

TOWN OF DURHAM
ZONING BOARD OF APPEALS
Durham Town Hall
Durham, Connecticut 06422
NOTICE OF REGULAR MEETING

Thursday, October 8, 2020

7:30 p.m.

MEETING WILL BE HELD VIA ZOOM- A REMOTE TELECONFERENCING MEDIA PLATFORM

Topic: ZBA Meeting

Time: Oct 8, 2020 07:30 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/82733151127?pwd=Z2VUNndXMEQwcmNXT2d6V2ZoK25Zz09>

Meeting ID: 827 3315 1127

Passcode: 643004

One tap mobile

+19294362866,,82733151127#,,,,,0#,,643004# US (New York)

+13017158592,,82733151127#,,,,,0#,,643004# US (Germantown)

Dial by your location

+1 929 436 2866 US (New York)

+1 301 715 8592 US (Germantown)

+1 312 626 6799 US (Chicago)

+1 669 900 6833 US (San Jose)

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AGENDA:

1. Call to Order
2. Roll Call
3. Seating of Alternates
4. Approval of Agenda
6. Payment of Bills
7. Minutes of Previous Meeting(s)
8. Public Session

Public Hearing

Applicant/Owner: J. Barillaro & J. Sass

Property Location: 60 Royal Oak Dr.

Proposed Activity: Requesting greater than 12% coverage from section 4.5.2 from the *Durham Zoning Regulations* for a barn.

Applicant/Owner: W. Witkowski

Property Location: 16 Woodland Dr.

Proposed Activity: Requesting a 22'7" front yard variance from section 4.5.2 from the *Durham Zoning Regulations* for an addition.

9. Miscellaneous

10. Adjournment

/jp

9/24/2020

cc: ZBA Members and Alternates
K. Garvis
P&ZC Members and Alternates
J. Barillaro & J. Sass

First Selectman
Bascom & Benjamin, LLC
J. Corona, Esq.
W. Witkowski

ZONING BOARD OF APPEALS
Durham Town Hall
Durham, CT 06422
 Minutes of the September 10, 2020 Regular Meeting

Mr. LaFlamme called the meeting to order.

| Members | | Alternates | |
|---------|-------------------|------------|----------------|
| X | Michael Geremia | X | Robert Francis |
| X | David Slight | X | Maya Liss |
| A | Mark Jungels | A | Jaclyn Zolnik |
| A | Chris DiPentima | | |
| X | William LaFlamme* | | |
| | | | |
| | | | |
| | | | |

A=Absent
 X=Present

Seating of Alternates

Maya Liss and Rob Francis were seated.

Amendments to Agenda

None.

Approval of Agenda

A motion was made by D. Slight, seconded by M. Geremia, to approve the agenda. All aye. Motion passed.

Payment of Bills

A motion was made by B. LaFlamme, seconded by D. Slight, to approve payment \$110.00, Connecticut Federation of Planning and Zoning Agencies, Membership Dues. All aye. Motion passed.

Minutes of Previous Meeting(s)

A motion was made by M. Geremia, seconded by M. Liss, to approve the minutes of the July 9, 2020, regular meeting. All aye. Motion passed.

Public Session

None.

Public Hearing

A motion was made by D. Slight, seconded by B. LaFlamme, to close the regular meeting and open the public hearing. All aye. Motion passed.

F. & H. Galli, 23 Bear Rock Rd., Requesting a 19' rear yard variance from section 4.5.2 from the Durham Zoning Regulations for propane tanks

Fred and Heather Galli stated that they would like to install a whole house generator fueled by two propane tanks to be located next to a shed at the back of their property, 19' from the rear property line. They stated that this is the safest place to locate the tanks. After reviewing the submitted map B. LaFlamme noticed that the tanks are located 23'9" from the side property line and a variance would be needed for that as well. The Gallis do not want the gas line to run through the house or under the deck. The lines will be buried in the yard. They are also concerned about their neighbor to the right who does open burning. F. Galli provided the board with two letters from the neighbors stating they do not have an issue with the location of the tanks. B. LaFlamme read the letters into record. The board reviewed the submitted mapping and found that the neighbor who does open burning is located more than 70' from the Galli's yard. The code

on placement of tanks is 10' from an ignition source, the neighbor conducting open burning should not be an issue. There was discussion regarding location of proposed generator, well location and property lines, and the codes installers need to follow when installing propane tanks. The board had a difficult time seeing a hardship.

A motion was made by D. Slight, seconded by M. Geremia, to close the public hearing and reconvene the regular meeting. All aye. Motion passed.

F. & H. Galli, 23 Bear Rock Rd., Requesting a 19' rear yard variance from section 4.5.2 from the Durham Zoning Regulations for propane tanks

A motion was made by W. LaFlamme, seconded by M. Geremia, to approve the request H. & F. Galli, 23 Bear Rock Rd. for a 19' rear yard variance from section 4.5.2 from the *Durham Zoning Regulations* for propane tanks. The hardship is no suitable location to sight tanks without running gas lines through basement and/or under deck. All in opposition. Motion did not pass.

Miscellaneous

None.

Adjournment

A motion was made by D. Slight, seconded by M. Geremia, to adjourn. All aye. Meeting adjourned at 8:08 p.m.

Respectfully submitted,
Jennifer Perry

TOWN OF DURHAM
ZONING BOARD OF APPEALS
Application for Variance

Applicant's Name: Joseph Brillano / Jennifer Suss Phone: 203 213 2947

Address: 60 Royal Oak Dr

Record Owner: Joseph Brillano / Jennifer Suss Phone: 203 213 2947

Address: 60 Royal Oak Dr

Property Location: 60 Royal Oak Dr

Zone: RF

Assessor's Map Number: _____ Lot Number: _____

Deed Reference: Volume Number: 273 Page Number: 1105

Legal Description (see attached copy of property deed): _____

This application relates to: Use _____ Setbacks _____ Yards _____

Lot Area _____ Height _____ Lot Dimension _____ Lot Coverage

Location of Accessory Structure _____ Other (specify) _____

Section of Zoning Regulations affected: 4.5.2 / 2.2

If a setback variance: _____ Feet: _____ Inches: _____

Reason for variance request: see attached

Does work constitute an alteration or extension of an existing building or is it new construction?

new construction

What is the specific hardship claimed? (Please review page 4 of this application)

see attached

The owner and the applicant hereby grant the Zoning Board of Appeals, and/or its agents, permission to enter upon the property for which variance approval is requested for the purpose of inspection and enforcement of the zoning regulations of the Town of Durham, Connecticut.

