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Linda H. Kistler

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Linda H. Kistler
UNIVERSITY OF LOWELL

THE MIDDLESEX CANAL—AN ANALYSIS OF ITS ACCOUNTING AND MANAGEMENT

Abstract: The paper analyzes the development and subsequent decline of the Middlesex Canal, a twenty-seven mile inland waterway that joined Lowell in northern Massachusetts with Boston and the sea. Built from 1793 to 1804, the canal was an important catalyst in regional economic and transportation development during the early years of the American Industrial Revolution. Data from original financial records of the canal are presented for the period 1825 to 1845 when the canal was most successfully operated. The Middlesex Canal is acknowledged to be a fundamental element in the early development of Lowell as the center for textile manufacturing in the United States.

Introduction

Massachusetts, which led the colonies into the American Revolution, proved to be fertile ground in the early nineteenth century for a second revolution—the Industrial Revolution. This paper traces the financial history of the Middlesex Canal, a twenty-seven mile inland waterway which joined the Merrimack River at Lowell with the city of Boston and the sea.¹ Introduction of service on the canal marks the beginning of large scale industrial development in New England; and this study analyzes the surviving financial records of the Middlesex Canal from 1793 to 1850 in an attempt to trace the evolution of early corporate accounting practices and financial processes and to provide insights into the early years of the Industrial Revolution in this country.

Fortunately, many corporate documents have survived and are preserved in the Middlesex Canal Association Archives Collection at the University of Lowell. Existing financial records include lists of stockholders, cash assessment records, minutes of directors' meetings, annual reports of stockholder meetings, accounting ledgers from 1793 to 1824, and reports of the Agent from 1825 to 1844. In addition, numerous bundles of bills, vouchers, regulations, deeds, toll rate schedules, stock certificates and other financial memorabilia may be examined.

This paper presents an analysis and evaluation of financial data taken directly from canal records, including revenues, expenses, estimated net income and rates of return on revenues, and on original investment for the period from 1825 to 1845. In addition, an examination of dividend payments has been included to provide an assessment of return on investment to the shareholders of this early public utility. A review of the available ledgers traces the development of accounting procedures from a single entry format to a relatively sophisticated multi-column cash journal. Rudimentary internal auditing concepts were employed by the board of directors to safeguard assets and assure objective reporting of revenues and expenses; and this early illustration of internal auditing and control also is discussed.

Historical Perspective

Following the years of turmoil that marked the American Revolution, New England began to focus its attention and energies on the economic development of its inland regions. Boston, the area's largest city, was a thriving port and the center of business and commerce. Commercial leaders realized that improved transportation to interior regions was the key to economic expansion in New England.

The utility of inland water transportation had been demonstrated several decades earlier in Great Britain and Europe, where canals operated successfully before 1760. The British accomplishments in canal building were much admired by Americans who conceived a number of canal projects during the 1780s and 1790s. Although the Middlesex predates the more famous Erie Canal by twenty-five years, it was not the first American canal. When the Middlesex Canal Company was incorporated in 1793, more than thirty canal companies already had been established in the United States. Many were modest projects, while a few were of such grandiose proportions they were destined to early failure.

The Middlesex Canal, an ambitious venture by any measure, was designed to join the Merrimack River at Middlesex Village (now Lowell) and the port of Boston. Construction of the canal began in 1794 and was completed in 1804. A truly heroic engineering project, the Middlesex Canal proved to be an important catalyst for economic growth in Massachusetts.

The magnitude and complexity of the project can be demonstrated by a brief examination of the plans and specifications of

the canal. More than twenty-seven miles long, the canal contained twenty locks, eight aqueducts, and forty-eight bridges. Of particular engineering interest were the canal locks, some of which were constructed of stone, others of heavy timber. The locks were from ten to twelve feet wide and of various lengths; and their average lift was seven to eight feet. Each lock was large enough to accommodate canal boats some seventy-five feet long. One of the great engineering feats of the canal was a series of three double locks which accomplished a fifty foot descent at Horn Pond, where a popular tavern overlooked the scene.

