Connecticut Department of Energy and Environmental Protection License*

Flood Management Certification & Exemption Request Approval

Licensee(s):	CT Dept. Of Housing
Licensee Address(s):	505 Hudson Street Hartford, CT 06106
License Number(s):	202509732-FME
Municipality:	Guilford
Project Description:	Funding for construction of affordable housing
Project Address/Location:	45 Stonehouse Lane
Waters:	Sluice Creek
Authorizing CT Statute(s) and/or Federal Law:	CGS Section 25-68b to h, with exemption from CGS 25-68d(b)(4)
Applicable Regulations of CT State Agencies:	25-68h-1 to 3
Agency Contact:	Land & Water Resources Division, Bureau of Water Protection & Land Reuse, 860-424-3019
License Expiration:	Five (5) years from the date of issuance of this license.
Project Site Plan Set:	*"Woodruff Property Housing Development,"* 7 Sheets, prepared by Harkin Engineering, LLC, dated April 1, 2025 and revised August 20, 2025.
License Enclosures:	LWRD General Conditions; Site Plan Set; NDDB Determination #202507376 dated 10/2/2025

*Connecticut's Uniform Administrative Procedure Act defines License to include, "*the whole or part of any agency permit, certificate, approval, registration, charter or similar form of permission required by law . . .*"

Authorized Activities:

The Licensee is hereby authorized to conduct the following work as described in application # EI Number and as depicted on any site plan sheets / sets cited herein:

CT Department of Housing to provide funding for the construction of:

a. two 41 ft x 117 ft affordable housing buildings with 8 units each;
b. parking and driveways for building;
c. associated stormwater management systems;
d. associated untilities; and,
e. landscaping improvements.

Failure to comply with the terms and conditions of this license shall subject the Licensee and / or the Licensee's contractor(s) to enforcement actions and penalties as provided by law.

This license is subject to the following Terms and Conditions:

1. **License Enclosure(s) and Conditions.** The Licensee shall comply with all applicable terms and conditions as may be stipulated within the License Enclosure(s) listed above.
2. **LOMR Requirement.** The Licensee's Funding Recipient shall work with the Town of Guilford to obtain a Letter of Map Revision from FEMA for those activities which will affect the hydraulic extent of flooding from Sluice Creek and thus result in the modification of the existing regulatory Special Flood Hazard Area.
3. **NDDB BMPs.** The Contractor shall follow the recommended BMPs for the protection of Bald eagles and Eastern Box Turtles, as detailed within NDDB determination letter #202507376, attached hereto.

Issued under the authority of the Commissioner of Energy and Environmental Protection on:

_____ _____

Date

Jeffrey P. Caiola
Division Director
Land & Water Resources Division

LWRD General Conditions

1. **Land Record Filing (for *Structures Dredging & Fill*, *Tidal Wetlands*, *Certificate of Permission*, and *Long Island Sound General Permit* Licenses only).** The Licensee shall file the Land Record Filing on the land records of the municipality in which the subject property is located not later than thirty (30) days after license issuance pursuant to Connecticut General Statutes (CGS) Section 22a-363g. A copy of the Notice with a stamp or other such proof of filing with the municipality shall be submitted to DEEP.LWRDRegulatory@ct.gov no later than sixty (60) days after license issuance. If a Land Record Filing form is not enclosed and the work site is not associated with an upland property, no filing is required.

2. **Contractor Notification.** The Licensee shall give a copy of the license and its attachments to the contractor(s) who will be carrying out the authorized activities prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The Licensee's contractor(s) shall conduct all operations at the site in full compliance with the license and, to the extent provided by law, may be held liable for any violation of the terms and conditions of the license. At the work site, the contractor(s) shall, whenever work is being performed, have on site and make available for inspection a copy of the license and the authorized plans.

3. **Work Commencement.** Not later than two (2) weeks prior to the commencement of any work authorized herein, the Licensee shall submit to DEEP.LWRDRegulatory@ct.gov, on the Work Commencement Form attached hereto, the name(s) and address(es) of all contractor(s) employed to conduct such work and the expected date for commencement and completion of such work, if any.

    - For water diversion activities authorized pursuant to 22a-377(c)-1 of the Regulations of Connecticut State Agencies, the Licensee shall also notify the Commissioner in writing two weeks prior to initiating the authorized diversion.
    - For emergency activities authorized pursuant to Connecticut General Statutes Section 22a-6k, the Licensee shall also notify the Commissioner, in writing, of activity commencement at least one (1) day prior to construction and of activity completion no later than five (5) days after conclusion.
    - The Work Commencement condition and the need for a Work Commencement Form is not applicable to Flood Management Certification approvals.

4. **For Coastal Licenses Only - License Notice.** The Licensee shall post the first page of the License in a conspicuous place at the work area while the work authorized therein is undertaken.

5. **Unauthorized Activities.** Except as specifically authorized, no equipment or material, including but not limited to, fill, construction materials, excavated material or debris, shall be deposited, placed or stored in any wetland or watercourse on or off-site. The Licensee may not

conduct work within wetlands or watercourses other than as specifically authorized, unless otherwise authorized in writing by the Commissioner. Tidal wetlands means "wetland" as defined by section 22a-29 and "freshwater wetlands and watercourses" means "wetlands" and "watercourses" as defined by section 22a-38.

6. **Management of Materials.** Any materials removed from the site shall be managed in accordance with all federal, state, and local requirements, including Chapter 446K Water Pollution Control, Chapter 445 Hazardous Waste, and Chapter 446d Solid Waste of the Connecticut General Statutes.

7. **Unconfined Instream Work.** Unless otherwise noted in a condition of the license, the following conditions apply to projects in non-coastal waters:

   - Unconfined instream work is limited to the period June 1 through September 30.
   - Confinement of a work area by cofferdam techniques using sand bag placement, sheet pile installation (vibratory method only), portadam, or similar confinement devices is allowed any time of the year. The removal of such confinement devices is allowed any time of the year.
   - Once a work area has been confined, in-water work within the confined area is allowed any time of the year.
   - The confinement technique used shall completely isolate and protect the confined area from all flowing water. The use of silt boom/curtain or similar technique as a means for confinement is prohibited.

8. **For State Actions Only - Material or Equipment Storage in the Floodplain.** Unless approved by a Flood Management Exemption, the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the Licensee or the Licensee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day. In accordance with the licensee's Flood Contingency Plan, the Licensee shall remove equipment and materials from the floodplain during periods when flood warnings have been issued or are anticipated by a responsible federal, state or local agency. It shall be the Licensee's responsibility to obtain such warnings when flooding is anticipated.

9. **Temporary Hydraulic Facilities for Water Handling.** If not reviewed and approved as a part of the license application, temporary hydraulic facilities shall be designed by a qualified professional and in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, the *Connecticut Stormwater Quality Manual* as revised, or the Department of Transportation's *CTDOT Drainage Manual,* as applicable. Temporary hydraulic facilities may include channels, culverts or bridges which are required for haul roads, channel relocations, culvert installations, bridge construction, temporary roads, or detours.

10. **Excavated Materials.** Unless otherwise authorized, all excavated material shall be staged and

managed in a manner which prevents additional impacts to wetlands and watercourses.

11. **Best Management Practices.** The Licensee shall not cause or allow pollution of any wetlands or watercourses, including pollution resulting from sedimentation and erosion. In constructing or maintaining any authorized structure or facility or conducting any authorized activity, or in removing any such structure or facility, the Licensee shall employ best management practices to control storm water discharges, to prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. For purposes of the license, "pollution" means "pollution" as that term is defined by CGS section 22a-423. Best Management Practices include, but are not limited, to practices identified in the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, *Connecticut Stormwater Quality Manual* as revised, Department of Transportation's *CTDOT Drainage Manual* as revised, and the Department of Transportation Standard Specifications as revised.

12. **In-Water Work Vessel Staging and Storage. (for Structures Dredging & Fill, Tidal *Wetlands*, *Certificate of Permission*, and *Long Island Sound General Permit* Licenses only).** For any barge, vessel, skiff or floating work platform ("work vessels") utilized in the execution of the work authorized herein, the Licensee shall ensure that such work vessels:
    - do not rest on, or come in contact with, the substrate at any time, unless specifically authorized in the license.
    - are not stored over intertidal flats, submerged aquatic vegetation or tidal wetland vegetation or in a location that interferes with navigation. In the event any work vessel is grounded, no dragging or prop dredging shall occur to free it.

13. **Work Site Restoration.** Upon completion of any authorized work, the Licensee shall restore all areas temporarily impacted by construction, or used as a staging area or accessway in connection with such work, to their condition prior to the commencement of such work.

14. **Inspection.** The Licensee shall allow any representative of the Commissioner to inspect the project location at reasonable times to ensure that work is being or has been conducted in accordance with the terms and conditions of this license.

15. **Change of Use. (Applies only if a use is specified within the License "*Project Description*")**
    a. The work specified in the license is authorized solely for the purpose set forth in the license. No change in purpose or use of the authorized work or facilities as set forth in the license may occur without the prior written approval of the Commissioner. The Licensee shall, prior to undertaking or allowing any change in use or purpose from that which is authorized by this license, request permission from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.

    b. A change in the form of ownership of any structure authorized herein from a rental/lease commercial marina to a wholly-owned common interest community or dockominium may constitute a change in purpose as specified in paragraph (a) above.

16. **Structure Use (for Structures Dredging & Fill, Tidal Wetlands, Certificate of Permission, and Long Island Sound General Permit Licenses only).** The use of fixed or floating

structures, authorized herein, or berthed vessels, for permanent, temporary, or seasonal occupancy, when the primary purpose of such occupancy is the provision of overnight lodging accommodations, is a violation of this license. Sleeping aboard vessels is allowed as a secondary use of the vessel's principal water-dependent use. A water-dependent use is one that requires direct access to marine or tidal waters and which therefor cannot be located inland.

- A residential dock is for private access to the waters of the state as an accessory to residential upland use. Any other use or any commercial use, is a violation of this license.
- Structures at marinas and other water-dependent sites shall be used for the berthing of vessels solely for water-dependent purposes such as navigation and recreational or commercial boating. Any use of structures or berthed vessels for non-water dependent purposes is a violation of this license.

17. **De Minimis Alteration.** The Licensee shall not deviate from the authorized activity without prior written approval from the Commissioner. The Licensee may request a de minimis change to any authorized structure, facility, or activity. A de minimis alteration means a change in the authorized design, construction or operation that individually and cumulatively has minimal additional environmental impact and does not substantively alter the project as authorized.
    - For diversion activities authorized pursuant to 22a-377(c)-2 of the Regulations of Connecticut State Agencies, a de minimis alteration means an alteration which does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.

18. **Extension Request.** The Licensee may request an extension of the license expiration date. Such request shall be in writing and shall be submitted to DEEP.LWRDRegulatory@ct.gov at least thirty (30) days prior to the license expiration. Such request shall describe the work done to date, what work still needs to be completed, and the reason for such extension. The Commissioner may extend the expiration date of this license for a period of up to one year, in order for the Licensee to complete the authorized activities. It shall be at the Commissioner's sole discretion to grant or deny such request. No more than three (3) one-year extensions will be granted under this license.

19. **Compliance Certification.** Not later than 90 days after completion of the authorized work, the Licensee shall prepare and submit to DEEP.LWRDRegulatory@ct.gov, the attached Compliance Certification Form. Such Compliance Certification shall be completed, signed, and sealed by the Licensee and a Connecticut Licensed Design Professional. If non-compliance is indicated on the form, or the Commissioner has reason to believe the activities and/or structures were conducted in non-compliance with the license, the Commissioner may require the Licensee to submit as-built plans as a condition of this license.
    - The Compliance Certificaton condition and the need for a Compliance Certification Form is not applicable to Flood Management Certification approvals.

20. **Maintenance.** The Licensee shall maintain all authorized structures or work in optimal condition or shall remove such structures or facility and restore the affected waters to their pre-work condition. Any such maintenance or removal activity shall be conducted in accordance with applicable law and any additional approvals required by law.

21. **No Work After License Expiration.** Work conducted after the license expiration date is a violation of the license and may subject the licensee to enforcement action, including penalties, as provided by law.

22. **License Transfer.** The license is not transferable without prior written authorization of the Commissioner. A request to transfer a license shall be submitted in writing and shall describe the proposed transfer and the reason for such transfer. The Licensee's obligations under the license shall not be affected by the passage of title to the license site to any other person or municipality until such time as a transfer is approved by the Commissioner.

23. **Document Submission.** Any document required to be submitted to the Commissioner under the license or any contact required to be made with the Commissioner shall, unless otherwise specified in writing by the Commissioner, be directed to:

    DEEP.LWRDRegulatory@ct.gov or

    Regulatory Section
    Land & Water Resources Division
    Department of Energy and Environmental Protection
    79 Elm Street
    Hartford, Connecticut 06106-5127
    860-424-3019

24. **Date of Document Submission.** The date of submission to the Commissioner of any document required by the license shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under the license, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in the license, the word "day" as used in the license means calendar day. Any document or action which is required by the license to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.

25. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under the license shall be signed by the Licensee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense."

26. **Accuracy of Documentation.** In evaluating the application for the license, the Commissioner has relied on information and data provided by the Licensee and on the Licensee's representations concerning site conditions, design specifications and the proposed work, including but not limited to representations concerning the commercial, public or private nature

of the work or structures, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, the license may be modified, suspended or revoked, and any unauthorized activities may be subject to enforcement action.

27. **Limits of Liability.** In granting the license, the Commissioner has relied on all representations of the Licensee, including information and data provided in support of the Licensee's application. Neither the Licensee's representations nor the issuance of the license shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.

28. **Reporting of Violations.** In the event that the Licensee becomes aware that they did not or may not comply, or did not or may not comply on time, with any provision of this license or of any document incorporated into the license, the Licensee shall immediately notify the agency contact specified within the license and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the agency contact, the Licensee shall provide, for the agency's review and written approval, a report including the following information:

    a. the provision(s) of the license that has been violated;

    b. the date and time the violation(s) was first observed and by whom;

    c. the cause of the violation(s), if known;

    d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;

    e. if the violation(s) has not ceased, the anticipated date when it will be corrected;

    f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented; and

    g. the signatures of the Licensee and of the individual(s) responsible for actually preparing such report.

    If the violation occurs outside of normal business hours, the Licensee shall contact the Department of Energy and Environmental Protection Emergency Dispatch at 860-424-3333. The Licensee shall comply with any dates which may be approved in writing by the Commissioner.

29. **Revocation/Suspension/Modification.** The license may be revoked, suspended, or modified in accordance with applicable law.

30. **Other Required Approvals.** License issuance does not relieve the Licensee of their obligations to obtain any other approvals required by applicable federal, state and local law.

31. **Rights.** The license is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and

to any federal, state or local laws or regulations pertinent to the property or activity affected hereby.

32. **Condition Conflicts.** In the case where a project specific special condition listed on the license differs from, or conflicts with, one of the general conditions listed herein, the project specific special condition language shall prevail. It is the licensee's responsibility to contact the agency contact person listed on the license for clarification if needed prior to conducting any further regulated activities.

