

NORWICH BARN SURVEY 2021



NORWICH HISTORIC
PRESERVATION COMMISSION

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About Author

Lyssa Papazian, Historic Preservation Consulting, is a woman-owned sole proprietorship specializing in historic preservation planning, funding, regulation, documentation, and architectural history. She holds a Master of Science degree in Historic Preservation and has been working professionally in the field for the past 28 years, first as a Senior Architectural Historian in the New Jersey State Historic Preservation Office and for the past 22 years as an historic preservation consultant based in Putney, Vermont. She is a National Park Service (36 CFR Part 61) -qualified architectural historian and has listed dozens of properties on the National Register of Historic Places as well as secured federal historic tax credits for dozens of rehabilitation projects. She has been a Putney Historical Society (PHS) board member since 1998. She is currently the Chair of the board of the Preservation Trust of Vermont. She has served as Putney Selectboard Member, Town Service officer and has been a member of the Putney Affordable Housing Committee and its Conservation Commission. Lyssa was recognized with Vermont Housing and Conservation Board's Community Stewardship Award in 2017.

About Norwich Historic Preservation Commission

Norwich's advisory Historic Preservation Commission (NHPC) was appointed by the Selectboard in April 2010. The Commission's goal is to increase appreciation of Norwich's wealth of historic and cultural resources. These are considered essential to the town's unique sense of place and character, including preserving Norwich's settlement patterns, scenic resources and our unique rural character. Integral to this is contributing to Norwich's energy and economic sustainability.

The Selectboard passed an ordinance in 2010, officially establishing the town's first Historic Preservation Commission, which is advisory only. Norwich is now one of 14 Certified Local Governments (CLG) throughout the state designated by the Vermont Division for Historic Preservation. A goal of the CLG program is to encourage full integration of historic resources into the Town's planning process. CLG status also makes the town eligible for federal and state preservation grants, while also providing a close working relationship with the Vermont Division for Historic Preservation. Since its formation in 2010, the HPC has been awarded a number of these grants, including one that funded this Barn Survey. Other projects of the HPC include a town wide reconnaissance survey of historic resources, writing National Register of Historic Places nominations for individual resources and for historic districts, and educational exhibits and materials on Norwich's history, such as a walking tour and website highlighting historic resources in town.

Introduction To The Norwich Historic Barn Survey

By The Norwich Historic Preservation Commission

The architecture of Norwich's barns tells the story of the town's agricultural history through the evolution of specific building designs, techniques, and reinvention, but the oral history surrounding barns and their uses is a tenuous link in understanding our past. In 2020-2021, the Norwich Historic Preservation Commission (NHPC) undertook a barn survey to expand the studies completed in 2009 and 2015 to document this fragile history.

Revealed here is the architectural "DNA" of the skills and backgrounds of the craftsmen who constructed and then renovated barns through time. The labor of craftsman and farmer alike reflects the economic pressures that brought different kinds of agriculture to Norwich in each generation: sheep, dairy, beef, poultry, maple sugar, and small fruits and vegetables. Furthermore, New England's harsh climate is no kind steward of these often-large wooden structures. Snow loads and deferred maintenance form a fatal combination. Many historic barns have also succumbed or been razed.

This survey serves two basic purposes. One is to capture the history of Norwich's agricultural roots through documenting its barn architecture. The second is to raise awareness of these important structures so that the Town of Norwich and barn owners will place more importance on their ongoing maintenance and repair. The NHPC plans to offer on its website a list of resources to assist concerned barn owners, who are encouraged to value our complex cultural landscape and its beauty by protecting these important and still useful historic structures. Last, the NHPC would like to thank the Vermont Division for Historic Preservation for awarding us a Certified Local Government Grant to pursue this survey of the town's historic barns and Lyssa Papazian, historic preservation consultant, for her excellent work in analyzing the evolution of these historic structures and what they tell us about our history.



Barn at 122 Wiley Hill Road

Project Background

The project to conduct a town-wide survey of Norwich's historic barns and related agricultural structures began in 2020 and was undertaken by the Norwich Historic Preservation Commission (NHPC) with the support of a Certified Local Government (CLG) grant from the Vermont Division for Historic Preservation. As noted by the NHPC above, the purpose of the work was to raise property-owners' and the public's awareness and appreciation of extant barns (and related agricultural structures) focusing primarily on traditional (post and beam) construction methods built prior to 1970, their importance to Norwich history and significance in maintaining the historic and rural character of the Town. The NHPC's undertaking of the Norwich Barn Survey acknowledges the inherent importance and endangerment of barns in Norwich and is a key charge of the NHPC in the recent Norwich Town Plan. An historic preservation consultant (Lyssa Papazian) was engaged to conduct the survey and to provide a report describing the findings and making recommendations to help the NHPC and property owners connect to available resources for barn preservation.

A basic barn survey project was done in 2009 with the help of students in the University of Vermont's Historic Preservation Program. Thirty-eight barns were briefly surveyed in this project. Thanks to a CLG grant, the NHPC undertook a windshield survey of the town in 2015 in which several barns, farmsteads, and rural settings were identified for further study. In 2019 and 2020, again, thanks to CLG grants, the NHPC tapped historic preservation consultants Brian Knight and Lyssa Papazian to prepare nominations to the National Register for two rural historic districts and two farm complexes thus documenting several of Norwich's barns in greater detail. These nominations, now all listed on the National Register of Historic Places, are the Goodrich Four Corners Historic District, Meeting House Farm, and Maple Hill Farm all nominated by Brian Knight and the Brigham Hill Historic District by Lyssa Papazian. These nominations are a major source of the agricultural history used in this Barn Survey.

Methodology

The initial scope of the project was envisioned to include:

- development of a context statement for agriculture and the use and architecture of agricultural buildings in Norwich;
- doing a field reconnaissance of previously identified barns (from 2015 survey and current listers records);
- creating a spreadsheet to identify and assess barns identified – which was initially a list of eighty-four barns or outbuildings plus another thirty-seven barns/outbuildings in the village historic district.
- Visiting and identifying barns that require further documentation and surveying those using the state forms.
- Preparing a final report with the context and barns identified and the survey forms with recommendations for further work.
- Working with volunteers to accomplish the project

Main Barn Survey of Barns Outside Village Historic District

Once the project started, initial discussions with Planning and Zoning director, Rod Francis and Devin Colman of the Vermont Division for Historic Preservation (DHP), led consultant Lyssa Papazian to estimate and anticipate looking at/photographing over 130 properties where barns had been identified. The plan was to then look more closely at the ones deemed likely historic – anticipating about sixty-five. She developed a spreadsheet using the previous barn and town wide surveys and a current list of barns identified by the town's listers. This resulted in a surprising list of 193 properties. At the kick off meeting with the NHPC, Papazian distributed a spreadsheet identifying these properties flagged for further investigation and roughly prioritized for likely historic barns with high integrity in order to make the project manageable.

On November 12, 21, and 24, 2020 Papazian did a windshield survey of the 193 properties, taking photos as possible from the road. She was not able to do a thorough photo documentation of all of them. However, most if not all of them are documented photographically through either the 2015 survey, the listers records, or both.



Barn at 55 Butternut Road (now Honeyfield Farm)

After the 2020 windshield survey, research, and feedback from NHPC members, Papazian narrowed the focus to 82 barns that were prioritized for further documentation. Nancy Osgood, Chair of the NHPC, and Sarah Rooker, Director of the Norwich Historical Society, scanned dozens of old lister cards that had barns mentioned and pictured. Papazian correlated these with the eighty-two properties and illustrated the spreadsheet with current and historic lister images where available.

Papazian provided a working draft of the illustrated list to the NHPC at a meeting in February, 2021 continuing to narrow the focus and eliminate more modern barns as they were identified from the scope. By March, Papazian's list of barns warranting more thorough investigation and documentation was narrowed to forty-one (excluding those historic barns that had been documented already through the 2009 barn survey or through National Register nominations). Papazian further narrowed the list to about twenty that she felt could reasonably be visited and that would provide a range of barn age and types. It was agreed, in consultation with Devin Coleman, that the special barn survey forms developed by UVM in 2009 should again be used for this project. These forms were specially designed to provide great specificity around barns and farm architecture and were accompanied by a very helpful illustrated style guide and manual also developed by the UVM students.

The NHPC and Linda Cook, another volunteer, helped Papazian make contact with the owners of most of those twenty identified barns to arrange visits on two planned field days. On April 14 and 17, 2021, Papazian visited seventeen of the highest priority farms accompanied by Linda Cook, and at times by Nancy Osgood and Charlotte Metcalf (who had owned and farmed several of the properties). At each of the properties they either met and talked with the owners or had a phone conversation with them in which they provided information. Nancy Osgood

arranged to later visit and photograph another farm property that wasn't available during the two field days. Papazian produced draft survey forms for each of these. She continued to research and look at primary sources for some farming families at the NHS which added context and history to some.

Papazian also discussed the photographs taken of eight of the barn frames with Chris Patton, a Putney-based carpenter who worked for a number of years with historic barn framing expert, Jan Lewandowski, and who has experience and knowledge of barn framing history. This was very helpful, adding many insights and more precise dating. His comments and observations are incorporated into the survey forms for these properties and inform the report.

Survey of Village Barns/Carriage Houses by Volunteers

With the much-expanded number of barns outside the historic district, Papazian determined that she was unable to survey the several dozen in-town barns as well. She proposed to the NHPC that they could undertake this survey, since the barns are all tightly clustered within the walkable village. They accepted this suggestion and Papazian met virtually with them twice to guide them through undertaking the survey of identified village barns in the Norwich Village Historic District. She explained the use of the barn survey form and identified the thirty-seven National Register-listed properties to investigate. Nancy Osgood organized a sign up and NHPC commissioners took on groups of properties to survey. The surveys were undertaken in April and May. Some of the forms from the commissioners are in hard copy, handwritten form and some are in PDF digital form. All the photographs are digital. This effort resulted in thirty-four properties (including a total of thirty-nine structures) surveyed. This collection of documentation was transcribed, collated and organized into a digital document and then added to the collection of surveys Papazian included with the final report.



Attached carriage barn at 277 Main Street (now Norwich Historical Soc.)

Papazian provided individual barn forms for most (fifteen out of the seventeen) of the sites visited in depth. She completed them with as much information gathered from the site visits and research/oral sources as reasonable for the resources. Some warranted more in-depth research and descriptions, while two were either fairly modern or altered considerably. After review and visits, eighteen forms were completed to this latter level – fifteen by Papazian and three by Nancy Osgood. The rest of the eighty-two barns previously identified, will be listed with the historic photographs where available, and the additional research in an illustrated spreadsheet. The spreadsheet will also include a tab with the initial spreadsheet of the 193 properties considered. At the end of this report, are recommendations of properties for NHPC to follow up with additional documentation. Some that were in the 2009 survey had incomplete data that could be expanded and updated.

In total, fifty-seven barns/carriage houses, etc. have been visited and surveyed in some depth in 2021.

History of Agriculture and Barn Architecture in Norwich

The relatively short-lived, or fluctuating nature of so many of Vermont's agricultural activities has rendered historic agricultural buildings and sites particularly vulnerable as it has necessitated the continual transformation of the landscape. With each transition from one activity to another, buildings associated with the old operations are torn down, moved off their site, or remodeled to suit the new, or sometimes simply abandoned and allowed to decay. The only constant has been the presence of agriculture itself, although in a variety of forms.

-The Agricultural Resources of Vermont Multiple Resource Documentation¹

Author's Note:

It is difficult to accurately portray and interpret extant historic barns because they are tools first and buildings second. Agriculture is a complex and difficult endeavor that requires adaptation and change. This is reflected in the use of agricultural buildings. Perfectly preserved examples of the earliest barns are rare and are often to be found on properties that ceased to be used for agriculture in the nineteenth century. More often the historic barns of today have been altered, often moved, and sometimes expanded to adapt them to new practices, new farming enterprises and new owners. Sometimes the earliest barns were replaced altogether with newer barns that better suited the farming needs of the time. Most of the barns documented in Norwich in this survey, especially the earliest examples, have been adapted over time. The majority of barns documented are no longer used for agriculture. Some are used for storage, some have been converted to residential or business uses, and a few continue to serve part-time farms.

Note: Unless otherwise cited, all sections in italics are taken from the National Register of Historic Places nomination for "Goodrich Four Corners Historic District" 2019, by Brian Knight²:

Early Period 1780s to 1820

With its close proximity to the Connecticut River, Norwich provided excellent land for farmers, "as it had rich, fertile soil due to the decomposition and disintegration of the impure limestone found in the alluvial hill terraces of the White and Connecticut Rivers."³ The mineral contents of the soil brought "sweetness, texture and grain to the root crops, and good grass and grain. This area, like many areas of Vermont east of the Green Mountains, still maintains fertile soil as a result of this geology."⁴

Until about the 1820s, most farms in Windsor County and Vermont practiced diversified subsistence farming. As explained in the Agricultural Resources of Vermont Multiple Property Form, most Vermont farms were general-purpose farms that raised a variety of crops for

¹ Gilbertson, Elsa and Suzanne Jamele, *Agricultural Resources of Vermont Multiple Property Form*, United States Department of Interior, National Park Service, 1991

² Knight, Brian. National Register of Historic Places nomination for Goodrich Four Corners Historic District, Norwich, Windsor Co, Vermont, Listed June 26, 2019.

³ Russell, Howard S. *A Long Deep Furrow, Three Centuries of Farming in New England*. University Press of New England, Hanover, New Hampshire, 1982.

⁴ Ibid

subsistence and sustenance. The agricultural production sustained the farmstead and only surplus products were sold. When the surplus exceeded their needs for home consumption, farmers sold goods such as wool, butter, cheese, potatoes and maple sugar off the property.

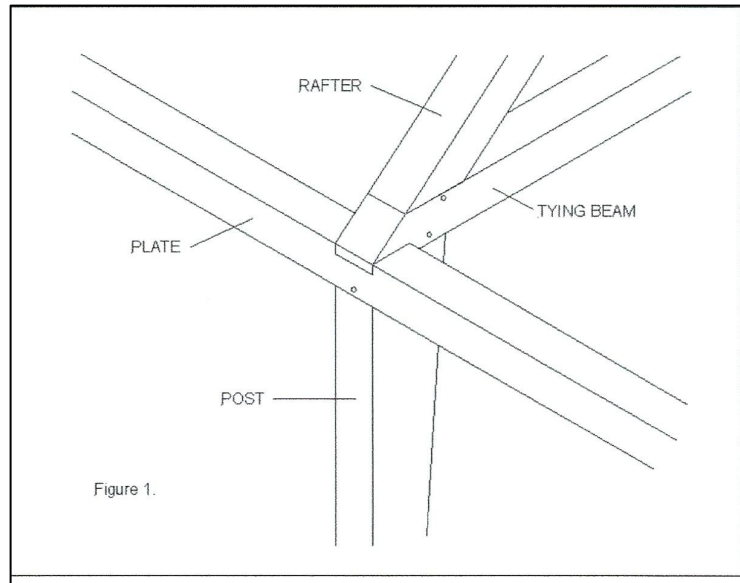
The cash crops that early Vermont farmers turned to were livestock that could be driven to far away markets; potash, a natural byproduct of clearing land and burning wood; and grains, which did quite well in the rich soils of the virgin forest floors that were exposed by land clearing and settlement. Vermont in 1790 was even known as America's bread basket, though this was not to last.