After Lowell and Boston were joined by the canal, several river locks and canals were constructed on sections of the Merrimack River north of Lowell to facilitate passage to Concord, New Hampshire. Planners envisioned barges transporting lumber, furs, grain and other materials via canal to Boston; with cotton bales, machinery and other finished goods providing return cargo to northern settlements. Lowell, which subsequently became the textile center of the country, thrived in the 1800s as a result of cheap power, skilled labor in adequate supply, and the availability of inexpensive transportation.

Upon completion of the New Hampshire locks and canals in 1814, the original dream of a functioning inland waterway from Boston to interior New Hampshire became a reality. The goal was achieved at a heavy cost, however, because the Middlesex Canal Company, as principal stockholder, financed most of the construction of the New Hampshire canals, a decision which diverted funds from the Middlesex during a crucial period in its early operation.

Organization, Leadership, Investment, and Returns

James Sullivan, Attorney General of Massachusetts, is thought to have originated the basic concept for the Middlesex Canal project. Mr. Sullivan, together with Loammi Baldwin and Ebenezer Hall, formed a committee that petitioned the Massachusetts General Court (the Legislature) for a charter in the name of "The Proprietors of the Middlesex Canal". Following affirmative legislative action, Governor John Hancock signed the incorporating act in 1793. Upon issuance of the charter, interest in the venture became widespread in Massachusetts, with the list of incorporators including some of the most prominent persons of the day. Among the shareholders in 1806 were John Adams, John Quincy Adams, James Sullivan (president of the corporation), Loammi Baldwin

(principal engineer and builder), and Samuel Jaques, successor to Baldwin as Agent of the company.

Capital for construction of the canal was obtained by periodic assessments against the proprietors (shareholders). The first assessment in the spring of 1794 was levied against some fifty stockholders who owned about 740 shares of stock. Subsequent issuances of stock increased total outstanding shares to 800. From 1794 to 1806, ninety-six assessments totaling \$610 per share were levied by the company, and these funds provided the primary source of capital for constructing the canal. The company also paid approximately \$74,000 to acquire control of the river locks and canals between Lowell and Concord, New Hampshire; and in 1811, three assessments on the 800 outstanding shares generated \$40,000 which was used to liquidate loans incurred in the river locks acquisitions. From 1808 to 1816, an additional \$102,600 was invested in betterments, repairs, damage payments for lawsuits on disputed land, and similar expenditures.² These funds were provided both from operations and from various loans of the Massachusetts Bank and several individuals. Finally, in 1817 a single assessment of \$80 per share provided \$64,000 which cleared the corporation of debt and was the last assessment of funds from shareholders of the Middlesex Canal Company. The total capital cost of the canal as measured by assessments of \$740 per share on 800 shares from 1794 to 1817 was \$592,000.

A computation of simple interest at six percent on investors' assessments has been made by Roberts³ in an attempt to measure total investment in the canal. If imputed interest is included in construction costs, the shareholders' contribution per share increases from \$740 to \$1445 per share on 800 shares, and the capital investment in the Middlesex Canal may be estimated at \$1,156,000.

The corporation finally provided a return on shareholders' investment when the first dividend in the amount of \$15 per share was paid in 1819. Total dividends from 1819 to 1853 (when assets were liquidated) were only \$559.50 per share, far short of the \$740 per share originally invested.

If financial success is measured by return on total investment, then the Middlesex Canal was a failure almost from its inception in 1794 to its demise in 1853. Total investment, exclusive of interest was \$592,000 and total dividends paid were \$447,600 including liquidating dividends of \$116,000. Although individual stockholders may have profited on the sale of their shares, the venture would be considered a financial failure by modern standards. In 1860 the

Massachusetts legislature formally declared the company defunct and all papers were placed in the custody of the Clerk of the Middlesex County Court. Bridges over the canal were removed, the trough of the canal was filled, and disposable property was sold. An important chapter in the industrial development of New England quietly concluded.

Financial Records from 1793 to 1824

The earliest financial record of the Middlesex Canal Company dates from 1793. Titled the "Treasurer's Account", this leather bound book chronicles activities during the company's first three years. Although the board of directors was initially elected in October 1793, actual construction was delayed until the summer of 1794. Entries in the Treasurer's Accounts describe financial activities during the initial construction period and may be classified into two categories. One group records cash receipts derived from assessments levied against the proprietors. A second set of entries details expenditures for actual construction of the canal. Thus, the "Treasurer's Account" functioned as a combined cash receipts and disbursements journal.