"WOODRUFF PROPERTY HOUSING DEVELOPMENT"

VACANT PARCEL - MAP: 33 LOT: 15
45 STONE HOUSE LANE
GUILFORD, CONNECTICUT

APRIL 1, 2025

OWNER:

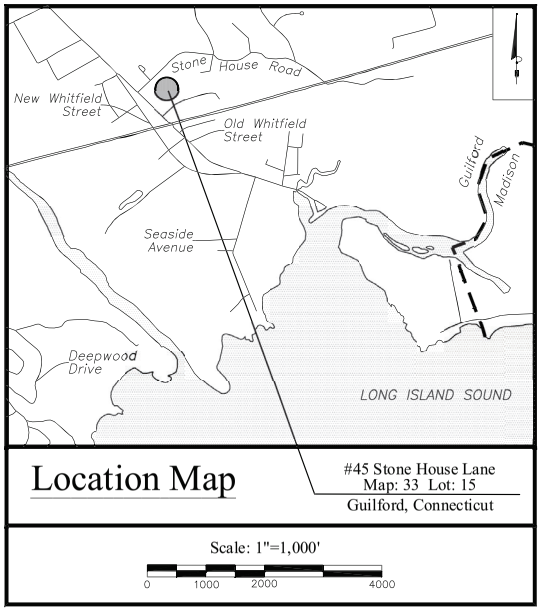
"TOWN OF GUILFORD"

ATTN: MATTHEW T. HOEY III
#31 PARK STREET
GUILFORD, CT 06443
(203) 453-8015

APPLICANT:

"NEIGHBORWORKS NEW HORIZONS"

ATTN: TOM CRUESS
#235 GRAND AVE.
NEW HAVEN, CT 06513
(203) 562-4514



SHEET INDEX

C	–	Cover
SS1	–	Site Survey
SP1	–	Site Plan
SD1	–	Grading / Utility / Erosion Control Plan
SEP1	–	Septic System Notes & Details 1
SEP2	–	Septic System Notes & Details 2
D1	–	Misc. Construction Details & Notes

REVISIONS

#	DATE	DESCRIPTION
1	8/20/25	Health Dept. Comments, New Survey Updates & Detention Pond Grading

NeighborWorks® NEW HORIZONS

LAND SURVEYOR

ANDERSON SURVEYING LLC
1575 BOSTON POST ROAD
SUITE F
GUILFORD, CT 06437
TEL. (203) 453-5084

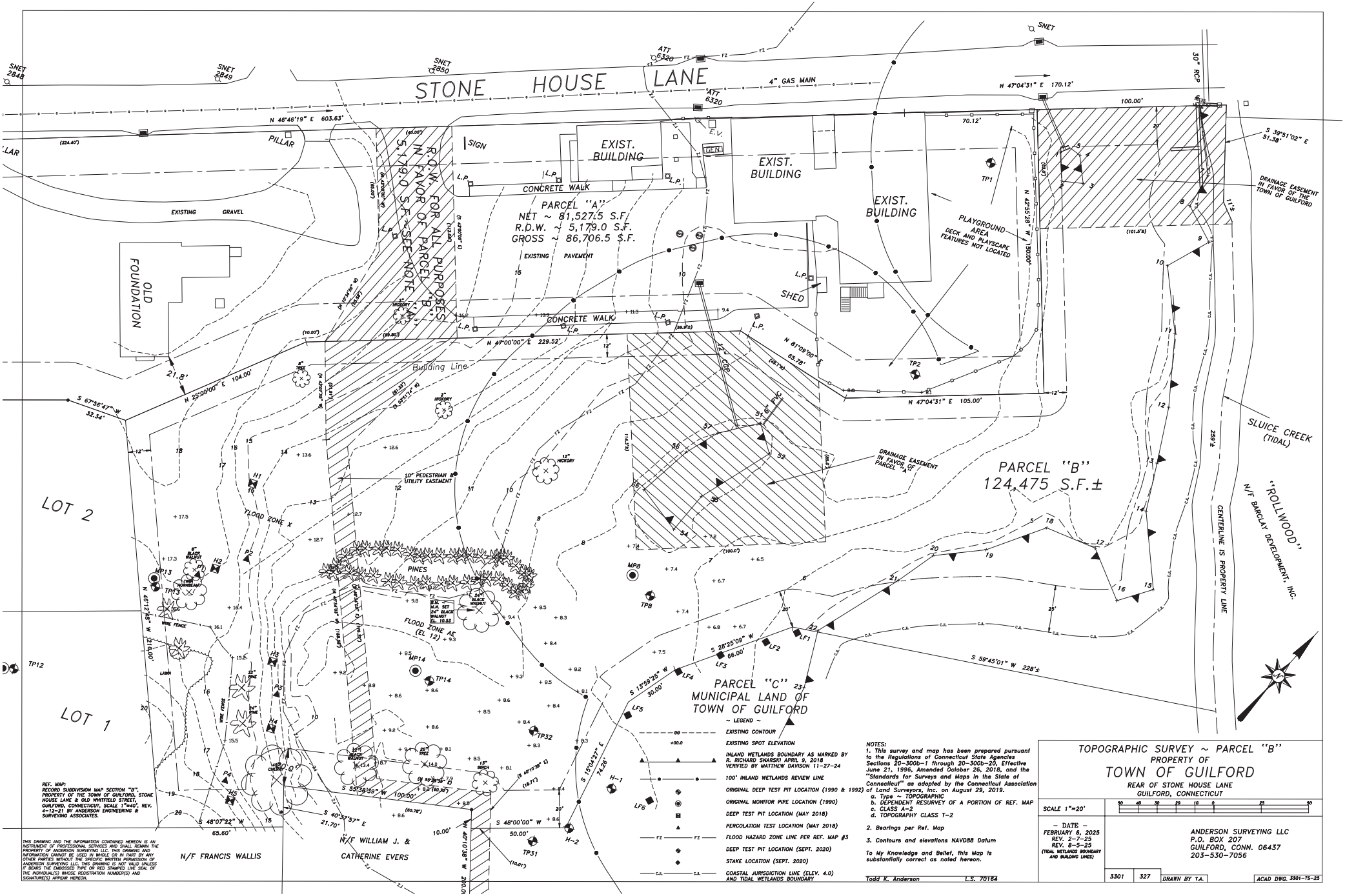
SOIL SCIENTIST

DAVISON ENVIRONMENTAL, LLC
#10 MAPLE STREET
CHESTER, CT 06412
TEL. (860) 836-6576

CIVIL ENGINEER

HARKIN ENGINEERING, LLC
#78 WOLF HOLLOW LANE
KILLINGWORTH, CT 06419
TEL. (860) 663-4248

APPROVAL SET
NOT FOR CONSTRUCTION



~ LEGEND ~

- EXISTING CONTOUR
- EXISTING SPOT ELEVATION
- INLAND WETLANDS BOUNDARY AS MARKED BY R. RICHARD SNARSKI APRIL 9, 2018 VERIFIED BY MATTHEW DAVISON 11-27-24
- 100' INLAND WETLANDS REVIEW LINE
- ORIGINAL DEEP TEST PIT LOCATION (1990 & 1992)
- ORIGINAL MONITOR PIPE LOCATION (1990)
- DEEP TEST PIT LOCATION (MAY 2018)
- PERCOLATION TEST LOCATION (MAY 2018)
- FLOOD HAZARD ZONE LINE PER REF. MAP #3
- DEEP TEST PIT LOCATION (SEPT. 2020)
- STAKE LOCATION (SEPT. 2020)
- COASTAL JURISDICTION LINE (ELEV. 4.0) AND TIDAL WETLANDS BOUNDARY

NOTES:
1. This survey and map has been prepared pursuant to the Regulations of Connecticut State Agencies Sections 20-300b-1 through 20-300b-20, Effective June 21, 1996, Amended October 26, 2018, and the "Standards for Surveys and Maps in the State of Connecticut" as adopted by the Connecticut Association of Land Surveyors, Inc. on August 29, 2019.
   a. Type ~ TOPOGRAPHIC
   b. DEPENDENT RESURVEY OF A PORTION OF REF. MAP
   c. CLASS A-2
   d. TOPOGRAPHY CLASS T-2
2. Bearings per Ref. Map
3. Contours and elevations NAVD88 Datum

To My Knowledge and Belief, this Map is substantially correct as noted hereon.

Todd K. Anderson L.S. 70164

REF. MAP:
RECORD SUBDIVISION MAP SECTION "B", PROPERTY OF THE TOWN OF GUILFORD, STONE HOUSE LANE & OLD WHITFIELD STREET, GUILFORD, CONNECTICUT, SCALE 1"=40', REV. 4-12-21 BY ANDERSON ENGINEERING & SURVEYING ASSOCIATES.

THIS DRAWING AND THE INFORMATION CONTAINED HEREON IS AN INSTRUMENT OF PROFESSIONAL SERVICES AND SHALL REMAIN THE PROPERTY OF ANDERSON SURVEYING LLC. THIS DRAWING AND INFORMATION CANNOT BE USED IN WHOLE OR IN PART BY ANY OTHER PARTIES WITHOUT THE SPECIFIC WRITTEN PERMISSION OF ANDERSON SURVEYING LLC. THIS DRAWING IS NOT VALID UNLESS IT BEARS THE EMBOSSED TYPE OR RED STAMPED LIVE SEAL OF THE INDIVIDUAL(S) WHOSE REGISTRATION NUMBER(S) AND SIGNATURE(S) APPEAR HEREON.

TOPOGRAPHIC SURVEY ~ PARCEL "B"
PROPERTY OF
TOWN OF GUILFORD
REAR OF STONE HOUSE LANE
GUILFORD, CONNECTICUT

SCALE 1"=20'

50 40 30 20 10 0 25 50

– DATE –
FEBRUARY 6, 2025
REV. 2-7-25
REV. 8-5-25
(TIDAL WETLANDS BOUNDARY AND BUILDING LINES)

ANDERSON SURVEYING LLC
P.O. BOX 207
GUILFORD, CONN. 06437
203-530-7056

3301 327 DRAWN BY Y.A. ACAD DWG. 3301-TS-25

SURFACE CODE LEGEND

SYMBOL	DESCRIPTION	CROSS SECTION	SYMBOL	DESCRIPTION	CROSS SECTION
C.S.	CONCRETE SIDEWALK	Broom finish, score lines @ 30 o.c./ 1/4" expansion joints @ 30' o.c. min. / 1/4" per foot cross slope 4", 3,000 # Cement concrete (3/4" stone) 6" x 6" - 10/10 Welded wire fabric 4", Compacted gravel base Subgrade (common backfill)	P	BITUMINOUS CONCRETE PAVEMENT	1 1/2" Bituminous concrete surface course – Class 2 1 1/2" Bituminous concrete binder course – Class 1 3" Processed aggregate, base run gravel or existing reclaimed asphalt base (compacted) Subgrade (common backfill), compacted to 95% Optimum Density
G	GRASS	Lime, fertilizer and grass seed 6" Min., topsoil (no stones larger than 3") Subgrade (common backfill)	L.A.	LANDSCAPE BED	REFER TO LANDSCAPE ARCHITECT PLANS FOR EXACT LOCATIONS, TYPE & SPECIES OF PLANTINGS AND PLANTING DETAILS

ZONING COMPLIANCE SUMMARY – R-3

(TOWN CENTER SOUTH OVERLAY)

	REQUIRED	PROVIDED
LOT SIZE (S.F.)	20,000	124,475
FRONT YARD SETBACK (FT)	20	212.5±
SIDE YARD SETBACK (FT)	12	15.0±
REAR YARD SETBACK (FT)	20	46.5±
LOT COVERAGE (BLDGS)	20%	8.8% (10,968)
BUILDING HEIGHT (FT) AVG./TOTAL	32 / 37	< 37.5'

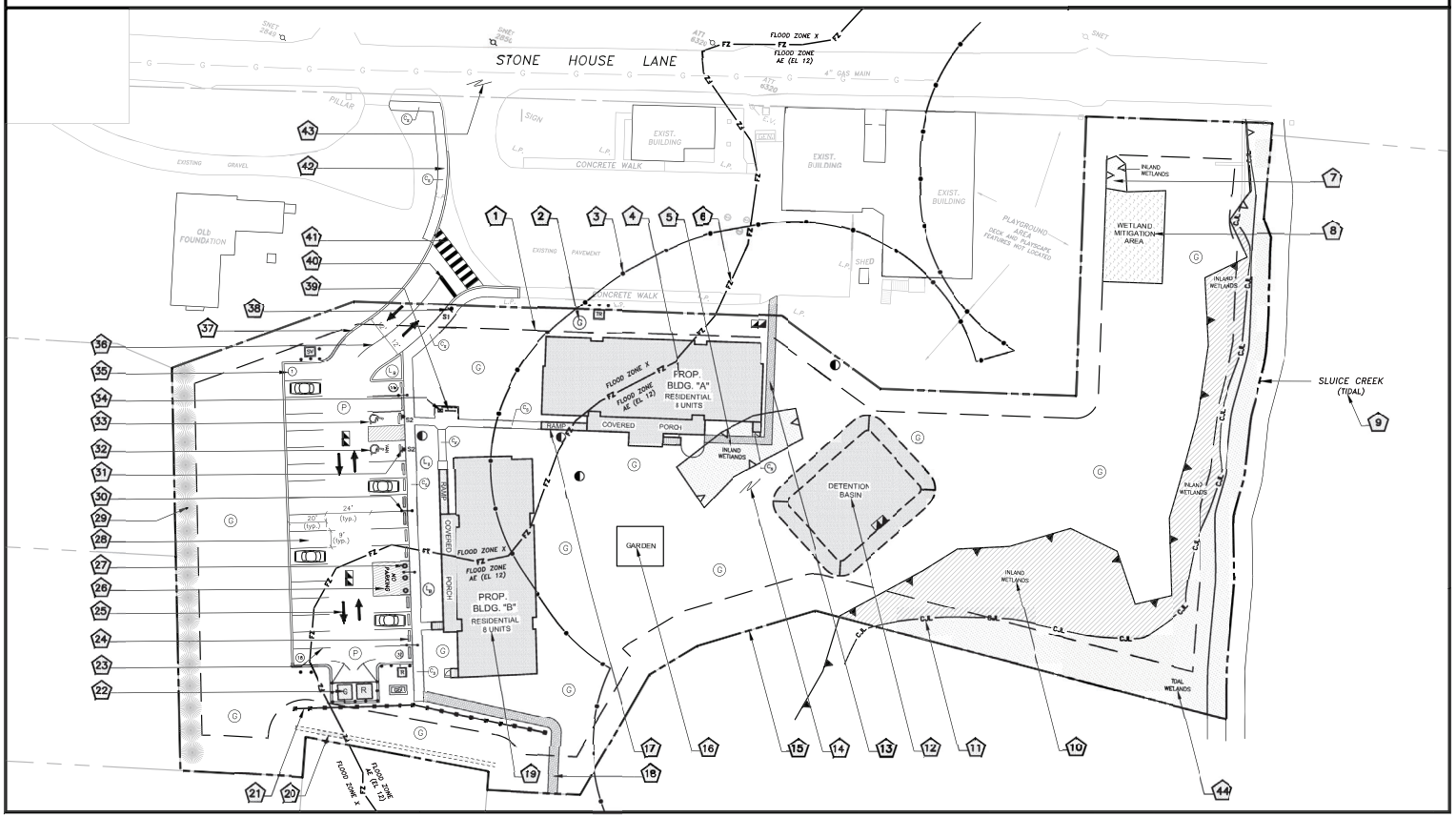
PARKING BREAKDOWN

Parking Provided:

2 Handicap Spaces (1 Van)

30 Regular Parking Spaces

Total Spaces = 32



CONSTRUCTION CALLOUTS

1. – BUILDING SETBACK LINE (TYP.).
2. – SURFACE CODE LEGEND (TYP.). SEE SURFACE CODE LEGEND LOCATED ON THIS SHEET.
3. – 100' UPLAND REVIEW LIMIT LINE (INLAND WETLANDS).
4. – PROP. RESIDENTIAL BUILDING "A" (9,560 S.F., 8 UNITS, 18 BEDROOMS). SEE ARCHITECTURAL PLANS FOR ALL SPECIFICATIONS AND REQUIREMENTS.
5. – INLAND WETLANDS TO BE FILLED (1,575± S.F.).
6. – FEMA FLOOD ZONE LINE (TYP.).
7. – INLAND WETLAND AREA PER SOIL SCIENTIST.
8. – PROP. INLAND WETLAND MITIGATION AREA (1,575± S.F.). REFER TO SOIL SCIENTIST PLANTING PLAN FOR WETLAND CREATION.
9. – SLUICE CREEK IS A TIDAL CHANNEL / WETLAND.
10. – INLAND WETLAND AREA PER SOIL SCIENTIST.
11. – COASTAL JURISDICTION LINE – CJL (TYP.).
12. – PROP. STORMWATER DETENTION BASIN.
13. – PROP. 5' WIDE CRUSHED STONE WALKING PATH (TYP.).
14. – PROP. 6" LOAM, SEED AND HAY ALL DISTURBED AREAS AS SOON AS PRACTICAL.
15. – PROPERTY LINE TO BE STAKED BY A LICENSED LAND SURVEYOR PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AT THE SUBJECT SITE.
16. – PROP. COMMUNAL GARDEN LOCATION.
17. – RAMP LOCATION FOR BUILDING ACCESS (TYP). SEE ARCHITECTURAL PLANS FOR ALL SPECIFICATIONS AND REQUIREMENTS.
18. – PROP. 5' WIDE CRUSHED STONE WALKING PATH (TYP.).
19. – PROP. RESIDENTIAL BUILDING "B" (9,560 S.F., 8 UNITS, 18 BEDROOMS). SEE ARCHITECTURAL PLANS FOR ALL SPECIFICATIONS AND REQUIREMENTS.
20. – PROP. GRASS SWALE (TYP.). SEE DETAIL ON SHEET D1.
21. – PROP. WOODEN GUIDERAIL WITH STEEL BACKING AS SHOWN (TYP).
22. – PROP. SCREENED DUMPSTER / RECYCLING ENCLOSURE ON TOP OF CONC. PAD. SEE ARCHITECTURAL PLAN FOR SPECIFICATIONS / REQUIREMENTS.
23. – PROP. 4" WHITE PAINTED PARKING SPACE LINE (TYP.).
24. – PROP. PRECAST CURB STOP (TYP.).
25. – PROP. WHITE DIRECTIONAL PAVEMENT MARKING (TYP.).
26. – 18' X 20' NO PARKING AREA FOR TURNAROUNDS. AREA TO BE DESIGNATED WITH WHITE PAVEMENT MARKINGS.
27. – PROP. CONC. BOLLARDS IN FRONT OF DROP OFF AREA. EXACT SIZE AND SPACING TO BE DETERMINED IN FIELD. OWNER SHALL CHOSE COLOR AND STYLE BEFORE INSTALLATION.
28. – PROP. PARKING SPACE TO BE 9'W X 20'D (TYP).
29. – PROP. VEGETATIVE SCREENING / BUFFER. SEE LANDSCAPE ARCHITECTURAL PLANS FOR ALL LANDSCAPING REQUIREMENTS.
30. – FLUSH CURBING (TYP.).
31. – PROP. "S2" HANDICAP PARKING SIGN (TYP.). ALL HANDICAP SIGNS TO MEET STATE AND FEDERAL GUIDELINES / REQUIREMENTS.
32. – PROP. "VAN" HANDICAP PARKING SPACE (TYP.). ALL HANDICAP SPACES TO MEET STATE AND FEDERAL GUIDELINES / REQUIREMENTS.
33. – PROP. HANDICAP PARKING SPACE (TYP.). ALL HANDICAP SPACES TO MEET STATE AND FEDERAL GUIDELINES / REQUIREMENTS.
34. – PROP. MAILBOX LOCATION.
35. – PARKING COUNT NUMBER (TYP.).
36. – PROP. 4" WHITE PAINTED LANE LINE (TYP.).
37. – PROP. 6" BIT. CONC. CURBING (TYP.). SEE DETAIL ON SHEET D1.
38. – PROP. "S1" 30" STOP SIGN LOCATION (TYP.). ALL STOP SIGNS TO MEET STATE & FEDERAL GUIDELINES / REQUIREMENTS.
39. – PROP. BIKE RACK LOCATION. OWNER TO SELECT STYLE PRIOR TO INSTALL.
40. – PROP. 12" WHITE STOP BAR PAVEMENT MARKING (TYP.).
41. – PROP. WHITE PAINTED CROSSWALK. CROSSWALK MARKINGS TO MEET STATE AND FEDERAL GUIDELINES / REQUIREMENTS.
42. – PROP. 5' WIDE, CAST IN PLACE CONCRETE SIDEWALK (TYP.).
43. – CONTRACTOR TO TAKEOUT ALL PERMITS NEEDED / REQUIRED TO WORK WITHIN THE TOWN ROADWAY & RIGHT-OF-WAY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH TOWN REQUIREMENTS.
44. – TIDAL WETLAND AREA PER SOIL SCIENTIST.

L E G E N D

- EXISTING CONTOUR
- +00.0 EXISTING SPOT ELEVATION
- INLAND WETLANDS BOUNDARY AS MARKED BY R. RICHARD SMARSH APRIL 9, 2018 VERIFIED BY MATTHEW DAVISON 11-27-24
- 100' INLAND WETLANDS REVIEW LINE
- ORIGINAL DEEP TEST PIT LOCATION (1990 & 1992)
- ORIGINAL MONITOR PIPE LOCATION (1990)
- DEEP TEST PIT LOCATION (MAY 2018)
- PERCOLATION TEST LOCATION (MAY 2018)
- FZ FLOOD HAZARD ZONE LINE PER REF. MAP #3
- DEEP TEST PIT LOCATION (SEPT. 2020)
- STAKE LOCATION (SEPT. 2020)
- C.J. COASTAL JURISDICTION LINE (ELEV. 4.0)

PROJECT REQUIREMENTS

1. Design Engineer to review and monitor all phases of construction / installation.
2. A mandatory pre-construction meeting with the Contractor and Design Engineer is required prior to the commencement of any on-site activities.

CONTRACTOR REVIEW NOTE

The Contractor / Builder is to verify all applicable Code and installation requirements. Any discrepancies (pipe slopes, inverts, setbacks, computations, etc.) shall be brought to the design engineers attention immediately.

STAKEOUT NOTE

The location of all proposed improvements shown hereon shall be staked as directed by the design engineer. A licensed land surveyor shall perform the stakeout. Proper off-set distances in-order for the Contractor to install the improvements shall be adhered to. No Contractor field measurements permitted.

OWNER:

TOWN OF GUILFORD
ATTN: MATTHEW T. HOEY III
#31 PARK STREET
GUILFORD, CT 06443
(203) 453-8015

APPLICANT:

"NEIGHBORWORKS NEW HORIZONS"
ATTN: TOM CRUESS
#235 GRAND AVE.
NEW HAVEN, CT 06513
(203) 562-4514

APPROVAL SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS
1	8/20/25	Health Dept. Comments, New Survey Updates &☐ Detention Pond Grading

SITE PLAN

"WOODRUFF PROPERTY HOUSING DEVELOPMENT"

Prepared for
Town of Guilford
#45 Stone House Lane - Map: 33 Lot: 15
Guilford, Connecticut

DRAWING SCALE: 1"=30' (0 15 30 60)

NeighborWorks® NEW HORIZONS

ANDERSON SURVEYING LLC
1575 BOSTON POST ROAD
SUITE F
GUILFORD, CT 06437
TEL. (203) 453-5084

COPYRIGHT © 4/1/25 ALL RIGHTS RESERVED BY HARKIN ENGINEERING, LLC. NOT TO BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION.

Michael P. Harkin P.E. #22625

HARKIN ENGINEERING, LLC
CIVIL ENGINEERING CONSULTING
78 Wolf Hollow Lane - Killingworth, CT 06419 - Tel. (860) 663-4248

JOB NO.	DRAWN BY:	DATE:	SHEET NO.
23-05	M.P.H.	4/1/25	SP1

CONSTRUCTION CALLOUTS

1 – PUMP CHAMBER ELECTRICAL & ALARM CONDUITS (TYP.). EXACT LOCATIONS TO BE DETERMINED IN FIELD. PUMP CHAMBER PUMP TO BE HOOKED UP TO THE EMERGENCY GENERATOR.

2 – PROP. TRANSFORMER LOCATION FOR BUILDING "A". EXACT TYPE, SIZE AND LOCATION TO BE DETERMINED BY EVERSOURCE. CONTRACTOR TO INSTALL TRANSFORMER IN ACCORDANCE WITH ALL EVERSOURCE REQUIREMENTS (PAD, BOLLARDS, SETBACKS, ETC.).

3 – PROP. 8" SOLID PVC ROOF LEADER OUTLET PIPE (TYP.). CONNECT ROOF LEADER INTO DRAINAGE STRUCTURES AND DETENTION BASIN AS SHOWN.

4 – PROP. TEMPORARY CONSTRUCTION FENCING. 6' HIGH CHAIN LINK WITH PRIVACY SLATS AND / OR SOLID SHEATHING. FENCING TO BE INSTALLED PRIOR TO ANY ON-SITE ACTIVITIES AND REMOVED AT THE END OF CONSTRUCTION.

5 – EXIST. 12" CCP TO BE CONNECTED INTO NEW CB #3. INVERT TO BE DETERMINED IN FIELD.

6 – EXIST. 6" PVC PIPE TO BE CONNECTED INTO NEW MH #3. INVERT TO BE DETERMINED IN FIELD.

7 – PROP. STORM DRAINAGE STRUCTURE (TYP.). SEE CHART LOCATED ON THIS SHEET FOR REQUIREMENTS (TYP.).

8 – 14'± X 14'± MOD. RIP RAP SPLASH PAD AT FE #2 OUTLET.

9 – DETENTION BASIN OUTLET STRUCTURE (OS #1). SEE SHEET D1 FOR REQUIREMENTS.

10 – PROP. STAKED HAYBALES AS / IF REQUIRED (TYP.).

11 – PROP. SILT FENCING (TYP.).

12 – 10'± X 10'± MOD. RIP RAP SPLASH PAD AT FE #3 OUTLET.

13 – PROP. DETENTION BASIN. BOT. EL. = 4.00, TOP OF POND EL. = 7.00, TOP OF BERM EL. = 8.00.

14 – 14'± X 14'± MOD. RIP RAP SPLASH PAD AT FE #1 OUTLET.

15 – PROP. STORM DRAINAGE PIPING (TYP.). SEE CHART LOCATED ON THIS SHEET FOR REQUIREMENTS (TYP.).

16 – TEMPORARY MATERIAL STOCKPILE AREA (TYP.). ACTUAL LOCATIONS TO BE DETERMINED BY THE SITE CONTRACTOR. MATERIAL STOCKPILES TO HAVE SILT FENCE INSTALLED AROUND THEM IF A POTENTIAL FOR EROSION EXISTS.

17 – PROP. GENERATOR LINE FOR BUILDING "A" SEPTIC PUMPS.

18 – PROP. GENERATOR LINE FOR BUILDING "A" SEPTIC PUMPS.

19 – PROP. PROPANE POWERED "EMERGENCY GENERATOR" FOR SEPTIC SYSTEM PUMPS.

20 – PROP. TRANSFORMER LOCATION FOR BUILDING "A". EXACT TYPE, SIZE AND LOCATION TO BE DETERMINED BY EVERSOURCE. CONTRACTOR TO INSTALL TRANSFORMER IN ACCORDANCE WITH ALL EVERSOURCE REQUIREMENTS (PAD, BOLLARDS, SETBACKS, ETC.).

21 – SEPTIC SYSTEM SOIL TESTING LOCATION (TYP.). SEE RESULTS ON SHEET SEP2 WITHIN THIS PLAN SET.

22 – PROP. PRIMARY SEPTIC SYSTEM AREA FOR BUILDING "B" (SYSTEM #4). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

23 – PROP. PROPANE SERVICE LATERAL FOR GENERATOR. EXACT SIZE, LOCATION AND DEPTH TO BE DETERMINED BY UTILITY COMPANY (TYP.).

24 – PROP. 100% CODE COMPLYING SEPTIC SYSTEM RESERVE AREA FOR BUILDING "B" (SYSTEM #4). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

25 – PROP. UNDERGROUND PROPANE TANK. EXACT SIZE, LOCATION AND DEPTH TO BE DETERMINED BY UTILITY COMPANY (TYP.). INSTALL CONC. BOLLARDS AS SHOWN.

26 – PROP. FIRE DEPT. KNOX BOX AND SIAMESE CONNECTIONS (TYP.). EXACT LOCATIONS TO BE DETERMINED WITH THE GUILFORD FIRE DEPT.

27 – LOAM (6" MIN.), SEED AND HAY ALL DISTURBED AREAS AS SOON AS PRACTICAL (TYP.).

28 – PROP. 100% CODE COMPLYING SEPTIC SYSTEM RESERVE AREA FOR BUILDING "B" (SYSTEM #3). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

29 – PROP. 100% CODE COMPLYING SEPTIC SYSTEM RESERVE AREA FOR BUILDING "A" (SYSTEM #2). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

30 – PROP. PRIMARY SEPTIC SYSTEM AREA FOR BUILDING "B" (SYSTEM #3). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

31 – PROP. SEPTIC SYSTEM APPURTENANCE (SEPTIC TANK, PUMP CHAMBER, PIPING, D-BOX, FORCE MAIN, ETC.). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

32 – PROP. 100% CODE COMPLYING SEPTIC SYSTEM RESERVE AREA FOR BUILDING "A" (SYSTEM #1). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

33 – PROP. PRIMARY SEPTIC SYSTEM AREA FOR BUILDING "A" (SYSTEM #1). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

34 – PROP. PRIMARY SEPTIC SYSTEM AREA FOR BUILDING "A" (SYSTEM #2). SEE SPECIFICATIONS & DETAILS ON SHEETS SEP1 & SEP2.

35 – PROP. SWITCH VAULT LOCATION. EXACT TYPE, SIZE AND LOCATION TO BE DETERMINED BY EVERSOURCE. CONTRACTOR TO INSTALL SWITCH VAULT IN ACCORDANCE WITH ALL EVERSOURCE REQUIREMENTS (PAD, BOLLARDS, SETBACKS, ETC.).

36 – PROP. CONSTRUCTION ENTRANCE (TYP.) (12'W X 50'L). SEE DETAIL ON SHEET D1.

