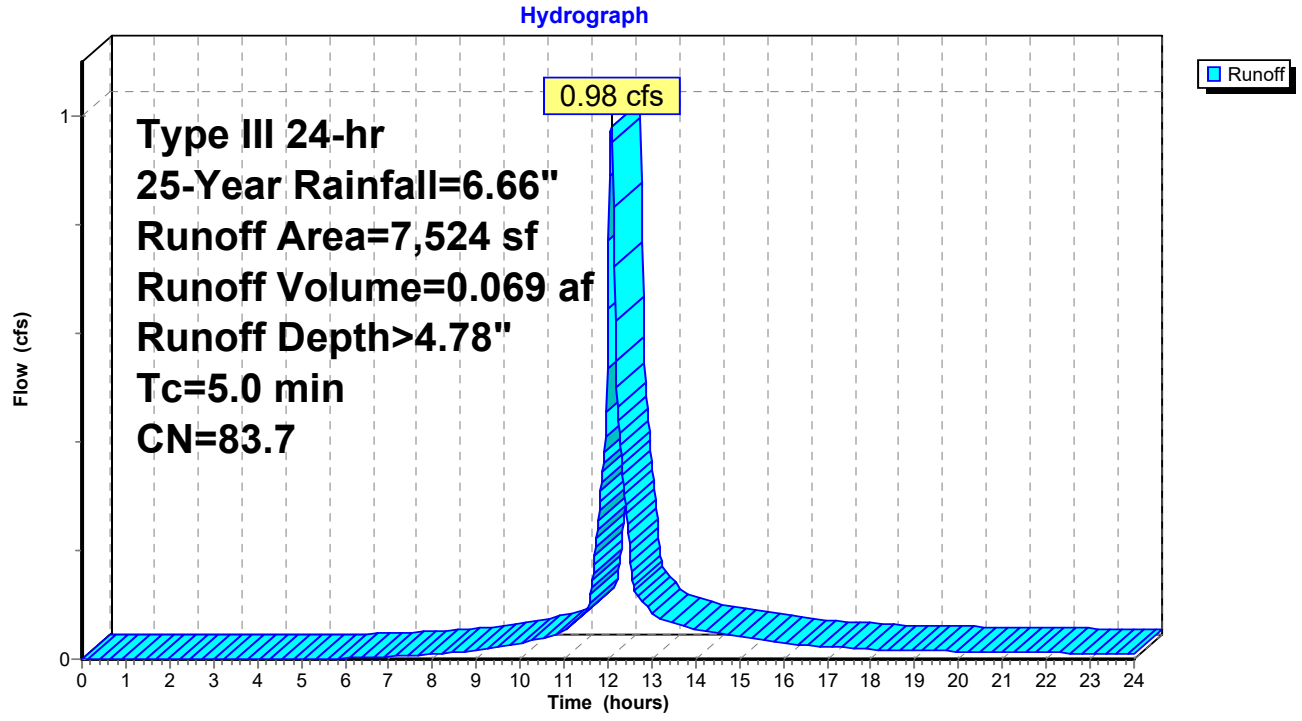
Runoff = 0.98 cfs @ 12.07 hrs, Volume= 0.069 af, Depth> 4.78"
Routed to Pond P1 : Porous 1

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=6.66"

	Area (sf)	CN	Description
	228	98.0	Paved parking, HSG A
*	5,690	89.0	Porous Pavement, HSG A
	753	39.0	>75% Grass cover, Good, HSG A
	452	98.0	Paved parking, HSG B
*	92	89.0	Porous Pavement, HSG B
	309	61.0	>75% Grass cover, Good, HSG B
	7,524	83.7	Weighted Average
	6,844		90.96% Pervious Area
	680		9.04% Impervious Area

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

Subcatchment 8C: Porous 1



Summary for Subcatchment 9C: Porous 2

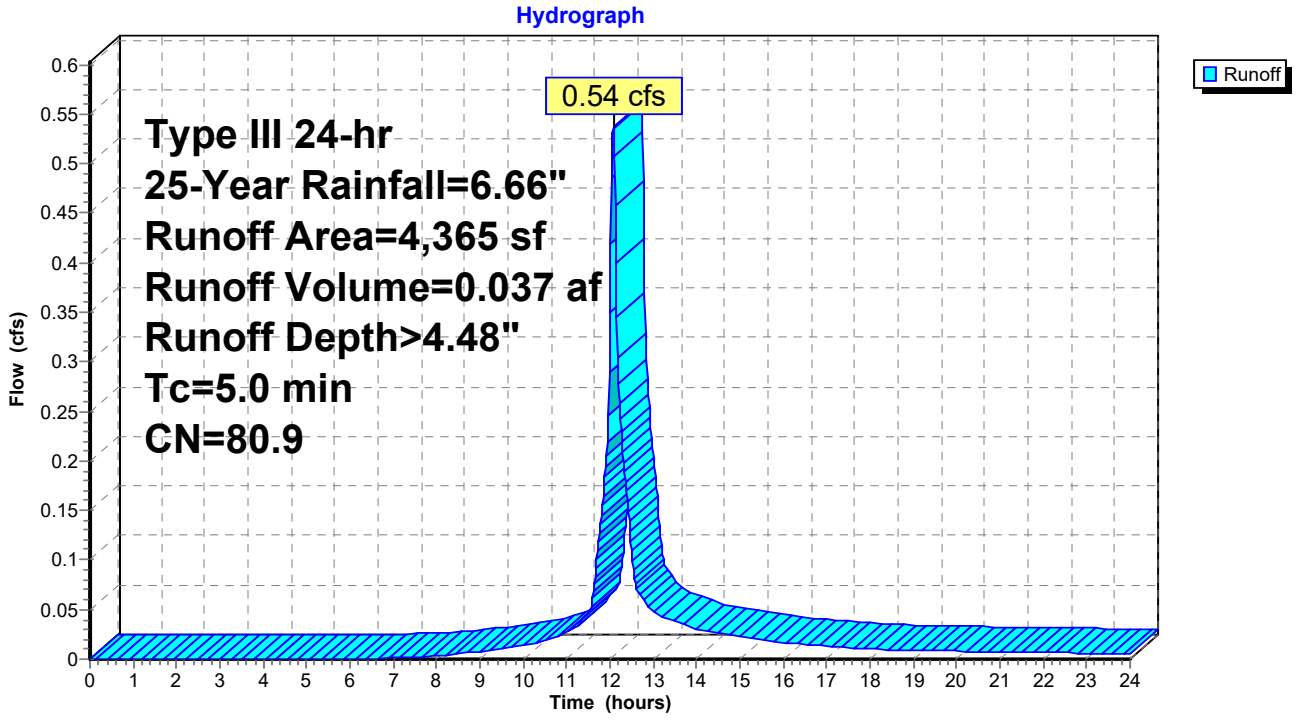
Runoff = 0.54 cfs @ 12.07 hrs, Volume= 0.037 af, Depth> 4.48"
Routed to Pond P2 : Porous 2

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=6.66"

	Area (sf)	CN	Description
	159	98.0	Paved parking, HSG A
*	2,134	89.0	Porous Pavement, HSG A
	264	39.0	>75% Grass cover, Good, HSG A
	591	98.0	Paved parking, HSG B
*	183	89.0	Porous Pavement, HSG B
	1,034	61.0	>75% Grass cover, Good, HSG B
	4,365	80.9	Weighted Average
	3,615		82.82% Pervious Area
	750		17.18% Impervious Area

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

Subcatchment 9C: Porous 2



Summary for Subcatchment 10C: Porous 3

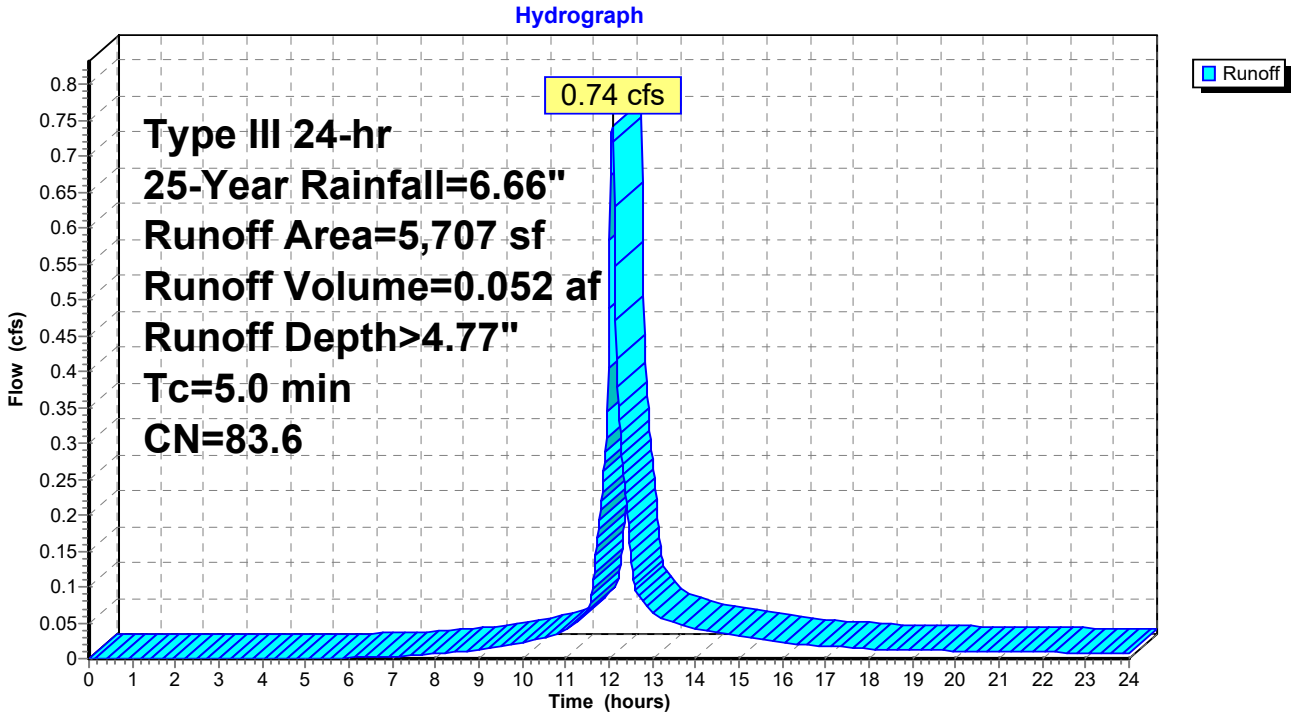
Runoff = 0.74 cfs @ 12.07 hrs, Volume= 0.052 af, Depth> 4.77"
Routed to Pond P3 : Porous 3

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=6.66"

	Area (sf)	CN	Description
	37	98.0	Paved parking, HSG A
*	1,091	89.0	Porous Pavement, HSG A
	1,193	98.0	Paved parking, HSG B
*	1,885	89.0	Porous Pavement, HSG B
	1,501	61.0	>75% Grass cover, Good, HSG B
	5,707	83.6	Weighted Average
	4,477		78.45% Pervious Area
	1,230		21.55% Impervious Area

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

Subcatchment 10C: Porous 3



Summary for Subcatchment 11C: Porous 4

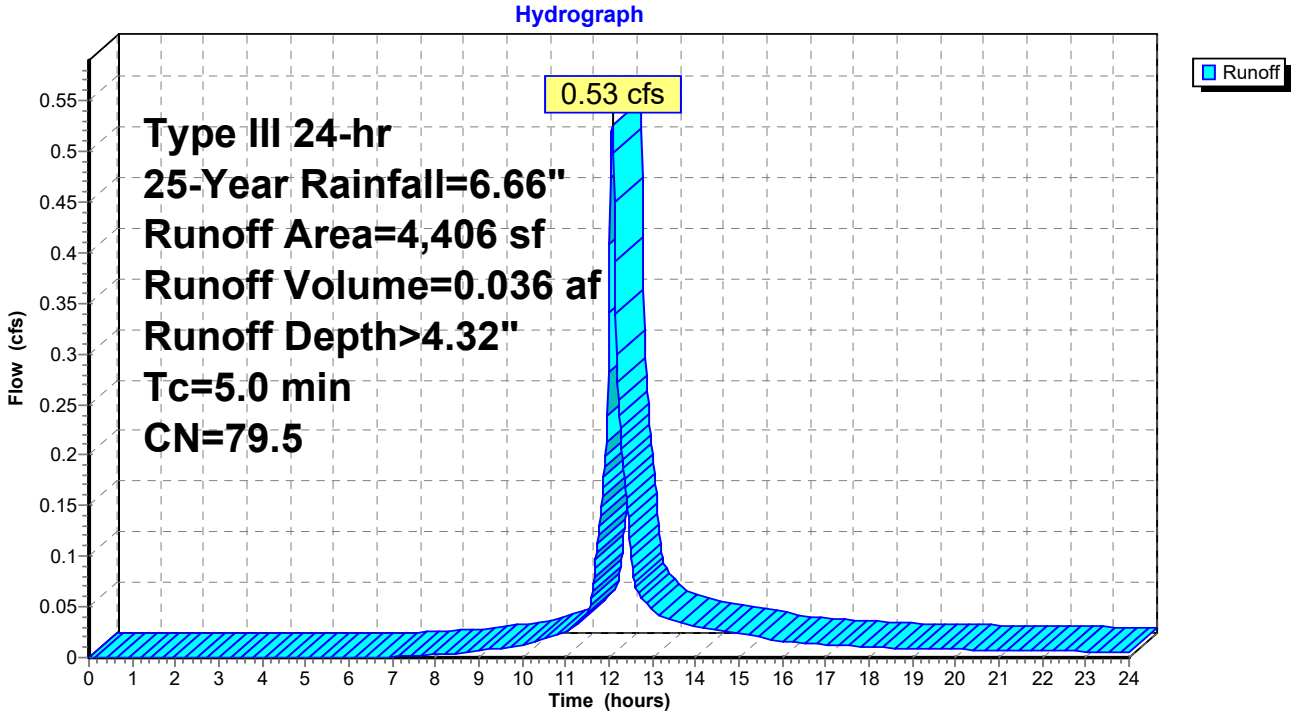
Runoff = 0.53 cfs @ 12.07 hrs, Volume= 0.036 af, Depth> 4.32"
Routed to Pond P4 : Porous 4

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=6.66"

	Area (sf)	CN	Description
	356	98.0	Paved parking, HSG B
*	2,434	89.0	Porous Pavement, HSG B
	1,616	61.0	>75% Grass cover, Good, HSG B
	4,406	79.5	Weighted Average
	4,050		91.92% Pervious Area
	356		8.08% Impervious Area

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

Subcatchment 11C: Porous 4



Summary for Subcatchment 12C: Porous 5

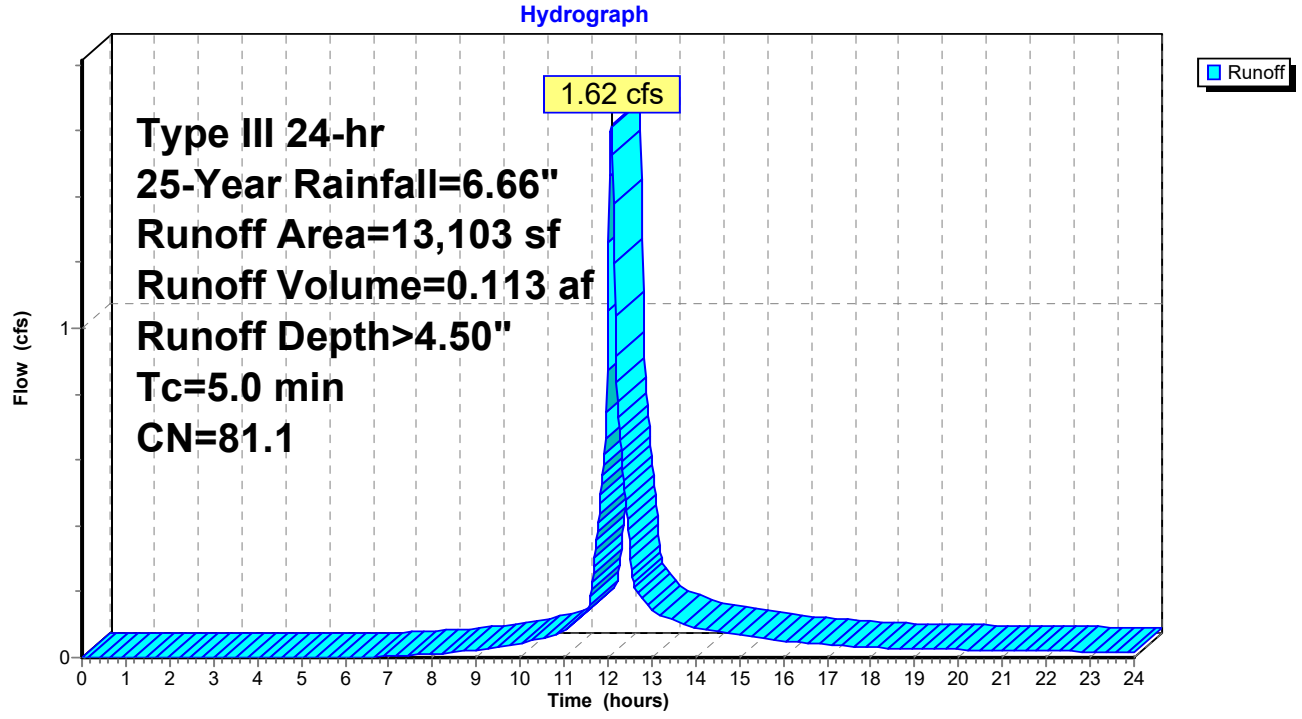
Runoff = 1.62 cfs @ 12.07 hrs, Volume= 0.113 af, Depth> 4.50"
Routed to Pond P5 : Porous 5