The first set of entries is a detailed record of assessments levied by the company to finance construction of the canal. A modified single entry procedure was used in which a separate account was maintained for each stockholder reflecting assessments and subsequent receipts during the three year period. This group of accounts essentially was a simple but complete record of assessments receivable, with debits for assessments ordered by the Board and credits for stockholder payments.

When shares were transferred, a memorandum entry in the Treasurer's Account noted each ownership change, and subsequent assessments were based upon the adjusted number of shares held. Several stock transfers were traced to test the accuracy of the records; and without exception, transfers had been meticulously and correctly recorded. Individual records of more than 100 proprietors are included in the Treasurer's Accounts from 1793 to 1796.

As noted earlier, some of the most illustrious Massachusetts men invested in the Middlesex Canal. For example, the Treasurer's Account revealed that in 1793 Governor John Hancock had subscribed to twenty shares of the original issue. He died shortly thereafter, and his estate sold his interest to Joseph Barrell, a wealthy merchant from Charlestown. According to the records, Hancock or his estate

paid the first three assessments totaling \$140 per share prior to the sale of his shares in October, 1794. Mr. Barrell, who was a member of the first board of directors and later served as vice-president, also had an initial investment of twenty shares of stock. Apparently convinced of the project's potential, Barrell invested heavily in the canal in 1794. In addition to acquiring Hancock's twenty shares, he bought ten from Caleb Boulding, ten from Andrew Hill and twenty from his son, Joseph Barrell, Jr. His total holdings of eighty shares required a \$7,000 cash investment for the twenty assessments levied during the 1794-1795 period.

By December 1796, significant ownership changes had occurred. The investments of only five of the original twenty-nine subscribers were intact. Joseph Barrell was among the dominant group of Boston investors and his eighty shares were the largest single block owned. Sixteen men held 524 of the 800 shares outstanding in 1796. Mr. Barrell's enthusiasm for the canal apparently waned during the next decade because by 1806, he had disposed of all but seven of his shares.

The cash disbursements of the company from 1793 to 1796 are contained in a single account titled "The Proprietors of the Middlesex Canal" in which were recorded annual construction costs of the canal. Detailed debits reflect payments to laborers, suppliers for materials and tools, advertising and printing costs, legal fees and even entertainment and lodging expenses. Many of the original bills and vouchers are extant and a sample of forty vouchers was taken to verify the accuracy of postings to the account. Without exception, postings were accurate, column footings were correct, and supporting documentation appeared satisfactory even by contemporary standards.

Large capital expenditures were charged to the Proprietor's Account as well as items as small as \$1.50. For example, in March 1794, the company purchased the Thomas Richardson Mill on the Concord River in Billerica and built its first blacksmith shop on the property. Total purchase price for the property was \$6,265,⁴ an amount that was paid over a period of time. The treasurer recorded an initial payment of \$1,000 for the property in March. Additionally, a debit of \$533.33 $\frac{1}{3}$ was entered for payment of a treasurer's note, and another \$200 debit recorded a fee paid to Henry Putnam for his services in consummating the purchase.⁵ A liability for the balance owed on the Richardson Mill was not recorded directly in the accounts. However, approval for purchase of the property was recorded in the minutes of the board of direc-

tors in November, 1794; and canal records in subsequent years reflect the payment of the purchase price in several installments.

Debit entries in the 1794 Proprietor's Account show total construction costs of \$7,209.08. At March 31, 1795 the first reconciliation of the Treasurer's Account was prepared by an audit committee of the board of directors. On that date, construction expenditures totaled \$15,110.11; and six assessments had been levied on the 800 shares outstanding which provided \$16,000 cash for construction. The audit committee's report, written directly in the ledger, provides evidence of the board's recognition of its stewardship and oversight functions. The March 1795, reconciliation is shown below.⁶

PROPRIETORS OF MIDDLESEX CANAL

1795	1795	Doll.
March 31	Total Expended 15,110.11	
	March 31 by 6 Assessments on	
	800 shares	
	at 20 doll.	16,000
	Deduct Ballance	
	due from 23	
	Persons as of	
	List Exhibited	1,125
		<u>14,875</u>
	Ballance due to	
	the Treasurer	235.11
March 31th, 1795		<u>15,110.11</u>
		Doll. Cents

