Application: #A20-3.1
Date Submitted: 3-2-20
Filing Fee Paid: $110.00
Date Received: 3-4-20

Town of Wallingford, Connecticut

10 copies of all submittals (ex. 2 of Calculations)

Inland Wetlands and Watercourses Permit Application

A. Name of Applicant: Lauren Young — Date: 3/2/2020
Home Address: 153 Chimney Hill Rd — Phone: 860-416-6129
Business Address: _____ — Phone: _____

B. Interest in Property: Own: ☒ Rent: ☐ Lease. ☐ Option to Buy: ☐
Other (please specify): _____

C. Owner of Property Lauren Young + Jack Echlin

D. Geographical Location: _____

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Street Address: 153 Chimney Hill Rd
(or Assessors Map-Block-Lot) _____
Total Area of Parcel 1.4 acres

Total Area of Wetlands: 0.8 acres

Total Area of Wetlands to be Altered (in acres or sq. ft.) ~~acres~~ 0.4 acres

E. Names and Mailing Addresses of Abutting Property Owners:

Name	Address
n.a	n.a

F. Describe the land in sufficient detail to allow the identification of inland wetlands and watercourses, a computation of the area of wetland or watercourse disturbance, soil type(s) and vegetation:

Backyard lawn is going to be altered between house and pond to redirect runoff with the addition to a swale. Ground is wetlands) ~~underneath soil with some tobico soil~~. Afterwards a firepit would be added next to the house in U.R.A. (see drawing)

G. Describe the proposed activity, its purposes and intended use, area of wetland to be altered (in square feet) amounts and types of fill, structures and construction activities and anticipated time of construction:

Less than 0.4 acres of the property to be affected with new top soil used at an angle to allow better runoff into a manmade stream. A swale will help redirect as well, to assist in water damage prevention of the house.

H. Describe all alternatives considered and why this proposal to alter wetlands was chosen:

French pipes are another option, but the property is very wide and this would be too expensive.

I. A site plan showing existing and proposed conditions in relation to wetlands and watercourses must be submitted with this application.

J. The undersigned, as owner of the property, hereby consents to necessary and proper inspections of the above mentioned property by members and agents of the Wallingford Inland Wetlands Commission, at reasonable times, both before and after the final decision has been issued:

Signature of Owner — Lauren Young (+ Print name) — 3/2/2020 Date

K. The undersigned is familiar with all the information provided in this application and warrants the truth of all statements contained herein and in all supporting documents to the best of his knowledge and belief and is aware of the penalties for obtaining a permit through deception or through inaccurate or misleading information.

Signature of Applicant — Lauren Young (+ Print name) — 3/2/2020 Date

Additional Information Required for Significant Activities

L. Information required by Section 7.5 of the Inland Wetlands Regulations.

M. Names and mailing addresses of property owners within 500 feet of any portion of the property.

N. The undersigned certifies:

1. Any portion of the property on which the regulated activity is proposed is / is not located within 500 feet of the boundary of an adjoining municipality.
2. Traffic attributable to the completed project on the site will / will not use streets within the adjoining municipality to enter or exit the site.
3. Sewer or water drainage from the project site will / will not flow through and impact the sewage or drainage system within the adjoining municipality.
4. Water run-off from the improved site will / will not impact streets or other municipal or private property within the adjoining municipality.

N.A.

O. List any professional degrees and / or experience of any personnel in the submission of ecological and environmental information.

P. Please feel free to supply any additional information you deem necessary.

Signature of Applicant — 3/2/2020 Date

#A20-3-1

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Inland Wetlands and Watercourses Permit Application
Applicant: Lauren Young
Address: 153 Chimney Hill Road, Wallingford
860-416-6129

Land Description: There is a clay lined pond and runoff stream on property which the stream dries up in the summer months or when there is a drought. The soil in the backyard is classified wilbraham and manlo stony silt loams, which hardpan between 20-30 inches and have very poor drainage. The far back part of the property is forest and shrubs, with the majority of the affected land being grass. Standing water can be seen 8 feet away from the back door. Water damage is seen to the barn and shed. See map for complete layout.