During the early period of late eighteenth to early ninth centuries, the farm livestock often included one or two cows, beef cattle, one or two oxen, swine, and a few horses. Excess milk was processed into butter and cheese for on farm consumption. Early crops may have included wheat, corn, oats, beans, potatoes and possibly maple sugar. Apples and other orchard products would have been produced by the early nineteenth-century. All of the livestock would have been housed in one barn.⁵

Early Period Barn Architecture

The typical barn of this period was the early English Barn. This was a relatively small barn, typically 30' by 40,' timber framed with three bays. It was entered on the eaves side in the center bay which often had doors on both ends. It was typically 1 ½ to 2 stories. It was most often built on a rough stone foundation on grade. Norwich has a number of great examples which retain their character defining features including three-bay arrangements, sliding doors, evidence of doors on both ends of the center bay to create a draft for grain threshing, hay lofts over built-in pens, and early timber framing. Two English barns at the Maple Hill Farm (65 Maple Hill Road) date from 1789 and 1791. They both have gunstock posts – flaring at the tops to accommodate complex joinery of the roof and truss systems. One of them, which retains details of the original stable and its threshing floor, is known to have been built by Ebenezer Broughton and Silas Carpenter. This team may well have built other barns in Norwich at the same time. A 1798 barn at 694 Goodrich Four Corners was documented as a scribe rule frame, which means that each timber is custom fitted and the marks (scribes) show which pieces (tenon and mortise) are matched. An early, ca. 1800 English barn at 218 Dutton Hill Road was later extended and attached end to end to another barn, but has gunstock posts and an English Tying Joint, which was an early technique to offset intersecting joints where plates, rafters, and beams came together. The English barn at 32 Butternut Road also has this feature and also retains its loft over pens and threshing floor – though it has lost the rear door on the threshing bay.

⁵ Sagerman, Paula. *Atherton Farmstead National Register Historic District Nomination Form*, Department of the Interior, National Park Service, Listed March 1, 2002.



Top Left: example of English Tying Joint at 218 Dutton Hill Road; Top right: diagram of the joint from The English Barn in the New World/MAdisonbarns.wordpress.com



98 Campbell Flat Road: Bottom Left, entrance to former threshing floor; Bottom Right, gunstock post with English Typing Joint in 98 Campbell Flat Road

An excellent example of an early English style barn, that was likely later made into a bank barn, is at 98 Campbell Flat Road. Its roof framing of principal rafter with common purlins (rather than the opposite) is an early form that was found in Southern New England but not common in Vermont. The late eighteenth century, scribe rule frame is sophisticated using gunstock posts and the English Tying Joint which may indicate that it was made by itinerant professional framers, like Broughton and Carpenter. The framing of the manure basement level, has sawn timbers suggesting it was a later addition when the older barn was moved to a sidehill to create the lower floor.



98 Campbell Flat Road: Left, scribe match marks on the frame; Right, principal rafters with common purlins pegged into them – an old style of roof framing uncommon in Vermont, but seen in Southern New England

A documented example of an English Barn moved to become a bank barn is at 18 Patrell⁶ Road, in the Goodrich Four Corners Historic District. The 1814 scribe rule barn was moved over a concrete foundation and lower story. Another that appears to have been moved is at 97 Kerwin Hill Road, an English Barn that now sits on a high concrete foundation.

Early to Mid-Nineteenth Century Period 1820 - 1850

The early nineteenth century was a period of change for farming trends in Windsor County as well all of Vermont. The land was failing from years of improper uses during the pioneer period as they “mined it rather than cultivated it.”⁷ By the 1820s, the opening of the Champlain Canal in 1823 and the Erie Canal in 1825 created new trade routes giving western lands access to coastal markets. Staples like grain produced in areas west of Vermont that were easier to farm and more productive could compete with and undersell Vermont farmers. Especially in hilly areas like Norwich, farmers found it difficult to compete in the expanded regional economy.

Farms converted from the cultivation of cash crops like oats, corn, wheat, and barley to animal husbandry, specifically sheep raising. In addition to competition from the west, New England farmers also dealt with wheat midge, Hessian flies, and rust, which pushed Vermont farmers to turn to the profit-making venture of sheep raising for both wool production and stockbreeding.⁸ This change from sustenance farming to commercial farming was related to several events: the import of Merino sheep to Vermont in 1811, the 1824 plague of wheat rust and Vermont’s implementation of favorable wool tariffs in 1824 and 1828.

William Jarvis of Wethersfield, Vermont, the United States Consul to Lisbon, imported the first large number of Merino sheep to Vermont. Jarvis returned to Vermont with 400 sheep and he saw the state as an ideal location “because of its treeless hills, denuded by the

⁶ There are many spellings of the name “Patrell”. Nancy Osgood of the Norwich Historic Preservation Commission, notes: The “...spelling at one end of the road [is] ‘Patrell’ and at the other end ‘Pattrell.’ The latter is correct, for the road was named for Lyman Pattrell, a 18th century settler.” The name is also referred to as “Patral” on the maps discussed in this report. Addresses in the report use the “Patrell” spelling, the map and other references use the spelling of the document cited.

⁷ Norwich Woman’s Club. “Know Your Town” 1940.

⁸ Wilson, Harold Fisher, *The Hill Country of Northern New England, Its Social and Economic History, 1790-1930*. New York: Columbia University Press, 1936

pioneers' need for firewood, building materials, and lumber for the potash markets.”⁹ The rocky soil was better suited for pasture grazing then growing wheat and corn.

As Merinos and the related Saxony imports spread across the state, “the lengthy fleeces of these breeds offered a quality of wool that precisely met the needs of the increasing number of woollen mills, especially those producing high grade yarn and cloth.” Over time, Vermonters perfected the sheep breed. Between 1812 and 1865, the weight of fleece compared to the total weight of the sheep expanded from 6% to 21%.

By 1830, sheep raising for wool production and stockbreeding was the predominant agricultural activity in Windsor County ... Reflecting this growth, the population of Norwich “had soared to 2,316 a number not exceeded until 1890.”¹⁰ In 1840, sheep outnumbered people six to one in Norwich with a total of 13,000 sheep and 2,218 citizens. This population of sheep produced nearly 27,630 pounds of wool. The “substantial number of pounds of wool coupled with the 15,730 pounds of sugar represents the main agricultural productions in this town from the beginning of settlement.”¹¹ At this time, there were only 481 horses and 2,348 cattle in the town in 1840 “suggesting that each family or farm did not have more than one horse and a few cattle and most likely were used for subsistent farming purposes.”¹² In the decades leading up to American Civil War, Norwich farmers cleared much of the forests for sheep grazing. Sheep required few laborers, but a lot of open space. Sheep were raised in large numbers in Norwich until at least the late 1880s.

Early Nineteenth Century Period Barn Architecture

Many of the barns of the 1820s through the 1850s were early bank barns to take advantage of slopes that provided multiple levels for activities and expanded livestock operations, such as for sheep. These were often larger than the early English Barns. Like the ground level English Barns, the early bank barns also often had three bays and framed sections for pens or animal tie ups as well as hay lofts, with a central threshing/driving floor. It was recognized as such a major improvement over the ground level barn, that many older barns were relocated to banks and converted to bank barns. It was so commonly done that it is often hard to determine which barns were moved and which built as bank barns¹³.

⁹ Balivet, Robert F. *Vermont History*. v. 33, No. 1, Montpelier: Vermont Historical Society, January 1965.

¹⁰ Norwich Historical Society. *Norwich, Vermont: A History*. Leahy Press: Montpelier, Vermont, 2012.

¹¹ University of Vermont Historic Preservation program. *Vermont Barn Census*. University of Vermont, Burlington, Vermont, 2009

¹² Ibid

¹³ Hubka, Thomas C. *Big House Little House Back House Barn: The Connected Farm Buildings of New England*. Hanover, NH: University Press of New England. 1984.



There are some examples of these bank barns in Norwich that include both English Bank or Sidehill barns, English Barn to bank barn conversion, and the gable fronted Yankee Barn. The early nineteenth century English Bank barn at 80 Norford Lake Road uses the dropped girt-style framing that succeeded the English tying joint style. This barn may have been relocated to its bank in the mid-nineteenth century with all sawn framing on the lower level.

Top: Early (English) Bank barn at 211 Brigham Hill Road

The ca. 1830 small English Barn at 211 Brigham Hill Road has its original stone foundation. Another English sidehill barn is at 1280 Turnpike Road.



Center Left: Yankee style bank barn at 380 Chapel Hill Road; Center Right Yankee barn at 395 Main Street

Although, according to Thomas Hubka, author of *Big House Little House Back House Barn*, the Yankee or New England style of gable fronted barn became the most common in New England, there are few remaining examples in Norwich from the early to mid-nineteenth century. The banked Yankee barn at 380 Chapel Hill Road is slightly altered on the exterior. One altered example is at 96 Elm Street and another potentially very early example is at 395 Main Street.



At 652 Patrell Road, there are two early nineteenth century English Barns built and/or moved to be perpendicular with one a bank barn. The hay mow floor of the bank barn communicates with the upper hay mow level of the ground level barn. One has a good example of a pole loft that could be added or taken up as needed.

Bottom: 652 Patrell Road, example of a pole loft

Barns and Farm Ownership Trends

Another factor at play in the nineteenth century was a major demographic shift in the 1830s and 1840s. With the new canals providing access, many of the early settlers of Vermont's hills, whose upland soils were yielding less, saw opportunity and moved west in great numbers. In southernmost Vermont, the population high points were often 1790 or 1800 after which the numbers recorded in the federal census showed an exodus over the next decades. In Norwich, settled and cleared later, the population highpoint was 1830 (2316 residents) after which was a decline until 1920 (1092 – fewer residents than in 1790). This population shift coincided with the growing wool market. Those that remained were often the more prosperous farmers and businesspeople who took advantage of the trend by buying the farms of their neighbors to increase their holdings or buying hill farms on the cheap in order to invest in large sheep herds able to eke a profit from the steep slopes. The histories of the two 18th century farms in Norwich, recently listed on the National Register, Meetinghouse Farm and Maple Hill Farm, as well as the histories of four 18th century farms documented by the Goodrich Four Corners Historic District tell a story of farm ownership patterns. During the first half of the 19th century wealthier farmers and non-farmers owned multiple farms. They leased them to local farmers or ran large sheep operations themselves on more than one farm property. Over the next 150 years, farm infrastructure investment often coincided with the periods when the farm was operated by the owner rather than by the tenant farmer.

The history of the Meetinghouse Farm¹⁴ is an example of the shifts in farming and farm ownership and investment. The original settler, Thomas Murdock, established a farm and built his house in 1788 near the town center of the time and first meetinghouse. The house was an elaborate one, built by “a leading citizen of the town”¹⁵ who was a delegate to the First Assembly for the State of Vermont, served as chief judge of Windsor County and in the general assembly.

Although, there was certainly an earlier barn, the oldest extant on the property is the 1817 English Barn, likely built by Thomas's son, Constant. While most of his extended family that had moved to Norwich, moved west, Constant remained and farmed on the home place. He also purchased at least two other farms which appear to have been rented. Constant Murdock's probate after his death in 1828 show a large holding, three farms and ninety-one sheep among other livestock. The English barn may have been built to house the expanding operation. Constant's three heirs sold their shares of the farm in 1832. It changed hands a few times and was owned by two men who lived elsewhere and likely bought it as an investment. The next owner to live there and farm it was Samuel Currier from 1849 to 1871, during which time a large timber framed addition was added to the 1817 English Barn. Two more non-resident owners acquired the farm and then in 1878 Richard Pixley bought and lived on the property. He had a stock operation, raising cattle and also made maple sugar and planted an apple orchard. The extended barn may well have served his uses. In ca.1900, a separate heifer barn was built either by Pixley or more likely one of the next owners who was a dairy farmer. After 1914, Charles and Lucy Pierce ran and lived on the farm, moving there with their Jersey herd from a farm they had been renting. They built a milk house/ice house onto the main, extended English Barn. There

¹⁴ Knight, Brian. *National Register of Historic Places Nomination for Meeting House Farm, Norwich, Windsor County, Vermont*. Listed March 16, 2020.

¹⁵ Goddard, M.E. and Henry V. Partridge. *A History of Norwich, Vermont*. Hanover, NH: The Dartmouth Press. 1905.

they kept milk cans cool until they could be picked up every other day. When the Pierce's son Charles and his wife assumed full control of the farm in the 1950s, they continued the dairy and added a new milk room in 1963.

Norwich has a few counter-examples of continuity in farming such as the Brigham family farming cluster on Brigham Hill. "As several histories of the town report, the phenomenon of westward and northern migration of early settler families in southeast Vermont was also at play in Norwich. Census records show that Norwich's population peaked in 1830 after which steady decline occurred until later in the 20th century. By the 1905 writing of one of Norwich's town histories, the list of 18th and early 19th century family names that no longer existed in town far outnumbered those that remained.¹⁶ By the 2000s, very few of those 1905 families were still known in town. Although the dilution of most family farming clusters occurred in the mid- to late-19th century, the Brigham family remained living and working this farm cluster until 1933 through five generations."¹⁷

Later Nineteenth Century Period 1850 – 1900

The lowering of protective tariff rates in the 1840s and the coming of railroads meant that the wool market changed dramatically. *As a result, "there was no longer protection for those who had painfully worked to improve the quality of the Vermont Merinos."*¹⁸ *In addition, the cheaper wool of the west, easily transported by the expanding railroads, hampered Vermont's ability to compete with the rest of the country's wool producers. While the peak of the sheep boom in Vermont ended in the 1840s, it appears that many Norwich farmers in 1850 were still in the business of raising sheep and producing wool for market. That year, 183 of the 250 farmers in town owned approximately 10,000 sheep, an average of about 55 per farm.*

Over the course of the second half of the 19th century Norwich farms gradually became more and more diversified as reflected in the agricultural censuses and as reflected in Brian Knight's research and Alan Berolzheimer's for his article on farming in the 2021 publication *Norwich, Vermont: A History*.¹⁹ Stock breeding was another popular enterprise for making use of the abundant pastureland. *"Vermont's reputation for superior stock brought buyers from all over the country seeking the rams and the ewes of its noted breeders. Prices ran in the thousands for the best animals."*²⁰ Livestock bred in Vermont was shipped west. In addition to Merino sheep,

¹⁶ Goddard, M.E. & Henry V. Partridge, *A History of Norwich, Vermont*, Hanover NH: Dartmouth Press, 1905, p.136.

¹⁷ Papazian, Lyssa. *National Register of Historic Places Nomination for Brigham Hill Historic District, Norwich, Windsor County, Vermont*. Listed March 5, 2020.

¹⁸ Balivet, Robert F. *The Vermont Sheep Industry: 1811-1880. Vermont History*. v. 33, no. 1 Vermont Historical Society, January 1965.

¹⁹ Berolzheimer, Alan. Article based on his chapter on farming in *Norwich, Vermont: A History*. Published by the Norwich Historical Society. Montpelier, VT: Leahy Press. 2012.

²⁰ Russell, Howard S. *A Long Deep Furrow, Three Centuries of Farming in New England*. University Press of New England, Hanover, New Hampshire, 1982

Norwich stock breeders sold Durham, Norfolk, and Jersey cattle, Morgan and Percheron horses, Chester White hogs, poultry stock and others²¹.

The following is from Alan Berolzheimer's article on farming in Norwich which was also part of the 2012 publication *Norwich, Vermont: A History*²²:

The agricultural censuses of 1850-1880 give us a detailed picture of farming in Norwich. Most farms were highly diversified. Everyone had at least one milk cow and made their own butter; about half the farm families also made cheese. Nearly everyone had pigs, a few horses, and working oxen, and most families had sheep. Most grew hundreds of bushels of hay, corn, and oats to support their livestock; about half still grew small quantities of wheat. Everyone had potatoes and many families reported producing orchard crops (most likely apples) and maple sugar. Fully half the farmers in town made sugar, a total of 25,000 pounds in 1850, about 200 pounds per farm.