37 – PROP. "DOMESTIC" WATER SERVICE LATERAL (TYP). EXACT SIZE, LOCATION AND DEPTH TO BE DETERMINED BY UTILITY COMPANY (TYP.). TOWN PERMIT REQUIRED FOR WORK IN TOWN ROAD. WATER SERVICES WILL REQUIRE NEW WATER MAIN TAPS.

38 – PROP. "FIRE" WATER SERVICE LATERAL (TYP). EXACT SIZE, LOCATION AND DEPTH TO BE DETERMINED BY UTILITY COMPANY (TYP.). TOWN PERMIT REQUIRED FOR WORK IN TOWN ROAD. WATER SERVICES WILL REQUIRE NEW WATER MAIN TAPS.

39 – PROP. ELEC. SERVICE LATERAL FOR BUILDINGS. EXACT SIZE, LOCATION AND DEPTH TO BE DETERMINED BY UTILITY COMPANY (TYP.). TOWN PERMIT REQUIRED FOR WORK IN TOWN ROAD.

40 – PROP. UNDERGROUND UTILITIES FOR BUILDING "B" (TYP), EXACT SIZE, LOCATION AND DEPTH TO BE DETERMINED BY EACH UTILITY COMPANY (TYP.).

41 – PROP. NEW TELEPHONE POLE BY OTHERS (TYP.).

42 – PROP. UNDERGROUND UTILITIES FOR BUILDING "A" (TYP). EXACT SIZE, LOCATION AND DEPTH TO BE DETERMINED BY EACH UTILITY COMPANY (TYP.).

43 – OIL / WATER SEPARATOR. SEPARATOR TO BY HYRDOWORKS HYROGUARD (HG4) MODEL OR APPROVED EQUAL. INLET & OUTLET DIAMETER TO BE 18".

GRADING / EARTH REMOVAL NOTE

The Contractor shall be responsible for conducting all grading and earth removal activities in compliance with the Town of Guilford Zoning Regulations.

ROOF LEADER / DOWN SPOUT NOTE

All proposed roof leaders and downspouts to be connected to the proposed storm drainage system. See locations shown on this sheet. Inverts to be determined by Site Contractor in the field.

STAKEOUT NOTE

The location of all proposed improvements shown hereon shall be staked as directed by the design engineer. A licensed land surveyor shall perform the stakeout. All storm and septic components shall be staked. Proper off-set distances in-order for the Contractor to install the improvements shall be adhered to. No Contractor field measurements permitted.

STORM SEWER STRUCTURE SCHEDULE

	DESCRIPTION	HOOD	T/GRM EL.	N. INV.	E. INV.	S. INV.	W. INV.
CB #1	DOUBLE, TYPE "CL"	YES	14.00	–	9.50	9.70	–
CB #2	DOUBLE, TYPE "CL"	YES	14.00	10.75	–	–	–
CB #3	DOUBLE, TYPE "CL"	YES	9.60	6" (IN) 180	7.50	–	–
MH #1	SINGLE, TYPE "C"	–	11.25	–	7.75	–	7.75
MH #2	SINGLE, TYPE "C"	–	14.20	–	8.35	–	8.35
MH #3	SINGLE, TYPE "C"	–	9.60	6" (IN) 180	7.00	–	6.75
FE #1	SINGLE, TYPE "C"	–	–	–	–	–	6.50
FE #2	SINGLE, TYPE "C"	–	–	–	–	–	6.50
FE #3	SINGLE, TYPE "C"	–	–	–	–	–	4.50
HYDRO	HYDROGUARD HG4	–	14.50	–	9.10	–	9.10

HYDROWORKS NOTE

The oil/water separator for this project shall be the Hydroworks Hydroguard Model (HG4) or approved equal.

CATCH BASIN SUMP NOTE

All catch basin sumps are to be four (4) feet deep for sediment collection.

STORM SEWER PIPE SCHEDULE

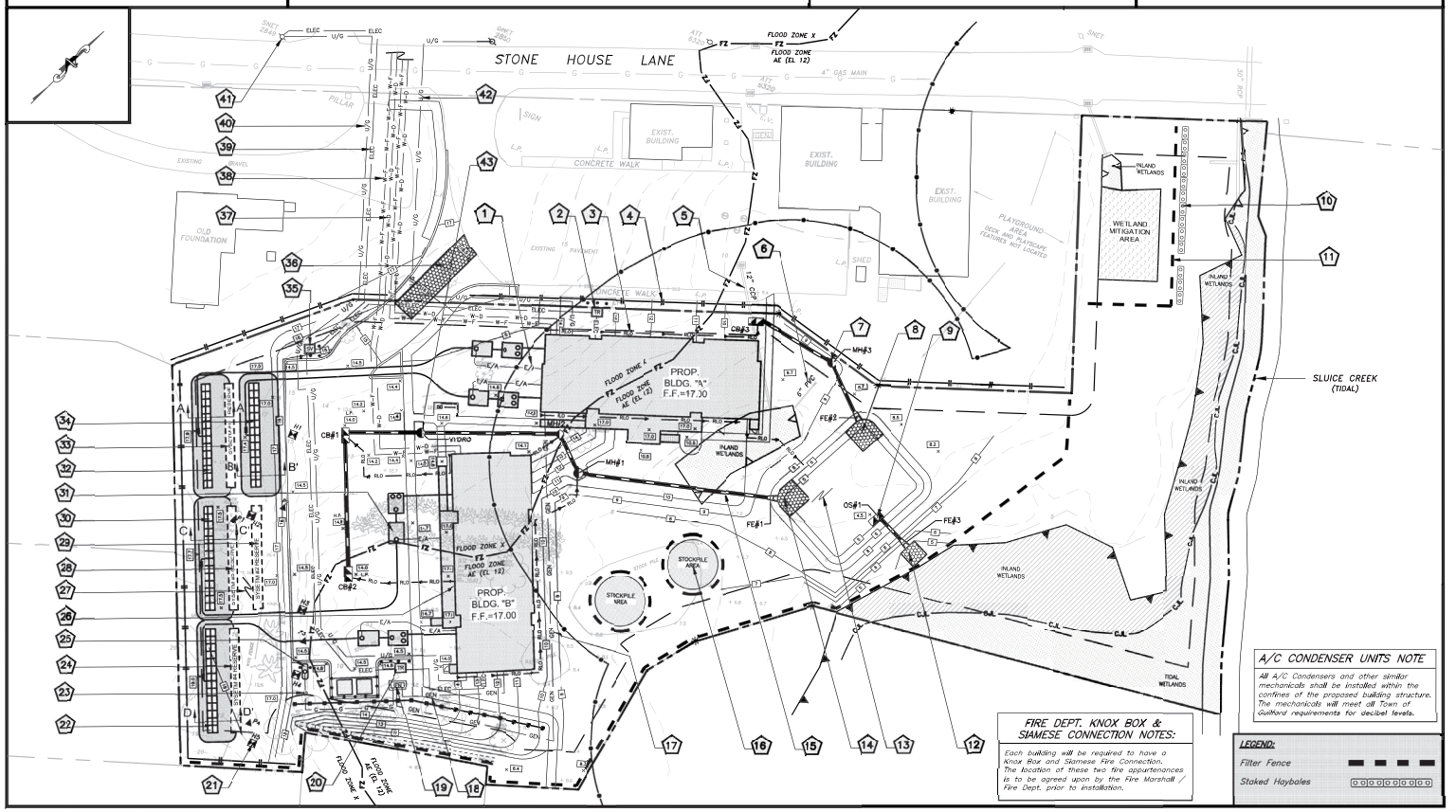
DESCRIPTION	PIPE DIA.	TYPE	LENGTH	SLOPE
CB #2 TO CB #1	15"	HDPP, N12	70 L.F.	S=1.50%
CB #1 TO HYDRO	18"	HDPP, N12	39 L.F.	S=1.00%
HYDRO TO MH #2	18"	HDPP, N12	75 L.F.	S=1.00%
MH #2 TO MH #1	18"	HDPP, N12	25 L.F.	S=2.40%
MH #1 TO FE #1	18"	HDPP, N12	107 L.F.	S=1.15%
CB #3 TO MH #3	12"	HDPP, N12	30 L.F.	S=1.00%
MH #3 TO FE #2	12"	HDPP, N12	23 L.F.	S=1.10%
OS #1 TO FE #3	24"	HDPP, N12	20 L.F.	S=0.00%

PIPE SCHEDULE

DESCRIPTION	PIPE DIA.	TYPE
ROOF LEADER	8"	ASTM D 3034, SDR 35 – SOLID
STORM DRAINAGE	15",18",24"	HDPP, N12

UTILITY EXCAVATION / PIPE NOTES

Tight pipe with gasketed joints to be used within 25' of all septic system components. Excavations within 5'–25' from systems shall not be backfilled with free draining material.



A/C CONDENSER UNITS NOTE

All A/C Condensers and other similar mechanicals shall be installed within the confines of the proposed building structure. The mechanicals will meet all Town of Guilford requirements for decibel levels.

FIRE DEPT. KNOX BOX & SIAMESE CONNECTION NOTES:

Each building will be required to have a Knox Box and Siamese Fire Connection. The location of these two fire appurtenances is to be agreed upon by the Fire Marshall / Fire Dept. prior to installation.

LEGEND:

Filter Fence

Staked Haybales

L E G E N D

- EXISTING CONTOUR
- 408.0 EXISTING SPOT ELEVATION
- INLAND WETLANDS BOUNDARY AS MARKED BY R. RICHARD SNARSKI APRIL 9, 2018 VERIFIED BY MATTHEW DAVISON 11-27-24
- 100' INLAND WETLANDS REVIEW LINE
- ORIGINAL DEEP TEST PIT LOCATION (1990 & 1992)
- ORIGINAL MONITOR PIPE LOCATION (1990)
- DEEP TEST PIT LOCATION (MAY 2018)
- PERCOLATION TEST LOCATION (MAY 2018)
- F'Z FLOOD HAZARD ZONE LINE PER REF. MAP #3
- DEEP TEST PIT LOCATION (SEPT. 2020)
- STAKE LOCATION (SEPT. 2020)
- C.J. COASTAL JURISDICTION LINE (ELEV. 4.0)

OWNER:

TOWN OF GUILFORD
ATTN: MATTHEW T. HOEY III
#31 PARK STREET
GUILFORD, CT 06443
(203) 453-8015

APPLICANT:

"NEIGHBORWORKS NEW HORIZONS"
ATTN: TOM CRUESS
#235 GRAND AVE.
NEW HAVEN, CT 06513
(203) 562-4514

CONTRACTOR REVIEW NOTE

The Contractor / Builder is to verify all applicable Code and installation requirements. Any discrepancies (new slopes, inverts, setbacks, computations, etc.) shall be brought to the design engineers attention immediately.

APPROVAL SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS
1	8/20/25	Health Dept. Comments, New Survey Updates & Detention Pond Grading

NeighborWorks® NEW HORIZONS

ANDERSON SURVEYING LLC
1575 BOSTON POST ROAD
SUITE F
GUILFORD, CT 06437
TEL. (203) 453-5084

COPYRIGHT© 4/1/25 ALL RIGHTS RESERVED BY HARKIN ENGINEERING, LLC. NOT TO BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION.

Michael P. Harkin P.E. #22625

SITE DEVELOPMENT PLAN

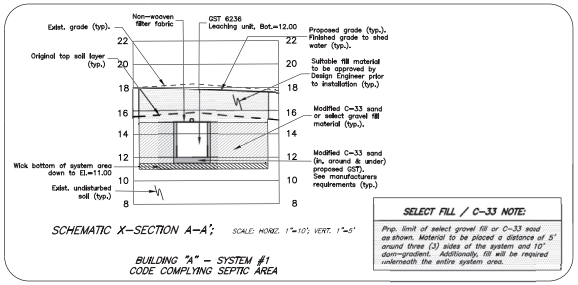
"WOODRUFF PROPERTY HOUSING DEVELOPMENT"

Prepared for
Town of Guilford
#45 Stone House Lane - Map: 33 Lot: 15
Guilford, Connecticut

DRAWING SCALE: 1"=30' (0 15 30 60)

HARKIN ENGINEERING, LLC
CIVIL ENGINEERING CONSULTING
78 Wolf Hollow Lane - Killingworth, CT 06419 - Tel (860) 663-4248

JOB NO.	DRAWN BY:	DATE:	SHEET NO.
23-05	M.P.H.	4/1/25	SD1

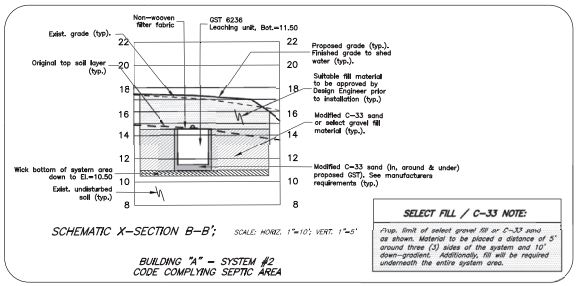


SCHEMATIC X-SECTION A-A'; SCALE: HORIZ. 1"=10'; VERT. 1"=5'

BUILDING "A" - SYSTEM #1
CODE COMPLYING SEPTIC AREA

SELECT FILL / C-33 NOTE:

Prop. limit of select gravel fill or C-33 sand as shown. Material to be placed a distance of 5' around three (3) sides of the system and 10' down-gradient. Additionally, fill will be required underneath the entire system area.

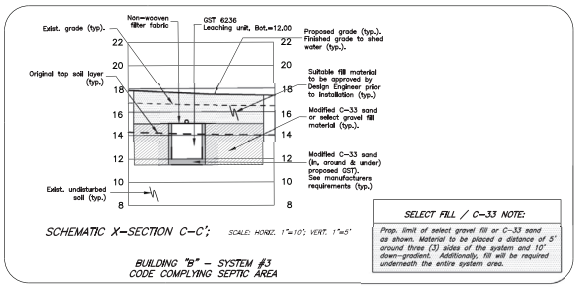


SCHEMATIC X-SECTION B-B'; SCALE: HORIZ. 1"=10'; VERT. 1"=5'

BUILDING "A" - SYSTEM #2
CODE COMPLYING SEPTIC AREA

SELECT FILL / C-33 NOTE:

Prop. limit of select gravel fill or C-33 sand as shown. Material to be placed a distance of 5' around three (3) sides of the system and 10' down-gradient. Additionally, fill will be required underneath the entire system area.

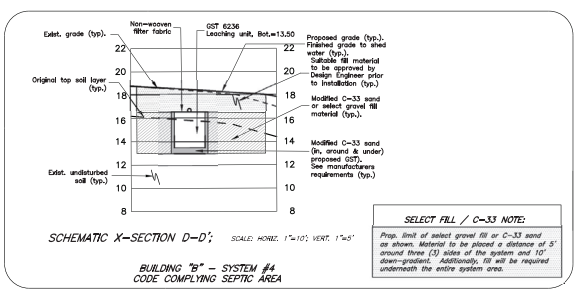


SCHEMATIC X-SECTION C-C'; SCALE: HORIZ. 1"=10'; VERT. 1"=5'

BUILDING "B" - SYSTEM #3
CODE COMPLYING SEPTIC AREA

SELECT FILL / C-33 NOTE:

Prop. limit of select gravel fill or C-33 sand as shown. Material to be placed a distance of 5' around three (3) sides of the system and 10' down-gradient. Additionally, fill will be required underneath the entire system area.