ERRORS EXCEPTED

We the subscribers a Committee appointed by the Directors of the Middlesex Canal to examing (*sic*) the Accounts of the Treasurer have attended that service and find them right cast and well
Doll Cents

vouched and a Ballance due to him of 235.11 that their is due to Thomas Richardson 800 Dollars on Acct of the Mills for which the Treasurer has given his Note the 27th May 1794. They also Certify that there are due from sundry of the Proprietors for Assessments by List Exhibited 1125 Dollars some of whom have acc as to
Doll

Exhibit that 1544.16 cents of his Acct was for provisions which are now an hand All which is submitted

Ebenezer Storer

J Brooks

Committee

Note that twenty-three delinquent shareholders owed \$1,125 in assessments at the end of March, and that the treasurer has apparently used personal funds of \$235.11 to pay certain vouchers. The audit statement also reveals that an inventory of provisions had been taken and a value of \$1,544.16 established, and recognizes an outstanding Treasurer's note for \$800 to Thomas Richardson. The note relates to the balance due in 1795, not the full liability outstanding.

More complex, but essentially similar audit statements appear throughout the surviving records. These cash reconciliations are analyzed in more detail later in this paper.

Fundamental accrual accounting principles were not integrated in the records of the Middlesex Canal. However, in his annual report to the Directors, the Agent typically reported notes payable together with lists of accounts receivable, accounts payable and inventory of supplies on hand at the end of each year. The Agent's report was a lengthy document in which the major events of a particular year were summarized. A complete review of repairs and betterments was included as well as a summary of revenues and expenses. The annual report offered the Agent an opportunity to review his stewardship during the prior year and to recommend management decisions for implementation the next year. Thus, the annual report served both as a summary of past activities and as a vehicle for presenting future plans and goals.

Based upon available documents, the directors of the Middlesex Canal demonstrated a sophisticated awareness of their collective fiduciary responsibility to shareholders. The treasurer's accounts were audited annually, and the evidence suggests that each payment may have been examined and verified. The evidence also suggests that these early transactions were conducted in cash because reference to check numbers do not appear until much later when checks were used to pay dividends.

A second Treasurer's Account ledger for the years 1795 to 1805 continues the very detailed recording of construction costs. The accounting practices of the early years were continued in the Proprietor's Account, including annual comprehensive reconciliations of cash by the audit committee. There is no evidence that a formal general ledger was maintained during this period.

Records from 1808 to 1811 have not survived. However, accounting procedures became increasingly sophisticated because in 1814 the treasurer adopted a multi-column cash disbursements

journal which closely resembles contemporary handwritten disbursements journals. The account title, "Middlesex Canal in Account with the Treasurer", supplanted the older Proprietor's Account. Column headings included date, persons paid, amount (credit to cash), and debits for betterments and repairs, boating expenses, interest expense, management expense (including salaries), and incidental charges.

Additional evidence of the increasing complexity of the accounting system was found in 1811. At December 31, lists of both customers' receivables and creditors owed were prepared which were carried forward to 1812 when collections and payments were recorded. In 1812, a separate group of Doubtful Accounts was segregated from customers' balances. During the period from 1811 to 1814 the treasurer began to record costs and expenses in several accounts, with a summary of all items recorded in the Proprietor's Account. Among the detailed accounts maintained were cash, receivables, payables, interest, new boats, betterments, improvements, Massachusetts Bank (for loans), tolls management expenses, labor, storage, wharfage, and investments. All accounts were closed annually to a General Account which was similar to a Revenue and Expense summary account. A general ledger in the modern sense either was not maintained during this period or it has not survived.

Ledgers and accounts from 1825 onward have not survived. However, the annual reports of the Agent who served as the chief executive officer of the company provide a summary of revenues and expenses for the years from 1825 to 1845, the most successful period in the canal's history.

The data in Exhibits I and II were summarized directly from the original reports of the Agent. Not surprisingly, the principal revenue source was tolls, while other income from land and mill rentals and sales, and dividends from the New Hampshire river canals contributed an additional fifteen to twenty percent of annual revenues. In later years, toll revenues declined and miscellaneous income became more important.