Signature of Applicant Jennifer Suss Date: 9/10/2020

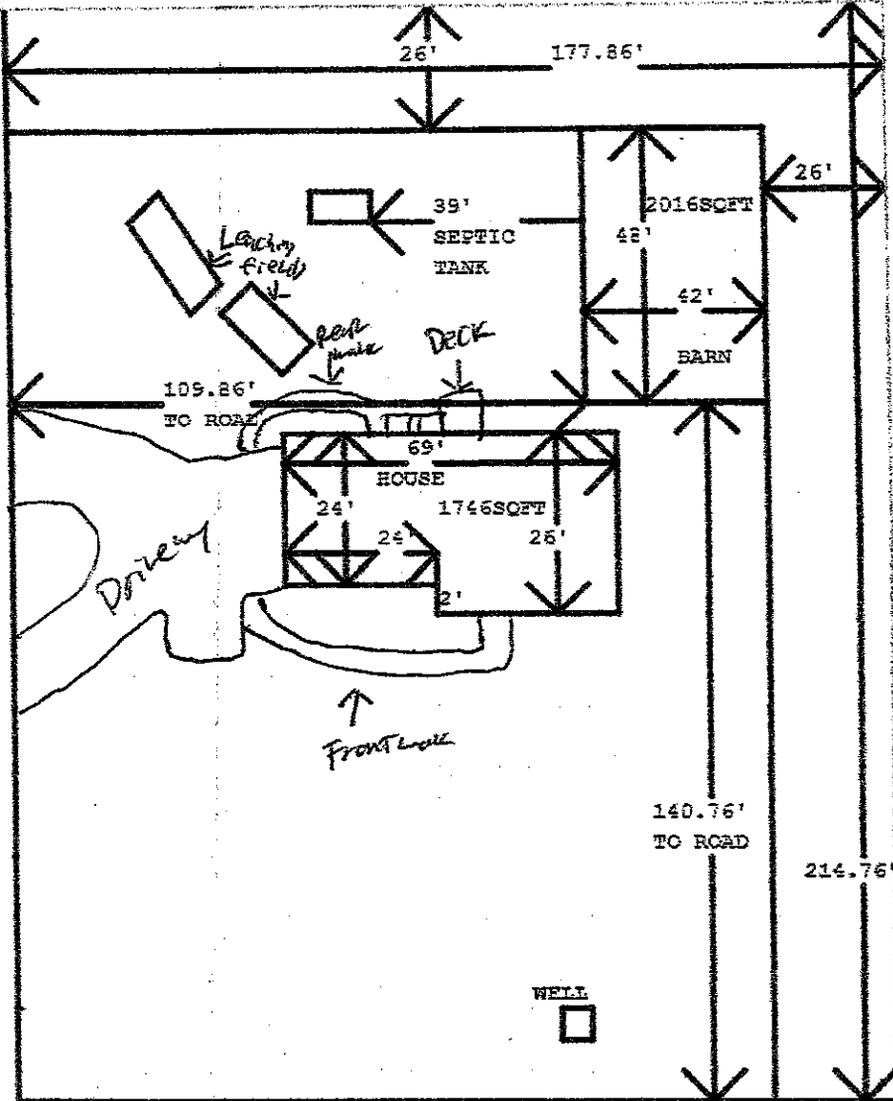
Signature of Owner Jennifer Suss Date: 9/10/2020

Official Use Only
Date Application Received _____
Reviewed by [Signature] 9/23/2020
ZEO/Town Planner

*21-151 CK. 327



IRONWOOD LN



LOT 51

ROYAL OAK DR

1 Box = 6'
LOT = 41,152 SQFT

print-graph-paper.com

39' From septic Tank
 140.76' From Royal Oak Dr
 109.86' From Ironwood Ln
 Barn is 8' From House
 4' of Barn is Behind House

Reason for Variance:

Due to gravel being included in the calculation of lot coverage this puts the property over the allowable amount of coverage this puts the proposed barn over the coverage area by 2,900sqft. If the driveway is not calculated in the equation then the coverage would be under the 12% limit by 549.74sqft. The driveway and structures were installed prior to us purchasing the property.

Hardship:

Gravel being considered an impervious surface causing the coverage of the lot to exceed the amount of coverage if the proposed barn was to be built. Without this inclusion the structure would be under the allowed amount.

Coverage calculations:

House: 1,746sqft

Front Walk: 220.5sqft

Front Stoop: 56sqft

Back walkway: 188sqft

Back stoop: 24sqft

Deck: 100sqft

Bilco door: 27.5sqft

A/C pad: 10.5sqft

Total: 2,372.5sqft

Proposed barn: 2016sqft

Total: 4,388.5sqft

Driveway: 2565.75sqft

Total: 6,954.25sqft

Lot size: 41,152sqft X12% = 4,938.25sqft

6,954.25sqft - 4938.25sqft = 2900sqft with driveway. 4,938.25sqft - 4,388.5sqft = 549.74sqft without driveway.

