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RECONSTRUCTION PROJECT M

DRAFT
CONTEXTUAL STUDY
LUMBER AND BUILDING MATERIALS

January 1991

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in association with
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Prepared For:

New York State Department of Transportation
in cooperation with
Federal Highway Administration & The City of New York

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A. INTRODUCTION

This category, lumber and building materials (B2.6), includes various facilities that once provided New York City with building supplies for use in the city as well as for export. While New York City had sawmills as early as the 17th century, the following report is primarily concerned with the yards and mills that supplied the 19th-century city with both building materials and finishing materials.

HISTORICAL CONTEXT

Historical Development

The first saw mill in New York City was established by the Dutch West India Company in the early 17th century to supply New Amsterdam with lumber for construction and shipbuilding. As the city grew, so did its need for lumber, and by the 18th century, lumber yards proliferated on Manhattan's waterfront. By 1770, city law mandated inspection of the size and quality of various lumber products, and a number of lumber yards advertized that they would "undertake all kinds of shop-work" (Gottesman 1938: 184, 185). According to the advertisements from New York City newspapers from 1726 to 1804 listed in Gottesman's volumes (1938, 1954, 1965), these lumber yards supplied, among other items, the following products:

building timber	scantling (square pieces, 6 in.)
ship plank	Albany boards (3/4 in.thick, 10-15 in. wide, 10-15 ft. long)
staves	Kinderhook boards
pine lumber	ash
oak posts	whitewood boards
cedar rails	Cornish and Indian gutters
hoops	pitch pine
cyprus shingles	Albany pipe staves
plaster of Paris	

Shipbuilding was one of the first American industries requiring significant quantities of timber. When the price of wood increased on the east coast in the early 19th century, shipbuilders moved to the interior of the continent, to locations such as the Ohio River Valley. In the mid-19th century, wooden shipbuilding reached its peak, with larger ships, the growth of the merchant fleet, and the introduction of the steam engine and inland water travel. The large size of the ships hindered the ability of small communities to provide sufficient financial support, and shipbuilding returned to more urban areas (Goldenberg 1981: 121-123). While timber was often purchased from merchants in urban centers, shipbuilding remained independent of the lumber industry, and shipyards sometimes sent their own crews to cut timber (Goldenberg 1981: 107, 123).

By 1845, lumbering activity had increased greatly to meet the demands of growing national transportation systems. Plank roads and railways required massive amounts of lumber (McGregor 1988: 71). For example, the plank road from Walton to Hancock in the Upper Delaware Valley of New York State, built in 1849, traversed a distance of 26 miles, using 8,789,820 board feet of lumber produced by 81 sawmills (McGregor 1988: 78). In 1870, some 39 million wooden railroad ties, mostly white oak, were used in the United States; by 1910, the total had jumped to 129 million, one quarter of the nation's total wood production (White 1981: 215, 219).

Other changes brought by the Industrial Revolution, including the new factories' need for leather belting, increased the need for leather goods, which in turn, accelerated lumbering (Hergert 1983: 92). The bark of the eastern hemlock, which had a high concentration of tannic acid, was preferred for tanning. After the bark was peeled, the trees were often left to decay; however, by the late 19th century, the lumber of the eastern hemlock was marketed as well as its bark (Fox 1901/1976: 9; Hergert 1983: 92).

By 1850, New York State was the country's biggest lumber manufacturer, with 22.4 percent of total production (McGregor 1988: 71), mostly in pine, spruce, and hemlock (Thompson 1966: 98). New York City was one of the principal distribution points for white pine, along with Boston and Long Island (Fox 1901/1976: 82). New York City, "owing to its export trade and large local demand" (Fox 1901/1976: 85), and Chicago contained the United States' largest lumber markets. While these cities used a considerable portion of the available lumber within their own urban limits (Fox 1901/1976: 82), New York also played an important role in providing an established export market and marketing facilities. This was essential for allowing "distribution to the widest possible market" (Thompson 1966: 168).

Much of New York City's timber supply was cut from the Adirondacks and transported to Albany by sledge in the winter. In springtime, the lumber was transferred to sloops headed to New York City (Fox 1901/1976: 20). After the development of the railway system in the 1870s, timber was brought from the Upper Delaware Valley to New York City by railroad flat cars (McGregor 1988: 80). In addition to local supplies, exotic woods imported from abroad included brazil, cedar, cork, fustic, logwood, mahogany, rattan, and rosewood (Hough 1872: 426).

Once in New York City, the wholesaler was the central figure in the lumber business, as he

sorted the green lumber, dried it, finished it in his planing mill, and stored the product in his sheds. By advancing money under contract for a future delivery, he supplied the sawmill owner and logger with operating capital. In addition, he extended credit to retailer. (Kohlmeyer 1983: 86) In 1893, wholesalers met in New York to form the National Wholesale Lumber Dealers' Association (Kohlmeyer 1983: 89). By this time, few areas of the Adirondacks remained for lumbering, and the industry moved west to Buffalo. Timber was sent east via the Erie Canal (Thompson 1966: 178, 413).