SCHEMATIC X-SECTION D-D'; SCALE: HORIZ. 1"=10'; VERT. 1"=5'

BUILDING "B" - SYSTEM #4
CODE COMPLYING SEPTIC AREA

SELECT FILL / C-33 NOTE:

Prop. limit of select gravel fill or C-33 sand as shown. Material to be placed a distance of 5' around three (3) sides of the system and 10' down-gradient. Additionally, fill will be required underneath the entire system area.

BUILDING "A" - 8 UNITS
(18 BEDROOMS TOTAL)

BUILDING "A" – SYSTEM #1
CODE COMPLYING SEPTIC AREA
(9 BEDROOMS)

DESIGN CRITERIA:

1. DESIGN FLOW CALCULATIONS:

Required Effective Leaching Area;
A 9 (9) bedroom residential septic system with a percolation rate of less than 10.1 mins. per inch requires the following effective leaching area:

First, 3 bedrooms = 495 s.f.

Each additional bedroom = 137.5 s.f. (multi-family)
6 bedrooms x 137.5 = 825 s.f

495 s.f. + 825 s.f. = 1,320 s.f.

Total Effective Leaching Area Required: 1,320 s.f.

2. SIZE OF SYSTEM BY DESIGN:

Geomatrix (GST 6236) Leaching Unit = 26.2 s.f./l.f.

56 l.f. x 26.2 s.f./l.f. = 1,467 s.f.

1,467 s.f. (Proposed) > 1,320 s.f. (Required)

MINIMUM LEACHING SYSTEM SPREAD (MLSS)

Pursuant to the Hydraulic Factor (H.F) Table: Restrictive layer greater than 60" MLSS need not apply.

SEPTIC SYSTEM PROPOSED INVERT ELEVATIONS

DESCRIPTION	PROPOSED
Building outlet	12.50
Tank inlet	12.00
Tank outlet	11.75
Pump Chamber inlet	11.50
Pump Chamber outlet	11.25
Baffled D-Box inlet	15.35
Baffled D-Box outlet	15.25
GST flow-line	15.00
GST bottom	12.00

Finished Grade Over System = 17.90
Maximum Bottom Elev. = 9.90 (8')
Proposed Bottom Elev. = 12.00

SEPTIC SYSTEM COMPONENTS:

A. – Bldg. Invert (out) = 12.50

B – 13 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=3.85%.

C – 3,000 gal., 2 compartment septic tank w/ outlet filter. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

D – 5 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=5.00%.

E – 3,000 gal. conc., pump chamber with "dual" submersible pumps and high level alarm. Chamber to have 24 hr. emergency storage capacity to handle at least the daily design. 1/8" weep hole to be drilled into outlet pipe in pump chamber in order to allow for back draining. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

F – 180± l.f., 1 1/2" dia. poly. flexible force main (ASTM 2239).

G – Baffled D-Box. (In)=15.35, D-Box (Out)=15.25 Top to be weighted.

H – Distribution pipe (ASTM D 1785, Sch 40).

I – 56 l.f. of GST 6236 leaching units . Finished grade over system to shed water. A min. of one (1) inspection port shall be installed over the prop. septic system and shall have an access M.H. with C.I. frame and cover to grade (typ.). Bot. of System = 12.00

J – Prop. 100% Reserve Area (56 l.f. of GST 6236 leaching units).

BUILDING "A" – SYSTEM #2
CODE COMPLYING SEPTIC AREA
(9 BEDROOMS)

DESIGN CRITERIA:

1. DESIGN FLOW CALCULATIONS:

Required Effective Leaching Area;
A 9 (9) bedroom residential septic system with a percolation rate of less than 10.1 mins. per inch requires the following effective leaching area:

First, 3 bedrooms = 495 s.f.

Each additional bedroom = 137.5 s.f. (multi-family)
6 bedrooms x 137.5 = 825 s.f

495 s.f. + 825 s.f. = 1,320 s.f.

Total Effective Leaching Area Required: 1,320 s.f.

2. SIZE OF SYSTEM BY DESIGN:

Geomatrix (GST 6236) Leaching Unit = 26.2 s.f./l.f.

56 l.f. x 26.2 s.f./l.f. = 1,467 s.f.

1,467 s.f. (Proposed) > 1,320 s.f. (Required)

MINIMUM LEACHING SYSTEM SPREAD (MLSS)

Pursuant to the Hydraulic Factor (H.F) Table: Restrictive layer greater than 60" MLSS need not apply.

SEPTIC SYSTEM PROPOSED INVERT ELEVATIONS

DESCRIPTION	PROPOSED
Building outlet	12.50
Tank inlet	12.00
Tank outlet	11.75
Pump Chamber inlet	11.50
Pump Chamber outlet	11.25
Baffled D-Box inlet	14.85
Baffled D-Box outlet	14.75
GST flow-line	14.50
GST bottom	11.50

Finished Grade Over System = 17.20
Maximum Bottom Elev. = 9.20 (8')
Proposed Bottom Elev. = 11.50

SEPTIC SYSTEM COMPONENTS:

A. – Bldg. Invert (out) = 12.50

B – 13 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=3.85%.

C – 3,000 gal., 2 compartment septic tank w/ outlet filter. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

D – 5 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=5.00%.

E – 3,000 gal. conc., pump chamber with "dual" submersible pumps and high level alarm. Chamber to have 24 hr. emergency storage capacity to handle at least the daily design. 1/8" weep hole to be drilled into outlet pipe in pump chamber in order to allow for back draining. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

F – 150± l.f., 1 1/2" dia. poly. flexible force main (ASTM 2239).

G – Baffled D-Box. (In)=14.85, D-Box (Out)=14.75 Top to be weighted.

H – Distribution pipe (ASTM D 1785, Sch 40).

I – 56 l.f. of GST 6236 leaching units . Finished grade over system to shed water. A min. of one (1) inspection port shall be installed over the prop. septic system and shall have an access M.H. with C.I. frame and cover to grade (typ.). Bot. of System = 11.50

J – Prop. 100% Reserve Area (56 l.f. of GST 6236 leaching units).

BUILDING "B" - 8 UNITS
(18 BEDROOMS TOTAL)

BUILDING "B" – SYSTEM #3
CODE COMPLYING SEPTIC AREA
(9 BEDROOMS)

DESIGN CRITERIA:

1. DESIGN FLOW CALCULATIONS:

Required Effective Leaching Area;
A 9 (9) bedroom residential septic system with a percolation rate of less than 10.1 mins. per inch requires the following effective leaching area:

First, 3 bedrooms = 495 s.f.

Each additional bedroom = 137.5 s.f. (multi-family)
6 bedrooms x 137.5 = 825 s.f

495 s.f. + 825 s.f. = 1,320 s.f.

Total Effective Leaching Area Required: 1,320 s.f.

2. SIZE OF SYSTEM BY DESIGN:

Geomatrix (GST 6236) Leaching Unit = 26.2 s.f./l.f.

56 l.f. x 26.2 s.f./l.f. = 1,467 s.f.

1,467 s.f. (Proposed) > 1,320 s.f. (Required)

MINIMUM LEACHING SYSTEM SPREAD (MLSS)

Pursuant to the Hydraulic Factor (H.F) Table: Restrictive layer greater than 60" MLSS need not apply.

SEPTIC SYSTEM PROPOSED INVERT ELEVATIONS

DESCRIPTION	PROPOSED
Building outlet	12.50
Tank inlet	11.75
Tank outlet	11.50
Pump Chamber inlet	11.25
Pump Chamber outlet	11.00
Baffled D-Box inlet	15.35
Baffled D-Box outlet	15.25
GST flow-line	15.00
GST bottom	12.00

Finished Grade Over System = 17.70
Maximum Bottom Elev. = 9.70 (8')
Proposed Bottom Elev. = 12.00

SEPTIC SYSTEM COMPONENTS:

A. – Bldg. Invert (out) = 12.50

B – 27 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=2.75%.

C – 3,000 gal., 2 compartment septic tank w/ outlet filter. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

D – 5 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=5.00%.

E – 3,000 gal. conc., pump chamber with "dual" submersible pumps and high level alarm. Chamber to have 24 hr. emergency storage capacity to handle at least the daily design. 1/8" weep hole to be drilled into outlet pipe in pump chamber in order to allow for back draining. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

F – 162± l.f., 1 1/2" dia. poly. flexible force main (ASTM 2239).

G – Baffled D-Box. (In)=15.35, D-Box (Out)=15.25 Top to be weighted.

H – Distribution pipe (ASTM D 1785, Sch 40).

I – 56 l.f. of GST 6236 leaching units . Finished grade over system to shed water. A min. of one (1) inspection port shall be installed over the prop. septic system and shall have an access M.H. with C.I. frame and cover to grade (typ.). Bot. of System = 12.00

J – Prop. 100% Reserve Area (56 l.f. of GST 6236 leaching units).

BUILDING "B" – SYSTEM #4
CODE COMPLYING SEPTIC AREA
(9 BEDROOMS)

DESIGN CRITERIA:

1. DESIGN FLOW CALCULATIONS:

Required Effective Leaching Area;
A 9 (9) bedroom residential septic system with a percolation rate of less than 10.1 mins. per inch requires the following effective leaching area:

First, 3 bedrooms = 495 s.f.

Each additional bedroom = 137.5 s.f. (multi-family)
6 bedrooms x 137.5 = 825 s.f

495 s.f. + 825 s.f. = 1,320 s.f.

Total Effective Leaching Area Required: 1,320 s.f.

2. SIZE OF SYSTEM BY DESIGN:

Geomatrix (GST 6236) Leaching Unit = 26.2 s.f./l.f.

56 l.f. x 26.2 s.f./l.f. = 1,467 s.f.

1,467 s.f. (Proposed) > 1,320 s.f. (Required)

MINIMUM LEACHING SYSTEM SPREAD (MLSS)

Pursuant to the Hydraulic Factor (H.F) Table: Restrictive layer greater than 60" MLSS need not apply.

SEPTIC SYSTEM PROPOSED INVERT ELEVATIONS

DESCRIPTION	PROPOSED
Building outlet	12.50
Tank inlet	11.75
Tank outlet	11.50
Pump Chamber inlet	11.25
Pump Chamber outlet	11.00
Baffled D-Box inlet	16.85
Baffled D-Box outlet	16.75
GST flow-line	16.50
GST bottom	13.50

Finished Grade Over System = 19.00
Maximum Bottom Elev. = 11.00 (8')
Proposed Bottom Elev. = 13.50

SEPTIC SYSTEM COMPONENTS:

A. – Bldg. Invert (out) = 12.50

B – 27 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=2.75%.

C – 3,000 gal., 2 compartment septic tank w/ outlet filter. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

D – 5 l.f., 4" solid PVC (ASTM D 1785, Sch 40) @ S=5.00%.

E – 3,000 gal. conc., pump chamber with "dual" submersible pumps and high level alarm. Chamber to have 24 hr. emergency storage capacity to handle at least the daily design. 1/8" weep hole to be drilled into outlet pipe in pump chamber in order to allow for back draining. Provide access M.H. with C.I. rim & cover to finished grade. Install "Secondary Safety Lid" as / if required.

F – 112± l.f., 1 1/2" dia. poly. flexible force main (ASTM 2239).

G – Baffled D-Box. (In)=16.85, D-Box (Out)=16.75 Top to be weighted.

H – Distribution pipe (ASTM D 1785, Sch 40).

I – 56 l.f. of GST 6236 leaching units . Finished grade over system to shed water. A min. of one (1) inspection port shall be installed over the prop. septic system and shall have an access M.H. with C.I. frame and cover to grade (typ.). Bot. of System = 13.50

J – Prop. 100% Reserve Area (56 l.f. of GST 6236 leaching units).

MECHANICALS, INTERIOR DRAINS & A/C CONDENSER NOTE

All the building's mechanicals (A/C Condensers, etc.), and miscellaneous interior drains shall not be tied into the plumbing that leads to the building's septic system. All the above listed items must by tied into the piping that leads to the storm drainage system or a separate storage / drywell system for ground infiltration. A letter at the end of the project shall be provided by the Architect or MEP Engineer stating that the work has been installed as stated above. This letter will be required prior to the Health Dept. signing off on the Certificate to Discharge and / or the Certificate of Occupancy.

BUILDING PLUMBING NOTE

All the building's plumbing must be designed and instaled so that the proper amount of stated units / bedrooms go to the correct septic system. An interior layout drawing showing / stating which units and bedrooms are connected to which septic system must be provided prior to the issuance of a Septic Permit to install. A letter at the end of the project shall be provided by the Architect or MEP Engineer stating that the work has been installed as stated above. This letter will be required prior to the Health Dept. signing off on the Certificate to Discharge and / or the Certificate of Occupancy.

APPROVAL SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS
1	8/20/25	Health Dept. Comments, New Survey Updates & Detention Pond Grading

SEPTIC SYSTEM NOTES & DETAILS 1

"WOODRUFF PROPERTY HOUSING DEVELOPMENT"
Prepared for
Town of Guilford
#45 Stone House Lane - Map: 33 Lot: 15
Guilford, Connecticut

DRAWING SCALE: As Noted

NeighborWorks® NEW HORIZONS

ANDERSON SURVEYING LLC
1575 BOSTON POST ROAD
SUITE F
GUILFORD, CT 06437
TEL. (203) 453-5084

COPYRIGHT@ 4/1/25 ALL RIGHTS RESERVED BY HARKIN ENGINEERING, LLC. NOT TO BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION.

Michael P. Harkin P.E. #22625

HARKIN ENGINEERING, LLC
CIVIL ENGINEERING CONSULTING
78 Wolf Hollow Lane - Killingworth, CT 06419 - Tel. (860) 663-4248

JOB NO.	DRAWN BY:	DATE:	SHEET NO.
23-05	M.P.H.	4/1/25	SEP1

DEEP TEST DATA:

Soil Testing conducted by Harkin Engineering, LLC (Michael P. Harkin, P.E.). Confirmed/witnessed by Mr. Lee Archer, R.S., of the Guilford Health Department.

TEST PIT: #H1 (5/18/18)

0 – 28" Misc. suitable fill (sand and gravel)
28 – 30" Black ash layer
30 – 34" Topsoil (Original)
34 – 66" Orn–brn sand w/ loam
66 – 77" Orn–brn fine sand w/ silt
77 – 99" Brn medium coarse sand and gravel

Roots @ 72"
R.L. N/A
No Groundwater / No Ledge / No Mottles

TEST PIT: #H2 (5/18/18)

0 – 26" Suitable fill (sand and gravel)
26 – 33" Orn–brn sandy loam
33 – 97" Orn–brn med. coarse sand and gravel

Roots @ 55"
R.L. N/A
No Groundwater / No Ledge / No Mottles

TEST PIT: #H3 (5/18/18)

0 – 30" Suitable fill (sand and gravel)
30 – 39" Drk–brn sand and gravel
39 – 62" Orn–brn fine sand and gravel
62 – 116" Med. sand and silt w/ mica

Roots @ 72"
R.L. N/A
No Groundwater / No Ledge / No Mottles

TEST PIT: #H4 (5/18/18)

0 – 31" Suitable fill (sand and gravel)
31 – 34" Black ash layer
34 – 40" Original topsoil
40 – 55" Orn–brn sandy loam
55 – 107" Tan med. sand

Roots @ 70"
R.L. N/A
No Groundwater / No Ledge / No Mottles

TEST PIT: #H5 (5/18/18)

0 – 4" Topsoil, leaf litter
4 – 10" Orn–brn sandy loam
10 – 43" Brn med. coarse sand and gravel
43 – 65" Brn med. coarse sand
65 – 93" Light brn fine sand

Roots @ 58"
R.L. N/A
No Groundwater / No Ledge / No Mottles

PERCOLATION TEST DATA

Percolation Testing Performed by the office of Harkin Engineering, LLC (Michael P. Harkin, P.E.).