PARRETT, PORTO, PARESE
& COLWELL, P.C.
ATTORNEYS AND COUNSELORS AT LAW
ONE HAMDEN CENTER
2319 WHITNEY AVENUE
HAMDEN, CT 06518

Doc ID: 000707890002 Type: LAN
BK 273 PG 1105-1106

WARRANTY DEED

TO ALL PEOPLE TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

KNOW YE, THAT I, ALICIA C. FONASH-WILLETT, of the Town of Durham, County of Middlesex, and State of Connecticut, for the consideration of TWO HUNDRED EIGHTY THOUSAND AND 00/100 DOLLARS (\$280,000.00), received to my full satisfaction of JOSEPH E. BARILLARO AND JENNIFER L. SASS, both of the Town of Middlefield, County of Middlesex, and State of Connecticut ("Grantees"), do give, grant, bargain, sell and confirm unto the said Grantees, as joint tenants, with WARRANTY COVENANTS the premises known as 60 Royal Oak Drive, Durham, Connecticut, described as follows:

A certain piece or parcel of land including all improvements thereon located on the NORTHERLY side of Royal Oak Drive in the Town of Durham, County of Middlesex, and State of Connecticut, and being more particularly shown as Lot No. 52 on a map entitled "Sect. I ROYAL OAK PARK SUBDIVISION ROYAL OAK DRIVE MEADOW LANE DURHAM, CONNECTICUT PREPARED FOR PHS DEVELOPMENT CO. Scale 1" = 40' Jan. 6, 1981 Rev. Apr. 6, 1981 Sheet 3 of 25 J. ROBERT PFANNER AND ASSOCIATES, P.C." which map is on file in the Durham Town Clerk's Office as Map No. 180, to which map reference is hereby made and may be had for a more particular description, bounded and described as follows:

- NORTHEASTERLY: By Lot No. 53 a total distance of 177.86 feet, as shown on said map;
- EASTERLY: By Lot No. 51 a total distance of 214.76 feet as shown on said map;
- SOUTHERLY: By Royal Oak Drive a distance of 154.73 feet as shown on said map;
- SOUTHWESTERLY: By the arc of a curve having a radius of 30.00 feet and a distance of 53.26 feet, as shown on said map; and
- NORTHWESTERLY: By Meadow Lane, a total distance of 205.00 feet.

Said parcel contains 41,152 square feet.

Together with a permanent easement and right of way for all purposes of ingress and egress by foot or vehicle over all proposed future roads in said subdivision as shown on said hereinbefore map and until such time as such future roads are accepted as Town roads by the Town of Durham.

Said premises are conveyed subject to the following:

1. Any and all provisions of any ordinance, municipal regulation or public or private law, and any state of facts that an accurate survey or personal inspection of the property might reveal, provided that none of the above interfere with the present location of any building now located on the property, prevent the use of the property as a residence, or render title to the property unmarketable.
2. Taxes on the Grand List of October 1, 2015, second half, which the Grantees herein assume and agree to pay as part consideration for this deed.
3. All matters set forth on Map Nos. 180 and 189 on file in the Office of the Durham Town Clerk.
4. Utility Easement to The Hartford Electric Light Company dated November 19, 1981 and recorded in Volume 95 at Page 300 of the Durham Land Records.

CONVEYANCE TAX PAID
STATE 0 LOCAL 0
Alicia C. Fonash-Willet
TOWN CLERK OF DURHAM

To: Town of Durham Zoning Board of Appeals

RE: 60 Royal Oak Drive

Joseph Barillaro and Jennifer sass of 60 Royal Oak Drive are installing a barn in the north east corner of the property and are applying for a variance for lot coverage. I am aware of the variance and have no issue with the addition of the barn.

Name: Tina ' Brandon McGoldrick

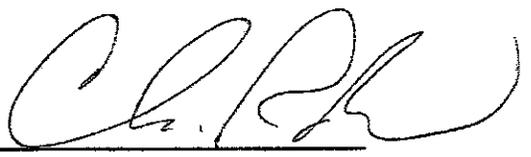
Address: 50 Ironwood Lane, Durham

Phone/Email: 203 605 4766 / brandon_mcgoldrick@hotmail.com

To: Town of Durham Zoning Board of Appeals

RE: 60 Royal Oak Drive

Joseph Barillaro and Jennifer Sass of 60 Royal Oak Drive are installing a barn in the north east corner of the property and are applying for a variance for lot coverage. I am aware of the variance and have no issue with the addition of the barn.

Name: CHARLES R. BOWER 

Address: 8 EVERGREEN TERR

Phone/Email: 860-539-0598 POWERPROP@AOL.COM



NONPOINT EDUCATION
FOR MUNICIPAL OFFICIALS
TECHNICAL PAPER NUMBER 6

Driveways

By Jim Gibbons, *UConn Extension Land Use Educator, 1999*

Introduction

Driveways are vehicle access ways between a street and an abutting property. In low-density residential areas, driveways are often single lane paved areas connecting a carport, garage or off-street parking area and a street. In high-density residential, commercial and industrial areas, driveways lead to off-street parking lots or loading areas. Driveways are sometimes used as emergency access ways.

While often viewed as a necessary component of the passenger car transport network, research shows that driveways are a hot spot for the accumulation and conveyance of non-point source pollutants. When Bannerman and his colleagues collected runoff samples from various source areas in the Wisconsin urban landscape, they found significant concentrations of phosphorus, suspended solids, fecal coliform and several metals generated by driveways. Driveways, as non-point source generators, are strongly influenced by the emissions, leaks and deteriorating metal parts from the cars using them. In addition, driveways are used as work and play areas. Activities such as washing, repairing and maintaining vehicles and equipment often take place on the driveway. When used as the work area for changing the family car's oil or washing grass off the lawnmower, inevitable spills and deposits are stored on the driveway's surface and washed by the next rainfall to receiving roads, curbs and curtain drains. When gutters and down spouts are directed to driveways, the volume, velocity and pollutant load of driveway runoff increases.

Driveway Design

Driveway design can range from the minimum needed to be practical and safe to a maximum to assure ease of driving and parking. Many communities, as part of their subdivision and zoning regulations establish minimum design requirements for driveways. If a proposed lot cannot be served by a driveway meeting adopted standards, it will not be approved. Most regulations address driveway location, grading, erosion control, drainage and construction details. As a general rule, driveways should be designed to be as narrow, short and few as possible. Driveways are either straight or curved, with single or multiple lanes. The

common driveway types are the single slab, made of asphalt or concrete, and ribbon, made of two parallel strips of pavement with grass or stone in between. The single slab is more common as ribbon drives are deemed impractical where the driveway is long or curved.