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=6.66"

	Area (sf)	CN	Description
	856	98.0	Paved parking, HSG B
*	8,274	89.0	Porous Pavement, HSG B
	3,973	61.0	>75% Grass cover, Good, HSG B
	13,103	81.1	Weighted Average
	12,247		93.47% Pervious Area
	856		6.53% Impervious Area

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

Subcatchment 12C: Porous 5



Summary for Pond P1: Porous 1

Inflow Area = 0.173 ac, 9.04% Impervious, Inflow Depth > 4.78" for 25-Year event
Inflow = 0.98 cfs @ 12.07 hrs, Volume= 0.069 af
Outflow = 0.82 cfs @ 12.13 hrs, Volume= 0.045 af, Atten= 16%, Lag= 3.2 min
Primary = 0.82 cfs @ 12.13 hrs, Volume= 0.045 af
Routed to Link 3L : Junction 1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Peak Elev= 344.87' @ 12.13 hrs Storage= 1,150 cf

Plug-Flow detention time= 171.3 min calculated for 0.045 af (66% of inflow)
Center-of-Mass det. time= 73.8 min (872.8 - 799.0)

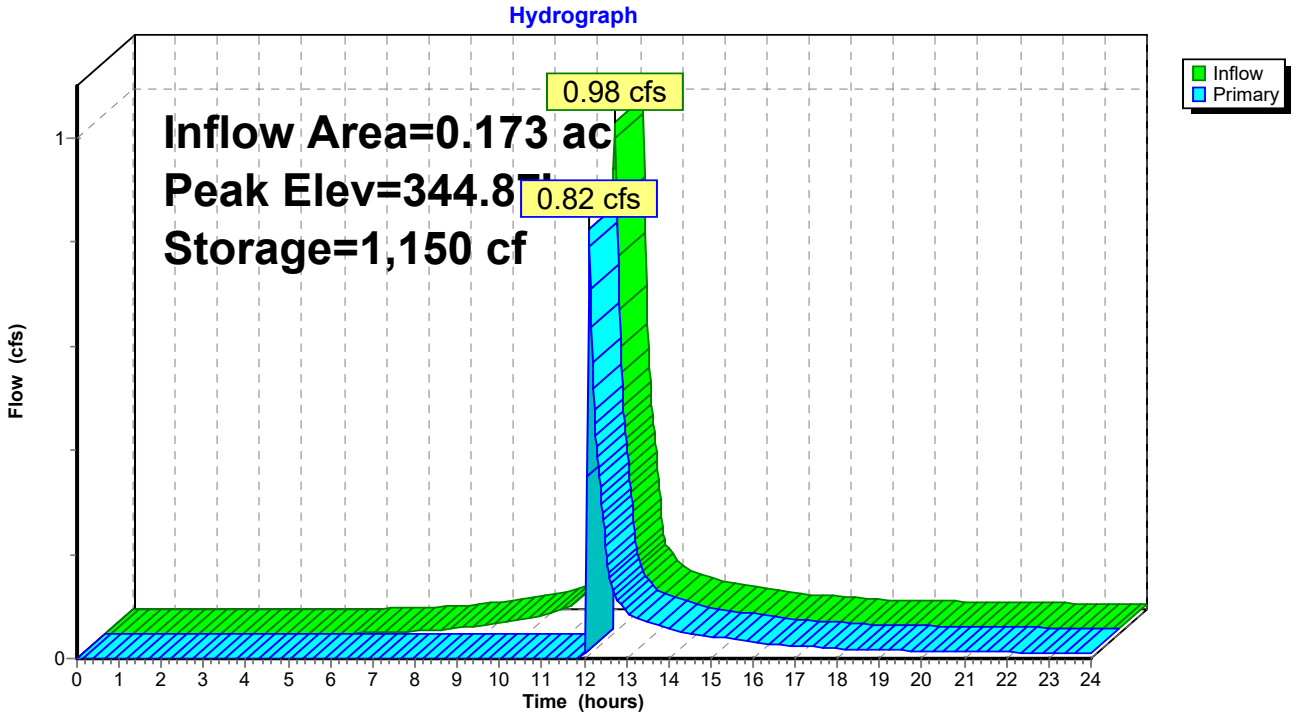
Volume	Invert	Avail.Storage	Storage Description
#1	342.70'	1,295 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
342.70	0	0
344.20	608	608
344.37	138	746
344.70	262	1,008
345.05	287	1,295

Device	Routing	Invert	Outlet Devices
#1	Primary	344.70'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 0.01 17.50 Height (feet) 0.35 0.00 0.35

Primary OutFlow Max=0.80 cfs @ 12.13 hrs HW=344.87' (Free Discharge)
1=Asymmetrical Weir (Weir Controls 0.80 cfs @ 0.54 fps)

Pond P1: Porous 1



Stage-Area-Storage for Pond P1: Porous 1

Elevation (feet)	Storage (cubic-feet)
342.70	0
342.80	41
342.90	81
343.00	122
343.10	162
343.20	203
343.30	243
343.40	284
343.50	324
343.60	365
343.70	405
343.80	446
343.90	486
344.00	527
344.10	567
344.20	608
344.30	689
344.40	770
344.50	849
344.60	929
344.70	1,008
344.80	1,090
344.90	1,172
345.00	**1,254**

Summary for Pond P2: Porous 2

Inflow Area = 0.100 ac, 17.18% Impervious, Inflow Depth > 4.48" for 25-Year event
Inflow = 0.54 cfs @ 12.07 hrs, Volume= 0.037 af
Outflow = 0.31 cfs @ 12.19 hrs, Volume= 0.022 af, Atten= 43%, Lag= 6.7 min
Primary = 0.31 cfs @ 12.19 hrs, Volume= 0.022 af
Routed to Link 3L : Junction 1

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Peak Elev= 344.41' @ 12.19 hrs Storage= 692 cf

Plug-Flow detention time= 188.7 min calculated for 0.022 af (59% of inflow)
Center-of-Mass det. time= 84.4 min (890.7 - 806.3)

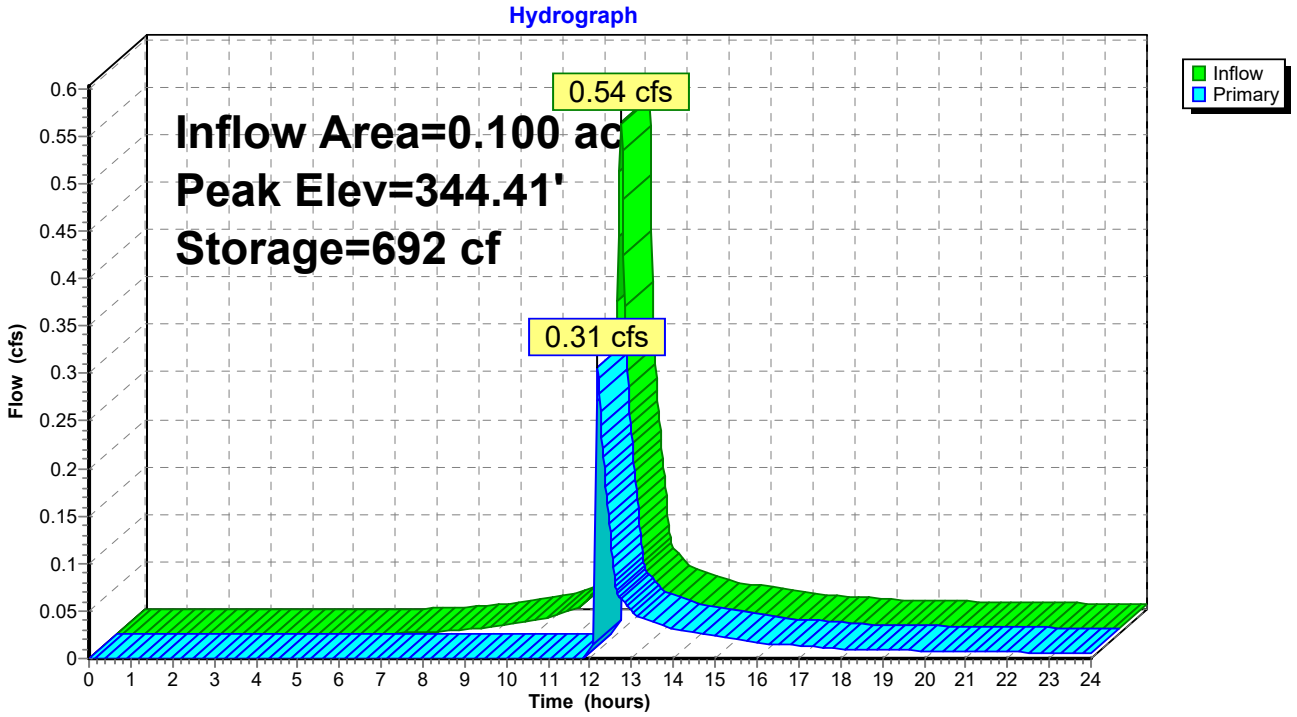
Volume	Invert	Avail.Storage	Storage Description
#1	342.30'	1,012 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
342.30	0	0
342.72	78	78
343.97	465	543
344.30	114	657
344.72	133	790
345.05	222	1,012

Device	Routing	Invert	Outlet Devices
#1	Primary	344.30'	**3.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.30 cfs @ 12.19 hrs HW=344.41' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.30 cfs @ 0.92 fps)

Pond P2: Porous 2



Stage-Area-Storage for Pond P2: Porous 2

Elevation (feet)	Storage (cubic-feet)
342.30	0
342.40	19
342.50	37
342.60	56
342.70	74
342.80	108
342.90	145
343.00	182
343.10	219
343.20	257
343.30	294
343.40	331
343.50	368
343.60	405
343.70	443
343.80	480
343.90	517
344.00	553
344.10	588
344.20	622
344.30	657
344.40	689
344.50	720
344.60	752
344.70	784
344.80	844
344.90	911
345.00	**978**

Summary for Pond P3: Porous 3

Inflow Area = 0.131 ac, 21.55% Impervious, Inflow Depth > 4.77" for 25-Year event
Inflow = 0.74 cfs @ 12.07 hrs, Volume= 0.052 af
Outflow = 0.05 cfs @ 13.73 hrs, Volume= 0.015 af, Atten= 94%, Lag= 99.5 min
Primary = 0.05 cfs @ 13.73 hrs, Volume= 0.015 af
Routed to Link 4L : Junction 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Peak Elev= 344.57' @ 13.73 hrs Storage= 1,627 cf

Plug-Flow detention time= 368.5 min calculated for 0.015 af (29% of inflow)
Center-of-Mass det. time= 227.8 min (1,027.1 - 799.3)

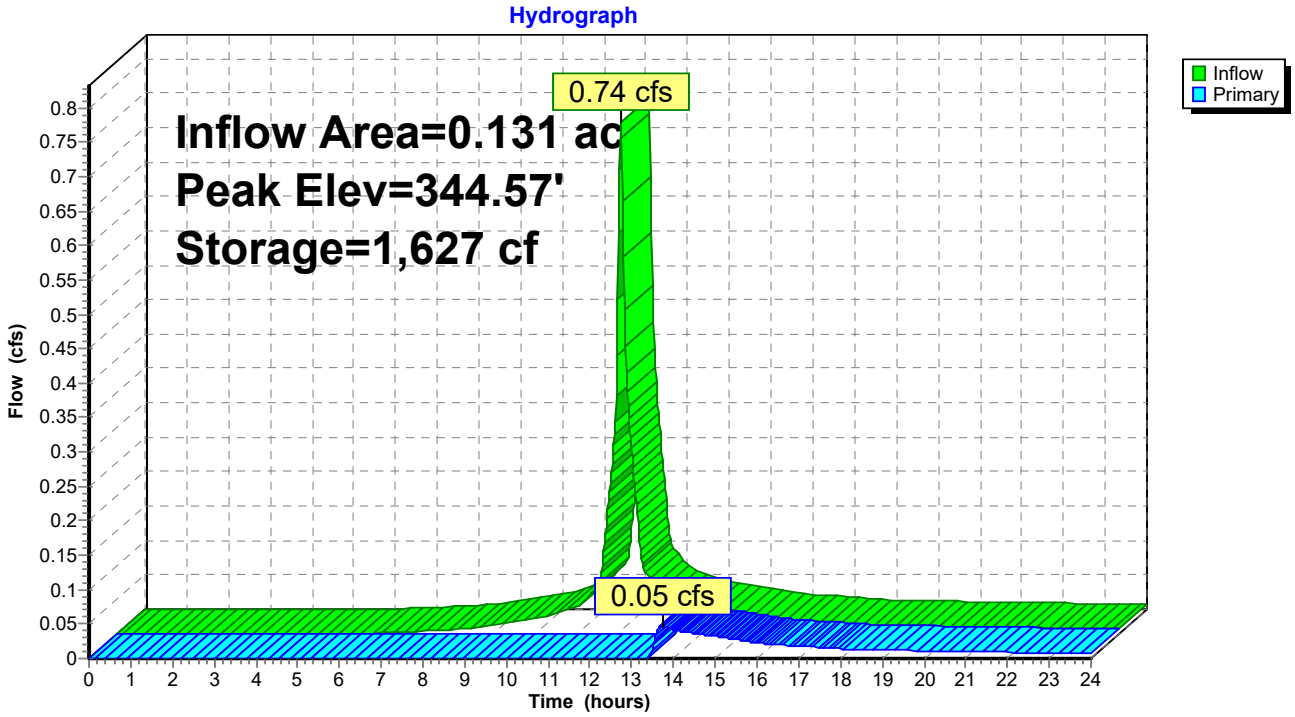
Volume	Invert	Avail.Storage	Storage Description
#1	342.55'	2,990 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
342.55	0	0
343.70	656	656
344.22	594	1,250
344.55	362	1,612
345.37	663	2,275
345.70	715	2,990

Device	Routing	Invert	Outlet Devices
#1	Primary	344.55'	**6.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.04 cfs @ 13.73 hrs HW=344.57' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.04 cfs @ 0.38 fps)

Pond P3: Porous 3



Stage-Area-Storage for Pond P3: Porous 3

Elevation (feet)	Storage (cubic-feet)
342.55	0
342.65	57
342.75	114
342.85	171
342.95	228
343.05	285
343.15	342
343.25	399
343.35	456
343.45	513
343.55	570
343.65	627
343.75	713
343.85	827
343.95	942
344.05	1,056
344.15	1,170
344.25	1,283
344.35	1,393
344.45	1,502
344.55	1,612
344.65	1,693
344.75	1,774
344.85	1,855
344.95	1,935
345.05	2,016
345.15	2,097
345.25	2,178
345.35	2,259
345.45	2,448
345.55	2,665
345.65	**2,882**

Summary for Pond P4: Porous 4

Inflow Area = 0.101 ac, 8.08% Impervious, Inflow Depth > 4.32" for 25-Year event
Inflow = 0.53 cfs @ 12.07 hrs, Volume= 0.036 af
Outflow = 0.29 cfs @ 12.19 hrs, Volume= 0.022 af, Atten= 46%, Lag= 7.1 min
Primary = 0.29 cfs @ 12.19 hrs, Volume= 0.022 af
Routed to Link 4L : Junction 2

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Peak Elev= 345.11' @ 12.19 hrs Storage= 666 cf

Plug-Flow detention time= 187.2 min calculated for 0.022 af (60% of inflow)
Center-of-Mass det. time= 82.9 min (892.6 - 809.7)

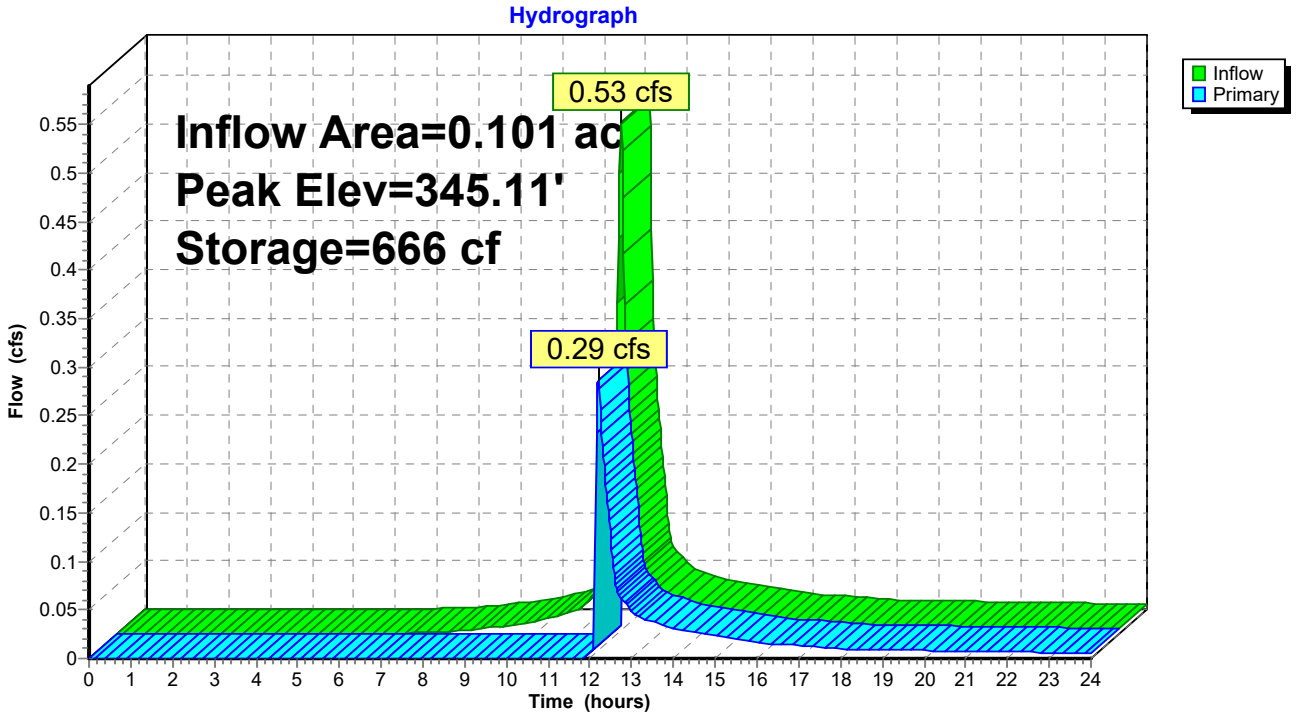
Volume	Invert	Avail.Storage	Storage Description
#1	343.00'	977 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
343.00	0	0
343.70	136	136
344.67	376	512
345.00	119	631
345.37	122	753
345.70	224	977