Even though the sheep boom in Vermont ended in the 1840s, it appears that many Norwich farmers in 1850 were still in the business of raising sheep and producing wool for market. That year, 183 of the 250 farmers in town owned approximately 10,000 sheep, an average of about 55 per farm. The list was headed by Jonas Hazen (550 sheep), William Loveland (325), Frederick Strong (250), and E.T. Sargent (175). While everyone had cattle, dairying had not yet become a commercial enterprise. Only 11 farmers had as many as 10 cows, and most had fewer than five.

The agricultural profile of Norwich for 1860-80 looks much the same. The proportion of farm families in the population fluctuated between two-thirds and three-quarters. Sheep farming continued to thrive, with two-thirds to three-quarters of farmers reporting close to 8,000 sheep, for an average of more than 50 per farm. One new development was that in 1884, Norwich farmers grew a thousand bushels of strawberries for market.

*The American Civil War ushered in a brief revival in the Vermont sheep industry. Just like the War of 1812, there was a demand for wool for service uniforms. The wool began to sell at a dollar a pound for one or two years, for wool began to replace the articles formerly made of cotton, which could no longer be smuggled, from the South. So temporarily the profit from wool exceeded the profit from cheese and butter, which were being produced as a resort when the sheep industry had failed.*²³

...

²¹ Child, Hamilton. comp. *Gazetteer and Directory for Windsor County, Vermont for 1883-1884*. Syracuse, NY: Journal Office, 1884.

²² Berolzheimer, Alan. Article based on his chapter on farming in *Norwich, Vermont: A History*. Published by the Norwich Historical Society. Montpelier, VT: Leahy Press. 2012.

²³ Newton, Isaac, *Report of the Commissioner of Agriculture for the Year 1864*; Washington, Government Printing Office, 1865.

The period 1870-1900 was a time of renewed interest in apple growing in Vermont. With improved methods of transportation, the introduction of new varieties for eating and cooking purposes, and the development of refrigerated storage on rail and steamer transport, there were new markets for apple growers. In addition, better canning, drying, and packaging processes, in conjunction with a growing market for apples for eating and cooking purposes in cities throughout the northeast, encouraged more farmers to diversify their operations with apple orchards.

...

Maple sugaring was an operation the settlers learned from native populations, and Vermont was famous for both the quality and output of the product. Maple sugaring was the Vermont farmer's first crop of the year, as it was gathered and processed during the spring thaw, prior to the planting of field crops.²⁴ After the sap was extracted from the tapped trees it was boiled down to a sugar or syrup. It was most often processed outdoors in a large kettle over an open fire.

In the 1880s, farming in Vermont went through a decline as farm product prices decreased significantly and "farming became less remunerative; many farmers sought other avocations, or became wage earners on other farms."²⁵ Despite this apparent decline, The Agricultural Census of 1880 recorded two hundred and twenty-nine farms in Norwich. The census reflected that hay production was still gradually increasing, maple sugar and molasses production was on the rise, however, sheep population declined, and cattle remained constant. One hundred and twenty-three Norwich farms were recorded for maple sugar and molasses production with a 15, 000-pound increase over the 1860 Agricultural Census.²⁶

The transition to dairying was natural as it was already a known occupation to the farmers, just at a smaller scale. Prior to the Civil War, "the keeping of cows on American farms was incidental to the general work of farm families. The 'native' cattle in use were of a very inferior breed, insufficiently and unprofitably fed and poorly housed. The handling of milk for whatever purpose was haphazard, to say the least."²⁷ The production of butter and cheese continued, but by the end of the century was replaced with cream and fluid milk due to western competition.

Although not all former sheep farms became dairy farms, those that did had to balance production of fluid milk versus butter and cheese depending on accessibility to safe transport to market. The Norwich Creamery was established in 1888 and could offer local distribution and access to refrigerated rail cars bringing fresh fluid milk to regional cities. The perishability of the

²⁴ Ewald, Richard. *Ballard Farm National Register Nomination Form*, United States Department of the Interior, National Park Service, 1993.

²⁵ *Agriculture of Vermont, Eighteenth Vermont Agricultural Report for the Year 1898*. Burlington: Free Press Association, 1898.

²⁶ University of Vermont Historic Preservation program. *Vermont Barn Census*. University of Vermont, Burlington, Vermont, 2009.

²⁷ Rozwenc, Edwin C. *Agricultural Policies in Vermont 1860-1945*. Montpelier: Vermont Historical Society, 1981.

product was the Vermont dairy farmer's edge over western production, at least in the nineteenth century. The average herd size remained small.

Later Nineteenth Century Period Barn Architecture

The farm diversification of the 1850 to 1880 period led to different uses of the existing barns and sometimes to new investment in infrastructure. The diversification also led to more specialized outbuildings. However, by the early twentieth century, writers advising farmers on best agricultural practices were advocating rearranging separate buildings to create one larger barn.

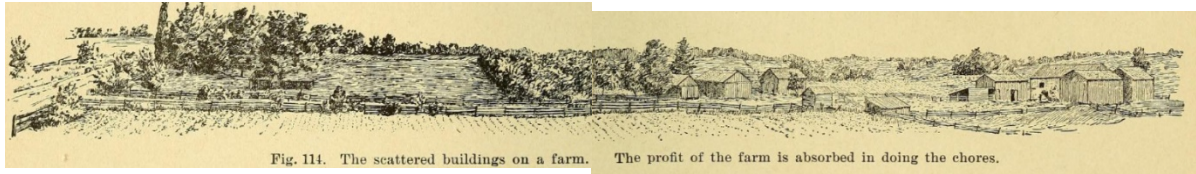


Fig. 114. The scattered buildings on a farm. The profit of the farm is absorbed in doing the chores.

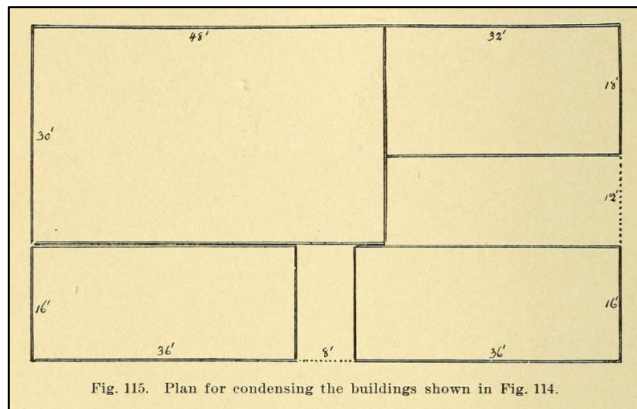


Fig. 115. Plan for condensing the buildings shown in Fig. 114.

Top: “Before” illustration of inefficient scattered farm buildings; Bottom: the plan for fitting four smaller together into one larger structure – both from *The Farmstead : The Making of The Rural Home and The Lay-Out of The Farm* (1910)

A 1910 book, *The Farmstead : The Making of The Rural Home and The Lay-Out of The Farm*, illustrated this with the advice: “To illustrate, let the buildings shown in Fig. 114 (image above), which is from a photograph, be taken. Move the four largest buildings to some suitable site without taking the frames down, and out of the timbers of the other structures build a basement story.”²⁸

The relocating and adaptation of earlier barns was consistent with the thrift of Vermont farmers. The creation of the barnyard complex at the Dutton/Metcalf farm (218 Dutton Hill Road) is a great illustration of this. The early English barn was expanded in two directions. On one side a bay was added to extend over a bank and provide a lower story. This addition appears to be post-1860 based on the framing. On the other, the barn was extended with another full, four-bay barn also with much later timber framing. This new section was built directly off the older frame with remnants of exterior siding still in place and a new drive-through bay was created with large sliding doors front and back. This section and the original barn were set up with a hay fork system that became standard on farms putting up hay in the nineteenth century when it was driven by horses and up until the mid-twentieth century when the system was driven by trucks or tractors.

²⁸ Roberts, Isaac Phillips. *The Farmstead : The Making of The Rural Home and The Lay-Out of The Farm*. New York : Macmillan Company. 1910, p.299-300

The four-bay extension also formed a corner connector to two older barns that seem to have been moved here and connected. This formed the large “L”-shaped protective barnyard that was more common in the later nineteenth century. The other older barns are fitted up with a farm shop, stalls, and whitewashed pens with a few wooden stanchions for dairy cows. The diversified operation described by farmer Paul Metcalf in his daily diaries of the 1930s was well served by the expanded arrangement of these barns which could accommodate a small number of different types of livestock, increasing hay production, and on-farm operations. Based on local sources, there was a set of barns across the road from the house that burned after a lightning strike. It was after this that the barns were thought to have been moved and rearranged.



The created barnyard at 218 Dutton Hill Road with the extended English barns tied together. On the Top Left the barn straight ahead is one or perhaps two older English barns. On the Top Right, an older English Barn was extended a bay to the right (end of barn) and was extended and connected to the other English barn on the left of the view. Milking stalls were then created under the new extended end.



Bottom Left: The original central bay door with former transom opening of the early English Barn, infilled with later wall framing; **Bottom Right:** the large added end bay with built-in hay ladder coming up from lower level and wooden wall built to protect the access from loose hay. Note: a higher floor was built in the added bay to create a usable lower level. This suggests that the older barn was not re-located but the extension took advantage of a very slight bank near the original location.

Another early example of a complex of barns is at 15 Brigham Hill Road, in which a ca. 1875 banked barn with a ramped drive into the hay mow is at the center.



Top Left and Right: Connected barns and created barnyard at 15 Brigham Hill Road



Older barns were brought together at a bank at 229 Bradley Hill Road (the barn is no longer extant). These appear to have been two English Barns end to end and likely relocated to the slope by the road. The line of siding change seen on the gable at the level of the road is an indication that it was likely not originally a bank barn. It was also extended on the rear to maximize the lower-level space.

Center: Former barns at 229 Bradley Hill Road in 2015



A collection of attached barns that are no longer extant are seen in a ca. 1950 lister photo at 136 Bradley Hill Road. There appear to have been an English bank barn, a Yankee bank barn and a connecting shed. Some of these barns burned and some fell down more than 30 years ago, according to present owner.

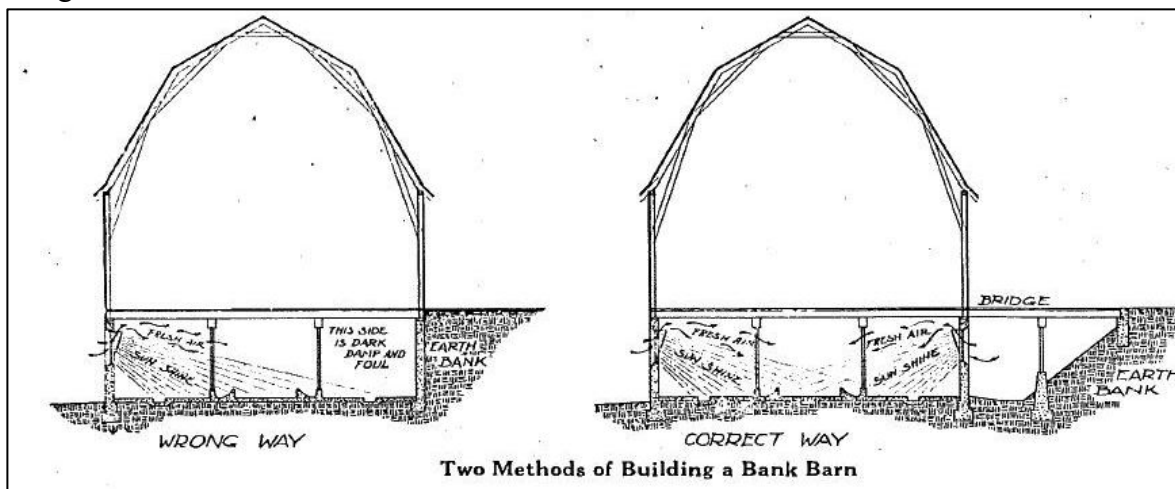
Bottom: ca. 1950 view of former barns at 136 Bradley Hill Road with silo



The use of an older English Barn was expanded with an addition at the intersection of Bowen Road and Waterman Hill Road. (The addition is no longer extant and the older barn has been restored.)

Top: ca. 1960 view of expanded older barn at 227 Waterman Hill Road

By the 1880s a decline in agriculture in Vermont led to an effort by the state to promote farm reinvestment and to attract people from cities to invest in older farms. Local granges were started as farmer organizations to meet socially and educationally. They sponsored talks by agricultural experts about advances in farming techniques. The state-supported Vermont Dairyman's Association was created in 1869, and its annual convention featured talks on new methods to increase production and address changing markets. Breed associations formed to improve the quality of the dairy cow in terms of production and herd management. Agricultural publications became popular that also spread information about new techniques and barn designs better suited to the growing focus on dairy and specialized agriculture. One focus to emerge was on sanitation. The old bank barn with a manure basement beneath the herd was considered unhealthy. More light and ventilation in barns was also encouraged. An idea promoted by Loudon Machinery²⁹, a company, that made and sold devices for modernizing barns, in 1915 was using a bridge instead of an earthen bank to access the hay loft. Instead of "dungeon-like" spaces built into the hill, there could be light and air brought in through windows beneath the wooden bridge.



Bottom: Diagram from the 1915 Loudon Machinery Catalog, which also contained barn plans, pointing out the problems of the earthen banked barn.

²⁹ Loudon Machinery Company. *Loudon Barn Plans*. Fairfield IA. 1915

Dairy farmers began to increase their herds and looked to more productive breeds for fluid milk like the Holstein. This led to the development of the Late Bank Barn which was a much larger and complex version of the old bank barn. Separation of functions – hay storage, herd housing, milk storage, and manure storage – was accomplished by multiple levels. The Late Bank Barn was often a full three or four stories and had access to its various levels through ramps or bridges called “high drives.” These were earthen and stone or framed bridges or sometimes both on different levels. The Late Bank Barn often included specialized features like cupola ventilators, stable windows, and incorporated hay rake systems. The ground level was often much more commodious than the earlier bank barns which mostly used the lower level for manure and sometimes pigs. In the Late Bank Barns, the high drives raised the main level and allowed the ground level to be spacious, well-lit and ventilated enough to stable cows or raised the stable level to accommodate more equipment on the ground level. These large barns are some of the most striking in the Norwich landscape. Several Late Bank Barns with high drives were built during the 1880 to 1910 period. Some older barns were adapted or reconfigured during this period as well.

A snapshot of Norwich farming in the mid-1880s is provided by the Norwich directory in the 1884 *Childs Gazetteer for Windsor County*.³⁰ The majority of residents are listed as farmers, most of these are wool producers as well as producers of maple sugar. However, out of the nearly 550 Norwich listings, only fourteen are listed as dairy farmers also with an average herd of about ten cows. Twenty-seven are listed as stock breeders and/or dealers including Merino sheep, several types of hogs, Durham and Jersey cattle, Morgan and Percheron horses, and poultry. There are also fourteen farms listed as fruit growers, apiaries, and/or cider producers. As more fruit and apples were planted commercially, the more the need for bees to pollenate the trees, thus the increasing specialty in honey production. What stands out is that sheep farming and wool production was still a mainstay of Norwich farms, even as it waned in other parts of Vermont. The town’s extreme terrain may be the reason, as the hilliest, rockiest pastures that worked well for sheep, were not as well suited to dairy cows. Most farms listed in the directory are modest in scale, but there were a few larger operations that stood out such as the “Lillie Pond” Stock Farm of R. A. Tilden in the vicinity of Farrell Farm Road/Town Farm Road, the 1200-tree fruit orchard and sheep operation of Frank E. Spear on Upper Turnpike Road, and the several Hutchinson farms in the vicinity of the railroad lines which had some of the larger dairy herds and a silo was even noted under Samuel.

The framing for barns in the later nineteenth century remained timber frame with more and more sawn members the later they were. Until the twentieth century most were still using mortise and tenon joinery. The larger and higher barns with more elaborate floor plans required trusses not seen in simpler, earlier barns.