The category, sales of land, in Exhibit I merits further comment. During the operating life of the canal, various sales of land provided an intermittent source of cash. The financial records were maintained on a cash basis, and receipts from land sales included both principal and interest on installment sales. For example, in 1835 cash of \$2,232 was received from an installment sale of Eastern Township (Maine) land, which had been sold in 1834. This receipt included \$1,800 principal and \$432 interest. The Agent of

the canal consistently failed to distinguish between principal and interest receipts during the 1830s and 1840s.

Moreover, the accounting issue of capital gains and losses was not addressed directly in the records of the Middlesex Canal. In some instances, cash from land sales was entirely capital gain because the property sold had originally been granted to the Middlesex Canal Company at no cost by an act of the Massachusetts legislature many years earlier. In later years, asset liquidations generated funds which were paid to shareholders as liquidating dividends. Here also, capital gains and losses were not specified for particular parcels of land and equipment, and depreciation expense was never recognized in company accounts and operating reports.

Principal expenses of the Middlesex Canal were wages and salaries, and repairs and maintenance to the property. The Agent of the canal apparently had a rather well-defined notion of expenditures which should be classified as capital items. However, the distinction between capital expenditures and repairs and maintenance was not always consistently applied. In 1825, for example, the Agent reported no capital expenditures and repairs, maintenance and new building of \$7,317.68 (See Exhibit II). A review of the 1825 Agent's Report revealed several items that would properly be classified as capital expenditures that were included in repairs. Among the items were a bridge in Charlestown, two new wooden locks, and a new locktender's house. The Agent mentioned these expenditures as part of his report on repairs and maintenance but did not specify precise costs. In 1825, the Agent apparently reported all capital expenditures as part of repairs and maintenance. In subsequent years, new docks, aqueducts, bridges, canal boats, terminal buildings and other obvious capital items were properly classified as capital expenditures.

Cash flow was an important issue which received close attention during the operating years from 1825 to 1845. Cash flow was adversely affected by repayment of loans with interest, particularly during the early years, and by dividend payments to the proprietors which totaled \$389.50 per share during the two decades from 1825 to 1845. All shipping on the canal ceased after 1851; however, as a consequence of the liquidation process, dividends of \$65 and \$20 per share were paid in 1852 and 1853 respectively. The last recorded meeting of the board of directors took place in 1854; and in 1860, the Supreme Judicial Court ordered the records sealed

EXHIBIT I
MIDDLESEX CANAL COMPANY
Revenues From 1825 to 1845

	<u>1825</u>	<u>1830</u>	<u>1835</u>	<u>1840</u>	<u>1845</u>
Revenue Sources:					
Canal Tolls	\$22,716.06½	\$23,384.11	\$41,798.61	\$24,774.39	\$12,426.01
Sales of Land	3,100.00		2,232.00	420.60	1,016.85
Rentals of Real Estate		1,630.83	3,389.54	4,316.09	2,017.45
Dividend Income		1,687.50	4,725.80	3,013.00	2,152.00
Miscellaneous	514.36	785.03			
Total Revenues	<u>\$26,330.42½</u>	<u>\$27,487.47</u>	<u>\$52,145.95</u>	<u>\$32,524.08</u>	<u>\$17,612.31</u>

Source: Reports of the Agent of the Middlesex Canal Company, Corporate Records, University of Lowell Archives Collection.