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**3.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.28 cfs @ 12.19 hrs HW=345.10' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.28 cfs @ 0.91 fps)

Pond P4: Porous 4



Stage-Area-Storage for Pond P4: Porous 4

Elevation (feet)	Storage (cubic-feet)
343.00	0
343.10	19
343.20	39
343.30	58
343.40	78
343.50	97
343.60	117
343.70	136
343.80	175
343.90	214
344.00	252
344.10	291
344.20	330
344.30	369
344.40	407
344.50	446
344.60	485
344.70	523
344.80	559
344.90	595
345.00	631
345.10	664
345.20	697
345.30	730
345.40	773
345.50	841
345.60	909
345.70	**977**

Summary for Pond P5: Porous 5

Inflow Area = 0.301 ac, 6.53% Impervious, Inflow Depth > 4.50" for 25-Year event
Inflow = 1.62 cfs @ 12.07 hrs, Volume= 0.113 af
Outflow = 1.61 cfs @ 12.08 hrs, Volume= 0.092 af, Atten= 1%, Lag= 0.2 min
Primary = 1.61 cfs @ 12.08 hrs, Volume= 0.092 af
Routed to Link 5L : East

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs / 2
Peak Elev= 343.94' @ 12.08 hrs Storage= 944 cf

Plug-Flow detention time= 110.1 min calculated for 0.092 af (81% of inflow)
Center-of-Mass det. time= 37.7 min (843.5 - 805.8)

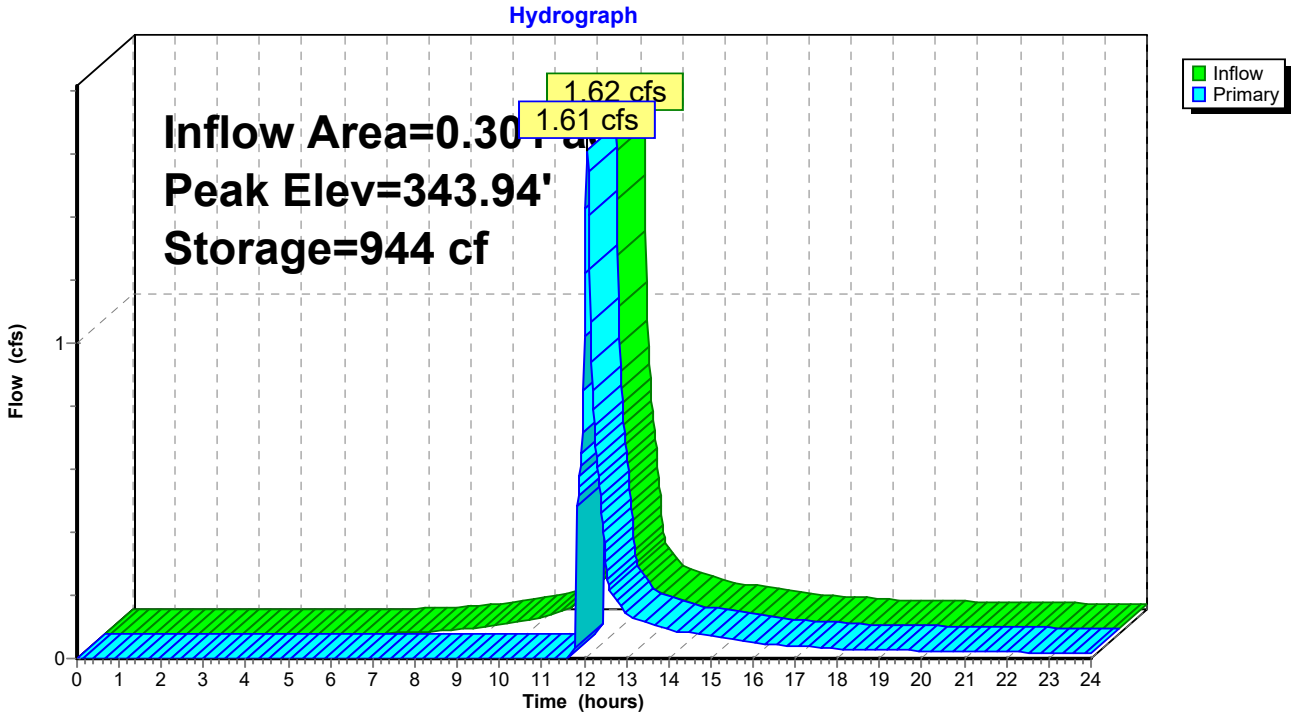
Volume	Invert	Avail.Storage	Storage Description
#1	341.90'	1,064 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
341.90	0	0
342.10	52	52
343.57	762	814
343.77	73	887
343.90	27	914
344.10	150	1,064

Device	Routing	Invert	Outlet Devices
#1	Primary	343.90'	**72.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.57 cfs @ 12.08 hrs HW=343.94' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 1.57 cfs @ 0.55 fps)

Pond P5: Porous 5



Stage-Area-Storage for Pond P5: Porous 5

Elevation (feet)	Storage (cubic-feet)
341.90	0
342.00	26
342.10	52
342.20	104
342.30	156
342.40	208
342.50	259
342.60	311
342.70	363
342.80	415
342.90	467
343.00	519
343.10	570
343.20	622
343.30	674
343.40	726
343.50	778
343.60	825
343.70	861
343.80	893
343.90	914
344.00	989
344.10	**1,064**

Summary for Pond P6: Porous 6

Inflow Area = 0.260 ac, 2.38% Impervious, Inflow Depth > 4.62" for 25-Year event
Inflow = 1.44 cfs @ 12.07 hrs, Volume= 0.100 af
Outflow = 1.17 cfs @ 12.14 hrs, Volume= 0.061 af, Atten= 19%, Lag= 4.1 min
Primary = 1.17 cfs @ 12.14 hrs, Volume= 0.061 af
Routed to Link 6L : West

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Peak Elev= 343.05' @ 12.14 hrs Storage= 1,758 cf

Plug-Flow detention time= 182.6 min calculated for 0.061 af (61% of inflow)
Center-of-Mass det. time= 80.2 min (883.2 - 803.0)

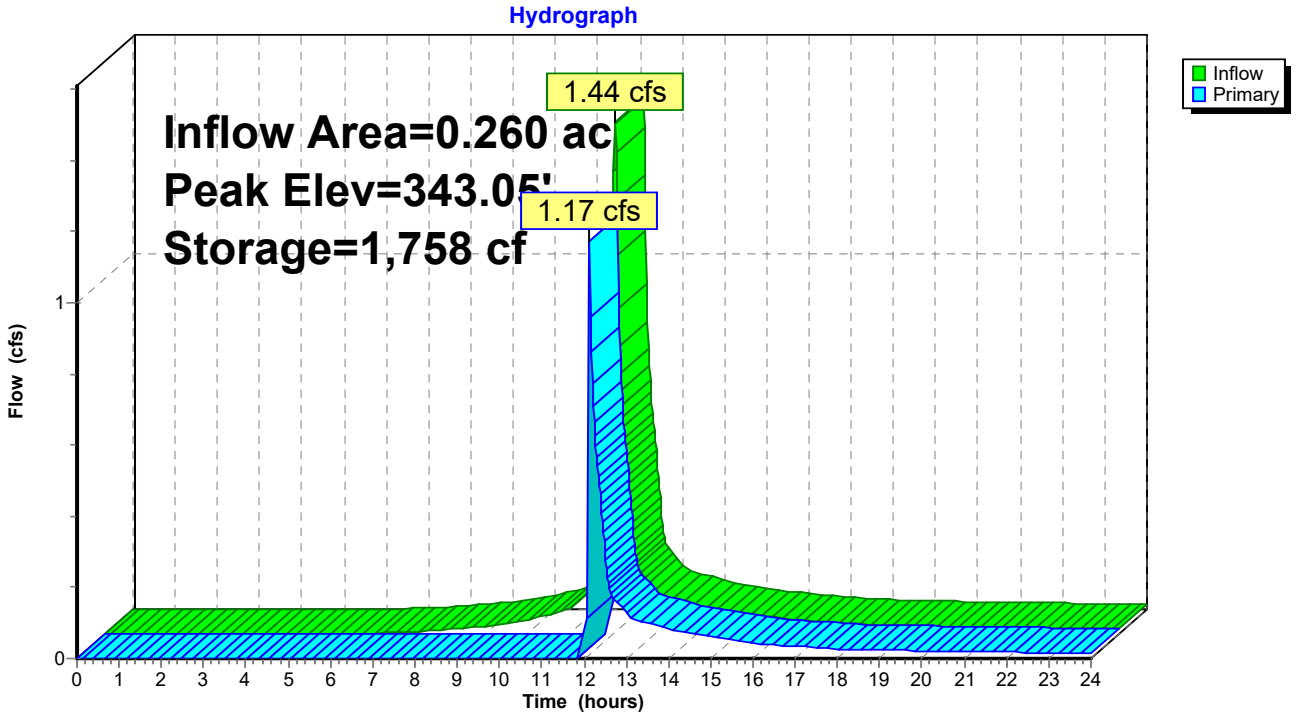
Volume	Invert	Avail.Storage	Storage Description
#1	341.00'	2,870 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
341.00	0	0
341.80	436	436
342.67	949	1,385
343.00	326	1,711
343.47	453	2,164
343.80	706	2,870

Device	Routing	Invert	Outlet Devices
#1	Primary	343.00'	**38.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.14 cfs @ 12.14 hrs HW=343.05' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 1.14 cfs @ 0.62 fps)

Pond P6: Porous 6



Stage-Area-Storage for Pond P6: Porous 6

Elevation (feet)	Storage (cubic-feet)
341.00	0
341.10	55
341.20	109
341.30	164
341.40	218
341.50	272
341.60	327
341.70	381
341.80	436
341.90	545
342.00	654
342.10	763
342.20	872
342.30	981
342.40	1,090
342.50	1,200
342.60	1,309
342.70	1,415
342.80	1,513
342.90	1,612
343.00	1,711
343.10	1,807
343.20	1,904
343.30	2,000
343.40	2,097
343.50	2,228
343.60	2,442
343.70	2,656
343.80	**2,870**

Summary for Pond P7: Porous 7

Inflow Area = 0.261 ac, 7.35% Impervious, Inflow Depth > 3.73" for 25-Year event
Inflow = 1.18 cfs @ 12.08 hrs, Volume= 0.081 af
Outflow = 1.18 cfs @ 12.08 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.2 min
Primary = 1.18 cfs @ 12.08 hrs, Volume= 0.071 af
Routed to Link 6L : West

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Peak Elev= 342.26' @ 12.08 hrs Storage= 474 cf

Plug-Flow detention time= 81.8 min calculated for 0.071 af (87% of inflow)
Center-of-Mass det. time= 24.9 min (847.8 - 822.9)

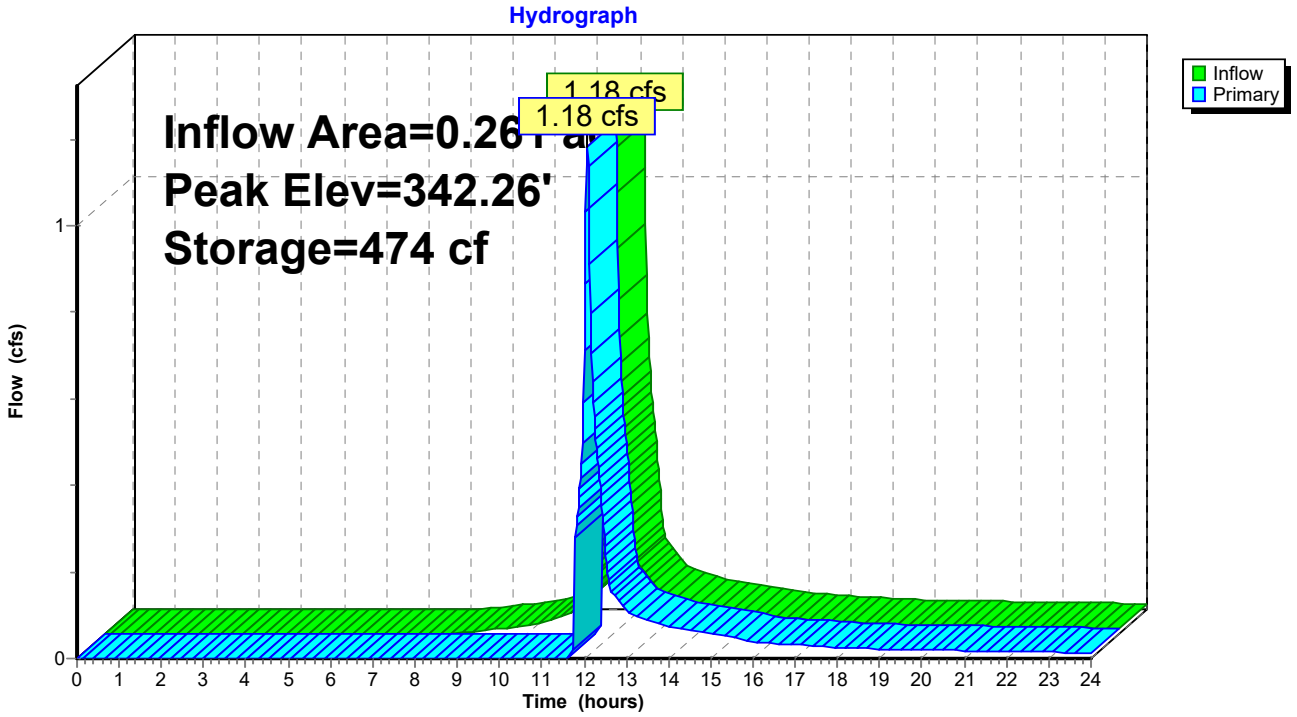
Volume	Invert	Avail.Storage	Storage Description
#1	340.10'	726 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
340.10	0	0
341.00	129	129
341.77	220	349
342.10	91	440
342.67	119	559
343.00	167	726

Device	Routing	Invert	Outlet Devices
#1	Primary	342.10'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 4.60 16.60 Height (feet) 0.20 0.00 0.20

Primary OutFlow Max=1.17 cfs @ 12.08 hrs HW=342.26' (Free Discharge)
1=Asymmetrical Weir (Weir Controls 1.17 cfs @ 0.53 fps)

Pond P7: Porous 7



Stage-Area-Storage for Pond P7: Porous 7

Elevation (feet)	Storage (cubic-feet)
340.10	0
340.20	14
340.30	29
340.40	43
340.50	57
340.60	72
340.70	86
340.80	100
340.90	115
341.00	129
341.10	158
341.20	186
341.30	215
341.40	243
341.50	272
341.60	300
341.70	329
341.80	357
341.90	385
342.00	412
342.10	440
342.20	461
342.30	482
342.40	503
342.50	524
342.60	544
342.70	574
342.80	625
342.90	675
343.00	**726**

Summary for Pond P8: Porous 8

Inflow Area = 0.114 ac, 15.40% Impervious, Inflow Depth > 4.75" for 25-Year event
Inflow = 0.64 cfs @ 12.07 hrs, Volume= 0.045 af
Outflow = 0.39 cfs @ 12.17 hrs, Volume= 0.040 af, Atten= 39%, Lag= 5.7 min
Primary = 0.39 cfs @ 12.17 hrs, Volume= 0.040 af
Routed to Link 6L : West

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.02 hrs
Peak Elev= 345.42' @ 12.17 hrs Storage= 556 cf

Plug-Flow detention time= 97.5 min calculated for 0.040 af (89% of inflow)
Center-of-Mass det. time= 45.8 min (845.6 - 799.8)