Lumber and Building Materials

In 1855, 2,933 lumbermen and dealers were listed in New York State (French 1860: 154). For the same year, the following related occupations were listed for New York County, along with the number of people employed in each (French 1860: 152):

cabinet makers and dealers	2006
carpenters and joiners	7204
coach and wagon makers and wheelrights	757
coopers	1018
stone and marble cutters	1755
tanners and curriers	228

The 1865 census listed six lumber mills in New York County, with capital of \$583,000, and 11 tanneries valued at \$390,100.

In addition to simply maintaining stocks of these materials for sales, many lumber yards had mills where they could undertake specialized shop work. As steam powered machinery became available woodworking became diversified and included the production of veneers and various finishing goods. Mid-nineteenth century inventions, such as the turning lathe and the woodbending machine, resulted in the proliferation of consumer products which increased the demand for wood in New York City. For example, piano factories and furniture manufacturers utilized various wooden components for the assembly of ice boxes, pianos, and mass produced furniture.

Lumber was not the only important building material available in New York City. By the 19th century, New York had become an important center for polishing and finishing marble. Marble and other building or architectural stone, such as blue sandstone, was shipped to New York City from quarries in upstate New York i.e., Bigelow Bluestone in Malden, New York (Hartgen 1982), Connecticut, and New Jersey (McKee 1973: 11, 19, 31). Other stone was imported from abroad (Hough 1872: 426).

Sites of this category are significant to New York City history in that their goods contributed to the built environment, adding to the architectural fabric of the rapidly expanding city. In addition, the export market in building materials added to New York's significance as a major commercial center. More specific information, such as any association with technological innovation or important individuals, requires more site specific research.

Property Types

Property types included in this category are lumber yards, kindling wood factories, slate and bluestone yards, furniture factories, saw mills, brick and building supply facilities, and planing mills.

These site types are characteristic of Manhattan's middle and lower west side, although related sites were located in other areas of New York City which enjoyed comparable access to transportation systems. Such sites tended to be located on

the waterfront, as an 1802 advertisement for a lumber yard at the foot of Chamber Street notes, "the situation of the yard being so contiguous to the river, will save to shipping the expense of cartage" (Gottesman 1965: 199). Similarly, in Brooklyn, 19th-century lumber, brick, and stone yards were located along the Gowanus Canal (Solecki 1977: 22). In 1901, William Fox mentioned New York City's receipts of lumber from "ocean, canal, river and railroad" (Fox 1901/1976:85). Fox's statement points out New York City's many locational advantages for the lumber trade, that is, access to ocean, canal, river, and railroad transportation. Retail outlets serviced by adjacent railways were referred to as "line yards":

The typical line yard was located near the railroad tracks and consisted of a yard, a shed, and a small separate office. The yards stocked a diversified line of building materials: boards, dimension lumber, barn boards, fencing, pickets, stock lumber, shingles, lath, lime, plaster hair, window glass, paint, sandpaper, putty, tar paper, and felt. (Kohlmeyer 1983: 87-88)

ARCHEOLOGY

Identification

Archeological remains of these property types could include foundation walls or traces of the walls, indicating the footprints of the buildings. In addition, below ground pits, vats, and other features related to the installation of saws and other machinery could be identified archeologically, as well as scatters and concentrations of lumber, stone, and other building materials. Some of these artifacts could represent raw material, while others could indicate partial or complete cutting or finishing.

Comparanda

Only infrequently have similar sites received archeological study in the Northeast. The recent archeological investigations for the Central Artery/Third Harbor Tunnel in Boston included the testing of an area that had contained a marble yard and part of a lumber yard (Mill Pond block 1, trench B). Archeologists uncovered an in situ layer of marble fragments representing the work surface at the marble yard, which was active in the last quarter of the 19th century (Elia, Landon, and Seasholes 1989: 16-17).

Research Questions

Archeological research questions pertaining to this category include issues about changing technology and industrial development. Present knowledge of what these facilities provided is principally limited to lists of products; however, their participation in city life was much more direct. Not only did many of these property types employ large numbers of the city work force, but their products contributed directly to the appearance of the urban environment. The organization of production, the transformation from a craft to an industry, the impact of changing technologies, and the effect of the reduction of Adirondack timber, remain poorly

understood. Understanding these and related issues is important to our knowledge of the history and growth of New York City as the Northeast's predominant urban center.