EXHIBIT II
MIDDLESEX CANAL COMPANY
Expenses and Net Income From 1825 to 1845

	<u>1825</u>	<u>1830</u>	<u>1835</u>	<u>1840</u>	<u>1845</u>
Expenses by Category:					
Repairs, Maintenance, and New Building	\$ 7,317.68	\$ 4,776.52	\$ 8,862.03	\$ 7,681.55	\$ 3,604.09
Wages and Salaries	3,830.01	4,287.80	6,338.53	6,190.05	5,648.43
Capital Expenditures		8,752.45	11,785.41	4,826.69	2,358.54
Accrued Expenses		2,063.67	2,873.92	3,868.72	2,684.47
Interest Expense		27.00	750.00		46.67
Incidental Expenses	421.92	1,108.43	1,789.85	1,121.19	1,168.22
Total Expenses	<u>\$11,569.61</u>	<u>\$21,015.87</u>	<u>\$32,399.74</u>	<u>\$23,688.20</u>	<u>\$15,510.42</u>
NET INCOME	<u>\$14,760.81</u>	<u>\$ 6,471.60</u>	<u>\$19,746.21</u>	<u>\$ 8,835.88</u>	<u>\$ 2,101.89</u>
Rate of Return on Revenues	<u>56.1%</u>	<u>23.5%</u>	<u>37.9%</u>	<u>27.2%</u>	<u>11.9%</u>
Rate of Return on Original Investment of \$592,000	<u>2.5%</u>	<u>1.1%</u>	<u>3.3%</u>	<u>1.5%</u>	<u>0.4%</u>

Source: Reports of the Agent of the Middlesex Canal Company, Corporate Records, University of Lowell Archives Collection.

indefinitely, thus concluding a brief but important chapter in the economic development of New England.

Early Auditing

Although the profession of public accountancy did not involve in the United States until the 1890s, the board of directors of the Middlesex Canal Company had appointed a standing committee to conduct an annual internal audit of the financial records as early as 1795, when the canal was under construction. Initially, the audit committee was charged with assuring the accuracy of the records. After the canal began operating, the committee also was directed to recommend an annual dividend if such a payment were feasible and desirable. The minutes of the January 1830, meeting reflect a typical charge to the standing committee.

Voted that a committee be chosen to examine the Agents and Treasurers accounts: and that Eben Chadwick, George Hallet, and Wm Appleton, Esq. be the Committee, and that the said committee report what dividend can be made . . .

Voted that the Report of the Agent be approved and that the same be read to the Proprietors at their Annual Meeting . . .

Voted that the committee above named make a statement of the sources of income of the Canal, and submit the same to the Proprietors at their next meeting . . .⁷

On February 1, 1830, the directors met at the Exchange Coffee House in Boston to consider the committee's response to the January 25 charge. The complete report of the standing committee is presented in Exhibit III.

The committee's report is noteworthy in several respects. First, it reveals an increasing sophistication by the committee in its evaluation of operations compared to the 1795 report shown earlier in this paper. Second, the committee required only one week to audit the Agent's records, which seems a relatively short period of time to accomplish that important task. The degree of thoroughness with which the examination was conducted is not apparent from the records; however, the committee asserted that they had carefully examined the accounts and found them to be "correctly cast and well vouched," an almost identical phrase to that used in 1795 when the canal was under construction. One wonders whether the committee would publicly vouch for the record's accuracy if they had not conducted an extensive examination of vouchers, bills and related documents. Third, the 1830 report for the year ended

December 31, 1829, contains a significant amount of detail—revenues are classified by major category and expenses and capital improvements are summarized in detail.

Finally, while concluding that prudence required passing a dividend in 1830, the standing committee (possibly responding to shareholder pressure) nonetheless recommended payment of an eight dollar per share dividend. The recommendation was accepted by the board of directors and the dividend was subsequently paid.

EXHIBIT III

Report of the Standing Committee

Middlesex Canal Company

February 1, 1830

The committee appointed by the Directors of the Middlesex Canal to examine the accounts of the agent for the past year, and report what dividend can be declared, have attended to their duty and respectfully Report . . . that they have carefully examined the Books and accounts of the Agent and find same correctly cast and well vouched . . . that it appears therefrom the whole income of the Canal during the past year amounted to \$25,675.65/100 . . . derived from the following sources

VIS

Tolls rec from the several Collectors	\$21,545.80
Rents, de	2,982.45
Union Canal Dividend	321.20
Bow Canal	816.20
Dividend on 1 share owned by Middlesex Canal for 1828	10.00
	<u>\$25,675.65</u>

which is accounted for as follows . . . VIS

Interest on temporary loan of \$1,500 J. C. Jones, Esq.	\$	25.74
Expended on Materials and Repairs		3,463.73
Management, Agent's Salary, Wages of Lock Tenders de		4,280.46
Incidental Expenses		897.26
Expended on New Works, VIS		
New Lock and Aqueduct at Medford	\$4,052.09	
New House at Charleston Mills	1,382.96	
New Milk Canal Office	782.31	
New Wharver at Charleston Mills	1,843.05	
New Aqueduct at Wilmington	619.00	8,679.41
Notes in the hands of Thomas Hittite, collector of tolls unpaid to be accounted for next year		1,581.07
Deposited in the Eagle Bank to the credit of Caleb Eddy, Treasurer of the Corporation		<u>\$ 6,737.98</u>
		<u>\$25,675.65</u>