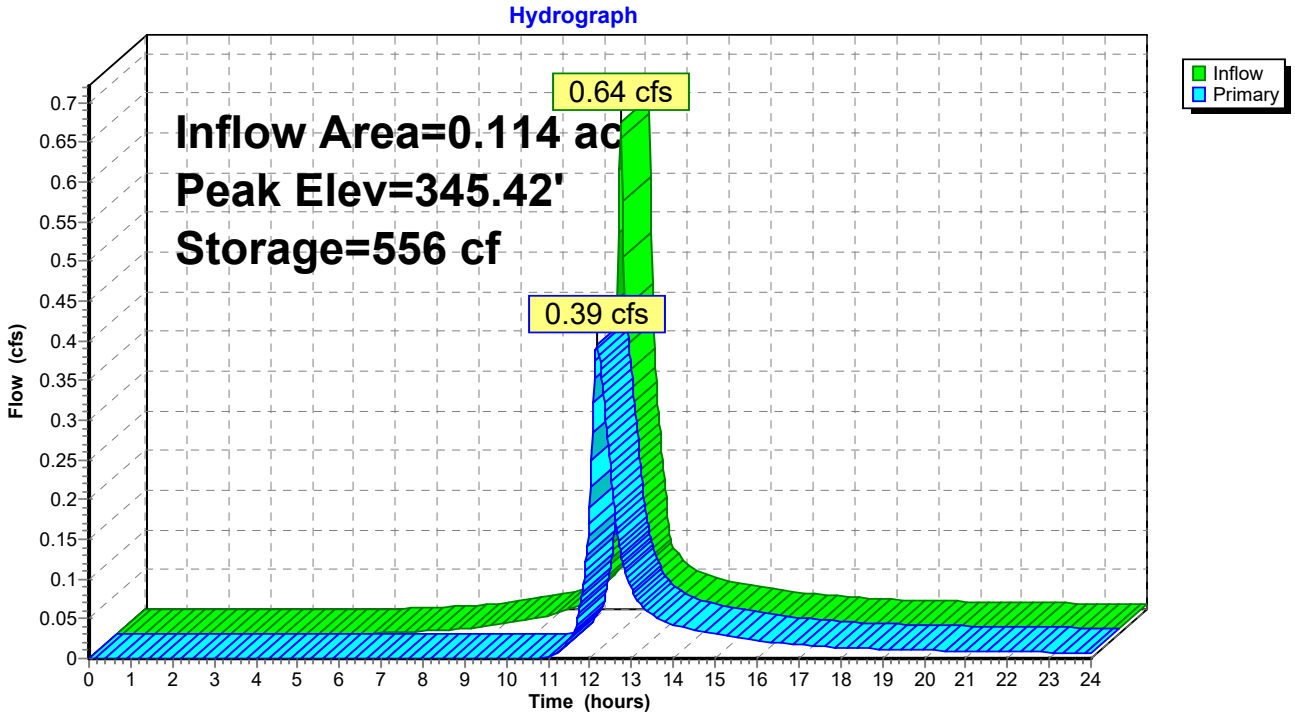
Volume	Invert	Avail.Storage	Storage Description
#1	344.80'	2,067 cf	**Custom Stage Data** Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
344.80	0	0
346.03	1,095	1,095
346.20	170	1,265
346.38	170	1,435
346.45	53	1,488
346.55	60	1,548
346.80	519	2,067

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	**6.0" Round Culvert** L= 21.0' Ke= 0.500 Inlet / Outlet Invert= 345.00' / 344.50' S= 0.0238 '/' Cc= 0.900 n= 0.013, Flow Area= 0.20 sf
#2	Primary	346.50'	**Asymmetrical Weir, C= 3.27** Offset (feet) 0.00 0.01 18.95 Height (feet) 1.30 0.00 1.30

Primary OutFlow Max=0.39 cfs @ 12.17 hrs HW=345.42' (Free Discharge)
1=Culvert (Inlet Controls 0.39 cfs @ 2.22 fps)
2=Asymmetrical Weir (Controls 0.00 cfs)

Pond P8: Porous 8



Stage-Area-Storage for Pond P8: Porous 8

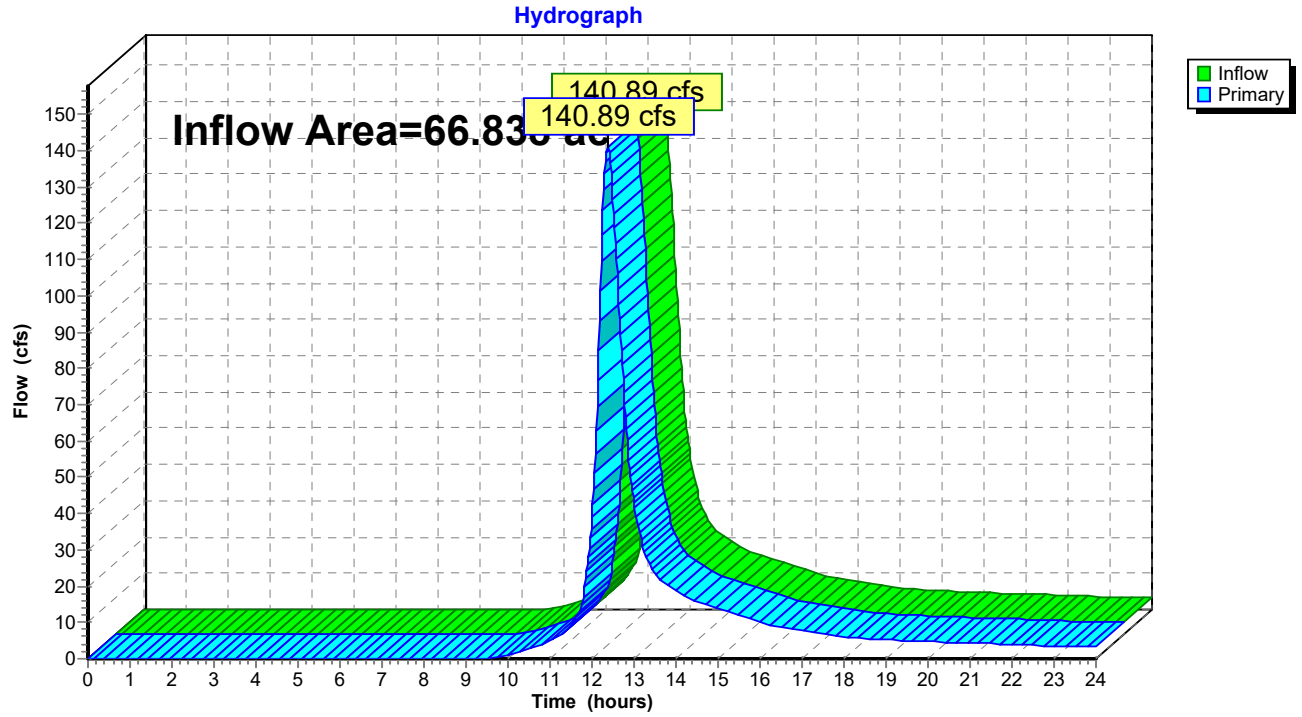
Elevation (feet)	Storage (cubic-feet)
344.80	0
344.90	89
345.00	178
345.10	267
345.20	356
345.30	445
345.40	534
345.50	623
345.60	712
345.70	801
345.80	890
345.90	979
346.00	1,068
346.10	1,165
346.20	1,265
346.30	1,359
346.40	1,450
346.50	1,518
346.60	1,652
346.70	1,859
346.80	**2,067**
346.90	2,067
347.00	2,067
347.10	2,067
347.20	2,067
347.30	2,067
347.40	2,067
347.50	2,067
347.60	2,067
347.70	2,067
347.80	2,067

Summary for Link 1L: Out Existing

Inflow Area = 66.838 ac, 18.45% Impervious, Inflow Depth > 3.01" for 25-Year event
Inflow = 140.89 cfs @ 12.38 hrs, Volume= 16.766 af
Primary = 140.89 cfs @ 12.38 hrs, Volume= 16.766 af, Atten= 0%, Lag= 0.0 min

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

Link 1L: Out Existing

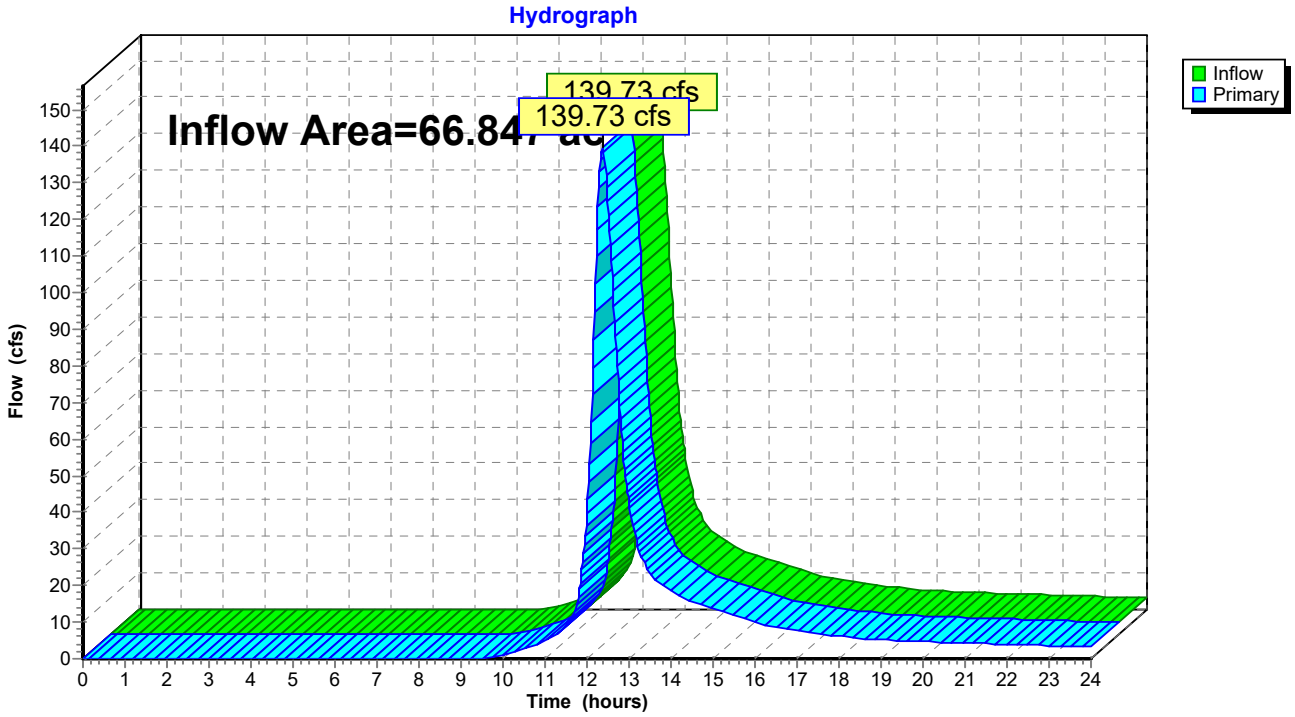


Summary for Link 2L: Out Proposed

Inflow Area = 66.847 ac, 17.86% Impervious, Inflow Depth > 3.00" for 25-Year event
Inflow = 139.73 cfs @ 12.37 hrs, Volume= 16.716 af
Primary = 139.73 cfs @ 12.37 hrs, Volume= 16.716 af, Atten= 0%, Lag= 0.0 min

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

Link 2L: Out Proposed

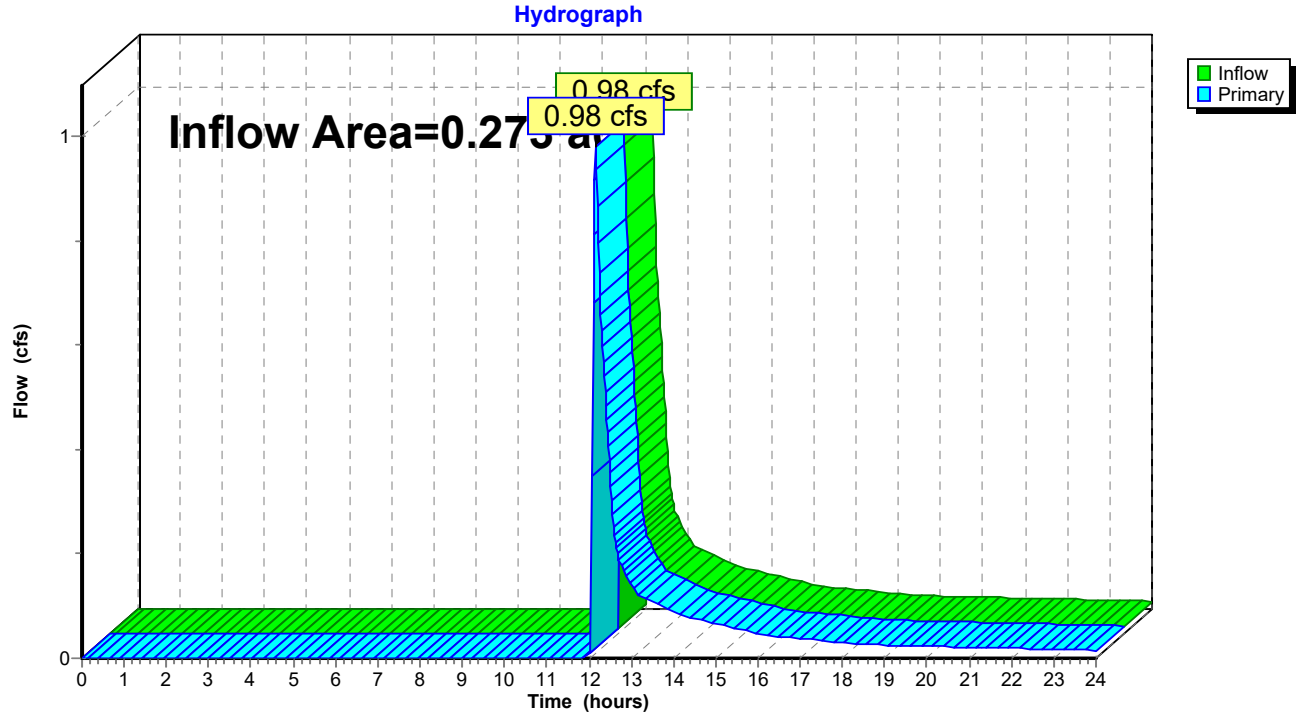


Summary for Link 3L: Junction 1

Inflow Area = 0.273 ac, 12.03% Impervious, Inflow Depth > 2.96" for 25-Year event
Inflow = 0.98 cfs @ 12.16 hrs, Volume= 0.067 af
Primary = 0.98 cfs @ 12.16 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : East

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

Link 3L: Junction 1

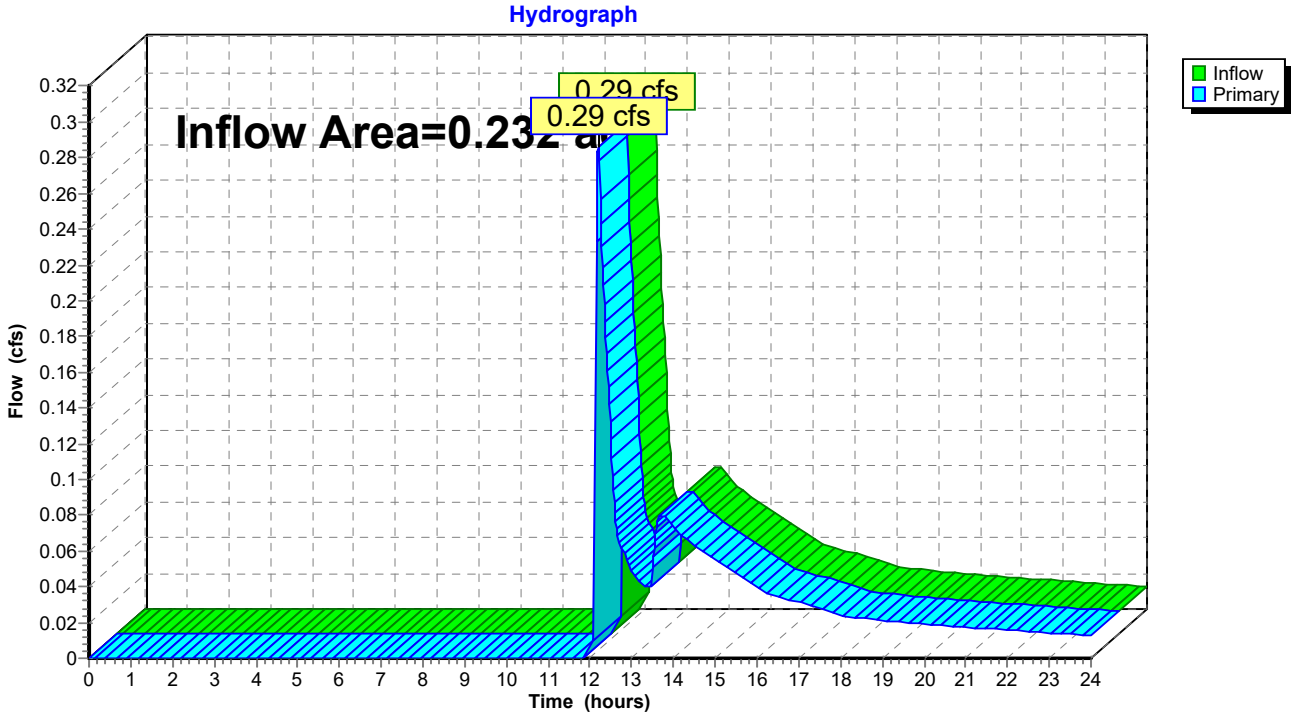


Summary for Link 4L: Junction 2

Inflow Area = 0.232 ac, 15.68% Impervious, Inflow Depth > 1.91" for 25-Year event
Inflow = 0.29 cfs @ 12.19 hrs, Volume= 0.037 af
Primary = 0.29 cfs @ 12.19 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : East