The ca. 1886³¹, three story, bridged high drive barn at 287 River Road, though altered on the ground level, still has its most distinctive features. It is topped by a decorative cross-gabled

³⁰ Child, Hamilton. comp. *Gazetteer and Directory for Windsor County, Vermont for 1883-1884*. Syracuse, NY: Journal Office, 1884.

³¹ This may have been the 1886 barn built by a Mr. Matterson for Deacon Henry Hutchinson. Per newspaper items, the abutments were built by John Huntington (*The Landmark*, 4/17/1886 & *The Valley Sun*, 5/21/1886)

cupola ventilator. It has its stable windows on the second-floor level that is accessed by an earthen ramp on the rear. On the front gable, its enclosed high bridge is almost a small barn in itself with a steep stone and earthen ramp that leads to its third-floor loft level.



Top Left: High Drive bank barn at 287 River Road with stone abutment; Top Right: framing of the third level with upper loft platform.

The dairy herd and horses would have been housed on the second-floor level and other livestock and bays for manure spreaders might have been on the ground floor level. This barn was adapted in the later twentieth century for larger machinery on the ground level by raising the whole frame and placing it on concrete posts.

Two extant high drive barns are at 519 Bragg Hill Road (1902) and 304 Route 132 (ca. 1890s). They are three- and four-story bank barns, respectively. Another, seen in historic photos, was at the Waterman Farm, the remains of which are at 8 Old Bridge Road.



Bottom Left: 304 Route 132 from the rear showing all four of its levels; Bottom Right: Historic view of the high drive bridge barn at the Waterman farm (now 8 Old Bridge Road) during a major flood. Only part of these barns remain.

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Top: 519 Bragg Hill Road showing two of its three levels and its bridge

The barn at 519 Bragg Hill Road replaced an earlier barn that had burned. Built in 1902, the barn used many of the latest design ideas for modern farming. The ground level had bays for manure spreaders and was also used to house dairy cows, the second level had a hay loft and a separate stable section with windows and more dairy stanchions. The third level was mainly a set of interior bridges for delivering and unloading hay into the two-story mow of the second level. According to the owner, whose father bought the farm in 1930, it was built by itinerant barn builders who also built several others in the area³².



Bottom Left: ground level equipment bay;



Bottom Center: second floor stable windows;



Bottom Right: Second floor hay loft and third floor bridge (on extreme left). This framing has the purlin supported on the tie beam. 2-story posts and a complex of tie beams support the bridge and roof

³² Current owner, Antoinette Jacobson, whose father bought the farm in the 1930s from the original owners, said the barn had been built by “itinerant barn builders” who also built several other barns in the area. She mentioned one on corner of Hemlock Ridge & Route 5, just over the border in Wilder (now “Condos”), also one on the corner of Beaver Meadow and Moore Lane, (Hussey barn?)



Top Left: Satellite view showing high drive barn (now condos) at Route 5 and Hemlock Ridge Dr.;
Top Center: Same barn from Hemlock Ridge Drive;
Top Right: High drive bridge into barn at corner of Moore Lane and Beaver Meadow Road

The barn at 1766 New Boston Road is an unusual Bank Barn with an addition that contains both a bridge to the upper loft level and a ramped access to the stable and hay storage level. The large sliding doors at the opposite gable end from the bridge, suggests that at one time the barn may have been an older, ground level Yankee Barn raised up. The barn has complex timber framing to create the bridge level and open lofts below as well as using a king post style truss for the bridge itself. The mostly pegged mortise and tenon joinery with sawn timbers seems consistent between the main barn and bridge addition which makes dating the main barn difficult. There are some reused hewn timbers in the frame as well. While the property was farmed since the eighteenth century, this barn appears to have been built/alterd in the last quarter of the nineteenth century. There is a separate cider mill on the property that also uses older hewn framing members.



Bottom Left: Banked barn with high drive bridge at 1766 New Boston Road; Bottom Right: bridge truss structure of timbers and a metal rod, seen from below

The c.1895 Late Bank Barn at 430 Upper Turnpike Road has multiple levels as well as additions stepping down the bank. The barn has stable windows. In 1900, the Thorburn family, who likely built the barn, kept twelve to fifteen cows, five to six horses, seventy-five sheep, pigs, and chickens as well as having a large apple orchard. There were some other outbuildings that are not extant but this large barn could have accommodated much of this operation.



**c. 1895 Late Bank Barn at
430 Upper Turnpike Road**

The era of these large, elaborate bank and high drive barns – 1880s to 1900s – is a period in which most specialized builders, known as carpenters, joiners, and sometimes “mechanics”, would move to the town in which they had a job for the duration of the construction. In this way, the majority of these specialists were “itinerant” by the nature of how they did business. A search of scannable newspapers of the period, reveal many items published indicating who was building a barn for whom and where. A builder might be noted as moving to a town for a particular job, and then noted again when he returned. For example, this was an item in the “Hartland” column of *The Vermont Journal* of April 9, 1904 (p.4) was “H.W. Small has returned from Cornish, NH, where he has been doing carpenter work for Louis St. Gaudens, and is now at work on a new barn for G.E. Graham.” Later, on June 18, 1904 in the same column: “H.W. Small is working in Windsor.” The whereabouts of Small, a carpenter of Hartland, like that of other town residents was reported in the town column. Some research through Newspapers.com for this period, did not clearly reveal the carpenter/joiner who built the Bragg barn or the other two mentioned by Antoinette Jacobson, but a number of barn builders were identified as working in the Windsor County area. In the 1880s, there were Joseph Cobb of Springfield, Mr. Matterson (builder of the Henry Hutchinson barn along with stone worker, John Huntington). Starting in the 1880s through the early 1900s, there was Herbert W, Small of Hartland Four Corners. In the 1890s, there were Warren Williams and Henry Gould, both of Chester; W.R. Knight, of Norwich; Chester Foster, and Guy Durkee, both of the Randolph area. In the 1890s and 1900s there was Capt. G. H. Thompson of Bellows Falls. In the classified section of the 1884 Childs Gazetteer of Windsor County, there are seven pages of listings for “Carpenter – Builders” with over 300 names, Thirty-eight are specifically noted as “builders” and nine were specifically notes as “joiners.” Fourteen of the total “Carpenter-Builder” listings were in Norwich including Byron H. and Ebenezer F. Hutchinson, a family of several farmers in town; as well as Eben and Solon Sargent, another family of many local farmers.³³

³³ The barns surveyed for the 2021 Barn Survey project included one on a Sargent farm (1766 New Boston Road) that was likely reconfigured or built from old parts in the late 19th century and one on a Hutchinson farm (287 River Road) that was also built in the 1880-1890 period. Though, it is not known if either of the Hutchinson or Sargent builders were involved with those barns.

Twentieth Century: 1900 – 1980s

The growth of the dairy industry continued from the late nineteenth century in becoming more professional and using science and research supported by the state to improve production. This came with demands on farmers to meet increasingly stringent standards coming from the state and the dairy processors. For some farmers, the changes needed to stay in the milk market, such as concrete stable floors, increased light and ventilation, proper cooling and handling of the milk, were too expensive or just too much change and many stopped dairy farming. This was especially true of hill farms which did not have the appropriate land or equipment to grow corn and other feed to get high production from their dairy cows. It was also true of more remote farms that were left out of milk pick up routes. In the early decades of the century, there were fewer dairy farms, but these had more and more cows. Farms on more productive soils, and flatter terrain such as in the rich Connecticut River valley were more successful in transitioning to larger scale dairy. Vermont historian David Donath wrote in his 1992 article “Agricultural and the Good Society”:

The marginal land on which Merinos had thrived proved unable to support dairy cows. The economics of commercial dairying, its labor and capital requirements, and the demand for ever-increasing productivity encouraged larger, better-quality farms.³⁴

Historian, Alan Berolzheimer wrote in 2012:

During the 20th century the number of farms in town gradually declined and the proportion of residents making their living in other ways steadily increased. Dairy farming became the commercial mainstay throughout Vermont during the last third of the 19th century, as the invention of the refrigerated railroad car enabled northern New England farmers to supply fresh milk to rapidly growing cities, especially Boston. The Norwich Creamery was established in 1888 at the north end of the village. It was sold to Hood & Company in 1904, which had a creamery near the railroad station in Lewiston. In 1910, 43 out of approximately 200 farmers in town were listed as dairy farmers. But by 1930, only nine out of 101 farmers were dairying.³⁵

Dairy or not, during the winter, farmers supplemented their income with cutting firewood lumber. During the spring, they turned to maple sugaring. These traditional activities became more important to sustain farms in the twentieth century especially for those not pursuing dairy. With cheaper, imported cane sugar becoming more common, by 1900, the maple production in Vermont shifted focus from sugar to syrup. “In 1915, there were 9,558 tapped maple trees in Norwich. The farmers of Norwich produced 2,350 pounds of maple sugar and 2,889 gallons of maple syrup.”³⁶ Vermont’s syrup production continued at a high level until the mid-1940s.

³⁴ Donath, David, “Agriculture and the Good Society.” *We Vermonters: Perspectives on the Past*. Montpelier, Vermont: Vermont Historical Society, 1992.

³⁵ Berolzheimer, Alan. Article based on his chapter on farming in *Norwich, Vermont: A History*. Published by the Norwich Historical Society. Montpelier, VT: Leahy Press. 2012.

³⁶ *Agriculture of Vermont, Seventh Annual Report of the Commissioner of the State of Vermont, 1915*. St.

Another way for hill farms to utilize their sheep pastures in the twentieth century was in orchard crops, especially apples. While most farms of the nineteenth century had some apple trees and sold orchard products, it had been a minor activity in a diversified operation. In the twentieth century, some farmers planted new, larger apple orchards as cider became a more important crop to them.

By 1940, the remaining dairy farms often invested in new, specially designed infrastructure. The Ground Level Stable Barn supplanted the bank barn. This newer barn design did away with three level, complicated framing of high drives, and eliminated the manure basement or basement stables. It provided a concrete floor on the ground level filled with light and air from open windows, which was considered more sanitary. Long rows of cow stanchions or tie-ups provided an efficient way to milk and feed more cows quickly. The large hay mow above was often built equipped with a track for the hay fork and large doors in the mow. The technology of the hay fork continued to evolve. Before 1940, it was mostly driven by horses, pulling with a block and tackle to hoist iron forkfuls of loose hay from a wagon up into the hay loft from the ground outside. The fork had a device that would transfer from the pulley to the track running under the ridge in the hay loft. It would then be maneuvered into position and opened to drop the hay. After 1940 it was much the same but driven by truck or tractor. The system even transitioned to grabbing baled hay when that became the norm in the later twentieth century. But there were other ways of moving bales into the loft, such as the hay elevator which could sometimes use the hay fork doors or doors lower down so that hay bales could be stacked from the loft floor. As with earlier bank barns, the hay could then be dropped directly from the mow into the mangers. Manure gutters were incorporated into the concrete stable floor and often handled by hand loading hanging metal bins on a track that could slide outside to dump into a waiting spreader or directly to the manure pit. Innovations in feed for dairy cows meant that by the 1940s, the silo was an essential part of most dairy farms. Sliding bin and track systems were also developed for feeding out grain and silage in the manger aisles. The manufacturers of the new systems and equipment, like Loudon and Jamesway, also sold barn plans designed to utilize their products.

Berolzheimer continues:

Big changes occurred over the next 50 years. Between 1939 and 1980, the amount of active farmland in Norwich (including pasture, cropland, hay fields, and orchards) diminished by one-half, to about 3,500 acres. In 1974, there were only seven farmers in town who made more than half their income from farming. In 1986, there were two dairy/beef farms and two vegetable farms.³⁷

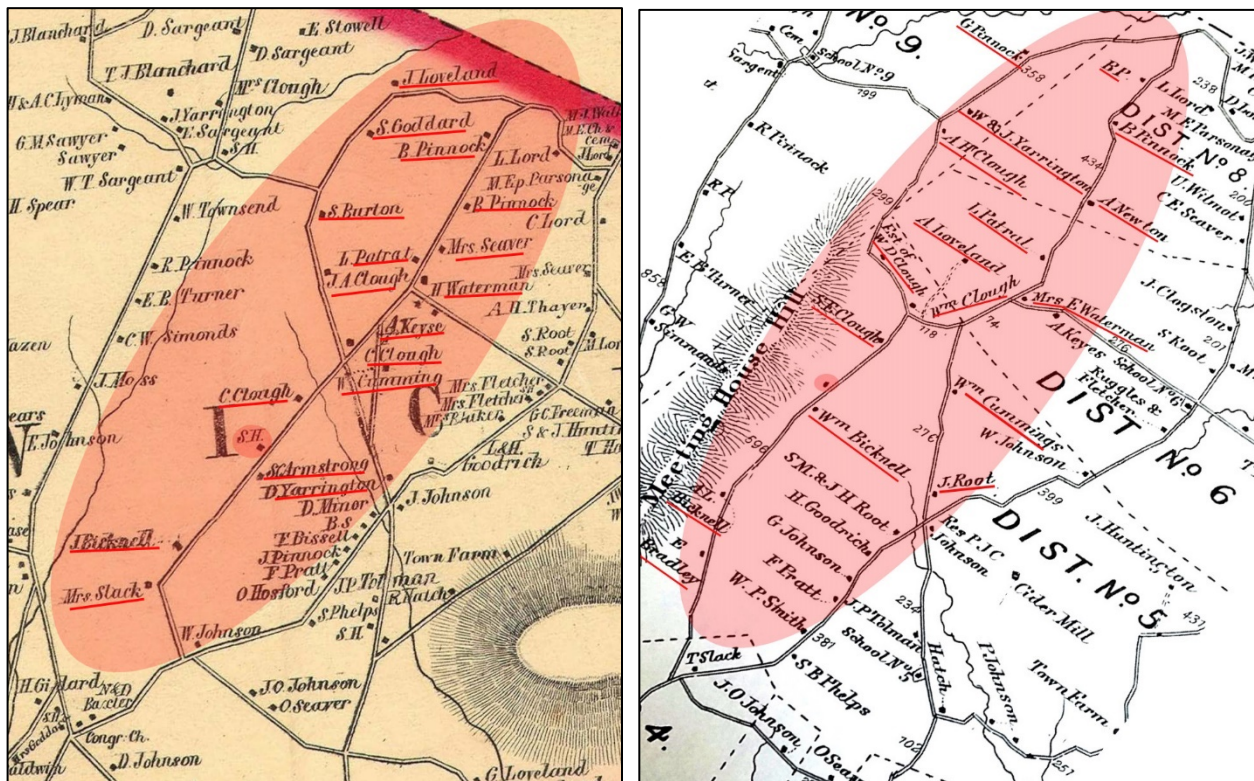
These changes can be seen in the available historic maps of Norwich. As an example, a farming cluster in a hilly area north and east of Meetinghouse Hill near Thetford appears on the 1856 Doton and the 1869 Beers maps of the town, which list the location and names of the houses/farms in town. In this area the two maps show roads forming a rough oval and continuing on Bradley Hill Road on the south and incorporating the northern part of Patrell Road on the east. It connects near the Thetford line to roads leading to Union Village. Another road extends

Albans: St. Albans Messenger Company, 1915.

³⁷ Ibid

on the west connecting the loop to a hamlet of farms and a school (#9) at the crossroads of what is now New Boston Road and Norford Lake Road. On the east a road extends to the Waterman Hill farming cluster. In this loop area in 1856 and extending down Bradley Hill and Patrell Roads are seventeen farms and a schoolhouse of which three farms are owned by the Clough family. In 1869, there are still seventeen farms of which five are Clough family farms, and the schoolhouse is shown but not labeled indicating it was no longer in use. The two farms near the south end of Bradley Hill Road are labeled Bicknell and Slack/Bradley and the Patral [sic] farm is shown as well on the upper part of Patrell Road.