Proposed Activity: I have last year had approval for alterations on my property to control water damage to the house. A modification is being requested to use topsoil as a gradient to direct runoff water into our man made stream. There is a slight angle to the land currently, but we plan to raise the angle to make water move more as we still get standing puddles and runoff directed towards our house.

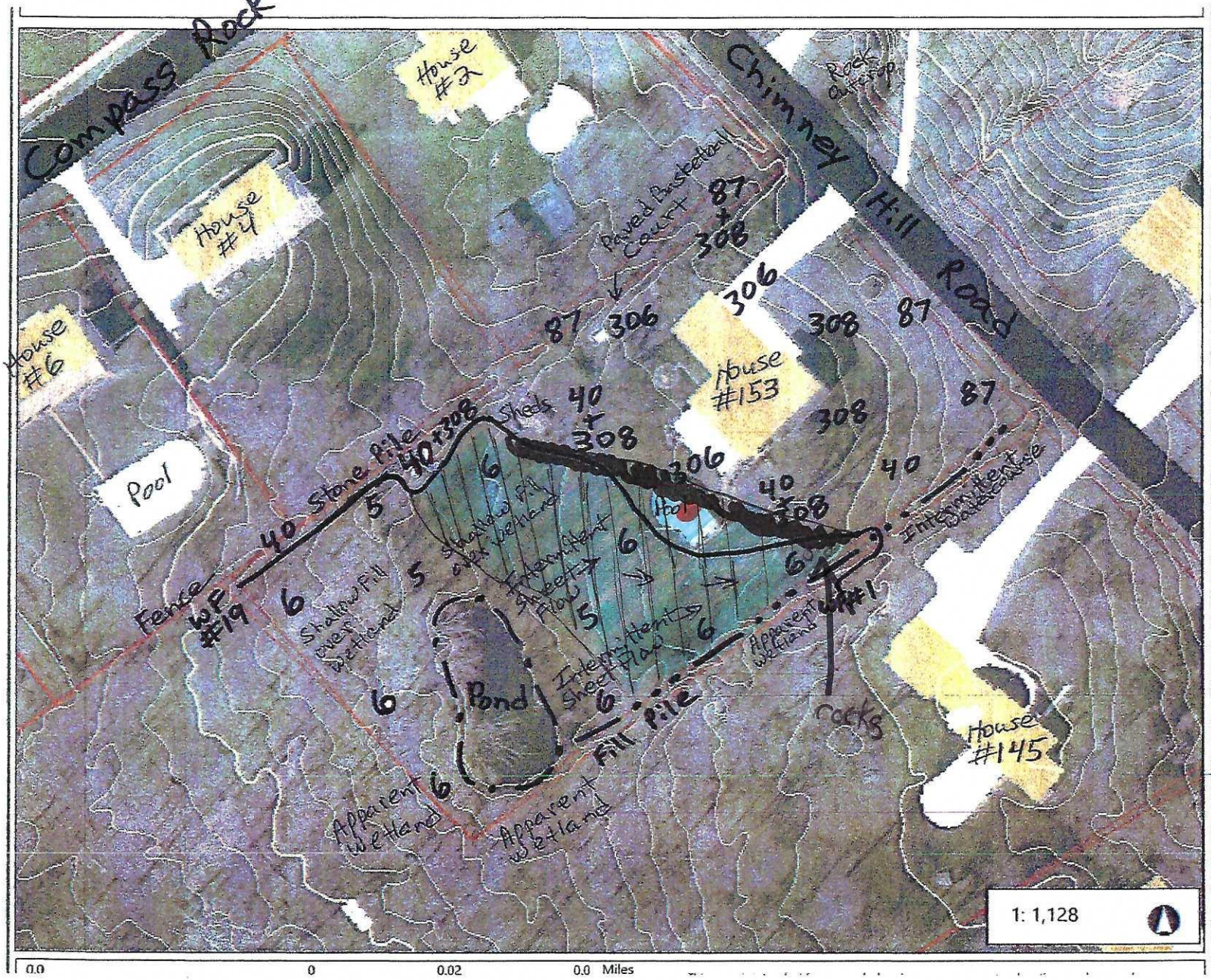
My contractor currently plans for a 4 foot increase to the right of my property, slowly grading it across my property, to send water faster to the left into the stream. In addition, we plan to create a small swail as a barrier closer to the house to catch the runoff and guide it better to the stream. This swail would be subtle, and as a defence would protect the basement on the property. Please see the drawing for reference. The swail would lead the water ~~into the~~ to a rock pad by the stream for control.