EXHIBIT III (Continued)

The Committee find that the only debt owed by the Corporation is the balance unpaid of the loan authorized in 1828 and which is due to the estate of John Coffin Jones, Esq., deceased in the sum of seven thousand four hundred and fifteen dollars 22/100 with interest from 1st Jany 1829 . . .

It is unquestionably the most prudent and correct course to suspend a dividend until this debt is paid, but it being the general desire and expectation of the proprietors that one should be declared and from the consideration that no new works are to be commenced this season, the Committee recommend that the payment of said debt be charged upon the income of the present year, which it is presumed will be adequate to its extinguishment and leave a surplus for a dividend equal to that now proposed. The Committee therefore recommend that a dividend of eight dollars per share be declared . . .

Boston Jany 30th 1830

Signed

Ebenezer Chadwick
William Appleton Committee
George Hallet

The Report of the Committee accepted and a dividend of eight dollars on each share owned to be paid by the Treasurer.

Attest Caleb Eddy, Clerk

Boston Feby 1 1830

Source: Middlesex Canal Company, Shareholders' Reports, January, 1830

The existence of an audit committee indicates that an internal system of checks and balances was functioning in the Middlesex Canal Company as early as 1795, and that the process was an integral part of the company's operations throughout its corporate life. Despite the absence of a public accounting profession and the paucity of tradition to guide their activities, the directors regularly assessed the stewardship of the company Agent and Treasurer. The systematic annual review of the corporation's financial records by the standing committee provides solid evidence of the board's sensitivity to its fiduciary responsibilities. Although the committee's evaluation did not constitute an independent audit in the modern sense, it clearly reflects the board of director's diligence in the exercise of its oversight process.

Conclusion

The Middlesex Canal, completed in 1804 in Massachusetts, marks the beginning of the economic expansion which transformed New England into a leader of the American Industrial Revolution. The canal facilitated transportation inland to cities and towns in northern Massachusetts and New Hampshire and encouraged trade

to hitherto isolated areas, thus contributing to the settlement and development of the entire region. The mills and factories that identified Lowell as the center of textile production in the United States depended upon the canal for transportation during a crucial period before railroads were introduced in the 1830s.

The financial and operating records of the Middlesex Canal Company comprise a valuable archive for accounting historians. The archive provides a unique opportunity to examine the accounting and financial practices of an important post-revolutionary company, one of only thirty canal corporations chartered by 1793. The surviving records reveal an extraordinary attention to detail in the daily operations of the company, and the corporate records of the board of directors reflect a sophisticated understanding of the stewardship function in this first Massachusetts public utility. Although the original investment of shareholders was never returned and the canal rapidly declined following introduction of regional railroads, the Middlesex Canal nonetheless was a magnificent engineering achievement whose importance surpasses the financial aspects of its history. Despite its financial shortcomings, the canal served as a valuable catalyst in the expansion of industry in New England; and it merits study as an example of early corporate activity in the United States.

FOOTNOTES

¹The southern terminus actually was located in Charlestown, a community across the Charles River from Boston proper. Today Charlestown is part of metropolitan Boston; and as a matter of convenience, Boston is identified as the terminus of the Middlesex Canal in this paper. After barges entered the Charles River, they could transport goods to any part of Boston; and a short branch canal entered the city and terminated at Haymarket Square, a section of Boston which in 1978 has been restored as a center for shops and offices much as it was in 1800.

²Roberts, Chapters III, XIII.

³Roberts, p. 182.

⁴Roberts, p. 65.

⁵Treasurer's Accounts, Middlesex Canal Company, 1793-1796, p. 58.

⁶Treasurer's Accounts, Middlesex Canal Company, 1793-1796, p. 84.

⁷Minutes of the Board of Directors of the Middlesex Canal Company, Boston, Massachusetts, January 25, 1830.

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