Percolation Test: Perc #1 Date: 5/18/18
Depth = 18", Diameter = 7"
Pre-soak: 24 Hr.

Time	D.T.W.	Inc. Drop	Min./In.
12:00 pm	7"		
12:10 pm	11 1/2"	4 1/2"	2.22
12:20 pm	15 3/8"	3 7/8"	2.58
12:30 pm	18 7/8"	3 1/2"	2.85
12:40 pm	Dry		

Percolation Rate = 1" in 0.0 to 10.0 Minutes

Percolation Test: Perc #2 Date: 5/18/18
Depth = 18", Diameter = 7"
Pre-soak: 24 Hr.

Time	D.T.W.	Inc. Drop	Min./In.
11:55 am	7"		
12:05 pm	11 3/8"	4"	2.28
12:15 pm	15 1/2"	4 1/8"	2.42
12:25 pm	19 1/8"	3 5/8"	2.75
12:35 pm	Dry		

Percolation Rate = 1" in 0.0 to 10.0 Minutes

Percolation Test: Perc #3 Date: 5/18/18
Depth = 18", Diameter = 7"
Pre-soak: 24 Hr.

Time	D.T.W.	Inc. Drop	Min./In.
11:40 am	7"		
11:50 am	11"	4"	2.50
12:00 pm	14 1/4"	3 1/4"	3.07
12:10 pm	16 1/2"	2 1/4"	4.44
12:20 pm	18 1/8"	1 3/8"	7.27
12:45 pm	Dry		

Percolation Rate = 1" in 0.0 to 10.0 Minutes

Percolation Test: Perc #4 Date: 5/18/18
Depth = 18", Diameter = 7"
Pre-soak: 24 Hr.

Time	D.T.W.	Inc. Drop	Min./In.
11:00 am	7"		
11:10 am	11 1/8"	4 1/8"	2.42
11:20 am	14 5/8"	3 1/2"	2.85
11:30 am	17"	2 3/8"	4.21
11:40 am	18 7/8"	1 7/8"	5.33
11:50 am	Dry		

Percolation Rate = 1" in 0.0 to 10.0 Minutes

SOIL AIR NOTE

The GST septic system specified for this Medical / Office buildim project shall have Soil Air Systems installed as part of the system design. The Contractor is to contact Geomatrix, LLC at (860) 510–0730 to review all requirements associated with the Soil Air installation. Please note that the Soil Air manufacturer may add additional features to the leaching system designs (monitorig ports, Soil Air Blower, controller, phone line, system enclosure, etc.). The Soil Air System manufacturer shall specify the exact products to be used for each system.

AS–BUILT NOTE

A complete ENGINEERED as–built drawing, with tie–dimensions and elevations for all system components, is to be submitted to the Health Dept. prior to the issuance of a Certificate to Discharge. This as–built shall be performed by a licensed land surveyor under the direction of the Design Engineer.

UTILITY EXCAVATION / PIPE NOTES

Tight pipe with gasketed joints to be used within 25' of all septic system components. Excavations within 5'–25' from systems shall not be backfilled with free draining material.

PROPRIETARY SPECIFICATIONS

The proposed septic system installation shall meet all Proprietary Specifications. Refer to manufacturer's installation requirements prior to commencing work on the proposed system.

BENCHMARK NOTE:

A benchmark for the septic system work is to be installed at the project site by a licensed land surveyor. The benchmark shall be installed in a location as agreed upon by the site contractor and not less than 25' from the proposed septic systems.

PRE CONSTRUCTION MEETING NOTE

A mandatory pre–construction meeting shall be held prior to the commencement of construction activities on the system. The meeting shall be attended by the Contractor, Design Engineer and CHAHD officials.

CONTRACTOR REVIEW NOTE

The Contractor is to verify all applicable installation requirements. Any discrepancies (pipe slopes, inverts, setbacks, computations, etc.) shall be brought to the design engineers attention immediately.

SEPTIC TANK OUTLET FILTER

Septic tank outlet filters are to be capable of design flows greater than 2,000 GPD. Filters are to be Zabel Model A300–B or approved equal.

SECONDARY SAFETY DEVICES NOTE

If a riser cover weights less than 59 lbs., then the tank cover shall remain in place or a secondary safety lid or device shall be provided. Secondary safety lids or devices are recommended to be utilized for safety reasons even if the riser cover weights more than 59 lbs. and the tank cover is removed.

BUILDING HEAT

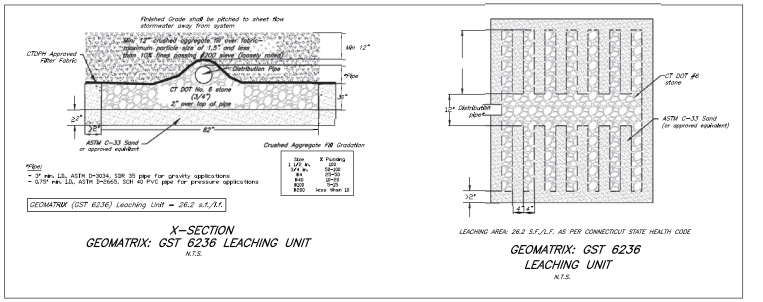
The proposed buildings will be heated by "Electricity". No underground propane tanks or natural gas service laterals are to be installed for the buildings. An underground propane tank will be installed for the emergency generator for the septic system pumps only.

PROHIBITED DISCHARGES

"No" hot tubs, spas, garbage disposals, water systems or swimming pools shall be discharged into the proposed septic system.

STAKEOUT NOTE

The location of all the septic improvements shown hereon shall be staked as directed by the design engineer. A licensed land surveyor shall perform the stakeout. All septic components shall be staked for the system. Proper off–set distances in–order for the Contractor to install the improvements shall be adhered to.



X–SECTION
GEOMATRIX: GST 6236 LEACHING UNIT
N.T.S.

LEACHING AREA: 26.2 S.F./L.F. AS PER CONNECTICUT STATE HEALTH CODE

GEOMATRIX: GST 6236
LEACHING UNIT
N.T.S.

REQUIRED GEOMATRIX SAND FILL MATERIAL

N.T.S.

REQUIRED FILL SAND MATERIAL (Modified C–33 Sand):

All Geomatrix installations require the use of Modified C–33 sand. Select fill, as described by the Connecticut Public Health code, cannot be used as a substitute. A sieve analysis for the installed sand must be provided to the local Health Department. Fill in area of the septic system shall be clean, bank–run sand meeting the following criteria:

Sieve	% Passing (wet)	% Passing (dry)
3/8	100%	100%
#4	95% – 100%	95% – 100%
#8	80% – 100%	80% – 100%
#16	50% – 80%	50% – 80%
#30	25% – 60%	25% – 60%
#50	5% – 30%	5% – 30%
#100	0% – 20%	0% – 5%
#200	0% – 5%	0% – 2.5%

SEPTIC GRAVEL FILL MATERIAL

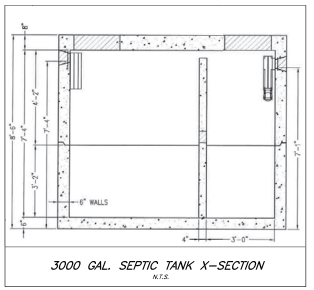
N.T.S.

Fill in area of the septic system shall be clean, bank–run sand or gravel meeting the following criteria:

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 (This is the gravel portion of the sample).*
c. *The materials that passes the #4 sieve is then reweighed and the sieve analysis started.*
d. *The remaining sample shall meet the following gradation criteria:*

Sieve	% Passing
#4	100%
#10	70% – 100%
#40	10% – 30% (See note below)
#100	0% – 20%
#200	0% – 5%

Note: 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% does not exceed 5%.



3000 GAL. SEPTIC TANK X–SECTION
N.T.S.

SEPTIC TANK CALCULATIONS

Bldg A, System #1: 9 Bedrooms:

First 3 bedrooms = 1,250 gals (multi–family)
Each additional bedroom = 250 gals
6 bedrooms x 250 gal = 1,500 gals
1,500 gals + 1,250 gals = 2,750 gals
System #1 requires: 3,000 gal. tank (min.)

Bldg A, System #2: 9 Bedrooms:

First 3 bedrooms = 1,250 gals (multi–family)
Each additional bedroom = 250 gals
6 bedrooms x 250 gal = 1,500 gals
1,500 gals + 1,250 gals = 2,750 gals
System #2 requires: 3,000 gal. tank (min.)

Bldg B, System #3: 9 Bedrooms:

First 3 bedrooms = 1,250 gals (multi–family)
Each additional bedroom = 250 gals
6 bedrooms x 250 gal = 1,500 gals
1,500 gals + 1,250 gals = 2,750 gals
System #3 requires: 3,000 gal. tank (min.)

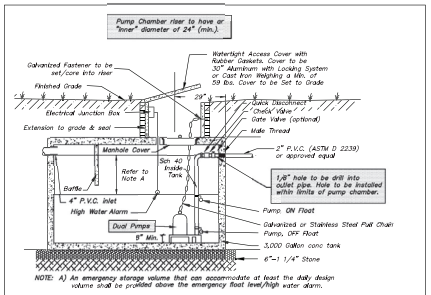
Bldg B, System #4: 9 Bedrooms:

First 3 bedrooms = 1,250 gals (multi–family)
Each additional bedroom = 250 gals
6 bedrooms x 250 gal = 1,500 gals
1,500 gals + 1,250 gals = 2,750 gals
System #4 requires: 3,000 gal. tank (min.)

CHECK JURISDICTION:

System Area #1: 9 Bedrooms = 9 x 150 GPD = 1,350 GPD
System Area #2: 9 Bedrooms = 9 x 150 GPD = 1,350 GPD
System Area #3: 9 Bedrooms = 9 x 150 GPD = 1,350 GPD
System Area #4: 9 Bedrooms = 9 x 150 GPD = 1,350 GPD
Total: 5,400 GPD

7,500 GPD > 5,400 GPD therefore, Local Health Dept. (Town of Guilford & CT State Health Dept.)



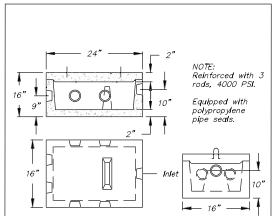
NOTE: A) An emergency storage volume that can accommodate at least the daily design volume shall be provided above the emergency float level/high water alarm.

Pump Supplier to specify out exact pump& (make and model) to be used for this project. Contractor to submit Cut Sheet to Design Engineer for review / approval

3,000 GAL. PUMP CHAMBER DETAIL
(SINGLE PUMP)
N.T.S.

PUMP CHAMBER ELEC. & ALARM NOTES:

Elec. and alarm conduit for pump chamber as required (typ.). Pump chamber control and alarm panel location to be agreed upon by the Local Health Dept. prior to installation. All pumps to be connected to the emergency generator in case of loss of power events. Alarm for pump chamber to be visible.



NOTE: Reinforced with 3 rods, 4000 PSI.

Equipped with polypropylene pipe seats.

BAFFLED DISTRIBUTION BOX
N.T.S.

SEPTIC DESIGN CONFLICT NOTE

There are "no" septic system design conflicts (wells, septic systems, or other potential sources of pollution) on adjacent properties.

EMERGENCY GENERATOR NOTE:

The pump chambers for Buildings A & B are to be hooked up to an "Emergency Generator / Power Source" in the event of a power outage.

APPROVAL SET
NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS
1	8/20/25	Health Dept. Comments, New Survey Updates &☐ Detention Pond Grading

NeighborWorks® NEW HORIZONS

ANDERSON SURVEYING LLC
1575 BOSTON POST ROAD
SUITE F
GUILFORD, CT 06437
TEL. (203) 453–5084

COPYRIGHT© 4/1/25 ALL RIGHTS RESERVED BY HARKIN ENGINEERING, LLC. NOT TO BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION.

Michael P. Harkin P.E. #22625

SEPTIC SYSTEM NOTES & DETAILS 2

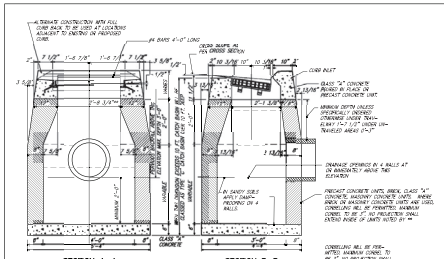
"WOODRUFF PROPERTY HOUSING DEVELOPMENT"

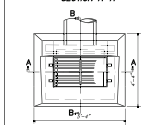
Prepared for
Town of Guilford
#45 Stone House Lane - Map: 33 Lot: 15
Guilford, Connecticut

DRAWING SCALE: As Noted

HARKIN ENGINEERING, LLC
CIVIL ENGINEERING CONSULTING
78 Wolf Hollow Lane - Killingworth, CT 06419 - Tel. (860) 663-4248

JOB NO.	DRAWN BY:	DATE:	SHEET NO.
23-05	M.P.H.	4/1/25	SEP2





TYPE "C" CATCH BASIN
N.T.S.

NOTES

FOR DETAILS OF FRAME AND GRATE SEE CONNECTICUT DEPT. OF TRANSPORTATION STANDARDS SHEET 837-4.

a) CONCRETE TOP WITH CURB INLET OR FRAME CURB TYPE ON PLAN TYPE MAY BE USED IN TYPE "C" CATCH BASIN. IF NOT SPECIFIED ON THE PLANS—TO BE CONSTRUCTED AS DIRECTED BY THE ENGINEER.

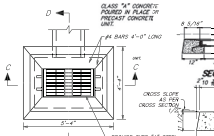
b) ALL PRECAST CONCRETE BASIN IS CONSTRUCTED IN PAVEMENT AREA, THE SIGNAL, HOUSE SLOPE OF THE OUTER WALL BE VARIED TO MATCH CROSS SLOPE OF GRATE. DETAILS ARE SHOWN ON THIS SHEET.

c) ALL FACES OF STRUCTURES IN CONTACT WITH CONCRETE PAVEMENT TO BE COVERED WITH A LAYER OF TAR PAPER COST TO BE INCLUDED IN PRICE BID FOR TYPE "C" CATCH BASIN

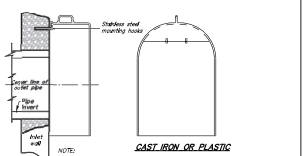
d) THE LOCATION OF CATCH BASINS SHALL ALSO BE INCLUDED IN SAID BID PRICE.

e) WHERE CATCH BASINS ARE LOCATED ON GRADE, THE FLOOR TO BE INCREASED TO 12" THICKNESS. HOUSE DIMENSIONS TO REMAIN THE SAME.

f) SUMPS FOR CATCH BASINS SHALL BE 2 FT. MINIMUM.