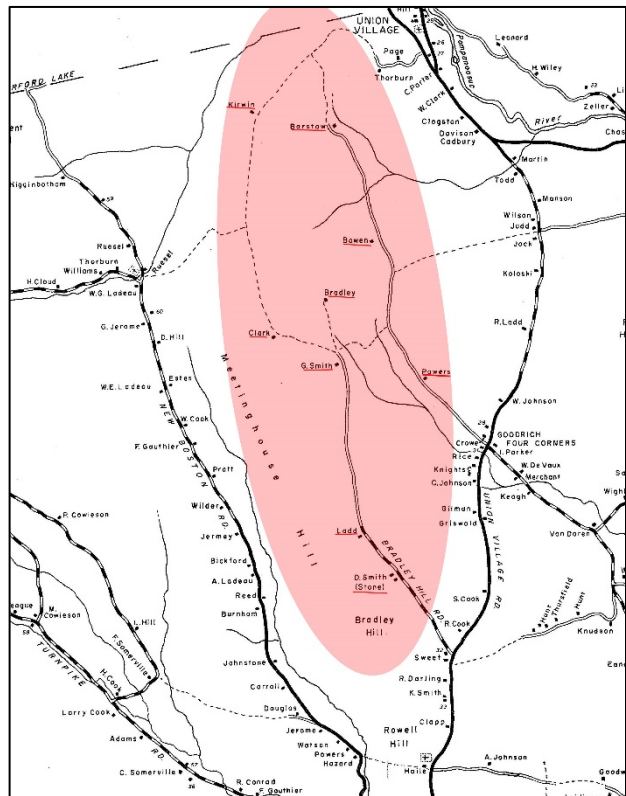
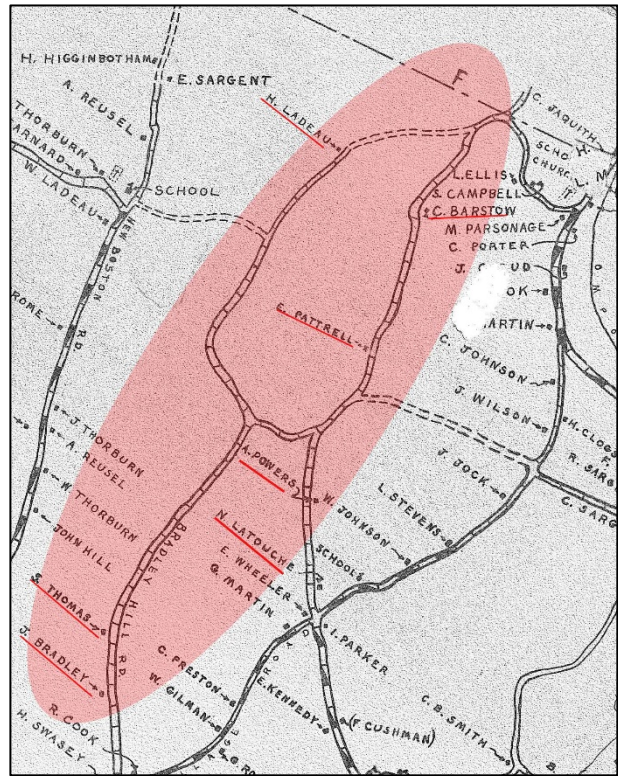
The 1884, Child's Gazetteer of Windsor County lists several of these farmers/farm families in its Norwich Directory including four Cloughs, Bicknell, Bradley, and Patral [sic]. All are listed as sheep/wool farms with sugar making also noted. Only Patral [sic] is listed with 6 dairy cows as well as sheep.



Left : 1856 Doton Map detail showing area circled – Note “S.H.” which was an early schoolhouse for the cluster; Right: 1869 Beers map detail showing same area circled but schoolhouse is no longer active or labeled

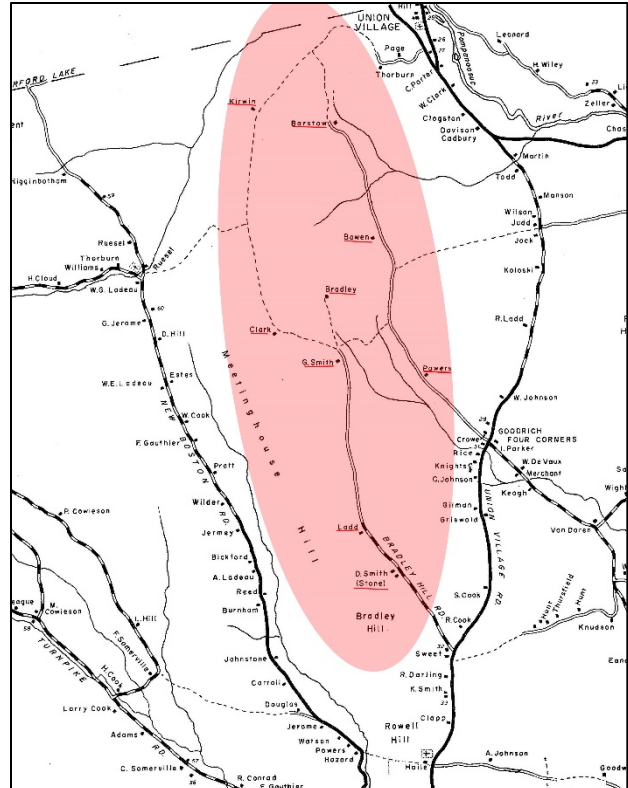
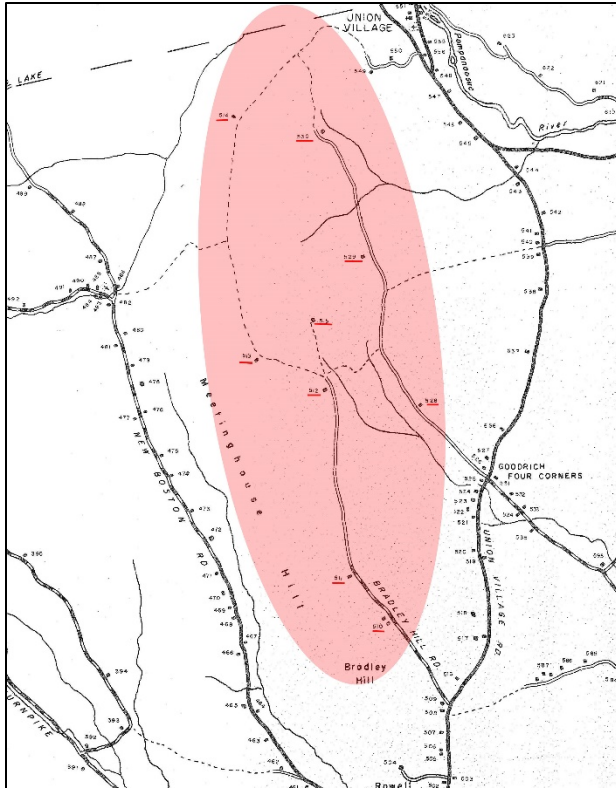
The next maps that locate and identify houses are a 1940 map made by Carrie Barrett followed by a series of maps made by Van H. English and John Orcutt of Dartmouth in 1959 and then updated in 1963 and 1973. By 1940 the change in the area of town described above is dramatic and illustrates well the statistics cited by Berolzheimer about farm loss and later conversion. In 1940, the same area has only six homes/farms, including E. Patrell [sic] and H. Ladeau in the upper part of the loop and S. Thomas, J. Bradley further south on Bradley Hill Road. Parts of the roads are shown as “primitive” and the connecting roads to other hamlets east and west are starting to disappear.

In 1959 through 1973, although most of the upper sections of the roads are shown as trails and “unimproved” roads, there are nine homes representing some new development between 1940 and 1959 followed by a flat period of additional houses. The three older established farms – Patrell, Thomas, and Bradley may be active but the other homes shown are not likely farms.



Top: 1940 map detail showing almost all the 19th century farms gone.;

Bottom: 1959 Town map of homes detail showing area circled;

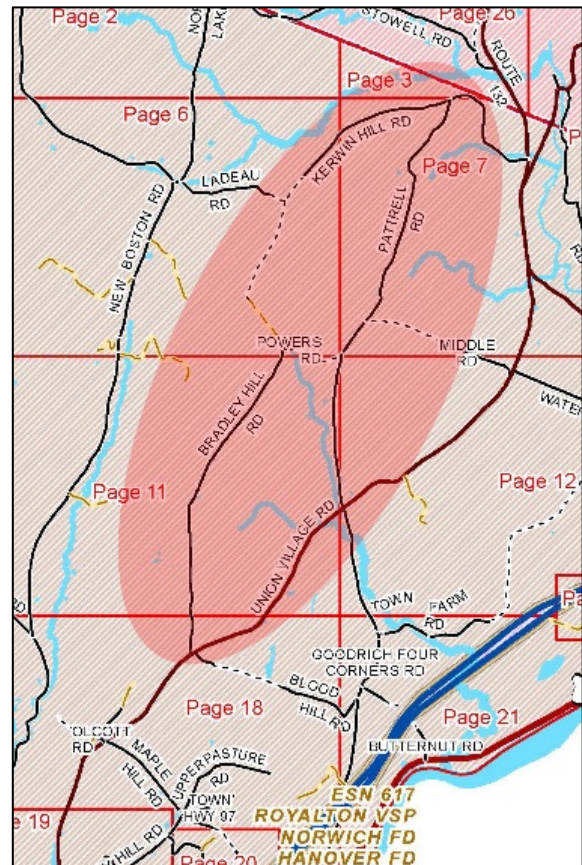


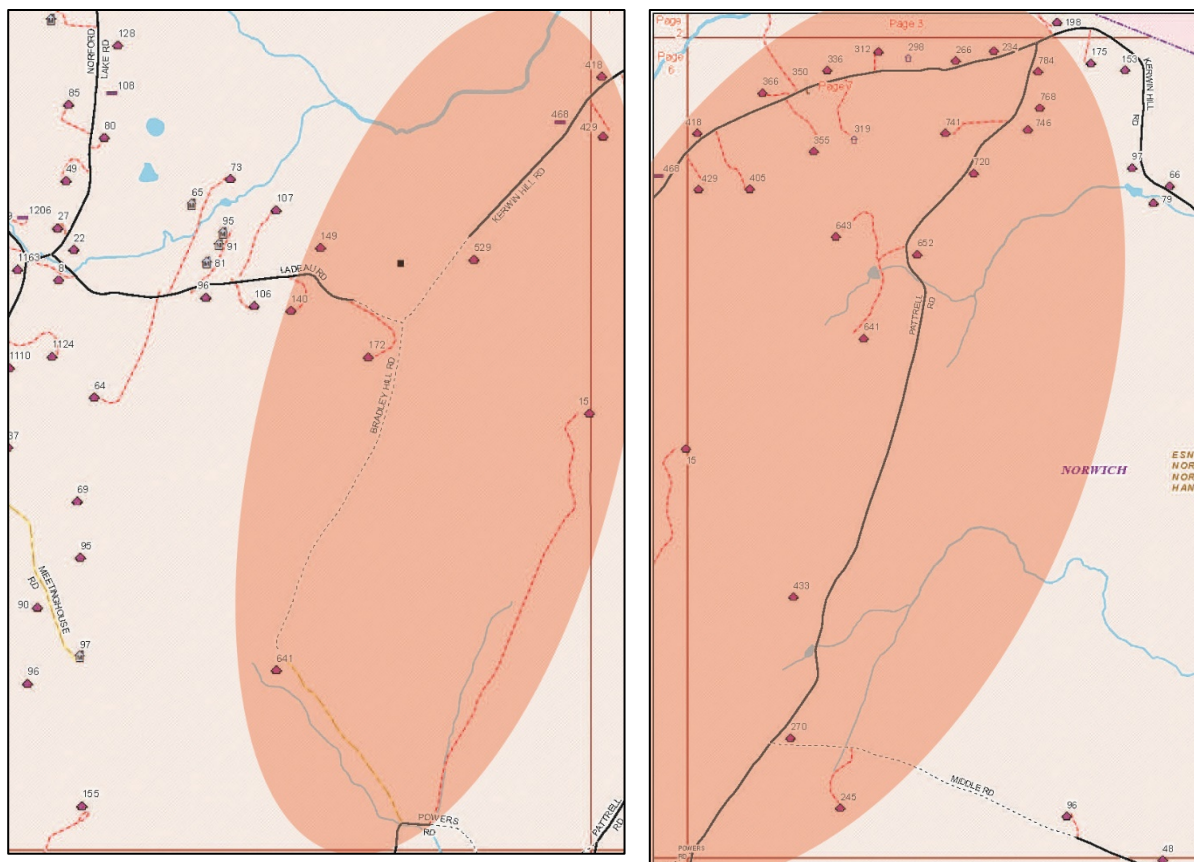
Top Left: 1963 update of the Norwich map of home detail. There is very little change in this four-year period;
Top Right: 1973 update of the 1959 homeowner map of Norwich detail showing area circled;

[Note these map details are oriented with north at top unlike the previous detail];

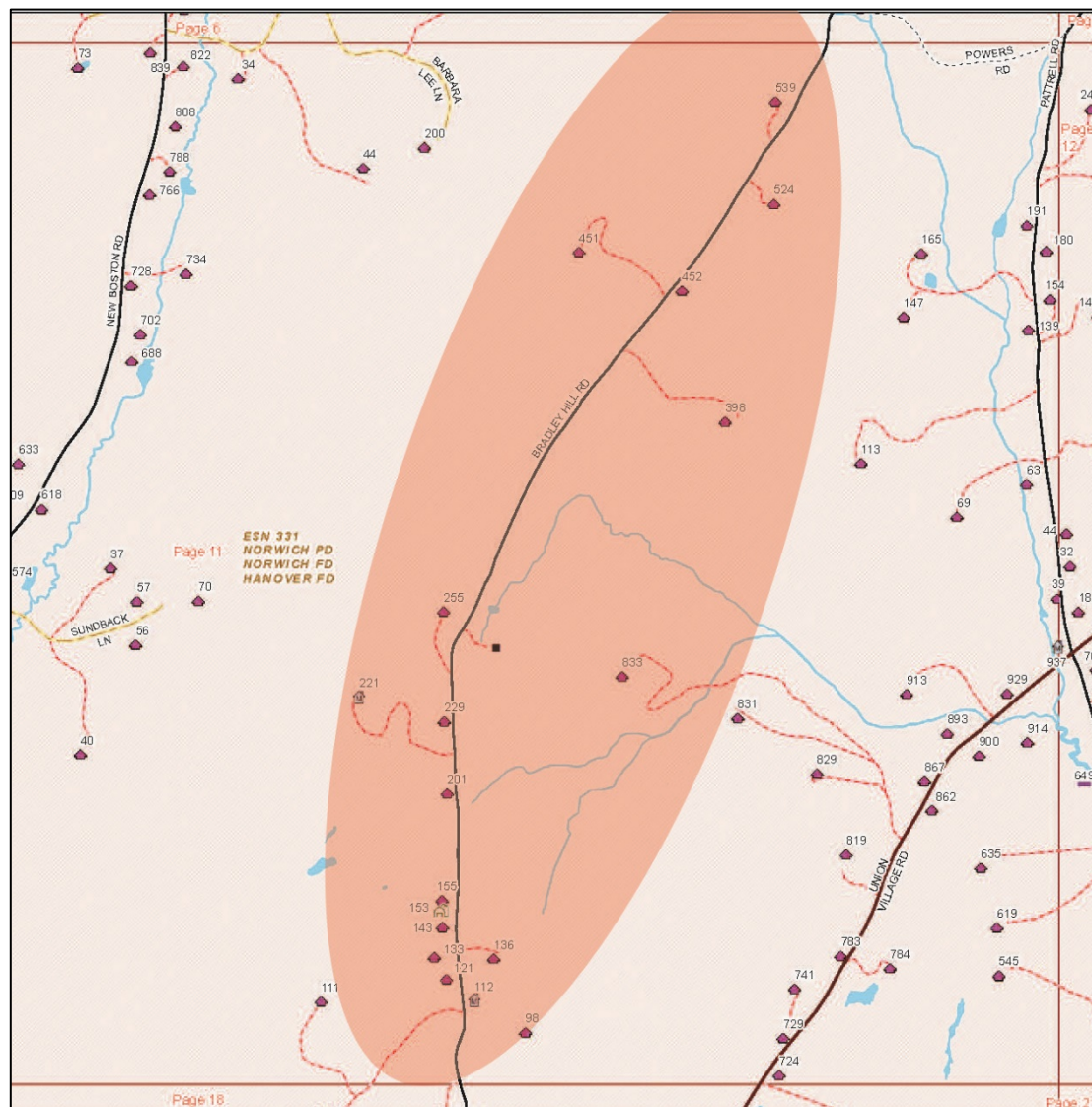
Bottom: overview of current 911 map of Norwich with area circled;

Today, after an intensive period of housing development starting in 1980, the roads abandoned in 1940 are partly reestablished, though the connections to other areas are still trails. This area has dozens of new homes in the former sheep pastures and woods of this nineteenth century farming cluster.