The entrance to a typical passenger car driveway requires an inside radius of 18 feet and an outside radius or sweep path of 30' for a 90° turn. Improper grading of the area where the driveway crosses over the right-of-way will result in rear bumper scuffing. As a general rule, the driveway grade should not exceed 8 percent within the right-of-way area. Most communities establish maximum grades of unpaved driveways ranging from 7 percent to 10 percent. Andover, Connecticut guests shared drives be approximately 12' to 16' wide or just wide enough for two cars to pass. An alternative design for shared drives, is a 10' drive that is wider at intervals to allow cars to pass one another.

Driveway Width

Some communities such as Guilford, Connecticut establish minimum widths for driveway rights-of-way as well as minimum travel and cleared ways. Guilford requires that driveways have a minimum travel way of 12', a cleared way of 16' and a 20' right-of-way.

Straight driveways leading to attached garages, located near the street, on level sites, can be as narrow as 7' 8", however many communities require 10' to 12'. A width of 9' is usually more than adequate, for comfortable and safe driving and parking. Communities should consider placing maximum widths of 14' or less on driveways. The recommended width of the most common type of driveway, the single slab, is 9' however, in some instances 8' will work. The concrete strips in a ribbon driveway should both be at least 2' wide and located so they are separated, 5' on center.

As the minimum safe clearance between two moving cars is two feet, a double lane straight drive could be as narrow as 17' 4", however 18' is often the suggested minimum width.

- Review local zoning and subdivision regulations, and road and driveway ordinances to determine if they promote long and wide impervious driveways. Revise as needed.
- As a general planning principle, keep the number of driveways to a minimum and as short, narrow, and porous as possible.
- Limit driveway curb cuts to one per site.
- Allow shared driveways to serve commercial areas and up to four single-family lots.
- Establish maximum limits on paved driveway lengths.
- Establish maximum limits on paved driveway widths
- Establish maximum limits on paved driveway curb cut widths.
- Minimize driveway-sidewalk crossings.
- Establish minimum setbacks for driveway curb cuts near road intersections.
- Allow various driveway designs, including ribbon drives that contain less impervious surface than the more common full width, single slab, drive.
- Allow single lane straight drives to be 8' or 9' wide and double lane drives to be 18'.
- Promote the use of driveway lips as front yard walks to reduce the imperviousness of a separate walk system. If a separate walk is proposed, have it be built of porous surface materials or impervious surfaces that drain to adjacent porous areas.
- Where impervious driveway surfaces are installed they should be crowned and pitched to direct runoff to adjacent porous areas.
- Where impervious driveway surfaces are installed, disrupt their connection to roads, curbs and curtain drains with porous materials in the area where the drive intersects the road.
- Permit the use of gravel driveways in low density, level areas.
- Where porous driveway surfaces are used, insure that a proper sub base, capable of infiltrating and cleansing storm water runoff is installed.
- Whatever type of driveway is installed, it should never obstruct existing storm water flows along the road or through drainage facilities.

Contact Information

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 Storrs, CT 06269-0070
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NEMO is an educational project of the University of Connecticut, Cooperative Extension System, Connecticut Sea Grant College Program and Natural Resource Management and Engineering Department. In addition to support from UConn, NEMO is funded by grants from the CT DEP Nonpoint Source Program and the NOAA National Sea Grant College Program. NEMO is a program of the Center for Land use Education And Research (CLEAR). For more information about CLEAR, visit www.clear.uconn.edu. The Connecticut Cooperative Extension System is an equal opportunity employer. © 2002 University of Connecticut 11-02

The design of curved driveways is based on four factors; the distance center-to-center of the front or rear wheels, the distance between the front and rear axles, the turning radius of the outer front wheel and the area needed to provide safe clearance from vegetation or walls bordering the drive. Curved driveways require that lanes be least 9' wide.

If a lip of the driveway is used as a walkway, a minimum of two additional feet should be added to the suggested minimum driveway width. For ribbon driveways also used as walks, the width of the strips should be widened from 2' to 3'.

Driveway Length

Driveway length is often directly related to front yard setback requirements found in the local zoning regulations. For example, if local zoning requires a 50' front yard, a driveway at least 50' long will be needed to connect the garage and the street. If circular drives are installed, they will generally be longer than straight ones.

The Town of Ashford, Connecticut requires that any driveway with a positive slope of 10 percent or greater, be paved to a minimum distance of 60' from the edge of the highway.

Avon, Connecticut limits the length of driveways serving rear lots to 1000' and requires that they have an adequate all weather surface for their entire length. Guilford, Connecticut limits driveway lengths to 750'.

Driveway Surface Materials

Driveways with grades of less than 7 percent may not need pavement while those greater than 7 percent should have some type of surfacing to prevent erosion. Guilford, Connecticut's minimal construction standard for unpaved driveways is a sub-base of 8" of bank run gravel covered with 3" of processed stone.

Two types of paved driveways are slab and ribbon. The most common driveway is the full width; single slab made of asphalt or concrete. The Asphalt Institute recommends that full width, single slab, asphalt, driveways built on gravelly, well drained, frost-susceptible soils, have a minimum of 1" asphalt concrete surface course, a 2" to 3" asphalt base course and a 3" to 4" sub-grade, built to local specifications.

The "ribbon" driveway consists of two 2' strips of pavement with grass in between. The ribbon drive is cheaper to install, is less conspicuous and is contains less impervious surface. However, some feel ribbon designs are impractical where driveways are long or curved.

Driveway Imperviousness

As a significant component of a community's impervious surface coverage and a recognized generator of polluted runoff, communities should be concerned about impervious driveways. The potential adverse impacts of impervious driveways on water

resources can be reduced by; limiting the size and number of driveways, limiting their imperviousness and directing driveway runoff to porous surfaces.

The number and size of impervious driveways found in a community is often related to minimum standards found in local zoning and subdivision regulations and road ordinances. Local land use officials should review these standards to determine if they are flexible enough to allow creative design regarding the number and size of drives and permitted surface materials.