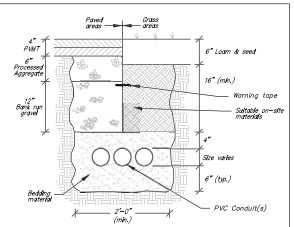
"C–L" TYPE CATCH BASIN FRAME & GRATE
N.T.S.



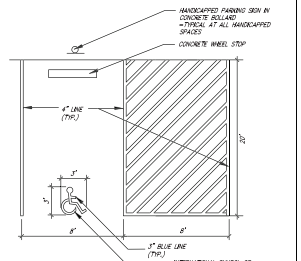
1) The use of plastic hoods is permitted and accepted. All plastic units to be pre-approved by design engineer prior to installation.

2) All cast iron hoods shall be Campbell Foundary or approved equal.

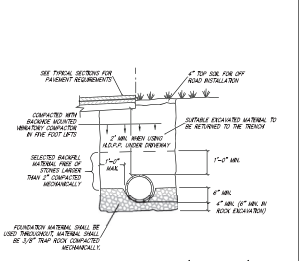
STANDARD CATCH BASIN HOOD
N.T.S.



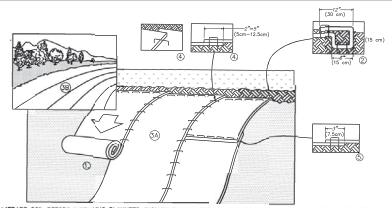
U/G CONDUIT BEDDING DETAIL
N.T.S.



HANDICAPPED PAVEMENT MARKINGS (VAN)
N.T.S.



STORM DRAIN TRENCH (SOLID PIPE)
N.T.S.



STAKED HAY BALES
N.T.S.

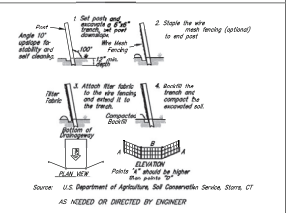
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MULT BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL ENROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM. STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"–3" (5cm–12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END-OVER-END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET INSTALLATION DETAIL
N.T.S.

EROSION CONTROL BLANKETS:
(The following blanket will be install if conditions require or as directed by engineer)

S75: Material:
100% straw matrix sewn into a photo-degradable net.
Straw: 5 lbs/sq. yd.
Net: Lightweight degradable (Top side only)



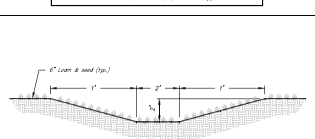
Source: U.S. Department of Agriculture, Soil Conservation Service, Storrs, CT

AS NEEDED OR DIRECTED BY ENGINEER

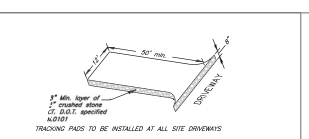
PLACEMENT AND CONSTRUCTION OF A SYNTHETIC FILTER BARRIER
N.T.S.

EROSION CONTROL NOTES:

1. Land disturbance shall be kept to the minimum necessary for construction operations.
2. All soil erosion and sediment control measures must be constructed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control by the Connecticut Council on Soil and Water Conservation in cooperation with the Connecticut Department of Environmental Protection.
3. Erosion and sediment control measures shall be installed as depicted on this plan, and maintained in an effective condition throughout the construction period. Additional measures shall be installed as necessary and required.
4. The Contractor (To Be Determined) is assigned the responsibility for implementing the control measures of this plan. This responsibility includes the installation and maintenance of control measures, informing all parties engaged on the construction site of the requirements and objectives of this plan, and notifying the Planning and Zoning Commission of the transfer of this responsibility, and for conveying a copy of this plan if title to the property is transferred.



GRASSED SWALE
N.T.S.



TRACKING PADS TO BE INSTALLED AT ALL SITE DRIVEWAYS

USED FOR VEHICULAR ENTRY AND EXIT.

ANTI – TRACKING PAD
N.T.S.

EROSION CONTROL REQUIREMENTS

All erosion control measures shown hereon shall be install as directed /, required by Design Engineer. More erosion control measures maybe required depending on site conditions during construction. All erosion control measures shown on this plan are to be installed only as warranted.

CONTRACTOR REVIEW NOTE

The Contractor / Builder is to verify all applicable Code and installation requirements. Any discrepancies (pipe slopes, inverts, setbacks, computations, etc.) shall be brought to the design engineers attention immediately.

A. DESIGN CRITERIA:

1. Erosion and sedimentation control measures have been located with consideration given to slopes, wetlands, watercourses and coastal resources, and in accordance with the Connecticut "Guidelines for Soil Erosion and Sediment Control", of the Connecticut Council of Soil and Water Conservation, Latest Edition.

B. INSTALLATION AND/OR APPLICATION PROCEDURES:

1. Erosion and sedimentation control devices shall be constructed in accordance with the project plans and specifications.

C. OPERATION, MAINTENANCE PROGRAM, INSPECTIONS:

1. Prior to any construction, a pre construction conference is to be held among the Design Engineer, the Owners, the Contractor, the Town Engineer and the Zoning Enforcement Officer to review the erosion and sedimentation control measures to be taken. The contractor shall be responsible for arranging the pre construction conference.

2. All revisions after approval has been granted shall be forwarded to the appropriate commissions and the Town Engineer.

3. The Town Zoning Departments shall receive written notification seventy–two hours before the start of any construction.

4. All erosion control measures associated with the construction are to be installed and maintained in accordance with the schedule and requirements. Additional control measures shall be installed during the construction period as necessary and required.

5. All soil erosion and sediment control measures must be installed before any construction activities.

6. Filter fabric/silt fence will be installed along the toe of all critical cut and fill slopes.

7. Sediment removed from control measures must be disposed of at a location approved by the design engineer that will not cause additional sedimentation to the surrounding area.

8. Qualified personnel (provided by the contractor) shall inspect disturbed areas of the construction activity that have not been finally stabilized, structure control measures, and locations where vehicles enter or exit the site at least once every seven (7) calendar days within 24 hours of the end of a storm that is 0.1 inches or greater. Where sites have been stabilized, such inspection shall be conducted at least once every month for three (3) months.

9. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off–site sediment tracking.

10. Based on the results of this inspection, the description of potential sources and pollution prevention measures identified in the plan shall be revised as appropriate or as soon as practicable after such inspection. Such modifications shall provide for timely implementation of any changes to the site within 24 hours and implementation of any changes to the plan within three (3) calendar days following the inspection. The plan shall be revised and the site controls updated in accordance with sound engineering practices, the Guideline and Subsections (4) and (6) (c) (3) of the Storm Water General Permit.

11. A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Control Plan and actions taken shall be made and retained as part of the plan for at least three (3) years after the date of inspection. The report shall be signed by the contractor, or his authorizing representative.

D: BEST MANAGEMENT PRACTICES:

1. Construction shall proceed in accordance with the requirements of the general sequence of grading and construction activities, application of soil erosion and sediment control measures, and final stabilization of site as indicated on the plans.

2. Refueling of equipment or machinery within seventy–five (75) feet of any wetland, watercourse or coastal resources shall be prohibited.

3. No materials resulting from construction activities shall be placed in or contribute to the degradation of an adjacent wetland, watercourse or coastal resource. Disposal of any material shall be in accordance with Connecticut General Statutes including, but not limited to, Sections 22a–207 through 22a–209.

4. Fording of streams with equipment shall be prohibited, except where approved by the Engineer. Such equipment travel shall be minimized. Where frequent equipment travel on stream banks and beds is necessary, washed stone shall be placed to minimize erosion, scour and turgidity, provided no significant grade change will occur and no significant environmental impact will result. Approval will be required for any haul road or temporary structure placed in wetlands or watercourses.

5. A construction sequencing plan and a water handling plan, including a contingency plan for flood events, must be submitted in writing to the Engineer and approved by the Engineer prior to the commencement of any construction in a waterway (requirement may be waived at digression of Design Engineer).

6. When dewatering is necessary, pumps shall not discharge directly into the wetlands or watercourse. Prior to dewatering the contractor must submit to the Engineer a written proposal for specific methods and devices to be used, and obtain the Engineer's approval of such method and devices to be used for dewatering activities including, but not limited to, pumping the water into a temporary sedimentation trap, providing surge protection at the inlet and outlet of pumps or flooding the stroke of the pump, or other methods to minimize and retain the suspended solids. If the Engineer determines that the pump operation is causing turgidity problems, said operation shall cease until such time as means of controlling turgidity is submitted by the contractor and approved by the Engineer and implemented by the contractor.

7. Work within and adjacent to watercourses shall be conducted during periods of low flow, whenever possible. The Engineer shall remain aware of flow conditions during the work, and shall cause such activity to cease should flow conditions threaten to cause excessive erosion, siltation or turgidity. The contractor shall make every effort to secure the work site before predicted major storm. A major storm shall be defined as a storm predicted by the NOAA Weather Service with warnings of flooding, severe thunderstorms, or similarly severe weather conditions for effected.

8. Dumping of oil, chemicals, or other deleterious materials on the ground is forbidden. The contractor shall provide a means of catching, retaining and properly disposing of drained oil, removed oil filters, and other deleterious material. All spills of such materials shall be reported immediately by the contractor to the DEP.

9. Application of Fertilizers, Herbicides or Pesticides must be done by a Connecticut licensed applicator. The contractor shall submit to the Engineer the proposed Applicator's name and license number, and must receive the Engineer's approval of the proposed applicator before such application is carried out.

10. During spawning seasons, discharges and construction activities in spawning area of the State waters shall be restricted so as not to disturb or inhibit aquatic species which are indigenous to the waters.

E. SOIL STABILIZATION MEASURES:

1. All topsoil not to be used for final grading/landscaped areas shall be removed from the site immediately, in accordance with applicable State and Local laws. All topsoil to be used in landscaped areas shall be stored/stockpiled in accordance with applicable State and Local laws.

2. All areas within 500 feet of an inhabited dwelling shall be wetted as necessary to provide dust control.

3. Sediment disposal areas and topsoil stockpiles not scheduled for construction activities within thirty (30) days shall be stabilized as follows:

A. Ground limestone at a rate of 90 lbs. per 1,000 s.f.
B. Fertilizer at a rate of 7.5 lbs. per 1,000 s.f. using a 10–10–10 analysis or an equivalent.
C. Annual Rye grass seeding applied at a rate of not less than 1 lb. per 1,000 s.f.
D. Mulch all newly seeded areas with 80 lbs. of salt hay or small grain straw per 1,000 s.f.

4. All disturbed areas are to be provided with at least 4" of topsoil before final seeding.

5. Permanent vegetation is to be seeded or sodded on all exposed areas within ten (10) days after final grading. Mulching as necessary for seed protection and establishment. Lime and fertilize before permanent seeding.

6. Permanent vegetation:
A. Materials specifications for lawn areas:
(i) Soil: A minimum of 4" topsoil
(ii) Lime: 90 lbs. of ground limestone per 1,000 s.f.
(iii) Seed: Permanent Vegetation – Lawn

Common Name	Lbs./Acre	Lbs./1,000 s.f.
Kentucky Bluegrass	20	.45
Creeping Red Fescue	20	.45
Perennial Rye	5	.05

F. DUST CONTROL:

Dust control to be performed in accordance with the Connecticut "Guidelines for Soil Erosion and Sediment Control", of the Connecticut Council of Soil and Water Conservation, Latest Edition.

The following general procedure shall be used:
(Note: Additional dust control measures may be required during construction and shall be applied as direct by Design Engineer. The use of calcium chloride is prohibited due to the existing soils permeability and the sites sensitive location).

a) Limit the amount of exposed soil to reduce the area of land disturbance at any one time. Use stabilization measures (erosion control mats, temporary seeding, hay, mulch, etc.).

b) Maintain as much natural vegetation as practical. Apply the use of natural vegetative buffers between graded areas and those areas to be protected.

c) Limit construction traffic to predetermined onsite routes.

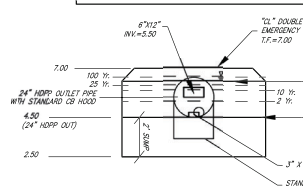
d) Identify and address sources of dust being generated during construction on a regular basis. Use water to keep all disturbed areas damp. The source of water to be used shall be identified prior to the commencement of any onsite grading activities. Pumping from onsite wetland areas is prohibited.

G. RESPONSIBLE PARTIES:

1) CONTRACTOR
(NOT YET DETERMINED)
WILL PROVIDE CONTACT INFORMATION PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY

is assigned the responsibility for implementing the control measures of this plan. This responsibility includes the installation and maintenance of control measures, informing all parties engaged on the construction site of the requirements and objectives of this plan, and notifying the Planning and Zoning Commission of the transfer of responsibility, and for conveying a copy of this plan if title to the property is transferred.

DESIGN ENGINEER TO MONITOR AND APPROVE THE OUTLET STRUCTURE CASTING AND ASSOCIATED APPURTENANCES. DESIGN ENGINEER TO ALSO MONITOR THE OUTLET STRUCTURES INSTALLATION.



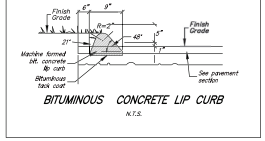
OUTLET STRUCTURE DETAIL
N.T.S.

NOTE:
1) Outlet structure to be a precast unit from United Concrete or approved equal. Due to low clearance between catch basin outlets, Tarade 60, Epoxy Coated" Steel is to be used in structures construction.

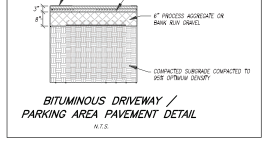
2) A epoxy coated trash rack is to be installed on the outside of the outlet structure in order to prevent debris from clogging the structure openings.

FLOOD ELEVATION CHART	
STORM	ELEVATION
2 Yr.	5.34
10 Yr.	5.87
25 Yr.	6.12
100 Yr.	6.55

OUTLET STRUCTURE
N.T.S.



BITUMINOUS CONCRETE LIP CURB
N.T.S.



BITUMINOUS DRIVEWAY / PARKING AREA PAVEMENT DETAIL
N.T.S.

NO.	DATE	REVISIONS
1	8/20/25	Health Dept. Comments, New Survey Updates &☐ Detention Pond Grading

MISC. CONSTRUCTION DETAILS & NOTES

"WOODRUFF PROPERTY HOUSING DEVELOPMENT"
Prepared for
Town of Guilford
#45 Stone House Lane - Map: 33 Lot: 15
Guilford, Connecticut

DRAWING SCALE: AS-NOTED

HARKIN ENGINEERING, LLC
CIVIL ENGINEERING CONSULTING
78 Wolf Hollow Lane - Killingworth, CT 06419 - Tel. (860) 663-4248

JOB NO.	DRAWN BY:	DATE:	SHEET NO.
23-05	M.P.H.	4/1/25	D1

NeighborWorks® NEW HORIZONS

ANDERSON SURVEYING LLC
1575 BOSTON POST ROAD
SUITE F
GUILFORD, CT 06437
TEL. (203) 453-5084

COPYRIGHT© 4/1/25 ALL RIGHTS RESERVED BY HARKIN ENGINEERING, LLC. NOT TO BE COPIED OR REPRODUCED WITHOUT WRITTEN PERMISSION.

