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REPORT ON THE DISTRICT NUMBER EIGHT SCHOOLHOUSE PETERBOROUGH, NEW HAMPSHIRE

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This report is based on an inspection of the District No. 8 schoolhouse on the afternoon of May 10, 1996, in the company of representatives of the Peterborough Historical Society. The purposes of the inspection were to evaluate the historical and architectural importance of the structure, to assess the feasibility of moving the building to a site adjacent to the building of the Peterborough Historical Society, and the make recommendations for obtaining cost estimates from qualified building movers.

Summary: The District No. 8 schoolhouse is one of the earliest school buildings remaining in New Hampshire, and is further unusual in being a substantial brick structure built in an age of notoriously small investment in district school buildings. The structure retains evidence of its original condition and of subsequent remodelings. Because of its location on an embankment adjacent to a town road, it appears technically feasible to lift and move the building. This report recommends that the Peterborough Historical Society seek bids on moving the structure, whose owner has offered the building to the Society but has indicated that the schoolhouse cannot be retained on its historic site.

Historic schoolhouses surviving in New Hampshire: There appears to be no existing survey of all surviving nineteenth-century district schoolhouses in New Hampshire. The files of the New Hampshire Division of Historical Resources do contain information on a number of such buildings that have been entered in the National Register of Historic Places either individually or as structures within districts. The photographic files at the

New Hampshire Historical Society also contain historic photographs of a number of district schoolhouses located throughout New Hampshire.

Based upon the evidence available, it appears that the District No. 8 schoolhouse in Peterborough is one of the earliest school buildings to survive in New Hampshire, and that it is further remarkable in having been built of brick in an age when most similar buildings were cheaply constructed of wood.

The photographic files at the New Hampshire Historical Society include images of a few brick district schoolhouses that, from their style and appearance, appear to date from the period before 1830. One of these stands in Chester, and has been converted to a dwelling house. Another stood in ruinous condition in Atkinson early in this century (see enclosed photocopy). Because the schoolhouse is not mentioned in the Atkinson survey materials in the files of the Division of Historical Resources, it may be assumed that this building is destroyed. The southeastern region of the state probably included a few other brick schoolhouses of this period and many wooden ones, but almost all appear to have been demolished or converted to houses.

In the coastal region, most schoolhouses built from about 1800 through the 1820s appear to have had hipped roofs. The two attached photocopies show this roof form as it was used on brick buildings. The same type of roof is described on a wooden Pittsfield schoolhouse that was later remodeled as a gable-roofed structure and fell down through neglect in the 1960s. At least one wooden schoolhouse in Danville had this type of roof.

We know less about the preferred design of early-nineteenth-century schoolhouses elsewhere in New Hampshire. Dwelling houses of the early decades of the century employed both hipped and gable roofs, and schoolhouses probably mirrored those two options. Evidence in the Peterborough building, described below, strongly suggests that this building always had a gable roof.

Many wooden schoolhouses survive as dwellings or summer cottages throughout New Hampshire. Most can be recognized at a glance by their small size, their square or rectangular plan, and the rows or groups of windows often seen on their south sides. These characteristic window groupings generally denote a school building built after 1850, or else an older building that was remodeled after 1850. The earnest and persuasive urgings of the New Hampshire Commissioners of Common Schools, beginning in the late 1840s (see below, **History and description**), resulted in many changes and improvements to older school buildings and in the construction of newer buildings on improved plans. Among the features urged by the Commissioners, and by architectural theorists of the age, was an increase in the number of windows in the buildings, especially on the south sides. Poor illumination was a common fault of the older schoolhouses, and an increase in the size and number of windows was thought to be a practical alteration that greatly improved conditions for students.

Because it was a brick building not easily adapted with added windows, the Peterborough schoolhouse retains the small and widely-spaced window openings characteristic of the now-largely-lost earlier buildings.

Brick buildings were uncommon in rural areas of northern New England until the 1820s and 1830s. Due to a series of changes in attitude, fashion, and economics, brick buildings began to appear in country towns during this period, yet remained relatively rare even in areas that had abundant clay for brick manufacture. Brick buildings were more costly than wooden ones of the same dimensions, especially when bricks had to be transported some distance from their place of manufacture. Thus, any brick building that survives from the 1820s in rural New Hampshire documents an architectural evolution that was just beginning at that period.