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

Link 4L: Junction 2

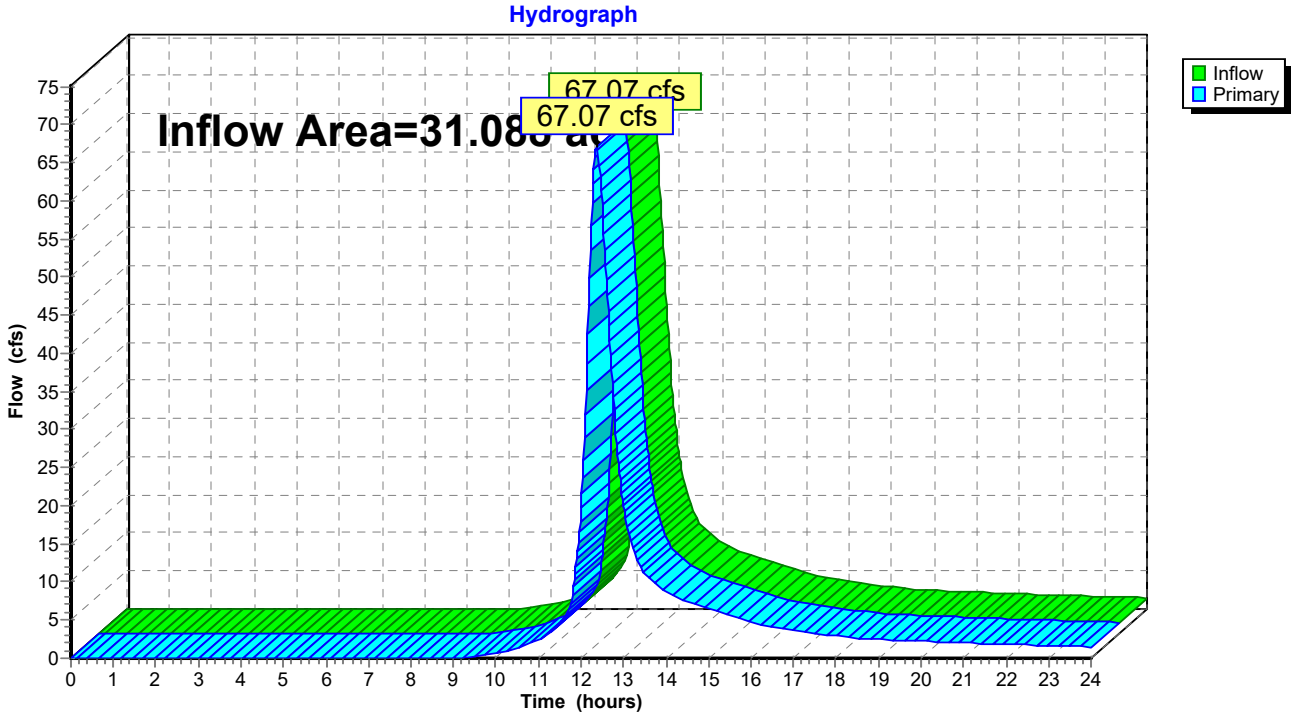


Summary for Link 5L: East

Inflow Area = 31.088 ac, 23.45% Impervious, Inflow Depth > 3.08" for 25-Year event
Inflow = 67.07 cfs @ 12.37 hrs, Volume= 7.992 af
Primary = 67.07 cfs @ 12.37 hrs, Volume= 7.992 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : Out Proposed

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

Link 5L: East

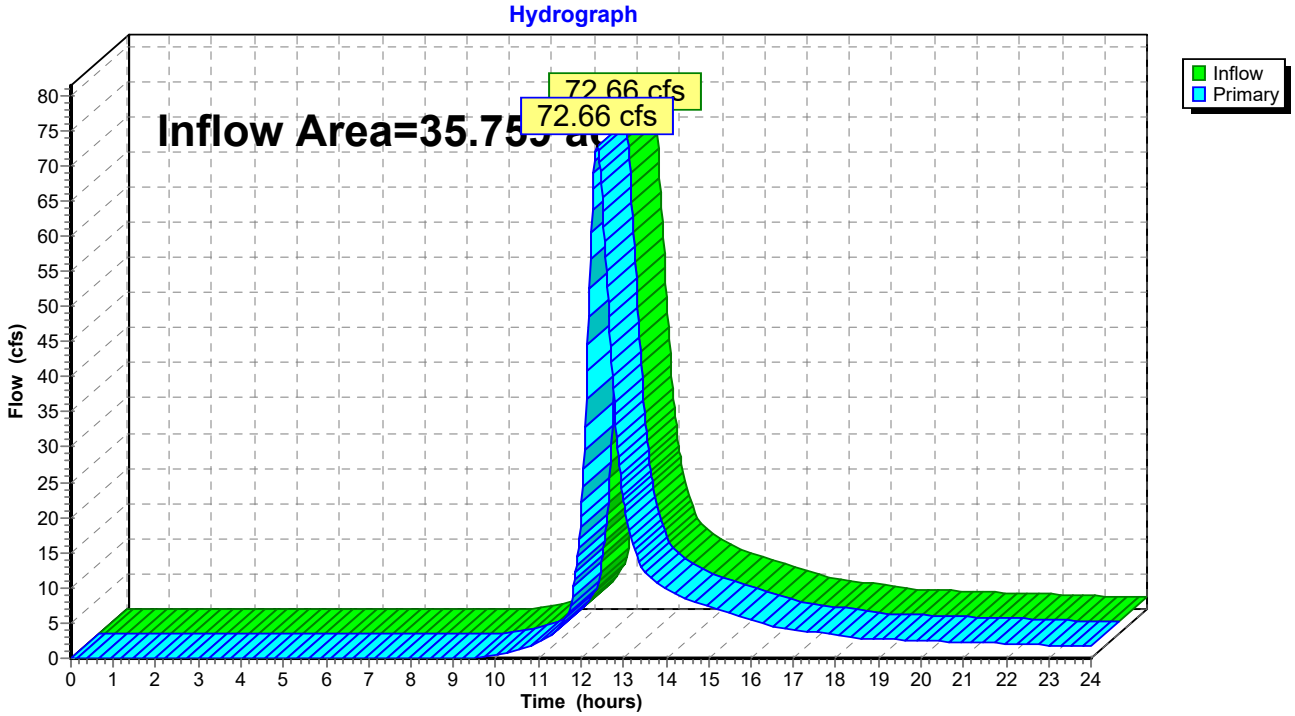


Summary for Link 6L: West

Inflow Area = 35.759 ac, 13.01% Impervious, Inflow Depth > 2.93" for 25-Year event
Inflow = 72.66 cfs @ 12.38 hrs, Volume= 8.724 af
Primary = 72.66 cfs @ 12.38 hrs, Volume= 8.724 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : Out Proposed

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

Link 6L: West



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+Trans method - Pond routing by Stor-Ind method

Subcatchment 1C: West Basin Runoff Area=35.707 ac 13.87% Impervious Runoff Depth>4.41"
Flow Length=985' Tc=26.4 min CN=66.2 Runoff=111.02 cfs 13.127 af

Subcatchment 2C: East Basin Runoff Area=31.131 ac 23.71% Impervious Runoff Depth>4.59"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=101.19 cfs 11.906 af

Subcatchment 3C: Porous 6 Runoff Area=11,337 sf 2.38% Impervious Runoff Depth>6.35"
Tc=5.0 min CN=82.2 Runoff=1.95 cfs 0.138 af

Subcatchment 4C: Porous 7 Runoff Area=11,373 sf 7.35% Impervious Runoff Depth>5.35"
Tc=5.0 min CN=73.9 Runoff=1.69 cfs 0.116 af

Subcatchment 5C: Porous 8 Runoff Area=4,967 sf 15.40% Impervious Runoff Depth>6.49"
Tc=5.0 min CN=83.4 Runoff=0.87 cfs 0.062 af

Subcatchment 6C: West Bypass Runoff Area=35.124 ac 13.12% Impervious Runoff Depth>4.39"
Flow Length=985' Tc=26.4 min CN=66.0 Runoff=108.60 cfs 12.843 af

Subcatchment 7C: East Bypass Runoff Area=30.282 ac 23.78% Impervious Runoff Depth>4.59"
Flow Length=499' Tc=26.1 min CN=67.7 Runoff=98.43 cfs 11.582 af

Subcatchment 8C: Porous 1 Runoff Area=7,524 sf 9.04% Impervious Runoff Depth>6.53"
Tc=5.0 min CN=83.7 Runoff=1.32 cfs 0.094 af

Subcatchment 9C: Porous 2 Runoff Area=4,365 sf 17.18% Impervious Runoff Depth>6.19"
Tc=5.0 min CN=80.9 Runoff=0.74 cfs 0.052 af

Subcatchment 10C: Porous 3 Runoff Area=5,707 sf 21.55% Impervious Runoff Depth>6.51"
Tc=5.0 min CN=83.6 Runoff=1.00 cfs 0.071 af

Subcatchment 11C: Porous 4 Runoff Area=4,406 sf 8.08% Impervious Runoff Depth>6.02"
Tc=5.0 min CN=79.5 Runoff=0.73 cfs 0.051 af

Subcatchment 12C: Porous 5 Runoff Area=13,103 sf 6.53% Impervious Runoff Depth>6.21"
Tc=5.0 min CN=81.1 Runoff=2.21 cfs 0.156 af

Pond P1: Porous 1 Peak Elev=344.91' Storage=1,179 cf Inflow=1.32 cfs 0.094 af
Outflow=1.29 cfs 0.070 af

Pond P2: Porous 2 Peak Elev=344.49' Storage=718 cf Inflow=0.74 cfs 0.052 af
Outflow=0.72 cfs 0.037 af

Pond P3: Porous 3 Peak Elev=344.62' Storage=1,672 cf Inflow=1.00 cfs 0.071 af
Outflow=0.34 cfs 0.034 af

Pond P4: Porous 4 Peak Elev=345.19' Storage=694 cf Inflow=0.73 cfs 0.051 af
Outflow=0.70 cfs 0.036 af

Pond P5: Porous 5 Peak Elev=343.95' Storage=951 cf Inflow=2.21 cfs 0.156 af
Outflow=2.20 cfs 0.135 af

Pond P6: Porous 6 Peak Elev=343.07' Storage=1,778 cf Inflow=1.95 cfs 0.138 af
Outflow=1.94 cfs 0.098 af

Pond P7: Porous 7 Peak Elev=342.29' Storage=479 cf Inflow=1.69 cfs 0.116 af
Outflow=1.69 cfs 0.106 af

Pond P8: Porous 8 Peak Elev=345.55' Storage=665 cf Inflow=0.87 cfs 0.062 af
Outflow=0.51 cfs 0.057 af

Link 1L: Out Existing Inflow=212.20 cfs 25.033 af
Primary=212.20 cfs 25.033 af

Link 2L: Out Proposed Inflow=210.65 cfs 24.997 af
Primary=210.65 cfs 24.997 af

Link 3L: Junction 1 Inflow=2.01 cfs 0.107 af
Primary=2.01 cfs 0.107 af

Link 4L: Junction 2 Inflow=0.70 cfs 0.070 af
Primary=0.70 cfs 0.070 af

Link 5L: East Inflow=100.42 cfs 11.893 af
Primary=100.42 cfs 11.893 af

Link 6L: West Inflow=110.23 cfs 13.104 af
Primary=110.23 cfs 13.104 af

Total Runoff Area = 133.685 ac Runoff Volume = 50.196 af Average Runoff Depth = 4.51"
81.84% Pervious = 109.411 ac 18.16% Impervious = 24.274 ac

HYDRAULIC DATA FOR RATIONAL METHOD

Project:	*Connecituct Humane Society*	**Project #:**	*10258*	**Date:**	*7/1/2021*
Location:	*863 Danbury Road, Wilton, CT*	**By:**	*VJH*	**Checked:**	*CJF*

Drainage Basin	Basin Description				Drainage Path				Time (min)	25-yr. Rainfall Intensity (in/hr)	Q = ACI (cfs)
	Acres	C	Description	AC	Length (ft)	ΔH	Slope (%)	Description			
Existing to CB#1	0.62	0.95	Impervious	0.59							
	0.96	0.30	Pervious	0.29							
	1.58		**Total**	**0.88**	**N/A**	**N/A**	**N/A**	**Pavement**	**5**	**8.6**	**7.55**
Proposed to CB#1	0.48	0.95	Impervious	0.45							
	0.61	0.30	Pervious	0.18							
	1.08		**Total**	**0.63**	**N/A**	**N/A**	**N/A**	**Pavement**	**5**	**8.6**	**5.45**
Existing to MH#1	6.45	0.95	Impervious	6.13							
	21.39	0.30	Pervious	6.42							
	27.85		**Total**	**12.55**	**N/A**	**N/A**	**N/A**	**Pavement**	**5**	**3.7**	**46.43**
Proposed to MH#1	6.45	0.95	Impervious	6.13							
	21.39	0.30	Pervious	6.42							
	27.85		**Total**	**12.55**	**N/A**	**N/A**	**N/A**	**Pavement**	**5**	**3.7**	**46.43**

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HYDRAULIC DATA FOR RATIONAL METHOD

Project:	*Connecticut Humane Society*	**Project #:**	*10258*	**Date:**	*7/1/2021*
Location:	*863 Danbury Road, Wilton, CT*	**By:**	*VJH*	**Checked:**	*CJF*

Pipe Capacity Calculations

25-Year Storm

	Existing Q in system (cfs)	Pipe Size (in)	Pipe Length (ft)	Roughness coefficient	Material	Slope (ft/ft)	Q_{full} (cfs)	Q_{system} / Q_{full} (%)
Pipe from EX.CB#1 to EX.MH#1	7.55 (Note 1)	12	6	0.013	RCP	0.0017	1.47	512.6%
	Proposed Q in system (cfs)	**Pipe Size (in)**	**Pipe Length (ft)**	**Roughness coefficient**	**Material**	**Slope (ft/ft)**	**Q_{full} (cfs)**	**Q_{system} / Q_{full} (%)**
	6.63 (Note 2)	12	6	0.013	RCP	0.0017	1.47	450.1%
Pipe from EXMH#1 to EX.MH#2	**Existing Q in system (cfs)**	**Pipe Size (in)**	**Pipe Length (ft)**	**Roughness coefficient**	**Material**	**Slope (ft/ft)**	**Q_{full} (cfs)**	**Q_{system} / Q_{full} (%)**
	53.98 (Note 1)	24	228	0.013	RCP	0.0020	10.14	532.1%
	Proposed Q in system (cfs)	**Pipe Size (in)**	**Pipe Length (ft)**	**Roughness coefficient**	**Material**	**Slope (ft/ft)**	**Q_{full} (cfs)**	**Q_{system} / Q_{full} (%)**
	53.06 (Note 2)	24	228	0.013	RCP	0.0020	10.14	523.1%

Note 1: Flow is equal to the tributary on-site and off-site flow (refer to Rational Method calculation for further information)

Note 2: Flow is equal to the tributary on-site and off-site flow plus the 25-year storm discharge from Porous Basins 1, 2, and 3 (refer to Rational Method calculation and hydrocad report for further information).

Appendix 3

Water Quality Volume Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous 1 and 2

Porous 1

Area=	0.173	acres	7,523	ft.^{2}
Impervious Area=	0.148	acres		
I=	0.855	[a]		
R=	0.820	[b]		
WQV=	0.012	ac. ft. [c]		

WQV=	**515 ft.^{3}**

Note: The high overflow elevation within Porous 1 is set at 344.70. The water quality volume provided below the high overflow is 1,007 cf. This volume is filtered through porous asphalt, bedding stone, and a crushed stone reservoir prior to flowing out of the system via exfiltration or the high overflow.

Porous 2

Area=	0.100	acres	4,364	ft.^{2}
Impervious Area=	0.071	acres		
I=	0.710	[a]		
R=	0.689	[b]		
WQV=	0.006	ac. ft. [c]		

WQV=	**250 ft.^{3}**

Note: The high overflow elevation within Porous 2 is set at 344.30. The water quality volume provided below the high overflow is 657 cf. This volume is filtered through porous asphalt, bedding stone, and a crushed stone reservoir prior to flowing out of the system via exfiltration or the high overflow.

[a] I=Percent Impervious Coverage

[b] R=0.05+0.009(I); Volumetric runoff Coefficient, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[c] WQV=(1"xRxA)/12; Water Quality Volume, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

Water Quality Volume Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous 3 and 4

Porous 3

Area=	0.131	acres	5,707	ft.^{2}
Impervious Area=	0.096	acres		
I=	0.733	[a]		
R=	0.710	[b]		
WQV=	0.008	ac. ft. [c]		

WQV=	**337 ft.^{3}**

Note: The high overflow elevation within Porous 3 is set at 344.55. The water quality volume provided below the high overflow is 1,612 cf. This volume is filtered through porous asphalt or permeable pavers, bedding stone, and a crushed stone reservoir prior to flowing out of the system via exfiltration or the high overflow.

Porous 4

Area=	0.101	acres	4,406	ft.^{2}
Impervious Area=	0.064	acres		
I=	0.634	[a]		
R=	0.620	[b]		
WQV=	0.005	ac. ft. [c]		

WQV=	**227 ft.^{3}**

Note: The high overflow elevation within Porous 4 is set at 345.00. The water quality volume provided below the high overflow is 631 cf. This volume is filtered through porous asphalt, bedding stone, and a crushed stone reservoir prior to flowing out of the system via exfiltration or the high overflow.

[a] I=Percent Impervious Coverage

[b] R=0.05+0.009(I); Volumetric runoff Coefficient, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[c] WQV=(1"xRxA)/12; Water Quality Volume, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

Water Quality Volume Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous 5 and 6

Porous 5

Area=	0.301	acres	13,103	ft.^{2}
Impervious Area=	0.210	acres		
I=	0.698	[a]		
R=	0.678	[b]		
WQV=	0.017	ac. ft. [c]		

WQV=	**741 ft.^{3}**

Note: The high overflow elevation within Porous 5 is set at 343.90. The water quality volume provided below the high overflow is 913 cf. This volume is filtered through porous asphalt, bedding stone, and a crushed stone reservoir prior to flowing out of the system via exfiltration or the high overflow.

Porous 6

Area=	0.260	acres	11,337	ft.^{2}
Impervious Area=	0.195	acres		
I=	0.750	[a]		
R=	0.725	[b]		
WQV=	0.016	ac. ft. [c]		

WQV=	**684 ft.^{3}**

Note: The high overflow elevation within Porous 6 is set at 343.00. The water quality volume provided below the high overflow is 1,711 cf. This volume is filtered through porous asphalt, bedding stone, and a crushed stone reservoir prior to flowing out of the system via exfiltration or the high overflow.