Many local driveway regulations stipulate they be constructed with impervious surfaces. There are numerous porous surfaces that work well on driveways and local regulations should permit their use. Examples of porous driveway surfaces include; porous concrete and asphalt mixtures, paver blocks and brick set in sand, grass pavers, grid pavers, crushed stone and gravel. The key to the use of porous driveway surfaces is the installation of a sub-base specifically designed for the surface material used. The sub base must also be capable of promoting infiltration and runoff cleansing.

If impervious driveway surfaces must be installed, they should be crowned and pitched to direct runoff flow to adjacent porous areas such as grass, vegetated swales or filter strips. Roof runoff should not flow over driveways but be directed to grass, dry wells or gardens designed as bioretention areas.

No driveway should obstruct the flow of storm water along the road or through drainage ditches, culverts or conduits.

Where feasible try to disrupt the impervious connection of driveways, to roads, curbs, storm drains and pipes. This can be accomplished through the use of porous surface material along the entire drive or in the area where the driveway intersects the road. Andover, Connecticut stipulates that driveways be designed to prevent runoff from entering public rights-of-way by installing privately owned and maintained drainage diversion swales, retention areas, or dry wells. Before a certificate of occupancy is issued, a deed stipulation, approved by the Town Attorney, must be filed in the land records clearly establishing land owner responsibility to maintain the driveway related swale, retention facility or dry well.

NEMO Recommendations Regarding Driveways

- Initiate a public educational program highlighting the potential adverse impacts of impervious surfaces, such as driveways, on water resources.
- Educate the public on the adverse impacts on water of such driveway activities as car and lawn mower washing and changing engine oil.
- Do not allow roof gutters and downspouts to drain over impervious driveways.
- Allow and promote the use of porous driveway surfaces, including; porous asphalt and concrete mixtures, paver blocks and bricks laid in sand, concrete and grass grid pavers, crushed stone and gravel.

WHAT ARE PERMEABLE DRIVEWAYS?



TRUEGRID

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GET AN ESTIMATE

Filed under [Permeable Driveway](#), [permeable pavers](#), [permeable-pavement](#) • 10 minute read

Despite lasting a good amount of time – homeowner needs such as walkways, driveways, patios and roads – a large amount of energy is used to produce concrete. Apart from that, there are more cons to concrete. Rain and water runoff is incapable of soaking back into the ground whenever there is concrete. The disruption of water's natural cycle and its journey across concrete's impervious surface causes problems. Fortunately, pervious pavers are an alternative material for a solid foundation that allows water to soak back into the ground.

Pervious is another word for permeable. You may remember the word from your science class but if not, the idea is simple. First, it needs to be addressed that permeability and porosity are often confused with one another. Although similar, they both do carry their own meaning. Porosity is the measure of how much a rock has open spaces or pockets between cracks and cavities that hold water. Permeability is a measure of how easy a fluid can move through a porous rock. They both can work alone or with each other but both are a huge part of how the environment functions and of course in both the large and microscopic processes.

Our source of drinking water comes mainly from groundwater, which is also an important source of nutrition for plants and trees. Over the years, the amount of available groundwater has severely depleted partly due to the impermeable surfaces used in developments in and out of cities, which disallow rain and snow to recharge groundwater. Infrastructure and development such as highways, patios, walkways, roofs, driveways, even tennis courts all keep water from recharging into the ground.

Once runoff water discovers it can't penetrate concrete and other impermeable surfaces, water diverts into storm sewage systems, into streams, and then

eventually into local bodies of water. The high volume and speed of this built up waters may lead to flooding, which can cause costly damages. Toxic pollutants, such as car oil or chemicals from pesticides, are picked up by runoff water from pavement and dumped into nearby bodies of waters, such as rivers, streams and lakes where our supply of drinking water becomes slowly contaminated and harms the environment.

Apart from water contamination, another problem faced when impermeable pavement is the accumulation of heat in and around cities. Sunlight is absorbed and reflected back as heat by impermeable surfaces, such as asphalt and concrete. This buildup is referred as the "heat island effect".

Before building your driveway, patio, or parking lot, address some of these issues by installing a permeable pavement. Some of these permeable pavement can even allow grass to grow and prosper within them. You can bring aesthetics to your home with many permeable options for water to properly drain on your property. Create a permeable area while also reducing heat accumulation around your building.

CONCRETE OR BRICK PAVERS

Another option includes concrete or brick pavers, which are blocks that are strategically placed with a small gap in between to allow water to soak into the ground through the cracks. Although not 100 percent permeable, they allow a good amount of water to soak into the ground. These blocks can bring unique patterns and color to your pavement and as an option can allow grass to grow through the gaps for a more rustic design. Out of the two, concrete pavers are sturdier than brick but both are durable to heavy traffic. Adding concrete or brick pavers instead of any impermeable pavement, can help you and the environment in the long run. For instance, allowing some water to soak back into the ground will keep the direct and surrounding areas will need much less irrigation. That's less work you need to do to maintain your lawn.

PLASTIC GRIDS

When searching for a cheap, easy alternative, consider using [permeable plastic grids](#). These plastic grids are industrial strength, easy to install, and will allow for 100 percent permeability when established correctly. Before the grids are filled with gravel, the grids conveniently interlock and are placed on top of a sub-base of gravel that is 2 to 4 inches deep. This sub-base acts as a detention area that holds water temporarily to avoid flooding on the surface level. As water percolates through the top and bottom layer of crushed rock, pollutants are naturally filtered as it soaks back into the ground. Some of these plastic grids are made from 100 percent recycled post-consumer plastic, making the product environmentally-friendly starting from its manufacturing process. (For tips on installation go to our ["What You Should Know About Grass Driveways"](#) article.)

PERVIOUS CONCRETE

Made from a mixture of stones and concrete, this is a porous material that is similar to the look and feel of concrete but is permeable to water. It does not require sand or gravel as a sub-base when installed and its installation is similar to concrete. This is a great option for people who want to install a material that looks like concrete but is permeable and environmentally-friendly. You do need to keep in mind of the maintenance needed to keep sediment from accumulating in the pores. Sometimes the accumulation can be too deep to be able to repair and you may have to replace the pavement if it becomes impermeable.