The Town of Peterborough was remarkable in voting to build seven rural schoolhouses of brick in 1824. The surviving District No. 8 schoolhouse is the only survivor of this ambitious undertaking.

The school building is also unusual in having walls laid in common or American bond. Most brick buildings of the period before about 1830 employed the more complex Flemish bond, at least for the walls that were visible from public highways. Use of the Flemish bond results in eight-inch walls with alternating headers and stretchers in each course. The American bond produces eight-inch walls in which the face bricks and backing bricks are locked together by a series of header courses at intervals through the height of the wall. The American bond allowed walls to be constructed more quickly and therefore more cheaply than before, and undoubtedly was chosen for the Peterborough schoolhouses for this reason. Use of the American bond in this building of 1824 is an important benchmark in the history of bricklaying in New Hampshire, and should be recorded for posterity if the building is abandoned to demolition.

The files of the Division of Historical Resources list the following New Hampshire schoolhouses in the National Register of Historic Places:

1829 New Ipswich District School No. 1, now the headquarters of the New Ipswich Historical Society. This brick building was eventually converted to a blacksmith shop and was later restored to its original form.

1835 Newport District School No. 7, a wooden building restored to its original interior appearance by a local chapter of the Daughters of the American Revolution and opened to the public in the summer months.

1835 Madison District School No. 1, a wooden building now used as a town and school library.

1838 Nelson District School No. 1, a two-story brick building retained in town ownership and used for meetings.

c.1840 Nottingham Dame School, a wooden building reputedly converted to a schoolhouse from a meeting house, and now used as an adjunct to the modern Center School in Nottingham.

1846 High Tops School, Westmoreland, a wooden schoolhouse in the Greek Revival style, retained in town ownership and used for meetings.

1850 Nottingham Square Schoolhouse, Nottingham, a two-story wooden building maintained by a local chapter of the Daughters of the American Revolution.

1858 Wakefield District School No. 2, a brick schoolhouse in the Greek Revival style, used as a meeting place by the Wakefield-Brookfield Historical Society.

History and description of the building: The District No. 8 schoolhouse stands near Puffer's Pond on Middle Hancock Road, some 3.4 miles north of the center of town. It is a rectangular one-story, gable-roofed structure built of brick on an underpinning of split granite blocks. The structure measures about 21'-2" in width and about 17'-1" in depth. The walls are constructed of locally-burned water-struck bricks, with harder face bricks used on the exterior and softer bricks used as backing on the interior of the walls. The walls are laid in common or American bond, with about nine stretcher courses between header courses in the lower zones of the walls, and as many as twelve stretcher courses between header courses in the upper zones. The north gable of the building is one brick (about four inches) in thickness, and is parged (plastered) on its interior face to exclude air infiltration. This gable appears to be original, showing that the schoolhouse had a gable (rather than a hipped) roof. The southern gable was rebuilt in the twentieth century, using soot-covered bricks that were salvaged, in part, from a chimney.

The building was constructed in 1824 when Peterborough, having already constructed a brick schoolhouse in the center village, voted to erect seven more in the outlying school districts. This vote was probably unprecedented in New Hampshire in the mid-1820s, when schoolhouses in almost every town were poorly-built wooden structures kept in ill repair. Before construction of the seven new brick schoolhouses, their predecessors were described by Albert Smith, author of the 1876 *History of the Town of Peterborough*, as "in a shabby, dilapidated condition,--shingles worn out, and roofs leaky; clapboards off, affording additional ventilation; of a dark wood-color, innocent of any paint, even the famous Spanish brown so common in those days." Smith further described the plans and furnishings of the earlier wooden buildings in terms that demonstrate that their overall design was nearly identical to that of the later brick buildings before the latter were remodeled and enlarged by wooden additions in the mid-1800s:

> In that part of the room where the seats were built (and this description answers almost perfectly for all the six [school]houses in town), the floor rose some three feet in an inclined plane; and both the seats and the desks were