Michael P. Harkin P.E. #22625

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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

Generated by eNDDB on:
10/2/2025

Todd Anderson
GUILFORD
31 Park St.
Guilford, CT 06437
andersonassociates2@gmail.com

Subject: Woodruff Property Housing Development
Filing # 133893
NDDB – New Determination Number: 202507376
45 Stone House Ln
Guilford

Expiration Date: 10/2/2027

Current data maintained by the Natural Diversity Database (NDDB) and housed in the DEEP ezFile portal, indicates that populations of the following State Endangered, Threatened, or Special Concern species (RCA Sec. 26-306) have been documented within the project area or in close proximity to the proposed Building and Infrastructure Development (including stormwater discharge associate with construction)/New Residential - single lot, Woodruff Property Housing Development.

Great egret (*Ardea alba*)
Snowy egret (*Egretta thula*)
Little blue heron (*Egretta caerulea*)
Glossy ibis (*Plegadis falcinellus*)
Bald eagle (*Haliaeetus leucocephalus*)
Eastern box turtle (*Terrapene carolina carolina*)

In accordance with the project information provided in your request submittal, implementation of the following Best Management Practices will avoid negative impacts to listed species.

Common Name	Great egret
Scientific Name	*Ardea alba*
Taxa	bird
Status[1]	T
General Ecology	This is a bird that usually nests in a mixed species colony with other heron species, called a rookery. In Connecticut, rookeries are on offshore island but can occur in wooded wetland areas. Nests are typically built 20-40 feet above ground in trees. Breeding usually begins mid-April and runs through August. Disturbance to nesting rookeries by both predators and people is the main threat to this species in Connecticut, followed by degradation of wetland habitat used for foraging. Setback from nesting colonies of 660 feet (200 meters) for all activities during nesting season as well as reducing wetland disturbance and enhancing

	wetland function in foraging areas within 10 km of rookeries will benefit this species.
Best Management Practice	**We do not anticipate significant negative impacts to this species from your Project Type category selected in this location. Impact from this project can be minimized if you follow any applicable Best Practices and monitoring associated with your project activities and/or permit requirements, minimize impact to and loss of preferred habitat, and include any protection measures included here in the Species General Ecology that relate to your project activities before, during, and after completion.**
Common Name	Snowy egret
Scientific Name	*Egretta thula*
Taxa	bird
Status[1]	T
General Ecology	This is a bird that usually nests in a mixed species colony with other heron species, called a rookery. Of these rookery nesting species, Snowy egret has the highest regional concern due to rapidly decreasing populations. In Connecticut, rookeries are on offshore islands. Nests are typically built 20-40 feet above ground in trees. Breeding usually begins mid-April and runs through August. Disturbance to nesting rookeries by both predators and people is the main threat to this species in Connecticut, followed by degradation of wetland habitat used for foraging. Setback from nesting colonies of 660 feet (200 meters) for all activities during nesting season as well as reducing wetland disturbance and enhancing wetland function in foraging areas within 5 km of rookeries will benefit this species. If your project is not offshore, it is likely that your project falls in critical foraging habitat for the snowy egret. Critical foraging habitats preferred by these species include marshes, swamps, ponds, shores, and tideflats with a diet consisting of mainly fish and crustaceans. Foraging efficiency is greatly reduced if foraging individually. Do not disturb flocks of foraging herons and egrets. Do not introduce new excessive or unpredictable noise or activity to wetland complexes that will cause birds to flush during April-August, especially before 10am, when largest flocks will form.
Best Management Practice	**We do not anticipate significant negative impacts to this species from your Project Type category selected in this location. Impact from this project can be minimized if you follow any applicable Best Practices and monitoring associated with your project activities and/or permit requirements, minimize impact to and loss of preferred habitat, and include any protection measures included here in the Species General Ecology that relate to your project activities before, during, and after completion.**
Common Name	Little blue heron
Scientific Name	*Egretta caerulea*
Taxa	bird
Status[1]	SC
General Ecology	This is a bird that usually nests in a mixed species colony with other heron species, called a rookery. In Connecticut, rookeries are on offshore island but can occur in wooded wetland areas. Nests are typically built 20-40 feet above ground in trees. Breeding usually begins mid-April and runs through August. Disturbance to nesting rookeries by both predators and people is the main threat to this species in Connecticut, followed by degradation of wetland habitat used for foraging. Setback from nesting colonies of 660 feet (200 meters) for all activities during nesting season as well as reducing wetland disturbance and enhancing wetland function in foraging areas will benefit this species.
Best Management Practice	**We do not anticipate significant negative impacts to this species from your Project Type category selected in this location. Impact from this project can be minimized if you follow any applicable Best Practices and monitoring associated with your project activities and/or permit requirements, minimize impact to and loss of preferred habitat, and include any protection measures included here in the Species General Ecology that relate to your project activities before, during, and after completion.**
Common Name	Glossy ibis
Scientific Name	*Plegadis falcinellus*
Taxa	bird

Status[1]	SC
General Ecology	This is a bird that usually nests in a mixed species colony with other heron species, called a rookery. In Connecticut, rookeries with most of our state listed species are on offshore island but can occur in wooded wetland areas. Nests are typically built 20-40 feet above ground in trees. Breeding usually begins mid-April and runs through August. Disturbance to nesting rookeries by both predators and people is the main threat to this species in Connecticut, followed by degradation of wetland habitat used for foraging. Setback from nesting colonies of 660 feet (200 meters) for all activities during nesting season as well as reducing wetland disturbance and enhancing wetland function will benefit this species.
Best Management Practice	**We do not anticipate significant negative impacts to this species from your Project Type category selected in this location. Impact from this project can be minimized if you follow any applicable Best Practices and monitoring associated with your project activities and/or permit requirements, minimize impact to and loss of preferred habitat, and include any protection measures included here in the Species General Ecology that relate to your project activities before, during, and after completion.**
Common Name	Bald eagle
Scientific Name	*Haliaeetus leucocephalus*
Taxa	bird
Status[1]	T
General Ecology	It is illegal pursuant to section 26-93 of the Connecticut General Statutes to disturb Bald eagles. This law prohibits disturbing the birds while they are roosting, feeding, or nesting. The wildlife division recommends a 660' setback with no public access from a bald eagle nest or critical roosting site. The critical time for nesting eagles is February 1- August 1. The critical time period for winter roosts is December 31- March 1. To determine if nest or roost in your area is active this year contact the DEEP Wildlife Biologist coordinating eagle monitoring (Brian.hess@ct.gov).
Best Management Practice	**1. Work activities and staging areas are prohibited within 330 feet (approximately 100 meters) of active nests/roosts that are out of line of sight, or within 660 feet (approximately 200 meters) from nests/roosts that are in the line of sight during periods of eagle use, unless surveys demonstrate that the nest or roost is not being used. Critical nesting time is between February 1- August 1.** **2. Minimize cutting of large trees. No known bald eagle nest trees, perch trees, or roost trees will be felled or modified.** **3. No blasting, pile driving and other intermittent activities that produce loud noises within 1/2 mile of active nests. This recommendation applies to the use of fireworks classified by the Federal Department of Transportation as Class B explosives, which includes the larger fireworks that are intended for licensed public display.** **4. Eagles scavenge. Do not leave exposed food, trash or hazardous materials. Promptly remove any incidental carcasses that may appear on work site (road kill, euthanized or poisoned pest animals)** **5. Do not use helicopters for support.** **Our mapped records indicate your project boundary is within 1/2mile, but farther than 660ft of this sensitive resource.** **Avoid creating collision hazards for Birds and Bats. Glass collisions including residential windows indiscriminately kill 1 billion birds a year. Develop or renovate your building façade and site design strategy to make the building and site structures visible barriers to birds. Bat collisions are less well understood, but smooth vertical surfaces affect bats' abilities to avoid collisions.** **Limit interior and exterior night lighting. Lighting, temporary or permanent should not be directed towards suitable bat habitats. Security lighting should always be down-shielded to keep light within the boundaries of the site.**

	Take steps necessary to assure that construction is designed, built, and operated in accordance with the standards and requirements of the LEED Green Building Rating System Pilot Credit #55. The USGBC releases revised versions of the LEED Building Rating System on a regular basis, and you should refer to the most current version when beginning a new building or construction project or renovation. **Visit American Bird Conservancy website for more guidance: https://abcbirds.org/program/glass-collisions/**
Common Name	Eastern box turtle
Scientific Name	*Terrapene carolina carolina*
Taxa	reptile
Status[1]	SC
General Ecology	In Connecticut, these turtles are found in well-drained forest bottomlands and a matrix of open deciduous forests, early successional habitat, fields, gravel pits, and or powerlines. Turtles are dormant between November 1 and April 1 and hibernate in only a few inches from the surface in forested habitat. The greatest threat to this species is habitat loss, fragmentation, and degradation due to development. This species is very sensitive to adult mortality because of late maturity (10 years old) and long life span (50-100years). Vehicular traffic, heavy equipment used for farming, and ATV use in natural areas are implicated specifically in adult mortality through collisions. Illegal collection by the pet trade and unknowing public for home pets exacerbates mortality rates and removes important individuals from the population. Predation rates are also unnaturally high because of increased predator populations (e.g. skunks, foxes, raccoons, and crows) that surround developed areas.
Best Management Practice	**Female turtles looking for nesting habitat are frequently killed by vehicles when crossing roads. These turtles of reproductive age are the most valuable individuals in the population to maintain population persistence. Highways with high traffic are impenetrable barriers that isolate populations** **• Culverts/Crossings: Should be avoided. When necessary it is critical that the culvert or bridge allow turtles to pass underneath (i.e. it is not perched) and the road surface and side slope will not mimic sandy nesting areas for females.** **• High traffic road surfaces and high traffic facilities (>100 vehicle/lane/day, 5-10 cars per hour) should use curbs and fencing to deflect animals off into wildlife underpasses or around high traffic areas.** **• Low traffic road surfaces should (rate) should use Cape Cod-style curbing or no curb alternatives to allow animals to cross road unimpeded.** **• Cluster development to reduce the amount of roadway needed and place housing as far from high use areas as possible.** **• Do not use road surfaces and side slopes that will mimic sandy nesting areas for females.** **Land disturbance activities need to consider local habitat features and apply fencing and/or time of year restrictions as appropriate. We recommend you consult with a herpetologist familiar with preferred habitats to assist you with proper techniques to ensure the best protection strategies are employed for your site and the scope of your project.** **To prevent turtle access and entry into your work zone between April 1- November 1:** **• Exclusionary practices will be used to prevent any turtle access into disturbance areas. These measures will need to be installed at the limits of disturbance as shown on the plans, or specifically designated by a herpetologist who can assess the conditions at your site.** **• Exclusionary fencing be at least 20 in tall and must be secured to and remain in contact with the ground and be regularly maintained (at least bi-weekly and after**

	major weather events) to secure any gaps or openings at ground level that may let animal pass through. **• All staging and storage areas, outside of previously paved locations, regardless of the duration of time they will be utilized, must be reviewed to remove individuals and exclude them from re-entry.** **• All construction personnel working within the turtle habitat must be apprised of the species description and the possible presence of a listed species.** **• The Contractor search the work area each morning prior to any work being done.** **• Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and fencing should be inspected to identify and remove access point. This animal is protected by law and should not be relocated off-site.** **• In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable and disturbance is finished to allow for reptile and amphibian passage to resume.** **If land disturbance will occur in suitable overwintering forested habitat you will need to take precautions to avoid mortality of hibernating adults. If practicable, small projects, under the supervision of a qualified herpetologist, may be able to utilize a combination of exclusionary fencing installed before October 15, combined with and surveys to ensure that no turtles are within the enclosed fencing. Work can then be conducted within the fenced area at any time of year as long as the fencing is maintained. Projects that will impact large blocks of forest or significant overwintering habitat may need to restrict your land disturbance activities in forested habitat to the turtle active season. These projects would need to restrict land disturbance activities to occur only between April 1- October 31.** **Work with biologists to plan your development so that it minimizes the effect on this species. Residential areas contain bird seed, pet food, and garbage which can attract nest predators such as raccoons and skunks. Their nest predation can destroy the majority of a location's reproductive output each year. This species does not reproduce until it is 10 years old.** **• Landscape Planning: Use partnerships and landscape scale planning to protect important conservation areas for this species** **• Nesting Area Management: identify and protect nesting areas for this species. Work with biologists to plan your site use and nesting site management.**

[1]E = State Endangered, T = State Threatened, SC = State Special Concern, FE = Federally Endangered, FT = Federally Threatened, NA = Not applicable.

Your submission information indicates that your project requires a state permit, license, registration, or authorization, or utilizes state funding or involves state agency action. This NDDB – New determination may be utilized to fulfill the Endangered and Threatened Species requirements for state-issued permit applications, licenses, registration submissions, and authorizations.

Please be aware of the following limitations and conditions:
Natural Diversity Database information includes all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, land owners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Current research

projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as enhance existing data. Such new information is incorporated into the Database and accessed through the ezFile portal as it becomes available. New information may result in additional review, and new or modified restrictions or conditions may be necessary to remain in compliance with certain state permits.

- Each state agency is required to conserve endangered and threatened species and their essential habitats, and ensure that any action authorized, funded or performed by such agency does not threaten the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat designated as essential to such species (CGS 26-310). Therefore, the restrictions and conditions outlined above for Endangered and Threatened species **MUST** be implemented and abided by in order to utilize this NDDB – New Determination in securing any state permit, license, authorization, or registration or for any actions performed or funded by state agencies.
- During your work listed species may be encountered on site. A report must be submitted by the observer to the Natural Diversity Database promptly and additional review and restrictions or conditions may be necessary to remain in compliance with certain state permits. Please fill out the appropriate survey form and follow the instructions for submittal.
- Your project involves the state permit application process or other state involvement, including state funding or state agency actions; please note that consultations with your permit analyst or the agency may result in additional requirements. In this situation, additional evaluation of the proposal by the DEEP Wildlife Division may be necessary and additional information, including but not limited to species-specific site surveys, may be required. Any additional review may result in specific restrictions or conditions relating to listed species that may be found at or in the vicinity of the site.
- If your project involves preparing an Environmental Impact Assessment, this NDDB consultation and determination should not be substituted for conducting biological field surveys assessing on-site habitat and species presence.
- This determination applies only to the project as described in the submission and summarized at the end of this letter. Please re-submit an updated Request for Review if the project's scope of work and/or timeframe changes, including if work has not begun by 10/2/2027.
- If biological surveys have been conducted in accordance with Best Management Practices provided, please forward a copy of the results to the address listed at the end of this letter. Include the Project Name and Determination Number on all correspondence.

The NDDB – New determination for the Woodruff Property Housing Development at 45 Stone House Ln, Guilford, as described in the submitted information and summarized at the end of this document is valid until 10/2/2027.This determination applies only to the project as described in the submission and summarized at the end of this letter. Please re-submit an updated Request for Review if the project's scope of work and/or timeframe changes, including if work has not begun by 10/2/2027.

This letter is computer generated and carries no signature. If however, any clarification is needed, or, if you have further questions, please contact the following:

CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Database
79 Elm Street, 6th floor
Hartford, CT 06106-5127

(860) 424-3011
deep.nddbrequest@ct.gov

Please reference the NDDB – New number provided in this letter when you e-mail or write. Thank you for submitting your project through DEEP's ezFile portal for Natural Diversity Database reviews.