Top Left: Current map 6; Bottom Top Right: Current map 7 – the top of the 19th century loop is now Kerwin Hill Road with 14 homes where there was 1 in 1940.



Current 911 map 11 detail showing the lower part of the area discussed along Bradley Hill Road. There are now sixteen houses where in 1940 there were two and in 1959-1973 there were three. Of the two older farms in this part of Bradley Hill Road, only the former Bradley farm, now Langlois at 136 Bradley Hill Road, is still being farmed.

From the 1991 *Agricultural Resources of Vermont*:

While dairying continues to be Vermont's leading agricultural operation, it has become less lucrative, particularly for small-scale farmers, during recent decades. Rising capital costs such as the introduction of the bulk tank in the late 1950s have forced a number of farmers out of business. In addition, problems such as federal manipulation of milk prices, land development pressures and the attendant skyrocketing property taxes have driven many farmers to sell out, either to private developers or in accordance with the Federal Government's Whole Herd Buy-Out Plan of 1986 in which farmers were paid to export or slaughter their herds. Those farms that still operate are typically the larger, more prosperous farms, while growing numbers of smaller farms are unable or unwilling to compete.³⁸

As Berolzheimer noted, 1986 was a watershed moment for Vermont and Norwich dairy farms. There are none operating currently. However, there are a surprising number of farming operations, small, large, professional or avocational, that keep many of the fields and pastures open in 2021. Berolzheimer concludes his 2012 article:

"Today a minor farming renaissance is underway in Norwich. While only a handful of people make a living by farming, the few farms that remain exemplify the diversity of enterprise that has marked the people of Norwich all along. We currently have two commercial vegetable farms, two diversified farms focused on meat production, one commercial beef farm, several families raising more than a handful of sheep, several raising chickens and selling eggs, many more enjoying horses, bees, a few hens, or maple sugaring, and many keeping land open for hay—not to mention scores who grow their own vegetables. Given the strong interest here in local food and sustainable communities, the future of farming in Norwich looks bright."

In 2021, small-scale diversified farming operations include Sweetland Farm on Route 132 which produces meat and vegetables, with Community Supported Agriculture (CSA) shares and a farm store which also sells other local products; Norwich Creamery³⁹ using existing barns to process and sell farms products; and Hogwash Farm at Goodrich Four Corners which produces several meats with CSA opportunities and a farm stand. More specialized farming operations include a commercial vegetable farm with a CSA component (Honey Field Farm on Butternut Road), a hog operation (Pompy Farm on Goodell Road), and a commercial beef operation (Hilltop Farm on Bradley Hill Road) as well as a large horse farm (Pirouette Farm on Hogback Road). Open farm land in Norwich is still hayed and pastured by these and even smaller endeavors by local landowners.

Three important developments in the late 20th and 21st centuries are at work in Norwich and throughout Vermont that help keep agriculture thriving. The first is Vermont's Current Use

³⁸ Gilbertson, Elsa and Suzanne Jamele, *Agricultural Resources of Vermont Multiple Property Form*, United States Department of Interior, National Park Service, 1991

³⁹ As of this writing, there is some uncertainty about whether this business can continue at its current farm location on Turnpike Road in Norwich. For more information, see <http://norwichfarmcreamery.com/index.html> and <https://norwichfarmfoundation.org/>

program⁴⁰, started in 1978, which provides property tax reduction for active agricultural use of land and barns/farm buildings. The properties that are enrolled in the program only pay taxes based on the use value as opposed to the potential development value. Actively used barns and farm buildings on enrolled farms are exempt from property tax. The second development is the Community Supported Agriculture model that engages the consumer to become a member of the farm by buying a share of the harvest. This is usually distributed weekly throughout the growing season. The farmer gets a base of guaranteed income upfront to support the operation and the community becomes more involved in the success of the farm. The idea took hold in the 1990s in the northeast and has really blossomed in the 21st century as the public in Vermont becomes more familiar with the concept. The other important factor that helps keep farms in operation is the partnership between land conservation and farmers. The development pressures on land in Vermont has made acquiring and paying taxes on land (and farms) beyond the reach of most new farming operations. The land trusts that hold conservation easements and development rights to farms have made them available to new farmers at a cost that is sustainable. This has allowed many, mostly young, farmers to begin or continue agricultural operations and has kept land open and in production in areas with high property values, like Norwich. The Sweetland Farm, is an example of a new farm operation that was conserved by the Vermont Land Trust and made available for agricultural use⁴¹.

Twentieth Century Barn Architecture

In the early decades of the twentieth century there continued to be alteration to existing barns which enabled them to serve new uses, such as commercial dairy. The expansion of basement levels on bank barns enabled them to become modern stables. While in the later nineteenth century it had been common for farm uses to be separated and outbuildings used for specialty purposes, such as the 1900 detached heifer barn built at Meeting House Farm (128 Union Village Road), or the cider mill building at 1766 New Boston Road, in the twentieth century consolidation of buildings was being advocated. Some older barns were raised up to create a new stable/equipment level. Examples are 15 Upper Turnpike Road and 1285 Union Village Road. 44 McKenna Road is an early twentieth century bank barn with cupola.

⁴⁰ From the State's website (<https://tax.vermont.gov/property/current-use/about>) "In 1978, the Vermont legislature passed a law establishing the Use Value Appraisal of Agricultural, Forest, Conservation and Farm Buildings Property. Today, this program is known as "Current Use" and is administered by the Division of Property Valuation and Review within the Vermont Department of Taxes.

The purpose of the law was to allow the valuation and taxation of farm and forest land based on its remaining in agricultural or forest use instead of its value in the marketplace. The primary objectives of the program were to keep Vermont's agricultural and forest land in production, help slow the development of these lands, and achieve greater equity in property taxation on undeveloped land. Benefits for land enrolled in the program were first distributed in tax year 1980.

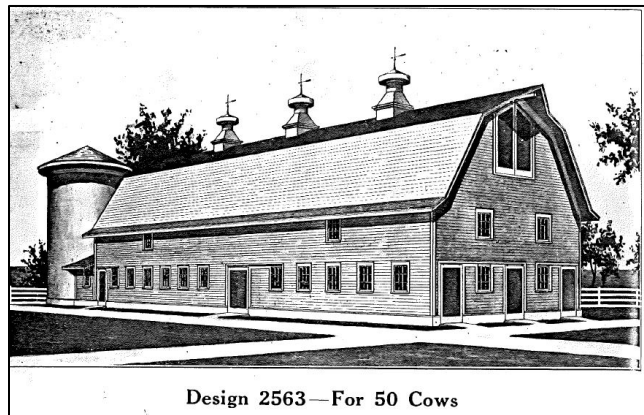
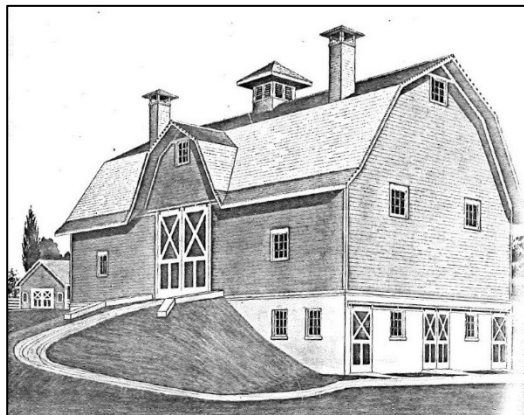
Participation in the program has grown as it has evolved. The two most significant changes have been the inclusion of conservation land owned by qualifying nonprofit organizations and the exemption from all property taxes of eligible farm buildings. When an application is approved and recorded in the municipal land records, a lien is established on the enrolled land to recover a land use change tax should all or any portion of the enrolled land become developed."

⁴¹ <http://www.sweetlandfarmvt.com/us/>



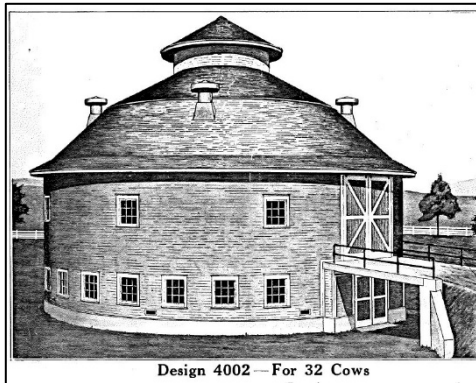
**Top Left: 44 McKenna Road, ca. 1900-1910;
Top Right: 15 Upper Turnpike Road; Center
Right: 1285 Union Village Road**

Farm machinery companies like, Loudon Machinery in Iowa, sold complete barn plans that would incorporate their products including the hay fork, rooftop metal ventilators, metal stanchion and stalls, silos, feed and manure systems and trollies. The Loudon catalog for 1915 includes more traditional bank barn designs but were also pushing the Ground Level Stable barn. This latter design became ubiquitous on American farms of the first half of the twentieth century but didn't really become common in Vermont until the late 1930s.



Bottom Left and Right: two designs offered for sale in the 1915 Loudon Machinery Catalog

The Round barn was an experimental form of dairy barn that was briefly popular around the turn of the twentieth century and therefore quite rare. They are so striking that the surviving examples in the state are often quite well known such as the Round Barn in Waitsfield or the one at



Shelburne Farms. While there is not one extant in Norwich, a ca. 1950 lister photograph shows a picture of one from the early twentieth century at 742 Route 132 that was described as dilapidated at the time. It had a number of features that were gaining in popularity including the rooftop ventilator, bridge style high drive and a wooden stave silo. Silos, a way to store and easily feed out preserved fodder or grain for the winter, had been introduced in the late nineteenth century but did not really catch on until dairying became more specialized and focused on higher production.

Top: Design of a round barn from 1915 Louden Catalog



Bottom: c. 1950 view of a round barn at 742 Route 132. (Clark Farm) This ca. 1900 - 1910 barn features a large gambrel roofed bank barn with high drive attached to one side and an early wooden stave silo and feed rooms

The earliest dairy stables resembled older barns in form and framing with gable roofs. However, roof designs that maximized hay storage capacity and eliminated posts in the center were becoming popular. These were the bellcast and the much more common, gambrel roof shapes. Ship-like trusses formed the roof. Two earlier examples from the 1920 – 1930 period in Norwich use a system of canted purlins and diagonal scissor trusses along with a timber frame to create the high space with clear span for hay storage. These gambrel roofed barns on two related farms in one family are the ca. 1920s gambrel roof barn at 5 Happy Hill (George Cossingham Farm) and the 1928 gambrel roof barn at 70 Cossingham Road (Richard Cossingham, Jr, Farm). These both have elements of older barns incorporated into a new building that is a hybrid of the older bank barn and the modern ground level dairy stable.

The barn at 5 Happy Hill (Hovey/George Cossingham Farm) is really a complex of barns assembled in a cruciform shape. Some of them are older, some bank barn style, and the main one is a ground level stable barn with gambrel roof that, according to the current owner, was relocated from the Dartmouth Campus or possibly just the lumber was reclaimed and reused. It appears to be an early twentieth century barn – likely c.1929. The result is a very large facility of essentially four barns with a huge connected hayloft and an extensive, concrete floored ground level dairy stable with youngstock wing. Despite its hill location this farm continued to adapt to changes required of the dairy industry to remain in business and was reportedly one of the most successful farms in town.⁴² In the 1920s, the farms of both Cossingham brothers (George and Richard, Jr.) were demonstration sites for new crops, like alfalfa, and the use of ensiled forage⁴³. The nearby farm of Otis (later Paul) Metcalf on Dutton Hill was another alfalfa demonstration site.

In addition to the concrete-floored stable with wood stanchions, two different milk houses were added to meet evolving sanitary standards as well as a mechanical gutter cleaner, and eventually a bulk tank. The farm had a silo but it was taken down recently.



Top: 5 Happy Hill barns with the c. 1929 gambrel; Bottom: another view of 5 Happy hill barns showing other legs of the cruciform shaped floor plan

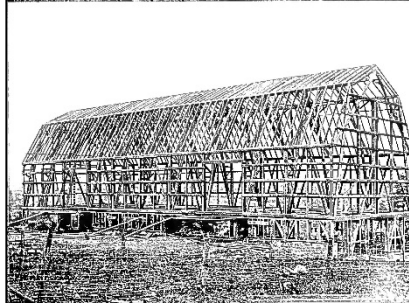
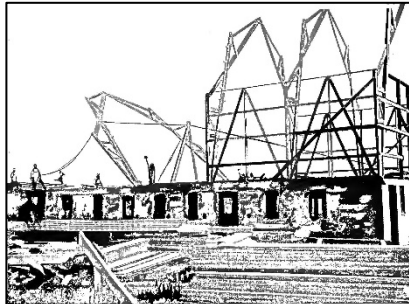


⁴² Norwich Historical Society. *Norwich, Vermont: A History*. Montpelier, VT: Leahy Press. 2012.

⁴³ Newspaper articles: Springfield Reporter (Springfield, Vermont) · Thu, Aug 28, 1930 · Page 2; The Landmark (White River Junction, Vermont) · Thu, Aug 16, 1928 · Page 3



Images of 5 Happy Hill
Clockwise from Above:
Hinged mangers; gutter
cleaner corner mechanism;
older of the two milk houses;
center aisle for dairy stalls;
wooden stanchions

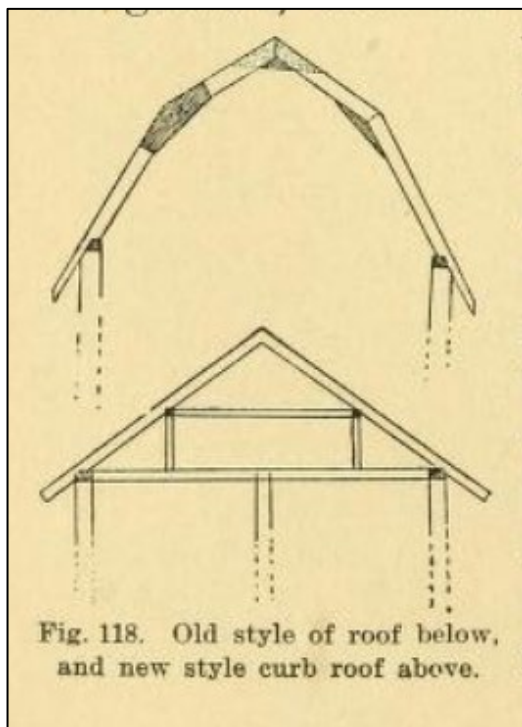


Bottom Left: Photos of erecting the scissors truss type of gambrel roof frame from the Jamesway Co. Catalog of 1918; Bottom Center: Scissors truss in gambrel roof of 5 Happy Hill; Bottom Right: scissors truss at 70 Cossingham gambrel roof

The very tall, gambrel roofed bank barn at 70 Cossingham appears to be an adaptation of an earlier timber framed barn. It appears that an older barn was raised or relocated to a new concrete foundation set into a bank and then was also given a new roof structure. A fire at the farm in 1928⁴⁴, may account for the new barn that utilized older frame components. Modernizing the farm and barn was a topic much covered in the literature and advertising of the day. For example, a 1910 publication entitled *The Farmstead: The Making of the Rural Home and Lay-*

⁴⁴ The Barre Daily Times (Barre, Vermont) · Tue, Jan 10, 1928 · Page 7

Out of the Farm, has a section on remodeling the older barn which includes a diagram for changing a gable roof to a tall gambrel.⁴⁵ Richard Cossingham, Jr., whose house and barn dates to 1928-29 after the fire, created this barn around the time of his brother, George's reconstruction project down the hill and used an old timber frame as the basis for this barn. The scissors truss gambrel roof is nearly the same as his brother's new barn. The result is a functional, concrete basement level stable with a drive-in upper hay mow. The stable level has concrete gutters behind the raised stalls and a large concrete trough with spigot where water could be run to keep milk cans cool.