> formed of one continuous plank, from one side of the room to the other, only leaving in the middle an alley some three feet wide. There was some kind of a fixture under the desk part for the books, slates, etc., but no backs to the seats. The very small scholars had a low seat in front, equally devoid of a back. All these houses were warmed by large, open fireplaces, the chimney being built on one side of the room, and taking [up] a large space, leaving on one side of it an anteroom for entrance, and, in some cases, a small room on the opposite side, used as a dungeon for punishment. The school-rooms were open and cold, and it was fortunate if they had no broken glass in the windows for additional ventilators. There was generally no lack of fuel, but it was drawn to the school-houses from the woods green, and of sled length, requiring to be prepared for the fire by the older scholars.

It should be noted that many sources, including a multitude of New England town histories, personal reminiscences, the writings of nineteenth-century educational reformers Horace Mann and Henry Barnard, and many modern histories of New England education, collectively demonstrate that Peterborough's wooden schoolhouses before the rebuilding of 1824 were perfectly typical of those throughout the region in both design and maintenance.

In an extended reminiscence published in the 1954 *History of Peterborough*, Judge Smith described one of the later brick Peterborough district schoolhouses. By the time of Judge Smith's boyhood, the brick buildings of 1824 had apparently been remodeled somewhat and provided with wooden additions:

> This schoolhouse, situated halfway up a long hill, was of brick, one story high, and about twenty-five feet square, costing perhaps, four hundred dollars. It had a small wooden annex through which the school-room was entered. In this annex was a place for the winter's wood, and also a small entry about six by eight feet, furnished originally with hooks for the hats and coats of the scholars, but these hooks disappeared before the end of the first term and were never replaced. The school-room was heated by a stove, which in severe weather would not raise the temperature of the room above sixty degrees more than ten feet away. There were seats for fifty scholars, which on the boys' side were whittled and cut, and bore jack-knife carvings of about every image or object known to nature or man. The woodwork of the room was unpainted; the walls and ceiling, innocent of whitewash, were soiled and spattered

> by the missiles which had been thrown across the room at all hours of the session and intermission by the scholars. There was no means for ventilation, nor was there need of any, for the west and northwest winds, which had an unbroken sweep for ten miles, found abundant entrance through the north and west sides of the building. Beyond a plain pine desk for the teacher and two dilapidated chairs, the room had no furnishings--no dictionary, no maps, globe, nor books of reference. It did have, however, two or three small blackboards, and on the walls hung a small chart giving the sounds of the vowels, but it was never used. The windows were devoid of curtains, but had wooden shutters on the outside, placed there to protect the windows in vacation.

Despite Judge Smith's stark description of the brick schoolhouses of 1824, Peterborough had been remarkable in undertaking townwide schoolhouse reform at such an early date and undoubtedly had better school buildings, on average, than most other New Hampshire towns. Most New Hampshire towns did not begin to consider large-scale rebuilding of their schoolhouses until 1850 or later.

Concern over the generally low level of support for New Hampshire schools, and the poor quality and maintenance of school buildings, led the New Hampshire legislature to establish the position of State Commissioner of Common Schools in 1846. The first annual report of the Commissioner in 1847 placed particular emphasis on schoolhouse architecture, lamenting the "multitudes of [school]houses, in the State, not only inconveniently located, and awkwardly planned, but absolutely dangerous to health and morals . . . and this in places, where private taste is adorning the town with ornaments of architecture and enriching the country with the fruits of rural industry. It is, however, encouraging to find, that a better feeling is coming to prevail on this subject. Many districts are rebuilding, and, in most instances, upon an improved plan."

In June, 1849, to encourage the improvement of chronically poor district schoolhouses across the state, the legislature authorized the distribution of a copy of Henry Barnard's *School Architecture; or Contributions to the Improvement of School-Houses in the United States* (1848) to the selectmen of each New Hampshire town. This campaign resulted in noticeable improvement in school buildings during the 1850s. Perhaps it was during this era of schoolhouse reform that Peterborough's District No. 8 school received the wooden addition that appears in some photographs. As noted below, the addition of this woodshed and privy was accompanied by a substantial remodeling of the interior of the building.