[a] I=Percent Impervious Coverage

[b] R=0.05+0.009(I); Volumetric runoff Coefficient, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[c] WQV=(1"xRxA)/12; Water Quality Volume, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

Water Quality Volume Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous 7 and 8

Porous 7

Area=	0.261	acres	11,373	ft.^{2}
Impervious Area=	0.114	acres		
I=	0.437	[a]		
R=	0.443	[b]		
WQV=	0.010	ac. ft. [c]		

WQV=	**420 ft.^{3}**

Note: The high overflow elevation within Porous 7 is set at 342.10. The water quality volume provided below the high overflow is 439 cf. This volume is filtered through porous asphalt, bedding stone, and a crushed stone reservoir prior to flowing out of the system via exfiltration or the high overflow.

Porous 8

Area=	0.114	acres	4,966	ft.^{2}
Impervious Area=	0.086	acres		
I=	0.754	[a]		
R=	0.729	[b]		
WQV=	0.007	ac. ft. [c]		

WQV=	**302 ft.^{3}**

Note: The high overflow elevation within Porous 8 is set at 346.30. The water quality volume provided below the high overflow is 1,487 cf. This volume is filtered through permeable pavers, bedding stone, and sand prior to flowing out of the system via an underdrain pipe.

[a] I=Percent Impervious Coverage

[b] R=0.05+0.009(I); Volumetric runoff Coefficient, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

[c] WQV=(1"xRxA)/12; Water Quality Volume, Equation taken from 2004 Connecticut Stormwater Quality Manual section 7.4.1

Groundwater Recharge Volume Calculation

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton CT*	**By:** *VJH*	**Checked:** *CJF*

Onsite Existing vs. Proposed

Net Increase In Impervious Area (I) =	0.046 acres
NRCS Hydrologic Soil Group =	A [a]
Design Rainfall =	1.0 inches
Groundwater Recharge Depth (F) =	0.60 [b]

Groundwater Recharge Volume (GRV)=	**0.002 ac. ft.** [c]	**99.80 ft.^{3}**

Net Increase In Impervious Area (I) =	0.435 acres
NRCS Hydrologic Soil Group =	B [a]
Design Rainfall =	1.0 inches
Groundwater Recharge Depth (F) =	0.35 [b]

Groundwater Recharge Volume (GRV)=	**0.013 ac. ft.** [c]	**552.18 ft.^{3}**

Total GRV =	**0.015 ac. ft.** [c]	**651.98 ft.^{3}**

[a] From Natural Resources Conservation Service

[b] Table 5-2 from the 2012 Town of Greenwich Drainage Manual Section 5.6.1

[c] GRV = F x I from the 2012 Town of Greenwich Drainage Manual Section 5.6.1

Note, for calculation purposes the proposed increase in impervious coverage includes permeable pavers, porous asphalt, and gravel paths.

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #1

Bottom of Storage=	342.70	
Top of Calculated Storage=	345.05	
Stone Void Ratio=	0.40	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	515.0	ft^3
WQV Storage Volume Provided =	1,007.6	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
342.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
344.20	2026.0	607.8	0.0	0.0	0.0	0.0	607.8	607.8
344.37	2026.0	137.8	0.0	0.0	0.0	0.0	137.8	745.6
344.70	2026.0	258.5	135.9	3.6	0.0	0.0	262.1	**1007.6**
345.05	1890.1	238.0	516.0	25.1	135.9	23.8	286.9	1294.5

* Refer to Water Quality Volume Calculations for proposed WQV

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #2

Bottom of Storage=	342.30	
Top of Calculated Storage=	345.05	
Stone Void Ratio=	0.40	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	250.0	ft^3
WQV Storage Volume Provided =	657.3	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
342.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
342.72	930.5	78.2	0.0	0.0	0.0	0.0	78.2	78.2
343.97	930.5	465.3	0.0	0.0	0.0	0.0	465.3	543.4
344.30	930.5	108.0	225.3	5.9	0.0	0.0	113.9	**657.3**
344.72	612.7	51.5	930.5	34.4	225.3	47.3	133.2	790.5
345.05	0.0	0.0	612.7	16.2	930.5	206.0	222.1	1012.6

* Refer to Water Quality Volume Calculations for proposed WQV

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #3

Bottom of Storage=	342.55	
Top of Calculated Storage=	345.70	
Stone Void Ratio=	0.40	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	337.0	ft^3
WQV Storage Volume Provided =	1,612.1	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
342.55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
343.70	2854.0	656.4	0.0	0.0	0.0	0.0	656.4	656.4
344.22	2854.0	593.6	0.0	0.0	0.0	0.0	593.6	1250.1
344.55	2854.0	352.3	369.6	9.8	0.0	0.0	362.1	**1612.1**
345.37	1638.5	268.7	2854.0	242.7	369.6	151.5	663.0	2275.1
345.70	0.0	0.0	1638.5	43.3	2854.0	671.5	714.7	2989.8

* Refer to Water Quality Volume Calculations for proposed WQV

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #4

Bottom of Storage=	343.00	
Top of Calculated Storage=	345.70	
Stone Void Ratio=	0.40	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	227.0	ft^3
WQV Storage Volume Provided =	631.6	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
343.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
343.70	970.0	135.8	0.0	0.0	0.0	0.0	135.8	135.8
344.67	970.0	376.4	0.0	0.0	0.0	0.0	376.4	512.2
345.00	970.0	113.6	218.3	5.8	0.0	0.0	119.4	**631.6**
345.37	696.1	51.5	970.0	30.4	218.3	40.4	122.3	753.8
345.70	0.0	0.0	696.1	18.4	970.0	205.2	223.6	977.4

* Refer to Water Quality Volume Calculations for proposed WQV

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #5

Bottom of Storage=	341.90	
Top of Calculated Storage=	344.10	
Stone Void Ratio=	0.40	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	741.0	ft^3
WQV Storage Volume Provided =	913.4	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
341.90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
342.10	1296.0	51.8	0.0	0.0	0.0	0.0	51.8	51.8
343.57	1296.0	762.0	0.0	0.0	0.0	0.0	762.0	813.9
343.77	1296.0	51.8	1296.0	20.7	0.0	0.0	72.6	886.5
343.90	0.0	0.0	1296.0	27.0	0.0	0.0	27.0	**913.4**
344.10	0.0	0.0	1296.0	20.7	1296.0	129.6	150.3	1063.8

* Refer to Water Quality Volume Calculations for proposed WQV

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #6

Bottom of Storage=	341.00	
Top of Calculated Storage=	343.80	
Stone Void Ratio=	0.40	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	684.0	ft^3
WQV Storage Volume Provided =	1,711.3	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
341.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
341.80	2726.7	436.3	0.0	0.0	0.0	0.0	436.3	436.3
342.67	2726.7	948.9	0.0	0.0	0.0	0.0	948.9	1385.2
343.00	2726.7	303.5	854.4	22.6	0.0	0.0	326.1	**1711.3**
343.47	1397.2	131.3	2726.7	120.4	854.4	200.8	452.5	2163.8
343.80	0.0	0.0	1397.2	36.9	2726.7	669.3	706.2	2869.9

* Refer to Water Quality Volume Calculations for proposed WQV

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #7

Bottom of Storage=	340.10	
Top of Calculated Storage=	343.00	
Stone Void Ratio=	0.40	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	420.0	ft^3
WQV Storage Volume Provided =	439.7	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
340.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
341.00	714.6	128.6	0.0	0.0	0.0	0.0	128.6	128.6
341.77	714.6	220.1	0.0	0.0	0.0	0.0	220.1	348.7
342.10	714.6	88.8	83.7	2.2	0.0	0.0	91.0	**439.7**
342.67	496.0	56.5	714.6	38.7	83.7	23.9	119.1	558.9
343.00	0.0	0.0	496.0	13.1	714.6	154.0	167.1	725.9

* Refer to Water Quality Volume Calculations for proposed WQV

Elevation-Volume Storage Calculations

Project: *Connecticut Humane Society*	**Project #:** *10258*	**Date:** *7/1/2021*
Location: *863 Danbury Road, Wilton, CT*	**By:** *VJH*	**Checked:** *CJF*

Porous Asphalt #8

Bottom of Storage=	344.20	
Top of Calculated Storage=	346.80	
Stone Void Ratio=	0.40	
Sand Void Ratio=	0.30	
Porous Asphalt Void Ratio=	0.16	
Req. Water Quality Volume =	302.0	ft^3
WQV Storage Volume Provided =	1,487.8	ft^3

Elevation (ft)	Area of Gravel or Soil (ft^2)	Storage Volume of Gravel or Soil (ft^3)	Area of Porous Storage (ft^2)	Volume of Porous Storage (ft^3)	Area of Open Air Storage (ft^2)	Volume of Open Air Storage (ft^3)	Total Incremental Storage (ft^3)	Total Storage (ft^3)
344.80	2966.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
346.03	2966.8	1094.7	0.0	0.0	0.0	0.0	1094.7	1094.7
346.20	2966.8	170.2	0.0	0.0	0.0	0.0	170.2	1264.9
346.38	2966.8	149.0	1441.4	20.8	0.0	0.0	169.7	1434.6
346.45	1586.9	33.2	2118.7	19.9	0.0	0.0	53.2	**1487.8**
346.55	0.0	0.0	2118.7	17.6	848.2	42.4	60.0	1547.9
346.80	0.0	0.0	2118.6	42.4	2966.8	476.9	519.2	2067.1

* Refer to Water Quality Volume Calculations for proposed WQV

Operations and Maintenance Plan

863 Danbury Road
July 1, 2021

Scope:

The purpose of the Operations and Maintenance Plan is to ensure that the existing and proposed stormwater components installed at *863 Danbury Road* 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. Reports certifying the completion of all inspections and documentation of maintenance and repairs should be submitted as required.

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. Porous Pavement (Porous Asphalt, Permeable Pavers, Etc.):

    a. Changing the porous pavement surface to an impervious surface requires the review and approval of the Town of Wilton Department of Public Works.
    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.

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.

Appendix 4

NOAA Atlas 14, Volume 10, Version 3
Location name: Wilton, Connecticut, USA*
Latitude: 41.2519°, Longitude: -73.4352°
Elevation: 379.55 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	**0.361** (0.276-0.464)	**0.422** (0.322-0.542)	**0.521** (0.397-0.671)	**0.604** (0.457-0.781)	**0.717** (0.527-0.957)	**0.803** (0.580-1.09)	**0.892** (0.624-1.24)	**0.986** (0.662-1.40)	**1.12** (0.722-1.63)	**1.22** (0.772-1.81)
10-min	**0.512** (0.391-0.657)	**0.598** (0.457-0.768)	**0.739** (0.563-0.952)	**0.855** (0.648-1.11)	**1.02** (0.747-1.36)	**1.14** (0.820-1.54)	**1.26** (0.885-1.76)	**1.40** (0.937-1.99)	**1.58** (1.02-2.31)	**1.73** (1.09-2.57)
15-min	**0.602** (0.461-0.773)	**0.703** (0.537-0.904)	**0.868** (0.662-1.12)	**1.01** (0.762-1.30)	**1.20** (0.878-1.60)	**1.34** (0.965-1.82)	**1.49** (1.04-2.07)	**1.64** (1.10-2.34)	**1.86** (1.20-2.72)	**2.03** (1.29-3.02)
30-min	**0.845** (0.646-1.09)	**0.984** (0.752-1.26)	**1.21** (0.922-1.56)	**1.40** (1.06-1.81)	**1.66** (1.22-2.21)	**1.86** (1.34-2.51)	**2.06** (1.44-2.85)	**2.26** (1.52-3.22)	**2.54** (1.65-3.72)	**2.75** (1.74-4.10)
60-min	**1.09** (0.832-1.40)	**1.26** (0.966-1.62)	**1.55** (1.18-2.00)	**1.79** (1.36-2.32)	**2.12** (1.56-2.82)	**2.38** (1.71-3.21)	**2.63** (1.83-3.64)	**2.88** (1.94-4.10)	**3.22** (2.09-4.71)	**3.48** (2.20-5.17)
2-hr	**1.40** (1.08-1.79)	**1.65** (1.26-2.10)	**2.05** (1.57-2.62)	**2.38** (1.81-3.05)	**2.83** (2.09-3.76)	**3.17** (2.30-4.28)	**3.53** (2.49-4.90)	**3.92** (2.64-5.55)	**4.48** (2.91-6.51)	**4.93** (3.13-7.28)
3-hr	**1.62** (1.25-2.05)	**1.91** (1.47-2.42)	**2.38** (1.83-3.04)	**2.78** (2.12-3.55)	**3.32** (2.47-4.40)	**3.73** (2.72-5.03)	**4.16** (2.95-5.78)	**4.65** (3.14-6.55)	**5.36** (3.49-7.77)	**5.95** (3.78-8.76)
6-hr	**2.03** (1.57-2.56)	**2.42** (1.87-3.05)	**3.05** (2.36-3.86)	**3.58** (2.75-4.55)	**4.30** (3.21-5.67)	**4.84** (3.55-6.50)	**5.42** (3.88-7.51)	**6.09** (4.12-8.53)	**7.09** (4.62-10.2)	**7.93** (5.06-11.6)
12-hr	**2.50** (1.95-3.13)	**3.00** (2.34-3.76)	**3.82** (2.97-4.81)	**4.50** (3.48-5.69)	**5.44** (4.09-7.14)	**6.14** (4.53-8.20)	**6.89** (4.95-9.50)	**7.76** (5.27-10.8)	**9.06** (5.93-13.0)	**10.1** (6.49-14.7)
24-hr	**2.94** (2.31-3.66)	**3.57** (2.80-4.45)	**4.61** (3.60-5.76)	**5.48** (4.25-6.87)	**6.66** (5.03-8.69)	**7.54** (5.59-10.0)	**8.49** (6.15-11.7)	**9.62** (6.55-13.3)	**11.3** (7.42-16.1)	**12.7** (8.18-18.4)
2-day	**3.32** (2.62-4.11)	**4.10** (3.23-5.07)	**5.37** (4.22-6.67)	**6.43** (5.02-8.01)	**7.88** (5.99-10.2)	**8.95** (6.69-11.9)	**10.1** (7.39-13.9)	**11.6** (7.89-15.9)	**13.8** (9.05-19.4)	**15.7** (10.1-22.4)
3-day	**3.61** (2.86-4.45)	**4.46** (3.53-5.50)	**5.86** (4.62-7.24)	**7.02** (5.50-8.71)	**8.61** (6.57-11.1)	**9.78** (7.33-12.9)	**11.1** (8.11-15.1)	**12.6** (8.65-17.3)	**15.1** (9.94-21.2)	**17.2** (11.1-24.5)
4-day	**3.88** (3.08-4.76)	**4.78** (3.79-5.87)	**6.25** (4.94-7.70)	**7.48** (5.87-9.25)	**9.16** (7.00-11.8)	**10.4** (7.81-13.7)	**11.8** (8.62-16.0)	**13.4** (9.20-18.3)	**16.0** (10.5-22.4)	**18.2** (11.7-25.8)
7-day	**4.65** (3.71-5.67)	**5.63** (4.49-6.89)	**7.25** (5.75-8.88)	**8.59** (6.78-10.6)	**10.4** (7.99-13.3)	**11.8** (8.87-15.4)	**13.3** (9.73-17.9)	**15.0** (10.3-20.4)	**17.7** (11.7-24.6)	**19.9** (12.9-28.2)
10-day	**5.40** (4.32-6.57)	**6.44** (5.15-7.84)	**8.14** (6.48-9.94)	**9.56** (7.57-11.7)	**11.5** (8.83-14.6)	**13.0** (9.75-16.8)	**14.5** (10.6-19.4)	**16.3** (11.3-22.0)	**19.0** (12.6-26.3)	**21.2** (13.7-29.9)
20-day	**7.65** (6.16-9.25)	**8.82** (7.09-10.7)	**10.7** (8.60-13.0)	**12.3** (9.81-15.0)	**14.5** (11.2-18.2)	**16.2** (12.2-20.6)	**17.9** (13.0-23.4)	**19.7** (13.7-26.4)	**22.3** (14.9-30.7)	**24.3** (15.8-34.0)
30-day	**9.51** (7.68-11.5)	**10.8** (8.69-13.0)	**12.8** (10.3-15.5)	**14.5** (11.6-17.6)	**16.9** (13.0-21.1)	**18.7** (14.1-23.7)	**20.5** (14.9-26.6)	**22.4** (15.6-29.8)	**24.9** (16.6-34.1)	**26.8** (17.5-37.3)
45-day	**11.8** (9.56-14.1)	**13.2** (10.7-15.8)	**15.4** (12.4-18.5)	**17.2** (13.8-20.8)	**19.8** (15.3-24.5)	**21.7** (16.4-27.4)	**23.7** (17.2-30.5)	**25.6** (17.9-34.0)	**28.1** (18.8-38.3)	**29.9** (19.5-41.5)
60-day	**13.7** (11.1-16.4)	**15.1** (12.3-18.1)	**17.5** (14.1-21.0)	**19.5** (15.6-23.4)	**22.2** (17.2-27.4)	**24.3** (18.3-30.4)	**26.3** (19.1-33.7)	**28.3** (19.8-37.4)	**30.7** (20.6-41.8)	**32.5** (21.2-45.0)