As per my previous permit, I will be altering the stream to help with erosion control. We will be seeding the lawn once the new soil is placed to also help with erosion. Extra stones will be used at the exit of the swail to help with the water flow to prevent loss of soil.

The purpose of this plan is to prevent water from entering the basement of my house while also protecting my house foundations. I also want to avoid standing pools of water in my backyard and prevent any sinking that I see when I stand on my patio directly outside my back door.

These alterations will occur in front of the pond, towards the house. The affected area is the lawn portion of my property, on the edge of what has been deemed as wetlands. This ultimately will not damage any existing wetlands, as the edge of the wetlands is just used as a lawn.

A firepit is proposed in the location of the old pool (see drawing).



Legend

Impervious Cover 2012
- Not Impervious
- Buildings
- Roads
- Other Impervious

Hydrography Line 7
- Water
- Shore
- Drainage Ditch
- Intermittent Water
- Dam
- Dredged Channel
- Aqueduct

Hydrography Poly 7
- Water
- Intermittent Water
- Flats
- Rocks
- Inundated Area
- Marsh
- Cranberry Bog
- Dam
- Fish Hatchery
- Aqueduct
- Sewage Pond
- Water Tank

Notes

● = Firepit Location

▨ = Top Soil Fill [redacted] = swale

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SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

95 Silo Drive * Rocky Hill * Connecticut * 06067 * (203) 272-7837 * ssesinc@yahoo.com

WETLANDS/WATERCOURSES AND SOIL REPORT

Lauren Young
153 Chimney Hill Road
Wallingford, CT 06492

SSES Job No: 2019-25-CT-WAL

Client Job No:

Site Inspection Date: March 28, 2019

PROJECT TITLE AND LOCATION: 153 Chimney Hill Road, Wallingford, CT

IDENTIFICATION OF WETLANDS AND WATERCOURSES RESOURCES

WETLANDS AND WATERCOURSES PRESENT ON PROPERTY: Yes XX No

Wetlands: Inland Wetlands XX **Watercourses:** Streams XX

Tidal Wetlands Waterbodies XX

Remarks: A ditched intermittent watercourse exists along the southeastern side the property.

VEGETATION COMMUNITIES PRESENT IN WETLANDS

Forest XX Sapling/Shrub XX Wet Meadow Marsh Field/Lawn XX

SOIL MOISTURE CONDITION

Dry

Moist XX

Wet

WINTER CONDITIONS

Frost Depth: inches

Snow Depth: inches

The classification system of the National Cooperative Soil Survey, USDA, Natural Resources Conservation Service and the State Soil Legend were used in this investigation. The investigation was conducted by the undersigned Registered Soil Scientist. A sketch map showing wetland boundaries and the numbering sequence of wetland markers, watercourses and soil types in both wetland and non-wetlands are included with this report. After the wetland boundary and/or watercourse flags have been located/plotted by the surveyor, it is recommended that a copy of the survey map be sent to our firm for review. All wetland boundary lines established by the undersigned Registered Soil Scientist are subject to change until officially adopted by local, state or federal regulatory agencies.

Respectfully Submitted by

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.

Scott D. Stevens

Scott D. Stevens
Registered Professional Soil Scientist

See attached pages

SOIL SCIENCE AND ENVIRONMENTAL SERVICES, INC.
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WETLANDS/WATERCOURSES AND SOIL REPORT

PROJECT TITLE AND LOCATION: 153 Chimney Hill Road, Wallingford, CT

NUMBERING SEQUENCE OF WETLAND BOUNDARY LINE MARKERS:

WF#1 thru 19

Plot and locate pond & intermittent watercourse as shown on sketch map.

SOILS SECTION:

Soil Legend: State Soil Number/County Soil Symbol, Soil Series Name, Taxonomic Class & Brief Description.