An examination of the District No. 8 schoolhouse reveals much about its evolution. Today, the building's interior is a single open room, long used for a shop and for storage. The original door, at the northeast corner of the building, was transformed into a window

when a wooden extension was added at the south end sometime before 1860. At that time, a former window in the south wall was widened and cut lower to become the entrance door to the room. As noted below, the interior of the room underwent a transformation at the same time.

A photograph at the Peterborough Historical Society, annotated with the date "1910," shows the schoolhouse after the alteration of the doorways and the addition of the shed on the south end. The same picture reveals that the building then had nine-over-six window sashes, which were probably original to the date of original construction. It had a wood-shingled roof and a small brick stove chimney that projected above the ridge on the rear or western slope of the roof.

At some time after this photograph was made, the building was fitted with the current two-over-two sashes. Also at a time later than this photograph, the wooden shed was removed, the southern gable above the entrance door was rebuilt of salvaged bricks, and the rear (west) wall of the building was largely rebuilt. It may be presumed that these repairs were necessitated by prolonged neglect which resulted in roof leakage, frost damage to the brick gable, and decay to the interior. Both the roof and floor structures seen today in the building appear to be the products of twentieth-century repairs following a period of deterioration.

Physical evolution of the schoolhouse: Despite these changes, the interior of the building retains much evidence of the original design of the structure and of later changes made when the building still served as a schoolhouse.

Except where rebuilt in the twentieth century, the interiors of the brick walls retain early whitewash and evidence of original (and later) furring strips that were nailed to the brick walls to hold lath for plaster. This evidence reveals much about the original condition and appearance of the interior.

First, it is evident from a series of sockets in the brickwork of the western wall of the room that this schoolhouse, like the earlier wooden buildings described by Albert Smith in 1876, had a floor that was raised on the western side and sloped toward the eastern wall of the building.

Second, the absence of these sockets near the northwest corner of the building shows that there was a level floor across the northern end of the structure, corresponding to an entry or corridor four feet wide, lighted by the window at the northern end of the building. This corridor would have served both as a windbreak inside the entry door and as a cloak room, and undoubtedly had an inside doorway that opened into the schoolroom near the eastern wall, where a portion of the floor of the schoolroom would have been level rather than slanted.

If the four-foot width of the corridor is deducted from the overall dimensions of the building, it appears that the schoolroom was a nearly square chamber measuring just

under sixteen feet in both dimensions. Lack of whitewash on the brick walls of the corridor, combined with evidence of furring strips formerly attached to the walls, indicates that this entry or corridor was originally plastered or sheathed with wood.

In contrast, the consistent presence of whitewash on the brick walls within the schoolroom shows that this room was originally not plastered or sheathed, but rather was brightened by the simple painting of its interior brick walls.

Silhouettes in the whitewash on all three remaining walls of the schoolroom reveal important evidence of its appearance. First, the clear silhouette of a fireplace and chimney on the eastern wall, between the two widely-spaced front windows, shows the location of a hearth comparable to those described by Albert Smith in 1876. Further evidence of the construction of the fireplace is indicated by a recess in the brick wall of the building, left when the rear firewall of the fireplace was dismantled in the mid-nineteenth century. The depth of the hearth would undoubtedly become evident through exposure of the footing stones and/or bricks upon removal of the modern floor.

Allowing for the four-foot width of the corridor to the north, this fireplace would have been located in the center of the eastern wall of the schoolroom.

Second, the silhouettes of two of the original school desks/benches may be seen in the remaining whitewash on the southern wall of the room, adjacent to the present doorway (see accompanying diagram). These desks clearly abutted the wall, and the slope of the floor under the desks can be calculated from the fact that the front lip of the rearmost desk was about five inches above that of the foremost desk. There is no paint evidence of another desk in the zone now intersected by the door, so this may have been an area of open, level floor. The curved silhouette of the foremost desk suggests that there was a "low seat in front" without a writing surface, for the "very small scholars," as described by Albert Smith.

Third, the area to the north of the western window of the room, between the window and the original corridor, shows no whitewash below a horizontal line. This line would have defined the backs of the benches in the rearmost row of seats.