[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
Location name: Wilton, Connecticut, USA*
Latitude: 41.2519°, Longitude: -73.4352°
Elevation: 379.55 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/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**4.33** (3.31-5.57)	**5.06** (3.86-6.50)	**6.25** (4.76-8.05)	**7.25** (5.48-9.37)	**8.60** (6.32-11.5)	**9.64** (6.96-13.1)	**10.7** (7.49-14.9)	**11.8** (7.94-16.8)	**13.4** (8.66-19.6)	**14.6** (9.26-21.8)
10-min	**3.07** (2.35-3.94)	**3.59** (2.74-4.61)	**4.43** (3.38-5.71)	**5.13** (3.89-6.64)	**6.10** (4.48-8.14)	**6.83** (4.92-9.26)	**7.58** (5.31-10.6)	**8.38** (5.62-11.9)	**9.49** (6.14-13.9)	**10.4** (6.56-15.4)
15-min	**2.41** (1.84-3.09)	**2.81** (2.15-3.62)	**3.47** (2.65-4.47)	**4.02** (3.05-5.20)	**4.78** (3.51-6.38)	**5.36** (3.86-7.26)	**5.94** (4.16-8.28)	**6.57** (4.41-9.36)	**7.44** (4.82-10.9)	**8.13** (5.14-12.1)
30-min	**1.69** (1.29-2.17)	**1.97** (1.50-2.53)	**2.42** (1.84-3.12)	**2.80** (2.12-3.62)	**3.32** (2.43-4.42)	**3.71** (2.67-5.02)	**4.11** (2.87-5.71)	**4.53** (3.04-6.44)	**5.08** (3.29-7.43)	**5.51** (3.49-8.19)
60-min	**1.09** (0.832-1.40)	**1.26** (0.966-1.62)	**1.55** (1.18-2.00)	**1.79** (1.36-2.32)	**2.12** (1.56-2.82)	**2.38** (1.71-3.21)	**2.63** (1.83-3.64)	**2.88** (1.94-4.10)	**3.22** (2.09-4.71)	**3.48** (2.20-5.17)
2-hr	**0.702** (0.540-0.895)	**0.824** (0.632-1.05)	**1.02** (0.783-1.31)	**1.19** (0.904-1.53)	**1.41** (1.05-1.88)	**1.59** (1.15-2.14)	**1.76** (1.25-2.45)	**1.96** (1.32-2.77)	**2.24** (1.45-3.26)	**2.46** (1.56-3.64)
3-hr	**0.538** (0.415-0.683)	**0.635** (0.489-0.807)	**0.793** (0.609-1.01)	**0.925** (0.707-1.18)	**1.11** (0.821-1.47)	**1.24** (0.905-1.68)	**1.39** (0.984-1.93)	**1.55** (1.04-2.18)	**1.79** (1.16-2.59)	**1.98** (1.26-2.92)
6-hr	**0.339** (0.263-0.428)	**0.404** (0.313-0.510)	**0.510** (0.394-0.645)	**0.597** (0.459-0.760)	**0.718** (0.537-0.948)	**0.809** (0.593-1.09)	**0.905** (0.647-1.25)	**1.02** (0.688-1.43)	**1.18** (0.772-1.70)	**1.32** (0.844-1.94)
12-hr	**0.207** (0.162-0.260)	**0.249** (0.194-0.312)	**0.317** (0.247-0.399)	**0.374** (0.289-0.472)	**0.452** (0.339-0.592)	**0.510** (0.376-0.680)	**0.572** (0.411-0.788)	**0.644** (0.437-0.896)	**0.752** (0.492-1.08)	**0.842** (0.539-1.22)
24-hr	**0.122** (0.096-0.152)	**0.149** (0.117-0.186)	**0.192** (0.150-0.240)	**0.228** (0.177-0.286)	**0.278** (0.210-0.362)	**0.314** (0.233-0.417)	**0.354** (0.256-0.486)	**0.401** (0.273-0.554)	**0.471** (0.309-0.669)	**0.531** (0.341-0.766)
2-day	**0.069** (0.055-0.086)	**0.085** (0.067-0.106)	**0.112** (0.088-0.139)	**0.134** (0.105-0.167)	**0.164** (0.125-0.213)	**0.186** (0.139-0.247)	**0.211** (0.154-0.289)	**0.241** (0.164-0.331)	**0.287** (0.189-0.404)	**0.326** (0.210-0.467)
3-day	**0.050** (0.040-0.062)	**0.062** (0.049-0.076)	**0.081** (0.064-0.101)	**0.097** (0.076-0.121)	**0.120** (0.091-0.155)	**0.136** (0.102-0.179)	**0.154** (0.113-0.210)	**0.176** (0.120-0.240)	**0.209** (0.138-0.294)	**0.239** (0.154-0.341)
4-day	**0.040** (0.032-0.050)	**0.050** (0.039-0.061)	**0.065** (0.051-0.080)	**0.078** (0.061-0.096)	**0.095** (0.073-0.123)	**0.108** (0.081-0.142)	**0.122** (0.090-0.167)	**0.140** (0.096-0.191)	**0.166** (0.110-0.233)	**0.189** (0.122-0.269)
7-day	**0.028** (0.022-0.034)	**0.034** (0.027-0.041)	**0.043** (0.034-0.053)	**0.051** (0.040-0.063)	**0.062** (0.048-0.079)	**0.070** (0.053-0.092)	**0.079** (0.058-0.106)	**0.089** (0.062-0.121)	**0.105** (0.070-0.147)	**0.119** (0.077-0.168)
10-day	**0.022** (0.018-0.027)	**0.027** (0.021-0.033)	**0.034** (0.027-0.041)	**0.040** (0.032-0.049)	**0.048** (0.037-0.061)	**0.054** (0.041-0.070)	**0.060** (0.044-0.081)	**0.068** (0.047-0.092)	**0.079** (0.052-0.110)	**0.088** (0.057-0.124)
20-day	**0.016** (0.013-0.019)	**0.018** (0.015-0.022)	**0.022** (0.018-0.027)	**0.026** (0.020-0.031)	**0.030** (0.023-0.038)	**0.034** (0.025-0.043)	**0.037** (0.027-0.049)	**0.041** (0.028-0.055)	**0.046** (0.031-0.064)	**0.051** (0.033-0.071)
30-day	**0.013** (0.011-0.016)	**0.015** (0.012-0.018)	**0.018** (0.014-0.022)	**0.020** (0.016-0.024)	**0.023** (0.018-0.029)	**0.026** (0.020-0.033)	**0.028** (0.021-0.037)	**0.031** (0.022-0.041)	**0.035** (0.023-0.047)	**0.037** (0.024-0.052)
45-day	**0.011** (0.009-0.013)	**0.012** (0.010-0.015)	**0.014** (0.011-0.017)	**0.016** (0.013-0.019)	**0.018** (0.014-0.023)	**0.020** (0.015-0.025)	**0.022** (0.016-0.028)	**0.024** (0.017-0.031)	**0.026** (0.017-0.035)	**0.028** (0.018-0.038)
60-day	**0.010** (0.008-0.011)	**0.011** (0.009-0.013)	**0.012** (0.010-0.015)	**0.014** (0.011-0.016)	**0.015** (0.012-0.019)	**0.017** (0.013-0.021)	**0.018** (0.013-0.023)	**0.020** (0.014-0.026)	**0.021** (0.014-0.029)	**0.023** (0.015-0.031)

[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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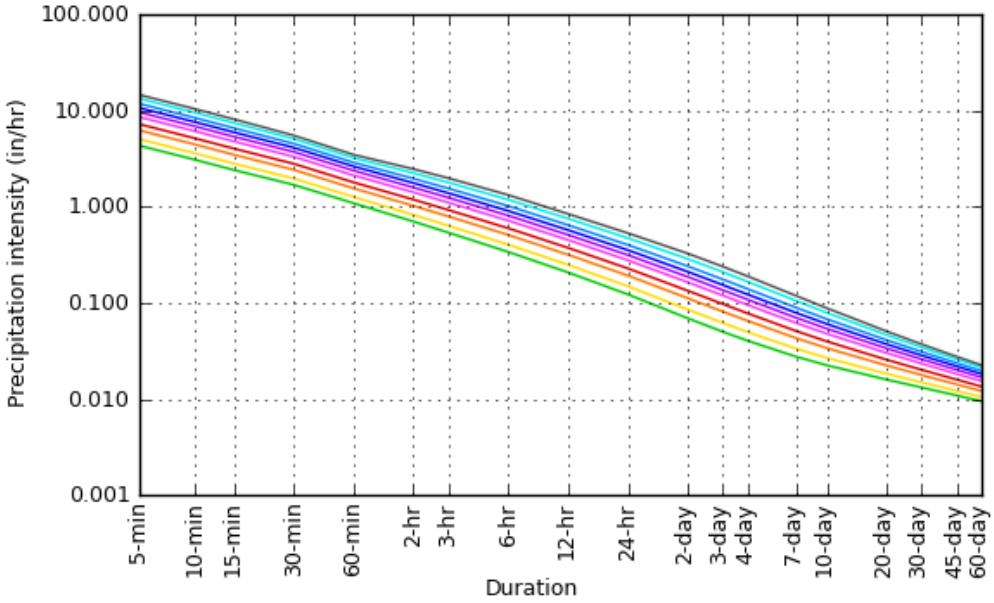
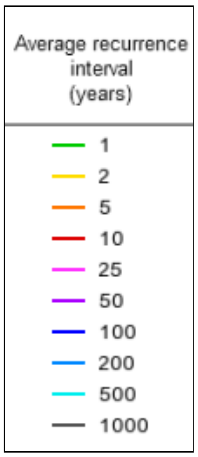
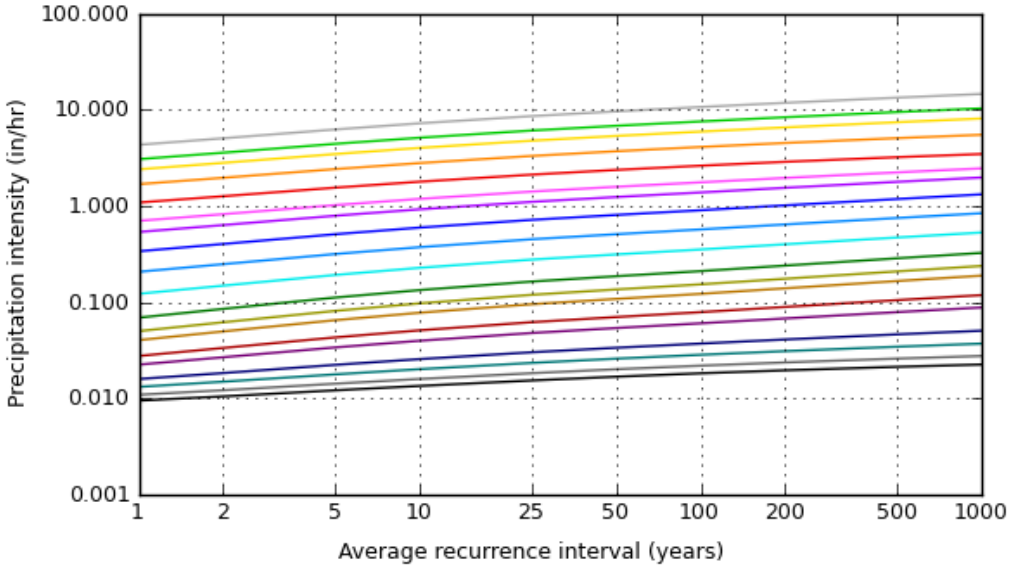
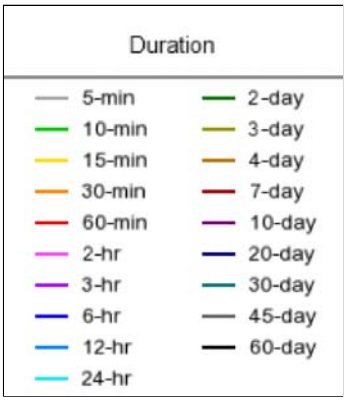
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 41.2519°, Longitude: -73.4352°









NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Mon Jun 14 20:25:40 2021

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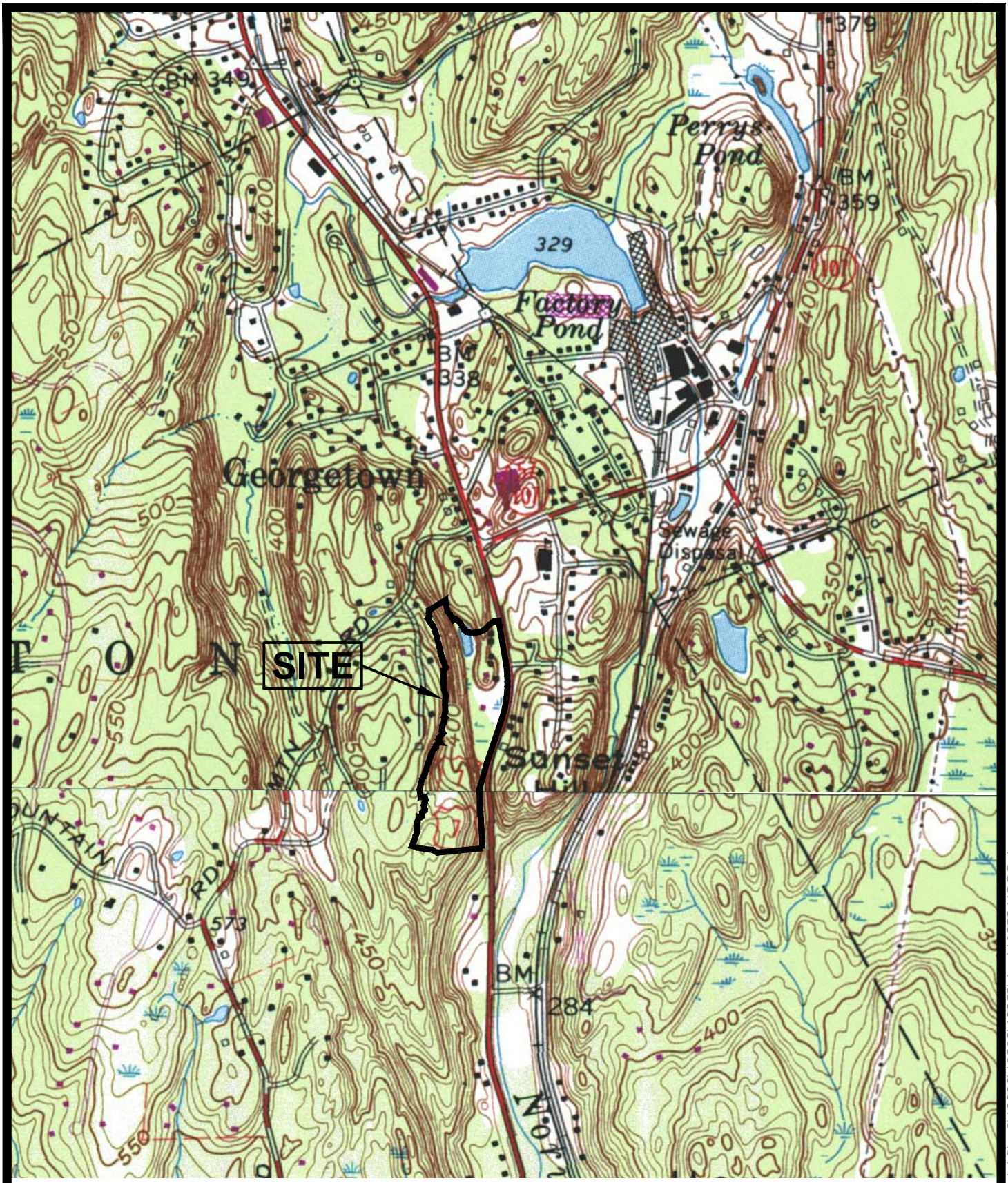
Maps & aerials

Small scale terrain



USGS QUADRANGLE MAP

863 DANBURY ROAD

WILTON, CT

REDNISS & MEAD

COMM. NO.: 10258 DATE: 07/01/2021 SCALE: 1"=1000'

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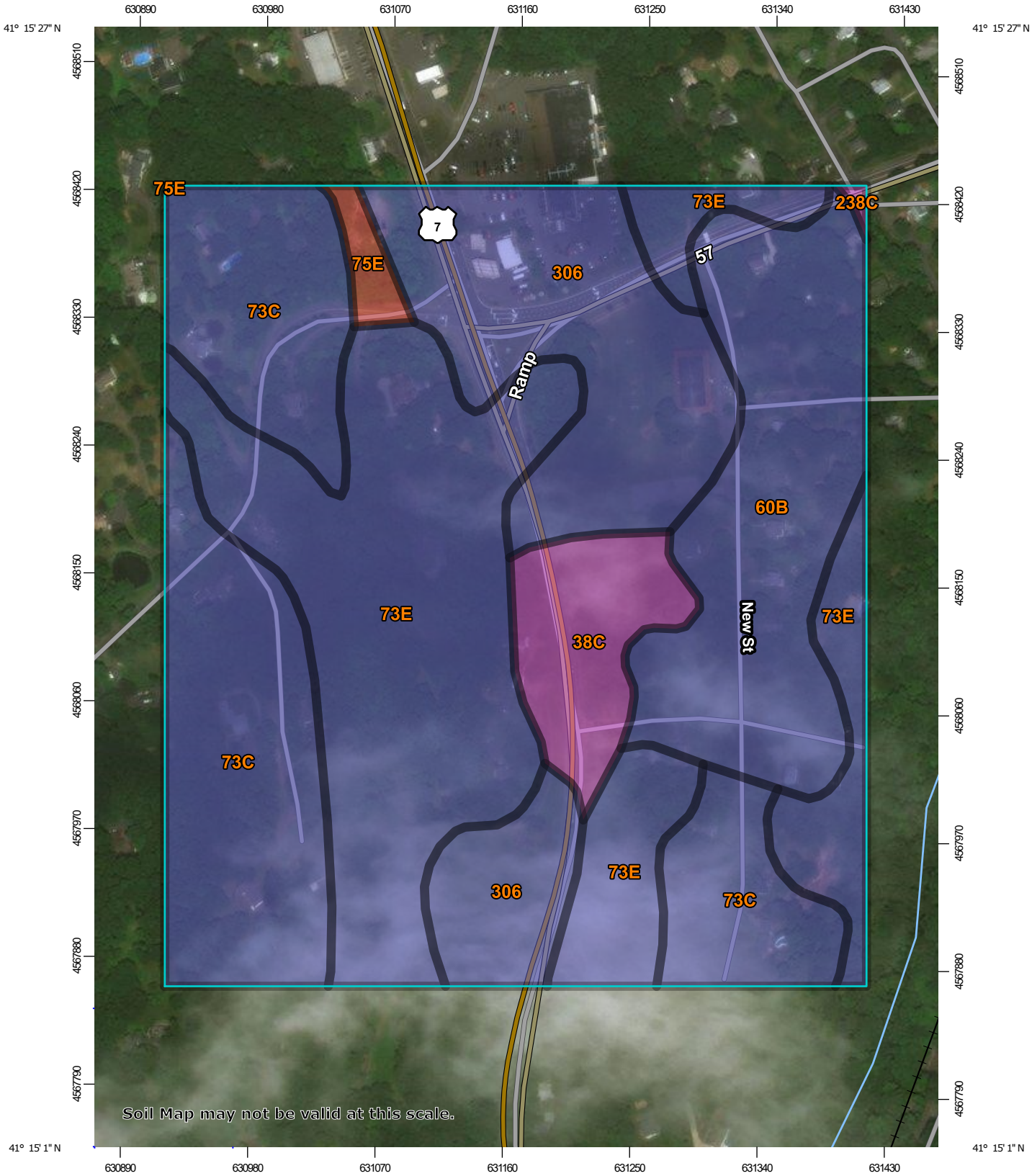
Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:3,840 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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 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: Dec 31, 2009—Oct 5, 2016