WETLAND SOILS

5 Wilbraham silt loam (Aquic Dystrudepts) – This is a deep, poorly drained, reddish-colored, loamy glacial till soil that developed in a friable solum overlying dense, basal till (hardpan). The till was derived from sandstone, shale and basalt. The hardpan is within 20 to 30 inches of the soil surface. Wilbraham soils occur on glaciated plains, hills and ridges.

6 Wilbraham and Menlo soils, extremely stony (Aquic Dystrudepts & Histic Humaquepts) – These are deep, poorly drained and very poorly drained, reddish-colored, loamy textured, glacial till soils that developed over dense, basal till. The till was derived from sandstone, shale and basalt. The hardpan is within 20 to 30 inches of the soil surface. These soils occur on glaciated plains, hills and ridges.

NON-WETLAND SOILS

40 Ludlow silt loam (Aquic Dystrudepts) – This is a deep, moderately well drained, reddish-colored, loamy glacial till soil that developed in a friable solum overlying dense, basal till (hardpan). The till was derived from sandstone, shale and basalt. The hardpan is within 20 to 40 inches of the soil surface . Ludlow soils occur on glaciated plains, hills and ridges.

87 Wethersfield loam (Oxyaquic Dystrudepts) - This is a deep, well drained, glacial till soil that developed in a friable, reddish-brown, loamy textured solum overlying dense, coarse-loamy, basal till (hardpan). The till was derived from sandstone, shale and basalt. Typical depth to hardpan is 30-40 inches. Wethersfield soils occur on glaciated plains, hills and ridges.

306 Udorthents-Urban land complex This map unit consists of extensive areas where soils have been disturbed from land development along with large areas of impervious surfaces associated with streets, parking lots, buildings and other structures.

308 Udorthents, smoothed This is a well drained to moderately well drained soil area that has had two or more feet of the original soil surface altered by filling, excavation or grading activities. Udorthents, smoothed soils commonly occur on leveled land and fill landforms.

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DEFINITIONS AND METHODOLOGY FOR IDENTIFICATION OF STATE REGULATED WETLANDS & WATERCOURSES

Wetlands and watercourses are regulated in the State of Connecticut by the Connecticut General Statutes, Chapter 440, sections 22a-28 to 22a-45. The Statutes are divided into the Inland Wetlands and Watercourses Act (sections 22a-36 to 22a-45) and the Tidal Wetlands Act (sections 22a-28 to 22a-35).
Inland Wetlands "means land, including submerged land, not regulated pursuant to sections 22a-28 to 22a-35, inclusive, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture" section 22a-38(15).
Watercourses "means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private which are contained within, flow through or border upon this state or any portion thereof, not regulated pursuant to sections 22a-28 to 22a-35, inclusive. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation" section.22a-38(16).
Tidal Wetlands are defined as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing some, but not necessarily all of the following:" (includes plant list) section 22a-29(2).

METHODOLOGY FOR IDENTIFICATION OF SOILS, WETLANDS & WATERCOURSES

1) **SOILS IDENTIFICATION**: Soils are investigated by digging test holes with a spade and auger. Test holes are typically dug to depths of between 15 and 40 inches. Based on soil features, including coloration patterns, texture and depths to restrictive layers, the soils are identified by soil series name utilizing the classification system of the National Cooperative Soil Survey. Soil series map numbers correspond with the State Soil Map Legend established by USDA, NRCS in the State of Connecticut Soil Survey. For further soils information, refer to the NRCS website for CT: www.ct.nrcs.usda.gov

2) **INLAND WETLAND DELINEATION**: Soil test holes and borings are made in selected areas in order to determine the lateral extent of Inland Wetlands. The boundaries of the Inland Wetlands are identified in the field and delineated with consecutively numbered survey tapes, unless instructed by the client to only map wetland boundaries for planning purposes. The approximate locations of the wetland boundaries are hand drawn onto a map and are included with the wetlands report.

3) **IDENTIFICATION OF WATERCOURSES**: Very often the locations of ponds, streams and rivers are already shown on a survey map. If a watercourse is absent from a survey map, then survey tapes, labeled "watercourse" or "intermittent watercourse" are placed along the channel and the approximate location of the watercourse is also sketched onto the map.