Again allowing for the four-foot width of the corridor at the north, the western window would have been in the center of the room, opposite the fireplace. It is evident that this window marks the location of the alley that bisected the rows of seats and gave access to each tier, as described by Smith.

Allowing for such an aisle, and assuming that there were only three tiers of benches (the front benches being without desks), each bench would have measured about 6'-6" in length on each side of the rear window and the aisle. This would have provided a total length of 39 feet of benches in the room. Allowing two lineal feet per student, the schoolroom might have had a capacity of about twenty.

Further evidence indicates that the schoolroom was later plastered. Over the whitewashed walls, visible on each side of each window opening and on the western wall as well, are vertical gray lines that show that furring strips were later attached to the walls over the old whitewash. Further evidence that these lines represent the location of former furring is provided by cut nails that remain affixed in some of the mortar joints where the wooden strips were attached.

It seems likely that the floor of the room was leveled when the entrance was moved to the south wall. The original sloped floor would have blocked that doorway, rising six to eight inches above its present threshold. Leveling of the floor was very likely accompanied by replacement of the original benches with newer seats, and by removal of the fireplace and installation of an air-tight stove. To hide the marks of these alterations and to make the room more comfortable in the winter, the walls would have been covered by lath and plaster, since removed.

The stove chimney visible in the photograph of 1910 was very likely installed at this time. Rather than rising from the floor against the rear (western) wall of the building, the chimney may have been suspended from the roof structure, as was common in early stove installations. The stove itself may have been placed near the old fireplace location, with its pipe extending some distance below the room's ceiling for additional heat.

The approximate date of these alterations may be deduced from the dates scratched in the bricks adjacent to the former woodshed/privy. The earliest of these dates appears to be "1860," and this probably marks the approximate time when the building's entrance moved to this new location.

As noted above, the schoolhouse appears to have undergone a period of extended neglect during the early years of this century. The 1910 photograph shows the building in good condition, with the woodshed/privy intact, original window sashes (and two original exterior shutters) still in place and undamaged, a sound roof, a good one-flue chimney, and a southern gable in apparently excellent condition.

After the date of this photograph, however, the building lost its original window sashes and woodshed/privy, received a new roof and floor, and underwent extensive brick repairs on the western wall and in the southern gable. Rebuilding of the roof, floor, rear wall and gable appear to represent last-minute measures to save a building that was then in near-collapsing condition. The interior furring and plastering of both the original period and the mid-nineteenth-century remodeling had probably also decayed through neglect and would have been removed at the time of these twentieth-century repairs.

Condition of the building: Today, the structure remains largely as it was repaired in this century. The roof is again leaking in several areas, most seriously in the southwestern corner. This leak has already caused decay of the roof system in this area. More importantly, water infiltration here threatens to damage the brickwork through frost action

and to destroy the silhouettes of the two benches by washing the remaining whitewash off the southern wall.

There are other areas of deterioration in the brick walls. Accumulation of soil on the western side of the building has destroyed the ability of the underpinning stones to act as a barrier against water in the soil. As a consequence, rising damp is slowly eroding the soft lime-sand mortar in the lower zone of the western wall, and is causing spalling and powdering of some of the soft backing bricks, visible from within the building.

Removal of the fireplace left an area of wall only one brick thick in the front (eastern) side of the building, and holes cut through the western wall for former drain pipes or other conveniences penetrated the wall in areas already thinned by joist pockets for the original sloped floor. There is a small vertical crack in the wall beneath the northern window. Both gables, being only one brick thick, are relatively unstable.

Except for a small area near the northwest corner of the building, the upper half of the western wall was rebuilt in this century. While the workmanship of this rebuilding was not bad, the mortar employed was a hard formula containing Portland cement. By contrast, the mortar employed in the original construction was a soft lime-sand formula, which is better adapted to historic bricks. There is little evidence of harm having resulted from the use of an overly-hard mortar, but continued frost action in the western wall could cause damage to the relatively soft bricks because of the inability of the hard mortar to yield under the pressure of freezing.

In general, however, the schoolhouse is in remarkably good condition for a structure that has seen so many alterations and so much neglect.