Left: 1910 plate from *The Farmstead* by I.P. Phillips, showing how to convert a gable to a gambrel; Top Right: 70 Cossingham barn with windowless upper levels and concrete basement stable; Bottom Right: interior of hay loft at 70 Cossingham with older timber frame below a more modern scissor truss-gambrel



⁴⁵ Roberts, Isaac Phillips. *The Farmstead : The Making of The Rural Home and The Lay-Out of The Farm*. New York : Macmillan Company. 1910.



Top Left: Yankee Barn at 55 Butternut Road with 20th century dairy barn extension; Top Right: 55 Butternut ca. 1935 ground level stable attached to the older barn, with newer equipment shed on left and attached, c. 1960s milk house on right

There is an example of a mid-nineteenth century ground level Yankee Barn at 55 Butternut that was later adapted in ca. 1935 for dairying with the addition of a Ground Level Stable barn. A milk house addition was also later added.

The older timber frame may have been moved to the site in 1935 from the neighboring Loveland farm. A large barn is seen in a c.1900 photo of the Loveland Farm as part of a cluster of attached barns. Only one is still extant (32 Butternut).



Center: Interior of 55 Butternut showing well-lit, newer stable with concrete floor, former gutters, and drive-in large bay door;



Bottom: Detail from historic view of the Loveland Farm, looking west. Small barn on right of cluster is the one that is still extant (courtesy Carol Loveland)

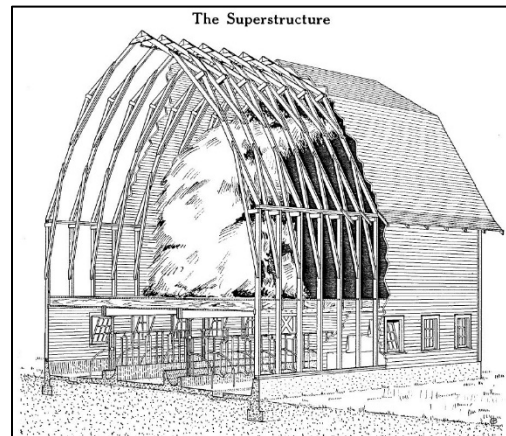
A barn at 18 Tucker Hill Road is an assemblage of older structures adapted to dairy with additions. It has a gable roof extension-hood over a large mow opening in the gable peak which could have accommodated the hay fork system and a hay elevator system. This is one of the few farms in Norwich which still has a silo.

Top: ca. 1950 lister photo showing heavily modified barn at 18 Tucker Hill Road. This was taken before it got a silo.



By the later 1930s a completely stick-framed gambrel roof frame was gaining popularity in Vermont and the entire ground level barn frame could be bought through a catalog or plans could be purchased. The stick-framing made it relatively easy for local builders to assemble and less expensive than earlier truss-based quasi-timber frame styles.

Bottom: Plate from the 1915 Loudon Machinery “Barn Plans” book illustrating the new, stick-framed system



The 1939 dairy barn at 255 River Road (Melendy Farm) is a hybrid of the Ground Level Stable and the Late Bank Barn. According to the current owner, it replaced an earlier bank barn on the site. The 1939 barn has a bridge high drive on the rear allowing windows below to light the concrete-floored stable but with drive-in access to the hay loft. This may well have been a kit barn. The roof framing was planned with a hay fork and track system in mind with its high cross braces at the peak. The system is still in place.



Top Left: open bridge high drive of Ground Level gambrel-roofed stable barn at 255 River Road (Melendy Farm); Bottom Left: stick gambrel roof framing in 255 River Road barn; Bottom Right: Hay fork and track at 255 River Road



The Ground Level Stable barn was the main innovation in barn design of the first half of the 20th century. There are several examples in Norwich of this style of barn. A good example of the type is at 752 Route 132 (Clark Farm). This barn was originally built ca. 1939 in Thetford. It had to be moved for the construction of the Union Village Dam in about 1950 and was relocated to 752 Route 132 by then owner Roy Clark. Per the c. 1950 lister card photographs, an older, deteriorated round barn was also on this farm while the new, relocated barn was being fitted up.

According to a former owner of the barn, a similar though smaller one was built by Clark's brother in Thetford, and it remained there. The Norwich barn retains much of its character but has lost its rooftop ventilators, many cow stanchions, and its attached milk house. This farm did not transition to use of a bulk tank and so stopped dairying in 1965 when it was required.



Top Left: ca. 1950 lister photo of the newly re-located Ground Level Stable barn at 752 Route 132 (Clark Farm) showing its original metal roof ventilators, stable windows, extended roof peak to protect the hayfork machinery; and its attached milk house; Top right: The ca. 1939 Thetford gambrel roofed barn of Roy Clark's brother; Bottom Left: The stick framing of the gambrel roof at 752 Route 132; Bottom Right: The original metal cow stanchions.

A wonderful example of a large dairy operation using the Ground Level Stable barn is the 1954 farm complex of the Farrell/Starlake Farm at 258 Farrell Farm Road. This farmstead of multiple, connected gambrel- roofed stable barns was an investment in a major dairy operation of the mid-twentieth century. It was created by brothers-in-law Phillip Cole and Alan Herrick who bought an old 600-acre farm and created a brand-new modern dairy farm. They milked about 40-50 Guernseys there with a pipeline milking system with bulk tank, comfort stalls, feeding systems, automatic gutter cleaners, separate barn for young stock, tile silo, and extensive equipment that allowed the farm to run with only a few hands. The barn complex resembles plans of model farms in several of the catalogs selling barn plans and books advising farmers.

According to a 1958 article⁴⁶ in *Vermont Life*, the "... new enterprise in Norwich represents what is probably Vermont's most modern farm." The owners hoped to set records for Geurnsey milk production and breeding through use of "mechanization and modern dairy methods." A 1956 newspaper article in *The Informer*⁴⁷ reported that neither Herrick nor Cole had any farming experience before starting Starlake Farm. Herrick was the hands-on manager with three to four farm employees and Cole, a lawyer who worked in the Dartmouth Development office, handled

⁴⁶ Carroll, Hanson. "Starlake Farm," *Vermont Life*, Volume XII, Number 3, Spring 1958, pp.57-61.

⁴⁷ "Colorado Men Pursue Agriculture Among Rocks of Green Mountains", *The Informer of VT NH and ME* (White River Junction, VT), July 14, 1956, p.1.

more of the business. They used a “zero” pasture system in which the cows grazed the cover crops of several fields in the spring and then were fed fresh cut grass and legumes brought to bunkers in a pasture. In the winter they were fed hay, grain and silage in the barns.



The barns, silo, and sheds are still intact, though some may have been re-purposed. It is not only the best example of this barn and farmstead type in Norwich, it may well be one of the best in the state. It is not currently being farmed.



Top: 2021 Google satellite image of the Starlake/Farrell Farm and surrounding fields; Center: one of the gambrel roofed Ground Level Stable barns; Bottom: Farrell Farmstead showing milking/stable barns and silo.





Attached Bank Barn at 198 Dutton Hill Road

Another barn created in the mid-20th century worth mentioning is the attached small bank barn at 198 Dutton Hill Road (now Griggs). Although the house, just below the large 218 Dutton Hill Road farm, (Dutton/Metcalf) doesn't specifically appear on the 1869 Beers map, the house is reportedly ca. 1850. The attached barn is quite intact and a great example of the barn as a tool. This barn, with some older (pegged and hewn) and some newer (sawn and nailed) framing, was built against or brought to the side of the existing house. The present owner thinks it was assembled of older parts in c.1940

Many operations were housed in this small space. The carriage bay on the left is under a high loft and adjoins livestock pens under a lower loft on the right. The newer framing is in the carriage bay so it is possible a smaller, older barn was brought to the bank and connected to the house later. The carriage bay has a large sliding door for loading on the opposite side which is one story above grade. There are a few windows for the stalls/pens and the walls and ceiling are whitewashed. The heavy plank floor has a trap door for loading manure to the lower level originally. A door leads into the house ell from the carriage bay and another small door in the high loft has a set of steps leading the house ell attic or upper floor. The upper loft may have been used for other purposes than hay storage with this specific access. On the ground level below the carriage bay is an open drive-in bay with the stone foundation for walls on two sides. On the other side under the pens above, half is an open bay for a manure spreader or other equipment, and the other half is an enclosed stable with a few cow stanchions and a window. This structure would have served the needs of a rural family well.

Specialty Barns

There are examples in Norwich of specialty barns such as a Machine Shed/Pig Barn built in 1942 at 136 Bradley Hill Road. The barn has a boiler and chimney for heating slop, pens on the ground level, built-in grain bins on the road level with equipment bays, and a manual freight elevator. Also at this farm are a 1942 field hay barn, made in part of salvaged lumber, where hay could be stored near where it was cut, and a modern free-stall steel pole barn built in 2004 for the current owner's Hereford beef operation.



**1942 field hay barn at 136 Bradley Hill Road
(Langlois Farm)**



Top Left: Manual freight elevator in 1942 machine shed/pig barn; Top Right: 2004 free-stall pole barn for beef operation

Like the field hay barn, a corn crib is a specialty structure for feed. There is a modern example at 97 Kerwin Hill Road. An example of an early wagon shed or possibly small sheep barn, with its wide-open shed is at and a more modern corn crib are other specialty structures found in Norwich. There are examples of an early twentieth century and a current horse barn at 24 Academy Road and 288 Hogback Road (Pirouette Farm).



Center Left: Corn crib at 97 Kerwin Hill Road; Center Right: Detached shed at 655 Route 132 may be an earlier sheep or wagon shed.



Horse barns, Bottom Left: ca. 1900 24 Academy Rd; Bottom Right: c. 2000s, Pirouette Farm, 288 Hogback Road



Top Left: Parker slaughterhouse, near 70 Beaver Meadow Road; Top Right image of Glen Parker at his farm at 395 Main Street with his steers (from *Norwich, Vermont: A History*, p. 130).

Part of ca. 1925 slaughterhouse remains on the edge of Huntley Meadows, behind the church at 70 Beaver Meadow Road. Glen Parker ran this slaughterhouse along with his meat business and had his own farm at 395 Main Street which included meadows and pasture between Main Street and Beaver Meadow Road. Parker raised animals for his meat business and also bought animals from Norwich farmers. He retired in 1957 and sold much of the land, some of which was developed with houses as Huntley Road.

Village Barns

Within the village of Norwich are many examples of attached and detached barns, carriage barns, wagon sheds, and workshops. The recent survey of thirty-four properties with these structures by the NHPC members, shows that a number of these have been modernized and some repurposed as living or office space. However, there are also some examples of intact features from a horse-based time, such as horse stalls in an attached shed/barn at 19 Church Street.

It seems like the majority of the in-town barns were originally carriage barns or small English barns and have since been converted to garages and/or residential uses. In some cases, the alterations are substantial but in a few a garaged car may share the space with an intact old horse stall. In many, the telltale hay loft door above the main bay or garage opening is still intact. There are also a few larger barns that were associated with in-town farms such as 495 Main Street.



Bottom: 19 Church Street horse stalls

The Village Barns/Structures Surveyed by Volunteers:

[Types noted: “Carr” = Carriage Barn; “Barn” = Larger Barn for multiple uses; “Other”= Specialty use buildings, e.g. slaughterhouse, hen house, lard house]

Carriage Barn at 17 Elm Street



- 17 Beaver Meadow Road- Carr
- 27 Beaver Meadow Road- Carr
- 70 Beaver Meadow Road, Slaughterhouse Other
- 19 Church Street- Barn
- 31 Church Street- Barn
- 37 Church Street- Other
- 38 Church Street- Carr
- 39 Church Street- Other
- 50 Church Street- Carr
- 55 Church Street- Barn
- 60 Church Street- Barn
- 17 Elm Street- Carr
- 32 Elm Street- Barn
- 38 Elm Street- Barn
- 43 Elm Street- Barn
- 44 Elm Street- Barn
- 48 Elm Street- Carr
- 56 Elm Street- Barn
- 56 Elm Street shed- Other
- 66 Elm Street- Barn
- 96 Elm Street- Barn
- 253 Main Street- Other
- 261 Main Street- Barn
- 267 Main Street- Carr
- 277 Main Street- Carr
- 277 Main Street barn- Barn
- 277 Main Street smokehouse- Other
- 358 Main Street- Barn
- 363 Main Street- Barn
- 371 Main Street- Barn
- 377 Main Street- Barn
- 386 Main Street- Barn
- 395 Main Street- Barn
- 395 Main Street lard house- Other
- 400 Main Street- Barn
- 422 Main Street- Barn
- 495 Main Street- Barn



Bottom Left: Carriage Barn at 27 Beaver Meadow Road; Bottom Center: Former henhouse at 19 Church Street; Bottom Right: Large in-town Barn at 395 Main Street

Barns Surveyed Intensively by Lyssa Papazian



Left: Early English/Bank Barn at 98 Campbell Flats Road; Right: Late Bank Barn at 287 River Road

- 136 Bradley Hill Road (Bradley/Smith/Stone/Langlois Farm), 1942 Machine Shed/Piggery & 1942 Field Hay Barn
- 519 Bragg Hill Road (Bragg/Jacobson Farm), 1902 Late Bank Barn
- 873 Bragg Hill Road (Humphrey/McLaughry Farm (Graham)), 1955 Late Bank Barn
- 32 Butternut Road (Loveland Farm), 1830 Connected English Barn
- 55 Butternut Road (Loveland/Bullock?/Honeyfield Farm), 19th century Yankee Barn/Ground Stable Barn
- 98 Campbell Flats Road, 1780-1800 English Barn/Early Bank Barn
- 70 Cossingham Road (Richard Cossingham, Jr./ Sise/ Strauss & Mihaly Farm), 1928-29 Late Bank Barn
- 198 Dutton Hill Road (J. Dutton/Metcalf/Barrett/Griggs Farm), 19th century Connected Late Bank Barn
- 218 Dutton Hill Road (J. Dutton/Metcalf/Griggs Farm), 1820-later 19th century Connected English Barn
- 5 Happy Hill Road (Hovey/Cossingham/Perry Farm), 19th century Late Bank Barn/Ground Stable Barn
- 1766 New Boston Road (Sargeant/Hill/Bush/Essex// Frye - Stonebridge Farm), 1850 Yankee Barn/Late Bank Barn
- 80 Norford Lake Road (Clough (Cloud) - Ruesel (Russel) Barn), 1820-1840 Early Bank Barn
- 255 River Road (Hutchinson (?) /Melendy Farm), 1939 Late Bank Barn
- 287 River Road (Hutchinson/French/Cook Farm), 1880-90 Late Bank Barn
- 742 Route 132 (Clark/Metcalf Farm - Sweetland Farm), 1939 Late Bank Barn/Ground Stable Barn

Barns Surveyed Intensively by Nancy Osgood

- 8 Old Bridge Road (Richard Waterman House), 1870s? Late Bank Barn
- 641 Pattrell Road (373- Barstow - Pattrell, Barstow/Lacey Sugarhouse), 1920 Sugarhouse
- 430 Upper Turnpike Road (Thorburn / Sadler Place), 1798 Late Bank Barn

Summary of Survey Findings

The rich collection of barns in Norwich deserves more intensive and extensive documentation and research than was possible through this project. Because there were so many surviving older barns that required review, only fifteen were able to be surveyed intensively, visited, researched, and documented photographically by the historic preservation consultant, Lyssa Papazian. Another three were researched, visited, photographed, and documented by Nancy Osgood, project volunteer and chair of the Norwich Historic Preservation Commission. In the village area - both within and outside the Norwich Historic District - thirty-four properties with barns and/or carriage houses were photographed and briefly documented by members of the Norwich Historic Preservation Commission.