4) **TIDAL WETLANDS DELINEATION**: Tidal Wetlands are identified based on a predominance of tidal wetland plants and observation of physical markings or water laid deposits resulting from tidal action. Tidal Wetland boundaries are delineated by locating the upland limits of those plants listed in section 22a-29(2) to the extent that these plants reflect inundation by tides.

Town of Wallingford, Connecticut

INLAND WETLANDS & WATERCOURSES COMMISSION

JAMES E. VITALI
CHAIRMAN

ERIN O'HARE
ENVIRONMENTAL AND NATURAL RESOURCES PLANNER

WALLINGFORD TOWN HALL
45 SOUTH MAIN STREET
WALLINGFORD, CT 06492
TELEPHONE (203) 294-2093
FAX (203) 294-2095

MEMORANDUM

To: IWWC
From: Erin O'Hare, Environmental Planner
Date: March 27, 2020

Re: IWWC #A20-3.1 / 153 Chimney Hill Road – Lauren Young – (filling)

ENVIRONMENTAL PLANNER'S REPORT

Status

- 6/5/19: IWWC approved IWWC #A19-4.3 permitting several yard improvements for the subject property (refer to EPR, dated 5/26/19 for details)
- Sept. 2019: Staff inspected erosion controls installed for improvements where rear yard meets forest (swale directing flows to pond) and then follow-up site investigation conducted - well done.
- No other permit work completed under IWWC #A19-4.3.
- 3/2/20: New application filed.

Jurisdictional Areas

- Wetlands: wetland soils identified around pond and in woods and across a substantial portion of the backyard (soils delineated by Soils Scientist)
- Watercourses:
    - Small pond (1/10 ac., clay-lined) in rear area of lot; receives flows from wooded wetlands; outlets to man-made channel.
    - Intermittent stream - small, man-made waterway, "stream" on side of lot (approx. 3 feet - 4 feet wide, approx. 300 feet long) receives discharge from pond outlet and other overland flow discharge from woods and yard; discharge to yard drain to Town storm sewer system in Chimney Hill Road.
- Upland review area (URA) - The URA consists of the area within 50 feet surrounding the above resources.

Existing Conditions

This 1.43 acre lot contains wetlands areas and non-wetland areas that are subject to high groundwater levels and to surface flows that emanate overland from the forest offsite to the rear of the property and or both. From observations of site conditions during this office's site investigations corroborated by the information contained in report completed by Scott Stevens, Soils Scientist, -Soil Science and Environmental Services, Inc., dated 3/28/19, and by the SWCD report, the home site was created in years past by the clearing and filling a wooded wetland and channelizing the overland flows that drain from the forest toward Chimney Hill Road.

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At some point a small pond was installed which evidences the natural high groundwater table. The pond discharges to the man-made, channelized swale, the "stream", located on the side of the lot draining to the road. The pond water quality is somewhat degraded and the stream channel exhibits erosion and some deposition of sediments.

The rear lawn area is subjected to "intermittent sheet flow" and isolated seeps of groundwater. Most of the backyard lawn can only be mowed in dry periods. Small areas of fill were identified at points in the wetlands, evidence of attempts to mitigate the wet conditions in years past. Approximately half the lot supports wetlands soils, Wilbraham and Menlo soils, extremely stony (see Soils Scientist field sketch map). Close to the house, fill and Ludlow soils - known to have a hardpan with high ground water - were identified.

As a consequence, the owners experience limited use of the yard and jeopardy to the integrity of the basement area. A sump pump operates constantly due to the high groundwater levels. Overland flows travel from the woods cross the rear portion of the lot during storm events inundating the lawn in spots for periods of time with some flows traveling towards the stream.

Quotes to protect the basement of the home by installing drainage facilities around the foundation were exorbitant.

The property falls within the Wallingford Aquifer Protection District.

Proposal

To provide long-term protection for the basement and to provide greater utility and enjoyment of their backyard area, the owners proposed a plan to achieve an overall drier lot. The rear yard is currently subject to overland sheet flow during and after storm events. At this time, the owners propose an alternate solution to previous permitted plans: to install fill (55 cu. yds. of well-draining soil material, 30% compost) in the middle of their yard will create a drier, more usable yard and will serve as a garden area with a fire pit area.