Once runoff water discovers it can't penetrate concrete and other impermeable surfaces, water diverts into storm sewage systems, into streams, and then eventually into local bodies of water. The high volume and speed of this built up waters may lead to flooding, which can cause costly damages. Toxic pollutants, such as car oil or chemicals from pesticides, are picked up by runoff water from pavement and dumped into nearby bodies of waters, such as rivers, streams and lakes where our supply of drinking water becomes slowly contaminated and harms the environment.

Apart from water contamination, another problem faced when impermeable pavement is the accumulation of heat in and around cities. Sunlight is absorbed and reflected back as heat by impermeable surfaces, such as asphalt and concrete. This buildup is referred as the "heat island effect".

Before building your driveway, patio, or parking lot, address some of these issues by installing a permeable pavement. Some of these permeable pavement can even allow grass to grow and prosper within them. You can bring aesthetics to your home with many permeable options for water to properly drain on your property. Create a permeable area while also reducing heat accumulation around your building.

The best permeable pavement application that would be the most beneficial to your home would be your driveway due to its exposure to heavy and foot traffic and pollutants on your property. Consider permeable materials that allow water to soak back into the ground allowing it naturally filter out pollutants, such as car oil and pesticides, to avoid contamination of nearby bodies of water that supply us with drinking water.

Create a unique outdoor space in your backyard. Adding permeable pavement to your backyard will bring some added perks that traditional patios don't normally have.

GRASS PAVEMENT

You can pave your lawn with plastic grids to create a stabilized, grass pavement that'll allow you to walk on even when it is muddy and rainy. The grid is laid on top of a sub-base that has a detention area capable of holding water. Not only would your lawn not be muddy and susceptible to flooding

but your dog won't be able to dig up holes that ruin your grass.

POOL SKIRT OR HOT TUB PAD

If you happen to have a hot tub or a pool, you know how often the surrounding area gets wet and even slippery. Use permeable pavement to solve this issue and don't worry about splashing on your pool shirt or hot tub pad.

SHED OR BARN FOUNDATION

Most of these applications tend to be outdoors but using permeable pavement indoors can have its own benefits. When used in a shed as the foundation, you make the ground spill-proof and keeping the inside clean of spilt liquids would be easy. For barns, livestock are naturally messy creatures and permeable pavement, such as the plastic grids, stabilizes the ground, which can help diminish the amount of mud, sludge and mess to help with cleanliness and even sanitation. Hoofed-animals benefit the most from stabilized ground since constant exposure to moisture in the ground can cause hoof disease that can be crippling.

From a grass-paved backyard to a permeable deck for your hot tub, the options are endless when you open the doors to the possibilities for your property when you introduce permeable pavement. Permeable pavement is not only a problem-solver and an alternate solution but mostly it is a better option for the environment and it goes to show that it is possible to use products that make your life not only easier but also sustainable.

EXAMPLES OF PERMEABLE DRIVEWAYS



New home construction with [gravel permeable driveway](#).



Residential House with [Grass Driveway](#).

RELATED POSTS



PERMEABLE VS. IMPERMEABLE SURFACES

What is the difference between permeable and impermeable surfaces?

Permeable surfaces (also known as porous or pervious surfaces) allow water to percolate into the soil to filter out pollutants and recharge the water table. Impermeable/impervious surfaces are solid surfaces that don't allow water to penetrate, forcing it to run off.

| <u>Impermeable Surfaces</u> | <u>Permeable Surfaces</u> |
|---|---------------------------|
| Asphalt | Planting beds |
| Concrete | Mulched beds |
| Traditional stone, brick or concrete pavers | Gravel |
| | Permeable pavers |
| | Turf |

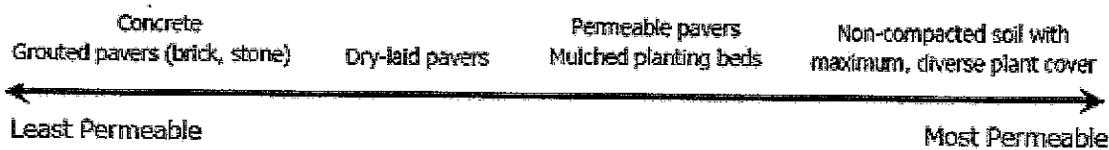
What is the impact of impermeable surfaces on the environment?

Urban and suburban sites typically contain large expanses of impermeable surface, causing a host of problems:

- **Pollution of surface water.** When stormwater runs off impermeable surfaces, it picks up pollutants as it flows into storm drains. The contaminated water then flows directly into rivers, lakes, wetlands and oceans, generating problems for biodiversity as well as public health.
- **Flooding of surface water and erosion of stream banks.** During periods of heavy rainfall, large amounts of impermeable surfaces generate large amounts of runoff. This sudden influx of runoff into rivers can cause flash flooding and erosion of stream banks.
- **Water table is not adequately recharged.** Because impermeable surfaces send rainwater into storm drains rather than allow it to percolate down to our aquifers, groundwater may be used faster than it is recharged.
- **Formation of stagnate water puddles.** On impermeable surfaces where runoff has no drainage route, stormwater can puddle for long periods of time. Stagnate puddles can become breeding places for undesirable insects such as mosquitoes.
- **Heat island effect.** Due to the heat-absorbing quality of asphalt and other paving materials, sites with high ratios of impermeable surfaces increase ambient air temperatures and require more energy for cooling.

How can I reduce the amount or effects of impermeable surfaces?

Provide maximum permeability of surfaces in your landscape. Replace surfaces in your landscape to promote maximum permeability.