Feasibility of moving the building: Almost any building can be moved if sufficient funds are available. Moving a building is, however, the preservation technique of last resort. Moving a building subjects the structure to hazards. Equally important, moving severs the building from its original context, separating it from the locale and landscape with which it was historically associated. In the case of a rural schoolhouse, removal of the structure from its original country district would take it from the setting that gave it meaning--a place of widely-separated farmhouses whose inhabitants were served by the building. An understanding of the feeling and function of a district schoolhouse is far better gained in an isolated country location than in a village setting. If there is any chance of preserving the schoolhouse on its historic site, this would be a far better option, from the standpoints of both historic preservation and cost, than moving to the center village.

Because of their susceptibility to cracking (and even collapse), brick buildings are generally harder to move than are framed buildings. Moving a brick building usually entails insertion of a series of “needle” beams beneath the brick walls or underpinning stones. The entire cradle of beams is then lifted with jacks, and additional beams are

inserted in such a way as to permit wheels or rollers to be placed under the structure, and to allow the building to be moved into the highway for its trip to another location.

Because the schoolhouse is located at the top of a low roadside embankment, it should be possible to trench beneath the structure and insert needle beams below its underpinning. A further trench would have to be excavated behind (to the west of) the building to allow these beams to be jacked up from below.

Because of the lack of horizontal stability in the walls of a brick structure, especially one that is constructed with soft lime-sand mortar, it is often necessary to sandwich the building's walls between sheets of plywood, and/or to fill the interior with cross-bracing to resist stresses of motion and of tipping.

It is always preferable to keep the walls of a building, especially a brick one, as plumb as possible during a move. Middle Hancock Road has some relatively steep slopes that will have to be taken into account if the schoolhouse is moved. Below the intersection of High and Summer Streets, fortunately, the gradient is much more gentle. Summer Street parallels a former railroad right-of-way that led north from the village, and railroad grades were always low.

Another cost associated with moving any building is that of lifting or moving utility wires. The roads leading from the schoolhouse site to the center village are crossed by many telephone and electrical wires. Fortunately, most of these are elevated well above the road.

Although it would be preferable to move the schoolhouse with its roof and brick gables intact, the northern gable is the only original portion of the structure above the eaves level; the southern gable has been rebuilt with second-hand bricks. As noted earlier, both gables are only one brick in thickness, and this thinness could contribute to instability during a move. A worthwhile savings could result from removing the roof and both brick gables in order to allow the building to pass beneath utility wires. If this is done, each brick should be marked so that the gable can be rebuilt as close to its original condition and appearance as possible.

Recording the building: Because of the rarity of the District No. 8 schoolhouse and the fragility of the evidence of its interior appointments, steps should be taken to record the interior photographically and by measured drawings, with the owner's permission, whether or not the building is moved and/or preserved. If the building is moved, recording this evidence before the move would aid restoration after relocation and would serve as a safeguard in case of damage during the move. If it proves possible to preserve the building on its original site, a photographic record would preserve evidence that is fading quickly in the face of dampness and slow deterioration. If it proves necessary to relinquish the building to demolition, a graphic and photographic record would at least preserve something for posterity.

Recommendations for immediate action: First, I would recommend exploring the possibility of preserving the schoolhouse on-site, perhaps through purchase of the building and the original schoolhouse lot (probably only a small parcel) from the present owner of the property. Second, and concurrently, I would recommend exploring the feasibility and cost of moving the building to the vicinity of the Peterborough Historical Society headquarters in case this is the only option for preserving the building. I will prepare a request for proposals and a list of New Hampshire building movers for the Society's use in obtaining expert advice on such a relocation. Third, I would recommend seeking the owner's permission to do enough carpentry and shingling to keep water out of the building. Roof leaks, especially near the southwest corner of the building, have saturated the brick walls and threaten further damage to the bricks. The leak in the southwest corner is also dissolving the lime-based whitewash that preserves the only surviving evidence of the design and size of the original desks and benches of 1824 and of the slope of the original floor. It is important to prevent further loss of this evidence even if it is recorded by photographs and drawings. If the building is preserved, every vestige of physical evidence, and of original appearance, will be crucial to an authentic and evocative restoration of the structure.