The proposed deposition will grade from a high of 4 feet on the north side to a low of 6 inches on the south side pitching the overland rain flows to the south toward the drainageway that runs along their southern property line. A swale is proposed to be installed between this field area and the house that will direct flows away from the home to the south to the existing drainageway. A rock 'pad' is proposed to be installed where flows enter stream/drainageway. The yard will be seeded with grass. Drainage with piping – although advocated - is not proposed as the 300 feet of piping required would be too costly.

Regulated Activities

The following regulated activities are proposed in this application with named activities underlined by this office below:

Under Section 2.1.z. *"Regulated activity" means any operation or use of a wetland or watercourse involving the removal or deposition of material; or any obstruction, construction, alteration or pollution, of such wetlands or watercourse, ...".*

Proposed deposition of fill material in the wetland yard and proposed re-direction of flows into the southern drainageway (watercourse) by installing a proposed swale with a rock 'pad' where flows enter stream/drainageway

IMPACT: Alteration of drainage pattern; introduction of concentrated flows to stream/drainageway;

Stormwater Management
Proposed yard drainage improvements will better "manage" storm water flows. A permanent rock 'pad' was proposed where the new swale will enter the stream/drainageway. As it is the intent to have the filled area pitch drainage to the stream along the length of the filled area – not just via the new swale – protection will be required for the northern bank of the stream/draineway. It is recommended that once the area is stabilized and the hay bale barrier across this vicinity (see below) is no longer needed, rocks should be installed along the northern bank at yard edge to fortify the bank.

Erosion Control Plan
Temporary erosion controls providing stream protection are needed. The following are suggested:

- Yard drainage improvement work to be affected only in forecast dry period.
- Staked hay bale barrier to be installed immediately upstream of the yard drain and monitored vigilantly and restored/modified as may be needed to prevent sedimented flows from entering the Town system during any improvement work.
- Staked hay bale barrier to be installed across southern edge of yard upgradient and parallel to stream/drainageway to protect loose dirt from washing into the stream/drainageway during the span of the work until the area is stabilized.
- Staked hay bale barrier to be installed across the new swale near the point where the swale will meet the stream/drainageway to protect water quality of flows in channel and prevent sedimentation downstream.

Required Or Requested Information / Documents Yet To Be Submitted / Remaining Issues
No erosion control plan was provided, however this office is recommending certain controls which should suffice which can be incorporated into the permit as conditions of approval (see above under, "Erosion Control").

Alternatives To Reduce Impact and Reduce and Improve Proposed Plan
Installation of drain pipes as part of the proposal were suggested by this office and, a year ago, by SWCD, to improve outcome but were rejected due to cost factor.

Comments From Other Agencies/Departments
None provided except last year the Water Division indicated verbally that the site was in

Aquifer Protection District but there should be no concerns in that regard given the nature of the proposed work.

Recommendation

This office recommends that the IWWC approve the proposed work with the suggested conditions (below). This office usually does not promote alteration of wetlands or dewatering of wetlands, however, in this case, the wetlands area has been subject to significant manipulation/alteration in the past and the proposed improvements are seen as necessary to protect the condition of the home itself.

Typically, there is a two-year permit term for homeowner improvement projects but in this instance the IWWC may want to approve a five-year term.

Suggested conditions of approval:

1) Yard drainage improvement work to be affected only in forecast dry period.

2) Staked hay bale barrier to be installed immediately upstream of the yard drain and monitored vigilantly and restored/modified as may be needed to prevent sedimented flows from entering the Town system during any improvement work.