(<https://udextension.s3.amazonaws.com/factsheet/wp-content/uploads/2012/07/permeableimpermeablerunoff.jpg>)

- Reduce the environmental impact of impermeable surfaces through on-site management of stormwater, such as:
 - Rain gardens. Rain gardens, sometimes called bio-retention areas, are shallow depressions in the landscape that capture stormwater and allow it to gradually percolate into the soil. Planted with moisture-loving plants that help filter out pollutants, rain gardens provide an attractive way to reduce the impact of stormwater on the environment. For more information, consult the fact sheet "Rain Gardens"
 - Rain barrels and cisterns. Water tanks stored above and/or below ground can capture rainwater from downspouts for later use. They are available in many styles, materials and sizes to accommodate a variety of needs. For more information, consult the fact sheet "Harvesting Water"
 - Green roofs. A green roof is a specially-engineered rooftop that supports plant life and captures rainwater before it runs off. Green roofs have been utilized in Europe for 30 years and are quickly gaining popularity in the United States. For more information, consult the fact sheet "Green Roofs"
 - French drains. French drains are ditches filled with gravel or rock used to capture stormwater and direct its flow. They can be utilized on the downslope side of impermeable surfaces to move runoff to an area where it can infiltrate the soil.

Permeable Paving Systems

Permeable pavers are specially fabricated paving units designed to replace asphalt and other impermeable paving materials. Interconnected pore spaces within the material channel water into the underlying soil or into a special storage layer which forces slow percolation during periods of heavy rainfall. Permeable pavers are often laid on a bed of sand or gravel to enhance drainage properties.

Examples of permeable paving systems

- Grid of concrete pavers and void space filled with turf, sand or gravel
- Aggregate of large stone particles and concrete with interwoven pore spaces
- Turf system supported by a grid composed of post-consumer recycled plastic

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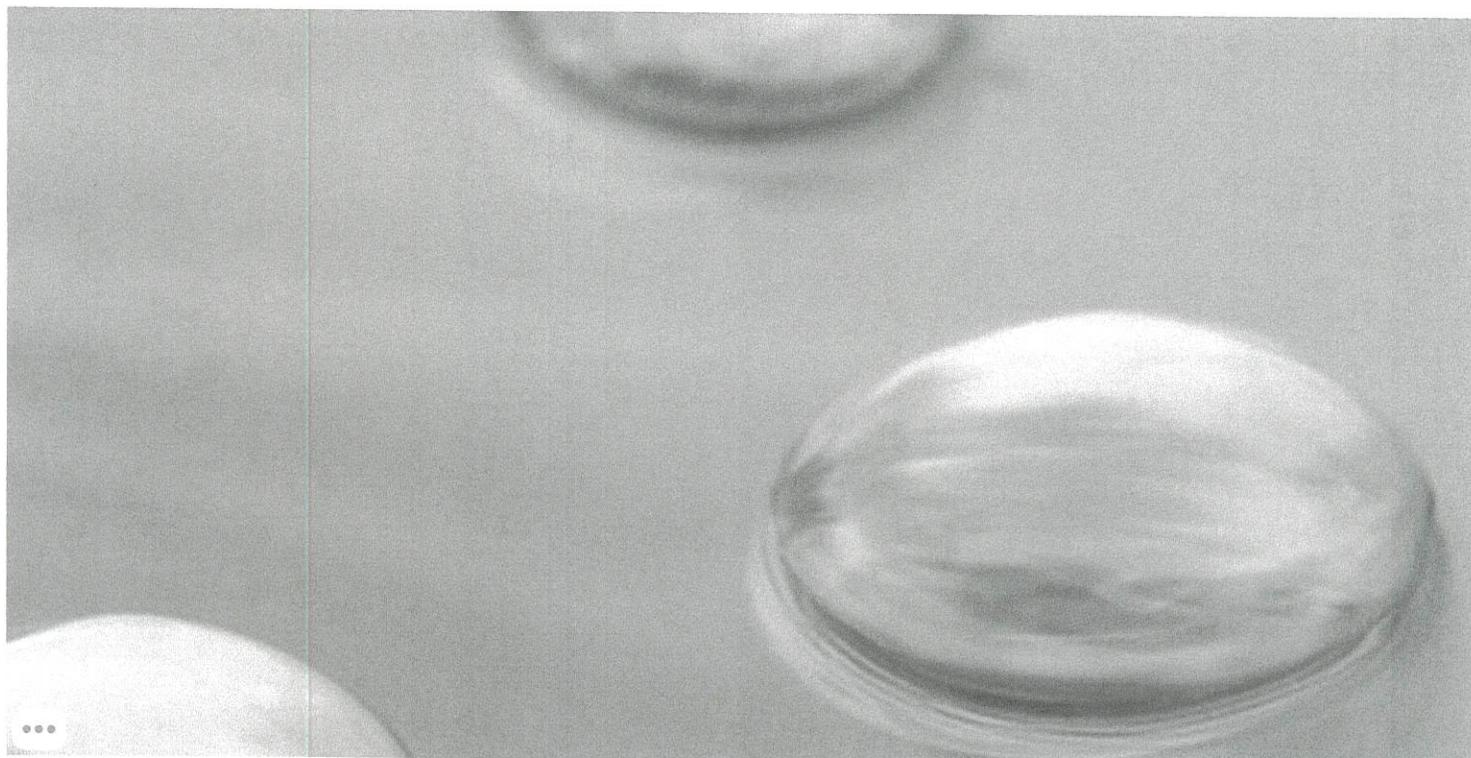
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What Is the Difference Between Permeable & Impermeable?



Updated April 24, 2017 By Ashley Gerstenberger

In the science professions and fields, the words permeable and impermeable are often used to describe whether or not a material or substance can allow liquids or gases to pass through its surface.

Permeable Surfaces or Materials

Permeable surfaces contain pores or openings that allow liquids and gases to pass through. These surfaces can be penetrated. Some common permeable surfaces are gravel, porous materials and grass.

Impermeable Surfaces or Materials

Impermeable surfaces do not permit the passage on any liquids or gases. These surfaces cannot be penetrated. Some common impermeable surfaces include concrete, asphalt and concrete/clay paving blocks.

The Difference between Permeable and Impermeable

The underlying difference between permeable and impermeable surfaces and materials is the ability to allow the passage of liquids and gases. Due to the nonporous nature of impermeable surfaces, they cannot permit liquid and gas to enter and pass through like permeable surfaces and materials can.