Significance

Many aspects of these facilities are either historically undocumented or insufficiently documented. In some cases, the methods and techniques of archeology, together with historical documentary evidence, might be used to achieve a better understanding of certain property types. For example, a lumber yard's changing footprint, or the remnant of a saw pit feature underneath a concrete slab, might indicate the introduction of new technologies as the yard was rearranged and altered to accommodate new machinery. The identification of deposits of debris, whether finished stone or wooden architectural elements, has the potential to yield information on the actual production process: where within the city were products of these lumber and stone yards used? what were the stages of manufacture for these items? what tools were used? what materials were favored?

Addressing issues such as these would yield a more complete picture of how these facilities operated and what role they played in the industrialization and development of New York City.

Visibility

The potential visibility of such remains is an important consideration in assessing the significance of archeological investigation for this category. One of the principal deposits that might be expected from the property types in this category is wood, but wood is generally not well preserved in archeological contexts. Wood may be preserved by several means, including desiccation, waterlogging, and carbonization (Taylor 1981: 7). While desiccation is unlikely, waterlogging and carbonization could contribute to wood preservation in the New York City archeological context. Other factors contributing to preservation include the type of wood: resinous woods and hard, compact woods with tannic acid are the hardiest (Wagner 1872: 473). Archeological investigations in New York City have yielded some wooden artifacts, most notably the ships which were used to form the city's made land. The wooden ship excavated by Geismar had been protected by its wet environment (Geismar 1983). While the ship may represent the most sizable wooden artifact recovered archeologically, many excavations have uncovered smaller items such as cutlery handles (Grossman 1983: 14) and timber footings (Stewart 1980: 40). In addition the wooden foundation of Fort Gansevoort (1812) was encountered in 1949 when the city was building the Gansevoort Meat Market (New York Herald Tribune).

Wooden remains have also been found in other archeological contexts in the urban Northeast. For example, in the course of the Central Artery/Third Harbor Tunnel Project in Boston, the archeologists uncovered a number of wooden features, including foundations (Elia, Landon, and Seasholes 1989: 14, 47, 63), privies (pp. 45, 55), and a wharf (p. 25). Most of these features were found on made land, where the soil had a high clay and sand content and was moist or wet. Excavations

in Quebec City have brought to light the 17th- to 18th-century wooden floors of the Chateau Saint-Louis Battery under Duffer in Terrace as well as an associated icehouse, greenhouse, and another structure tentatively identified as a powder magazine (Renaud 1990a: 25, 26; Elie 1990: 41; Renaud 1990b: 100). The archaeologists were able to identify the various woods used (white cedar, pine, oak, and others), providing information on wood utilization in 17th- and 18th-century Quebec. Locating the wood joists and decaying floor of the battery gave archaeologists the opportunity to gain a better understanding of construction techniques and the scale of the battery, including an estimate of the number of cannon that could have been employed from the battery (Renaud 1990a: 25). Intact wooden features have also been found on a number of sites in the Albany area, including 17th- to 18th-century wooden cellars at Schuyler Flatts, under Albany's city streets, in the city of Rensselaer (Huey 1987), and at the KeyCorp site in Albany (Peña 1990). Previously unknown, well-preserved wooden water mains dating to the mid-19th century were recently uncovered in downtown Albany, contributing to our understanding of the rapidly industrializing, growing 19th-century city (HAA 1990). In addition, in Albany, deposits of 17th and early 18th century sawdust, woodchips, and bark have been encountered in the streets (p.c. K. Hartgen & P. Huey).

Wood remains, however, are not the only artifacts that might be anticipated in sites of this category. Stone certainly has few preservation problems, and remains in the stone yard within the Route 9A corridor might provide information on the production or distribution process. In addition, a number of these facilities may have had stone foundation walls, which may remain buried under fill. Machinery pits, while likely to be filled, and structural supports should also be archeologically detectable. The machinery, however, was most likely removed.

It is also important to note that the large quantities of fill that cover many industrial sites often serve to protect these sites rather than having an adverse effect.

NATIONAL REGISTER

Pending site specific research, the sites within this category are most likely to contribute to National Register criteria C and D. Criterion C involves the "embodiment of distinctive characteristics of a type, period, construction method; work of a master, high artistic values, significant and distinguishable entity." Since New York City was such a high order urban center, and was known as a major lumber market and distribution point, as well as a center for marble polishing and other allied crafts, it is possible that the lumber or stone yards within the 9A corridor may represent innovations in style or technique.

Sites within this category may also be described by National Register Criterion D, "information important in prehistory or history." This information might consist of topics related to industrial history, such as the development of particular industries and associated technology and the specific changes in land use and site plans.

B. CONCLUSIONS

The property types contained within this category, including lumber and stone yards, which have the potential to be archeologically visible, played a significant role in the growth of New York City both by providing work for a large number of people and by supplying materials that constituted the city's built environment. Several National Register criteria can be used to address these property types, particularly Criterion C, which concerns demonstrating distinctive characteristics of a type, period, or construction method, and Criterion D, which requires that the sites provide information important in prehistory or history.

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