The story of agriculture in Norwich, spanning over two centuries, is told through its extant and lost barns. There is still a strongly agrarian character to the Norwich landscape studded with old farm buildings, despite a long period of dwindling active farms.

The early period of Norwich agriculture from the late 18th century through about 1820 was focused on diversified subsistence farming. Most of the activities, such as housing various animals, storing and processing grain and staples, were accommodated within one building, typically the early English barn. These early period barns were characterized by fine craftsmanship and high-quality framing and joinery.

The period from 1820 through the 1860s was one typified by commodity wool/sheep farming, farm consolidation, and tenant farming. Infrastructure investment and improvement included the development of the Yankee and early bank barn as a tool for more efficient processing and housing of more animals and crops. The barns of this period were characterized by being larger than the early English barn and were more utilitarian in construction. In some cases, the needed size was achieved by salvaging and combining and/or relocating and expanding earlier barns.

The 1850 to 1900 period represented a shift from sheep-centric operations to small scale diversified farming. However, Norwich's extremely steep terrain meant that less productive hill farms either were abandoned or stayed focused on sheep and maple sugar. The expansion of commodity crops grown led to changes in how existing barns were used and they were adapted to suit. New separate specialty barns were added like those for corn storage, or youngstock housing. The relocation and expansion of earlier barns continued including the creation of extended connected farm complexes. By the end of the 19th century the development of the late bank barn led to new investment on more prosperous farms. The complicated framing of these multi-level structures was a specialty of regional carpenter/joiners who relocated for each of their construction jobs

The 20th century was a period of dairy-focused farming. In the early decades, older barns were adapted or expanded for increasingly larger dairy operations, including adding new gambrel roofs for larger hay lofts. The use of the mechanized hay fork and track system was accommodated. Between about 1935 and the 1950s, the ground level stable barn, a type designed especially for dairying and hay management, was the norm for new barns. Additions included larger milking stables, silos, and milk houses.

The heyday of Norwich's agricultural past was at least a century ago. In a particularly hilly town, the 19th century statewide trend of hill farm abandonment and consolidation would have been more pronounced. In Norwich, as the early location of a military university, and later as a bedroom community within the sphere of Dartmouth College, there have always been other pressures on the town's farm properties and activities. As the map analysis of the Bradley Hill area, discussed on pages 28 to 31 above, illustrates the most difficult farmland was largely abandoned in town. Those that remained focused on sheep and diversified small scale agriculture coupled with maple sugaring. What replaced those former farms were often the homes of professors and doctors and retirees or second homes of urban dwellers. Some of these maintained some animals or kept land open by haying or letting others hay their fields.

There were some notable exceptions to the loss of successful farms on the hills where former sheep farms transitioned to dairying – Cossingham, Dutton/Metcalf; Bragg/Jacobson, were a few dairy farms that expanded in the 1900-1940 period. Other farms in less hilly areas like the Clark Farm and others on Route 132 and the Hutchinson/French, Melendy, Waterman, and Pompy farms on River Road also thrived in the 20th century. The establishment of Starlake farm in 1954 was a major investment in a brand-new dairy venture. However, very few of the dairies in town stayed milking after the early 1970s – now fifty years ago, and none were still active by Alan Berolzheimer's article in 2012. Nevertheless, there is still a surprising amount of the remaining infrastructure of that time.

There are a remarkable number of wonderful historic barns left in Norwich. There are examples of small, early English barns, larger early bank barns, Yankee barns, late bank barns with elaborate bridged high drives, adapted older barns, re-located and connected older barns, and ground level stable barns. These are big and small, simple and complex, quite old and relatively recent. Of the nearly two hundred barns looked at briefly or in greater depth, some appear intact, some nearly unrecognizable through re-purposing, and some a combination of preservation and adaptive reuse. Almost none of them are being used for what they were built for. No matter how intact an old barn may seem, if it served a farm for a hundred years or more, it was certainly tweaked, adjusted, adapted, moved, or fully overhauled, as farming practices and needs changed. A barn is more a tool than a building and is the servant of the farmer. It must adapt or be replaced if a working farm is to survive. A building designed to handle farm-grown and processed grains might need to become more focused on storage and distribution of purchased grain. Barns designed for sheep and chickens might need to adapt to accommodate cows or pigs. Small barns serving diversified operations with multiple types of animals and products might be overhauled, extended, or replaced for a transition to larger scale dairy farming.



Some 20th century scenes of farm life in Norwich. Top left: The Metcalf farm at 218 Dutton Hill Road; Top right: The Cossingham dairy at 5 Happy Hill Road; Bottom left and right: Scenes from the Starlake Farm, Norwich's largest and most modern dairy farm

The barns of the 19th and 20th centuries do not serve the structural needs of 21st century farming in Norwich which might be greenhouses, or loose stock housing, or specialized storage. The existing older, historic barns are un-or under-utilized on current farms. On non-farming properties, these older barns also may have no current role to play. In order to remain, the older buildings must be at least minimally maintained. The biggest structural threats to barns are water and gravity. An intact roof is the most important defense against water infiltration. Once water infiltration starts, it can then lead to rotten rafters or structure which can then collapse under snow or wind loads. Water can also come from below if perimeter drainage has failed. The heavy timber frames of most historic barns are extremely resilient as long as rot or missing bracing hasn't weakened them. So, maintaining the roof and positive drainage around a structure can go a very long way to allowing a building to stand for decades with little else invested. However, roofs and drainage are still large expenses and with many old barns, deferred maintenance has already created instability.

The major threats to historic barn preservation are twofold. On current farms, the investment in maintaining older buildings, must be financially feasible as part of the ongoing business. An example of adaptive re-use that serves a modern farm is at Honeyfield Farm where a cold storage facility for vegetables was built within part of the older dairy barn. Necessary adaptations can be



made while maintaining the historic character of the barn provided the investment is feasible in a modern farming operation.

Top: Satellite view of Honey Field farms showing the under-used old barn at the top along with the many modern greenhouses and cropped fields.

The second threat to barn preservation is on non-farming properties. There have been barn losses throughout Norwich's history, often from fire in the 19th century, but also on a larger scale from the construction of dams in the area that flooded the valley and then from the construction of the interstate in the late 1960s. But the current brisk pace of development and home renovations along with the relatively high property values in Norwich puts surviving old, under or un-used barns at risk for demolition, sale and removal of old frames, and historically incompatible alteration. There are great examples of adaptively re-used barns in which the historic character is preserved, such as the barn at 8 Old Bridge Road (see below); and others in which the older structure is lost within what is essentially a new building.



Bottom photos: Barn at 8 Old Bridge Road (former Waterman farm) adaptively re-used as an apartment but retaining its historic barn character.

Education about and celebration of successful adaptive re-use and maintenance of historic barns would further the preservation of Norwich's agricultural past through the buildings that embody it. Recommendations for future projects and work around the history and preservation of Norwich Barns follow.

Recommendations for Future Work

The recommendations presented below include proactive education and outreach, exploration of incentives for barn preservation, and further research and documentation.

Education and Outreach



**Left: Example of a recently lost historic barn on Bradley Hill Road (photo from 2015);
Right: The Converse Barn on 253 Main Street that is no longer extant**

The NHPC and/or the NHS could do educational presentations about barn history and appropriate preservation.

Public programs could focus on care and maintenance, priorities for repair and stabilization, identifying the biggest threats (water and gravity!); and adaptive reuse approaches that are sensitive to preserving the historic character and fabric of old barns. The investment in maintenance and restoration of farm buildings needs to be sustainable financially. In an increasingly non-agricultural rural economy as well as one in which the building needs of modern farm businesses are very different than in the past, finding viable uses for old barns is key to their preservation. Tools such as the state's Current Use Program and Barn Grants could be explained and shared with property owners.

Current Use

<https://tax.vermont.gov/property-owners/current-use>

Overview

In 1978, the Vermont legislature passed a law establishing the Use Value Appraisal of Agricultural, Forest, Conservation and Farm Buildings Property. Today, this program is known as "Current Use" and is administered by the Division of Property Valuation and Review within the Vermont Department of Taxes.

As of September 2016, there were more than 18,400 parcels of land enrolled totaling more than 2.4 million acres, about one-third of Vermont's total land.

Landowners apply to the VT Dept. of taxes to have their property enrolled in the program. If accepted, the property is taxed on its current use not on its highest development potential. Categories are agricultural land, forest land, conservation land, and farm and farm buildings.

Barn Grants

<https://accd.vermont.gov/historic-preservation/funding/barn-grants>

Established in 1992, the State-funded Barn Preservation Grant program helps individuals, municipalities, and non-profit organizations to rehabilitate the historic agricultural buildings that are a symbol of Vermont's rural landscape. This is the oldest state-funded agricultural-based grant program in the United States.

Since its inception, the program has provided over \$3 million towards the preservation of over 360 historic barns and agricultural outbuildings around the state. Preservation of these buildings not only protects Vermont's agricultural and architectural legacies, but it also generates jobs, supports independent businesses, increase civic participation, and bolsters a community's sense of place while enhancing the experience of visitors.

"The Division for Historic Preservation, in cooperation with the Legislature and the Vermont Advisory Council on Historic Preservation, is able to award competitive 50/50 matching grants of up to \$15,000 for the repair and adaptive use of historic agricultural buildings. In order to qualify, the buildings must be at least 50 years old and listed in or eligible for the National Register of Historic Places.

This is a reimbursement grant program, which means that if you are awarded a grant, you are responsible for paying for the full amount of the project and the State will reimburse you once the project and required paperwork are completed. The Barn Grant Program is funded by the taxpayers of the State of Vermont, at the direction of the General Assembly, through the annual Capital Appropriations and State Bonding Act.

*Applications for the 2022 grants are now available and are **due on Monday, November 1, 2021.***

Resources for more information and help with assessing a barn, protecting a building and/or landscape with a conservation easement, or writing a grant can also be shared with property owners. Partners would include the Division for Historic Preservation and the Preservation Trust of Vermont, which has a small, barn assessment grant program.

New Incentives and Planning tools

There are currently only meager incentives and tools available for private owners of historic barns. The NHPC could explore creating additional local incentives such as local tax breaks or special valuation or zoning that could be applied in Norwich to support farm and barn preservation.

The NHPC could foster education and appreciation of barn preservation by creating an award program that recognizes successful adaptive re-uses that preserve historic character. A number of towns with active preservation programs maintain award programs with modest prizes to celebrate great examples of historic preservation. An example is the Rockingham Old House Awards, administered by the Rockingham Historic Preservation Commission.

Finally, a local fund, raised by private and/or municipal donation, could be created that would direct donated money to assist in the preservation and repair of historic barns. An example of a local fund with a broader mission is the Fund for North Bennington.

Continue Intensive Level Survey of Barns & Farms

A logical follow up project to this survey would be to continue the more intensive level individual barn surveys for potentially historic barns not visited in this project. The spreadsheet accompanying this 2021 Barn Survey, has a sheet identifying 82 potentially historic barns/properties. Fourteen of these were intensively surveyed in 2021 and seven are well documented through recent National Register nominations. This leaves sixty-one that could be documented further. Twelve of these were briefly documented in 2009 but should be revisited and further researched and described.

These twelve are:

- 229 Bradley Hill Road – Remaining two barns
- 724 Bragg Hill Road
- 1305 Bragg Hill Road
- 15 Brigham Hill Road
- 96 Hogback Road
- 288 Hogback Road
- 97 Kerwin Hill Road (can talk to Charlotte Metcalf, former owner)
- 418 Kerwin Hill Road
- 1686 New Boston Road
- 1850 New Boston Road
- 18 Tucker Hill Road
- 304 VT Route 132
- 404 VT Route 132
- 122 Willey Hill Road

The remaining forty-nine barns should be briefly visited and/or researched to see if they should be intensively surveyed. The full list is on the spreadsheet, but of particular interest and perhaps urgency if they are not being actively farmed or used, are:

- The barn complex at Starlake Farm on Farrell Farm Road
- A bank barn at 380 Chapel Hill Road
- The Sargent Farm at 498 Campbell Flats Road
- The 20th century barn complex at 207 New Boston Road
- The Ella Sargent farm at 227 Norford Lake Road
- The bank barn at 1280 Turnpike Road
- Altered barns at 15 Upper Turnpike Road
- Drew Farm at 1141 US Route 5 North
- Older structures near 70 Academy Road.
- 24 Academy Road

It would also be good to visit Union Village to identify and document village barns and carriage houses like those in Norwich Village.

Further Research

NHS Collection of Primary sources

The Norwich Historical Society has a great deal of primary and secondary source material such as diaries and account books as well as historic photographs related to many farms, farm families, and village properties. This project only scratched the surface of research possible. Some research was done on the village properties, but not on all of them. This leaves quite a lot of further research that could be done for these properties to enrich the documentation.

The NHS has been undertaking a long-term project to transcribe and interpret the diaries of Ella Sargent. A similar level project could be undertaken for other primary source materials that relate to the farm families described and identified in this Barn Survey. For example, the Cossingham and Dutton/Metcalf materials could be studied in this way.

A long-range future project might be to identify the families associated with various farms and draw connections between the properties and NHS resources. Many future research projects could come out of this and help flesh out how the extant farm resources were used over time. For example, trying to locate the farms documented in the four, scanned, decennial agricultural censuses for Norwich (1850 through 1880) would be a time-consuming and therefore long-range undertaking but could add a great deal of depth to Norwich's farm and barn history.

Oral History

During the course of this survey project, a few farmers and barn owners were briefly interviewed. However, conducting fuller oral histories and interviews would be a very valuable addition to barn and farm history. The list of interview subjects should include active farmers like Mark Langlois of Hilltop Farm, Jeff Bogie of Pompy Farm, Norah Lake of Sweetland Farm, Eli Hersh and Valerie Woodhouse of Honeyfield Farms, Chris Gray and Laura Brown of the Norwich Farm Creamery, and the owners of Hogwash Farm at Goodrich Four Corners and the Pirouette Horse barn on Hogback Road. Interviews should also include former farmers as well as members/living descendants of former farming families like the Cossinghams, Lovelands and owners of Farrell Farms. The net of interview subjects could be cast wider to invite any land/property owner to share how they are keeping land open and their old farm buildings in use.

As revealed by many of the 2021 surveys, there many hidden agricultural gems, like intact old workshops, tools, old stanchions, mangers, pens, and equipment, that are not apparent from the exterior appearance of the structure. Many barns that were modified for residential use still have sections of original fabric and character. Norwich barn owners could be encouraged to share these hidden gems with NHS through photography and oral description

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