TOWN OF DURHAM
ZONING BOARD OF APPEALS
Application for Variance

Applicant's Name: WILLIAM WITKOWSKI Phone: 860 670 0920
Address: 16 WOODLAND DRIVE, DURHAM, CT 06422
Record Owner: Same Phone: same
Address: Same
Property Location: 16 WOODLAND DRIVE, DURHAM

Assessor's Map Number: 16 Lot Number: 114

Deed Reference: Volume Number: 125 Page Number: 654

Legal Description (see attached copy of property deed):
This application relates to: Use _____ Setbacks Yards _____
Lot Area 59,490SF Height _____ Lot Dimension _____ Lot Coverage _____
Location of Accessory Structure _____ Other (specify) _____

Section of Zoning Regulations affected: Setback 4.5.2

If a setback variance: _____ Feet: 22 Inches: 7

Reason for variance request: Addition to right side of home

Does work constitute an alteration or extension of an existing building or is it new construction?

EXISTING BUILDING

What is the specific hardship claimed? (Please review page 4 of this application)

EXISTING HOUSE BUILT BY PARENTS IN 1954. I HAVE HAD OWNERSHIP FOR 25 YEARS. HOME IS IN NEED OF REPAIR AND UPDATING. AN ADDITION IS PLANNED TO INCREASE PROPERTY FROM 2 TO 3 BEDROOMS TO ACCOMMODATE FAMILY.

The owner and the applicant hereby grant the Zoning Board of Appeals, and/or its agents, permission to enter upon the property for which variance approval is requested for the purpose of inspection and enforcement of the zoning regulations of the Town of Durham, Connecticut.

Signature of Applicant William J. Witkowski Date: 9-15-20

Signature of Owner William J. Witkowski Date: 9-15-20

Official Use Only

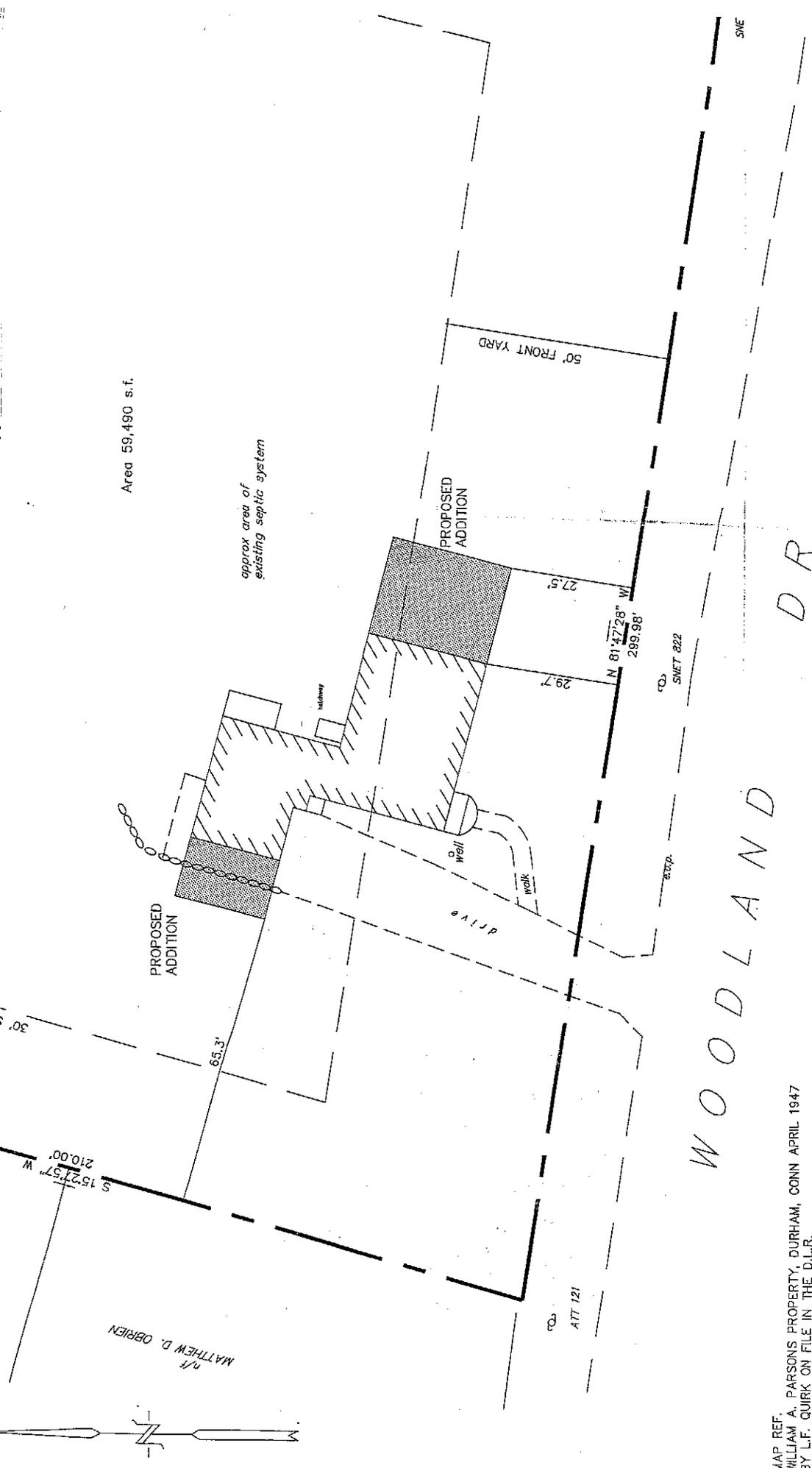
Date Application Received

Reviewed by

[Signature]
ZEO/Town Planner

9/23/2020

* 21-152 CK. 1885



MAP REF.
WILLIAM A. PARSONS PROPERTY, DURHAM, CONN APRIL 1947
BY L.F. QUIRK ON FILE IN THE D.L.R.

THIS MAP HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTION 20-300B-1 THROUGH 20-300B-20 AND THE STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC SEPT. 26, 1996



ZONE FR

THE TYPE OF SURVEY IS A DEPENDENT SURVEY
CLASS A-2