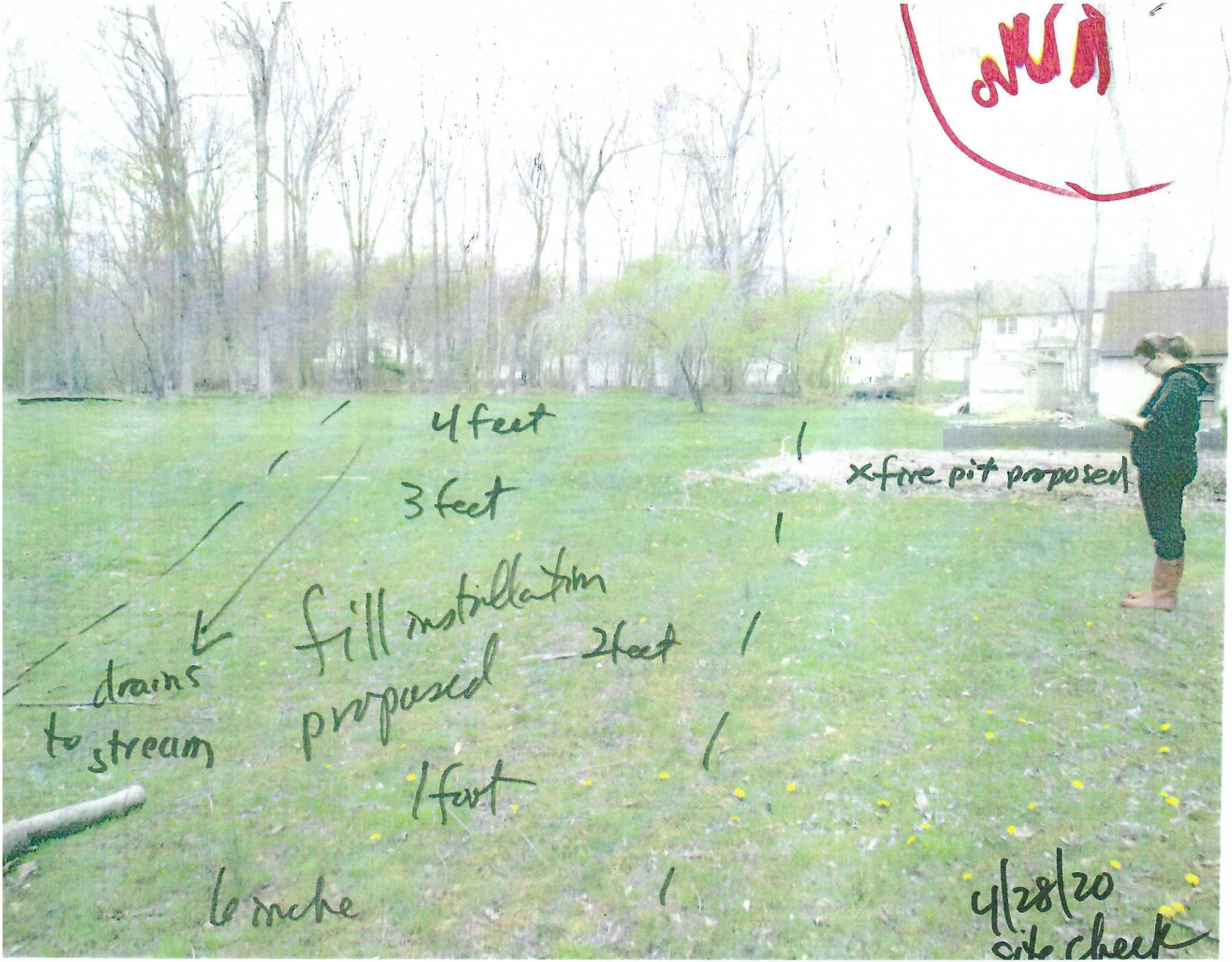
3) Staked hay bale barrier to be installed across yard upgradient and parallel to stream/drainageway to protect loose dirt from washing into the stream/drainageway during the span of the work until the area is stabilized.

4) Staked hay bale barrier to be installed where new swale will meet stream/drainageway to protect water quality of flows in channel and prevent sedimentation downstream.

5) Environmental Planner to be notified prior to start of any work on site to inspect and approve the installation of the required erosion control measures for each phase of the project.

6) An extension for this permit would need to be requested from the IWWC should the permitted work activities not be completed within the term of the permit which is 5 years.

CC: Lauren Young


4 feet
3 feet
fill installation proposed
2 feet
1 foot
drains to stream
6 inche
x fire pit proposed
4/28/20 site check


land drains
to south
hay bales across flow
2 hay bales
stream/drainageway
on south lot line