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
38C	Hinckley loamy sand, 3 to 15 percent slopes	A	3.8	5.5%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	B	11.3	16.3%
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	B	17.6	25.4%
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	B	23.0	33.1%
75E	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	D	0.7	1.0%
238C	Hinckley-Urban land complex, 3 to 15 percent slopes	A	0.1	0.1%
306	Udorthents-Urban land complex	B	12.8	18.5%
Totals for Area of Interest			**69.4**	**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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Appendix 5

Existing Wastewater Generation

Project:	*Connecticut Humane Society*	**Project #:**	*10258*	**Date:**	*7/1/2021*
Location:	*863 Danbury Road, Wilton CT*	**By:**	*VJH*	**Checked:**	*CJF*

Newington, CT Facility

Previous Reading Date	Present Reading Date	Water Usage (100 cu.ft.)	Water Usage (gallons)	Daily Water Usage (gallons/day)
11/9/2019	12/9/2019	121.2	90,658	3,022
12/10/2019	1/10/2020	131.5	98,362	3,173
1/11/2020	2/5/2020	110.8	82,878	3,315
2/6/2020	3/5/2020	160.6	120,129	4,290
3/6/2020	4/8/2020	174.2	130,302	3,949
		Average Daily Water Use		**3,550 gpd**
		Average Daily Water Use per Building SF *		**0.10 gpd/sf**

Notes:

1. Water Useage per available data provided by Connecticut Humane Society
2. Approximate Building Square Footag 36,000

*Average Daily Water Use per Building SF = 3,550 gpd / 36,000 sf

Westport, CT Facility

Previous Reading Date	Present Reading Date	Water Usage (100 cu.ft.)	Water Usage (gallons)	Daily Water Usage (gallons/day)
11/9/2019	12/9/2019	32	23,936	798
12/10/2019	1/10/2020	29	21,692	700
1/11/2020	2/5/2020	30	22,440	898
2/6/2020	3/5/2020	34	25,432	908
3/6/2020	4/8/2020	11	8,228	249
		Average Daily Water Use		**711 gpd**
		Average Daily Water Use per Building SF *		**0.10 gpd/sf**

Notes:

1. Water Useage per available data provided by Connecticut Humane Society
2. Approximate Building Square Footag 7,000

*Average Daily Water Use per Building SF = 711 gpd / 7,000 sf

Pump Curve Calculation

Project:	*Connecticut Humane Society*	**Project #:**	*10258*	**Date:**	*7/1/2021*
Location:	*863 Danbury Road, Wilton, CT*	**By:**	*VJH*	**Checked:**	*CJF*

Pump #1

Bottom of Tank Elevation	329	ft
Invert out of Tank	335	ft
Invert into Receiving Structure	416.35	ft
Total Static Head	**87.35** [a]	
Diameter of Pipe (D)	**3**	**inch**
Hazen Williams Roughness Coefficient (C)	**140** [b]	
Horizontal length of Pipe	871	ft
Pipe within Tank	6.00	ft
Number of 90° Elbows	4	
Equivalent Length of 90° Elbows	30	ft
Number of 45° Elbows	4	
Equivalent Length of 45° Elbows	20.0	ft
Number of Check Valves	2	
Equivalent Length of Check Valves	67.5	ft
Number of Gate Valves	2	
Equivalent Length of Gate Valves	6.5	ft
Total Equivalent Length of Pipe (L)	**1001.00**	**ft**

Flow (Q-gpm)	Friction Head Loss (ft)[c]	Total Dynamic Head (ft)[d]
0	0.00	87.35
15	0.80	88.15
30	2.87	90.22
45	6.08	93.43
60	10.35	97.70
75	15.63	102.98
90	21.91	109.26
105	29.14	116.49
120	37.30	124.65

[a] Total Static Head = Invert in Receiving Structure - Bottom of Tank Elevation

[b] Ranges from 130-150 for PVC, Polyethylene (PE) or Plastic Pipe

[c] Hazen Williams Friction Head Loss = $(10.44 \times L \times Q^{1.85})/(C^{1.85} \times D^{4.87})$

[d] Total Dynamic Head = Total Static Head + Friction Head Loss

Appendix 6

NOTES:
TOTAL LOT AREA = 18.32 AC
PER SECTION 29-9.I.2:

1. THERE SHALL BE NO ALTERATION OR REGRADING OF LAND WITH A SLOPE OF 35% OR GREATER, ENCOMPASSING A CONTIGUOUS AREA OF 1.5% OF THE LOT AREA (11,972 SF FOR THE PROJECT SITE).

2. TOTAL DISTURBANCE OF CONTIGUOUS LAND IN EXCESS OF 15% SLOPE SHALL BE NO GREATER THAN 15,000 SF.

LIMIT OF GRADED DISTURBANCE

AREA OF WETLANDS

LIMIT OF GRADED DISTURBANCE

CONTIGUOUS DISTURBED AREA WHERE SLOPES EXCEED 15% = 11,751 SF.

CONTIGUOUS DISTURBED AREA WHERE SLOPES EXCEED 15% = 6,618 SF.

CONTIGUOUS DISTURBED AREA WHERE SLOPES EXCEED 15% = 6,210 SF.

U.S. RTE. 7

SLOPE RANGE 15 - 35%

DISTURBED SLOPE RANGE 15 - 35%

SLOPE RANGE > 35+%

DISTURBED SLOPE RANGE > 35+%

STEEP SLOPES EXHIBIT

863 DANBURY ROAD
WILTON, CT

EACH CONTIGUOUS AREA OF DISTURBANCE IS LESS THAN 11,972 SF. THEREFORE, THE DISTURBANCE COMPLIES WITH 29-9.I.2

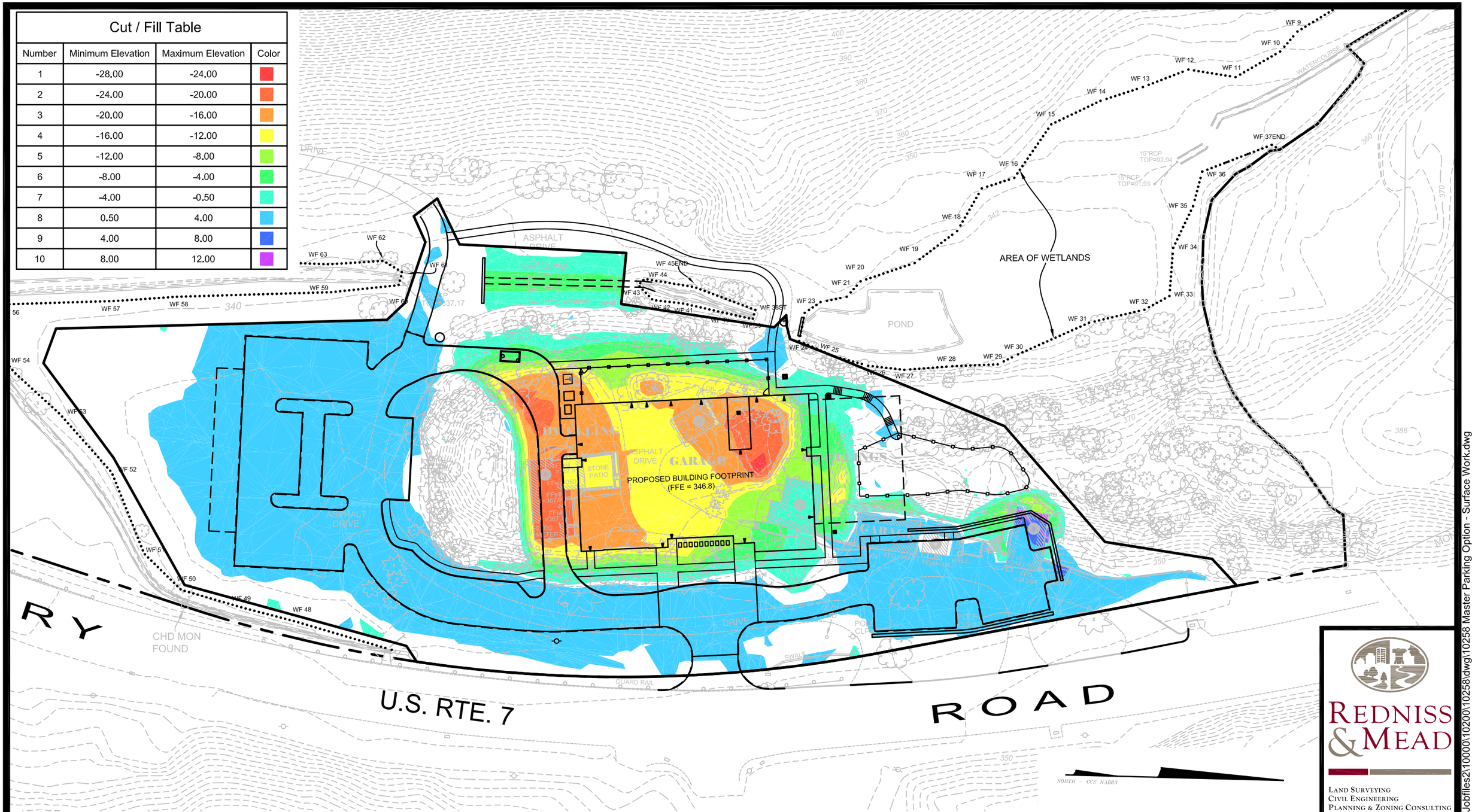
REDNISS & MEAD

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:
10258	07/01/2021
	SCALE: 1"=60'

Cut / Fill Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-28.00	-24.00	
2	-24.00	-20.00	
3	-20.00	-16.00	
4	-16.00	-12.00	
5	-12.00	-8.00	
6	-8.00	-4.00	
7	-4.00	-0.50	
8	0.50	4.00	
9	4.00	8.00	
10	8.00	12.00	



	TOTAL VOLUME
CUT	15,783 YD³
FILL	3,804 YD³
NET VOLUME	11,979 YD³ (CUT)

CUT & FILL VOLUME SURFACE EXHIBIT

863 DANBURY ROAD

WILTON, CT

NOTE: TOTAL LOT AREA = 18.32 AC

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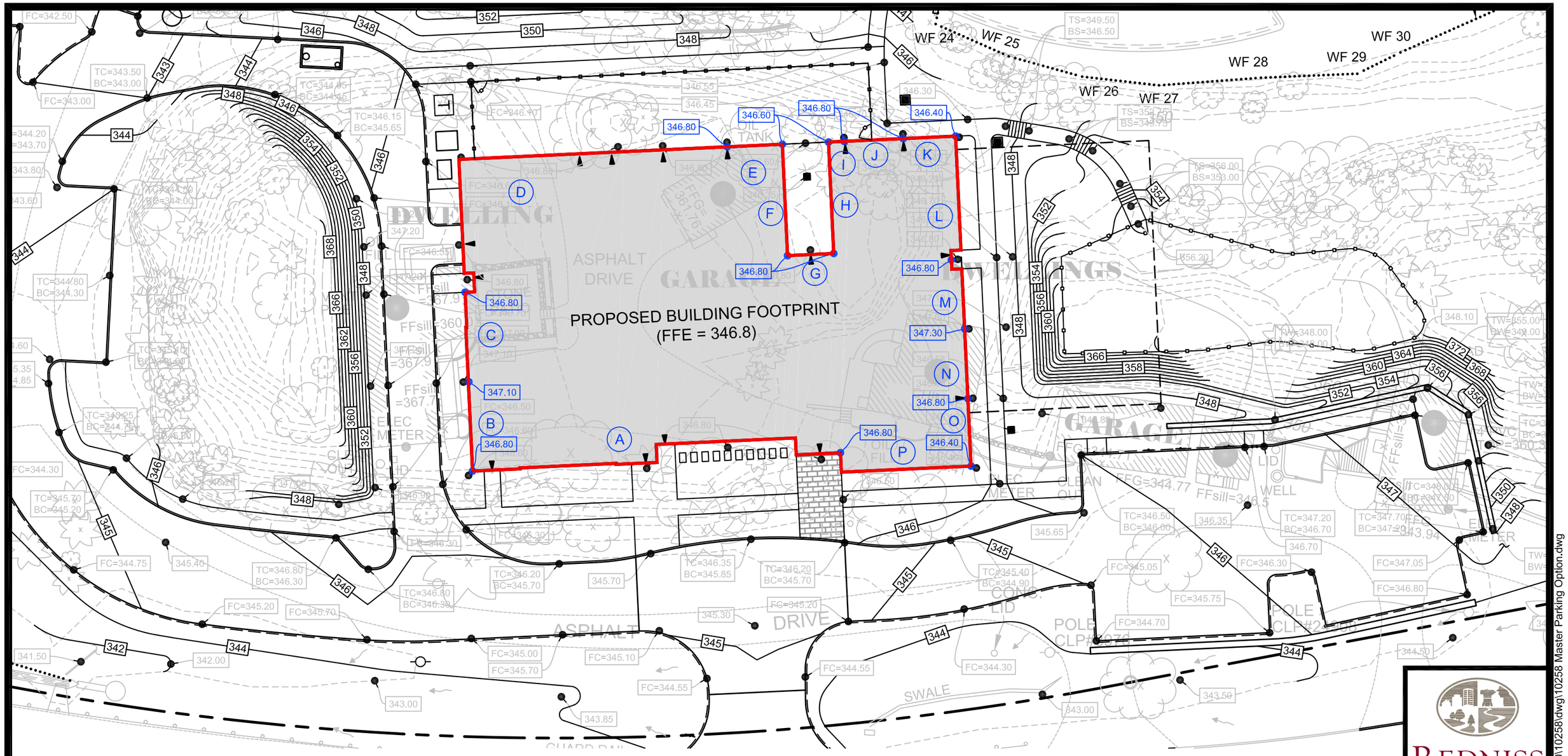
COMM. NO.:	DATE:
10258	07/01/2021
	SCALE: 1"=60'

6/28/2021 5:12 PM H:\Jobfiles21\10000\10200\10258\dwg\10258 Master Parking Option - Surface Work.dwg



LEGEND

- BOUNDARY
- SECTION LETTER — A
- GRADE AT FOUNDATION — 52.1
- PROPOSED GRADE — 52.1

PROPOSED AVERAGE GRADE PLANE

863 DANBURY ROAD

WILTON, CT

REFER TO GRADE PLANE WORKSHEET FOR CALCULATED AVERAGE GRADE ELEVATION

REDNISS & MEAD

LAND SURVEYING
CIVIL ENGINEERING
PLANNING & ZONING CONSULTING
PERMITTING

22 First Street | Stamford, CT 06905
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COMM. NO.:	DATE:
10258	07/01/2021
	SCALE: 1"=30'

6/24/2021 2:22 PM H:\Jobfiles2\10000\10200\10258\dwg\10258 Master Parking Option.dwg

Project:	**Connecticut Humane Society**	**Job No.:**	**10258**
Site Location:	**863 Danbury Road Wilton CT**	**Date:**	July 1, 2021
Calculated by:	VJH	**Checked:**	CJF

~ PROPOSED CONDITIONS FOR BUILDING ~

Average Grade Calculations

(REFER TO ATTACHED EXHIBIT)

Elevation 1	Elevation 2	Wall Segment	Wall Length	Avg. Elev.	Product (Y)
346.8	346.8	A	126.2	346.8	43,766.2
346.8	347.1	B	27.8	347.0	9,646.6
347.1	346.8	C	28.2	347.0	9,785.4
346.8	346.8	D	131.0	346.8	45,430.8
346.8	346.6	E	17.2	346.7	5,963.2
346.6	346.8	F	34.7	346.7	12,030.5
346.8	346.8	G	14.4	346.8	4,993.9
346.8	346.6	H	34.7	346.7	12,030.5
346.6	346.8	I	4.9	346.7	1,698.8
346.8	346.8	J	18.4	346.8	6,381.1
346.8	346.4	K	16.4	346.6	5,684.2
346.4	346.8	L	41.5	346.6	14,383.9
346.8	347.3	M	24.8	347.1	8,608.1
347.3	346.8	N	21.7	347.1	7,532.1
346.8	346.4	O	21.1	346.6	7,313.3
346.4	346.8	P	46.5	346.6	16,116.9
Total			563.0	5,202.0	195,248.6
Average Grade = 346.8					

On_____ By _____

Craig J. Flaherty CT P.E. 21149

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