

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

PH0668761

FOR NPS USE ONLY	
RECEIVED	MAY 15 1978
DATE ENTERED	DEC 13 1978

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC
Mechanical Engineering Hall, Vanderbilt University

AND/OR COMMON
Old Mechanical Hall

LOCATION

STREET & NUMBER
Grand Avenue and 21st Avenue, South

CITY, TOWN
Nashville

STATE
Tennessee

___ NOT FOR PUBLICATION
CONGRESSIONAL DISTRICT
Fifth

___ VICINITY OF
Fifth

CODE
47

COUNTY
Davidson

CODE
37

CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE
<input checked="" type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> MUSEUM
<input type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> COMMERCIAL
<input type="checkbox"/> SITE	PUBLIC ACQUISITION	ACCESSIBLE	<input checked="" type="checkbox"/> EDUCATIONAL
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input checked="" type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> PARK
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> PRIVATE RESIDENCE
		<input type="checkbox"/> NO	<input type="checkbox"/> ENTERTAINMENT
			<input type="checkbox"/> GOVERNMENT
			<input type="checkbox"/> INDUSTRIAL
			<input checked="" type="checkbox"/> MILITARY
			<input type="checkbox"/> OTHER:

OWNER OF PROPERTY

NAME
Vanderbilt University

STREET & NUMBER

CITY, TOWN
Nashville

STATE
Tennessee

___ VICINITY OF

LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,
REGISTRY OF DEEDS, ETC. Metropolitan Government of Nashville and Davidson County Courthouse

STREET & NUMBER
Court Square

CITY, TOWN
Nashville

STATE
Tennessee

6 REPRESENTATION IN EXISTING SURVEYS

TITLE
Tennessee Historical and Architectural Survey

DATE
May 1977

___ FEDERAL STATE ___ COUNTY ___ LOCAL

DEPOSITORY FOR
SURVEY RECORDS
Tennessee Historical Commission

CITY, TOWN
Nashville

STATE
Tennessee

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input checked="" type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED.		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Mechanical Engineering Hall is a 3-1/2 story building of mill-type construction with load bearing walls and partitions of brick built on a stone foundation. The foundation walls are 16½ and 21 inch thick. The two lecture halls have 15 foot ceilings and are approximately 35 feet square, with an 11 inch center column which supports a 14x16 inch wood girder; the girder supports 4 x 12 inch joists.

The building originally housed offices, two large lecture halls, a drafting room with northern skylight, a machine shop used for instruction and plant maintenance, a wood shop that served for plant maintenance as a carpenter shop and for instruction in pattern making, a forge shop and foundry, a boiler room housing boilers that supplied steam for heating the campus, a covered coal bin, and an engine room that housed electric generators. The University produced its own electricity from ca. 1893-96 until ca. 1918.

An interior stairway leads to the second and third floors, and it connects to the machine shop and the wood shop which is over the machine shop. A spiral staircase originally gave access directly from the machine shop to the wood shop. Power was initially supplied to the machine tools by an overhead line shaft driven by a Brown Corliss steam engine purchased by William T. Magruder in 1888 or 1889. The spiral stairs were removed about 1930 or earlier. The downstairs lecture hall and the machine shop were partitioned for ROTC offices about 1960-65.

The roofs of the foundry and boiler room were supported by wrought iron trusses. These remain, although the foundry has been converted to an armory for the ROTC.

Three buildings on the campus: the main building (Kirkland), Wesley (burned Feb. 19, 1932), and Mechanical Engineering Hall, contained water tanks in their attics so that a supply of water for service and firefighting would be available. City water pressure had proven to be so erratic that when Mechanical Engineering Hall was constructed, a 30,000 gallon brick-lined reservoir was built near the boiler room. This was filled from the city main and, in turn, was pumped by pumps in M. E. Hall to the three water tanks in the buildings. We have no record of the date of removal of the reservoir, but it was during the period 1896-1924.

Added demand for heating steam and electricity forced a 30-foot eastward extension of the boiler and engine rooms in 1909. Drive-on ramps were added to the coal bin to facilitate unloading of coal trucks at some time prior to construction of the present steam generating plant ca. 1924.

When the present campus steam plant was constructed, the old coal bin, boiler and engine rooms were converted to teaching laboratories and were so used until the period 1950-1974 when they were gradually removed to newer buildings. The smoke stack began to shed bricks and was razed in the 1930s.

In 1892 the first playing field of the University, originally called Dudley Field, later called Curry Field, and now the site of the School of Law, was constructed across from the Mechanical Engineering Hall. Probably shortly thereafter the pipe shop was removed from the basement of the teaching wing of the building, and the basement enlarged to create a dressing room for the athletic teams. It doubled as a dressing room for students enrolled in shop classes.

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A nondescript temporary addition to house the Department of Chemical Engineering was added in 1940. Chemical engineering moved out in 1974 and it is probable that this addition, together with the boiler and engine rooms will eventually be razed.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW .			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input checked="" type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input checked="" type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES

BUILDER/ARCHITECT

W. C. Smith

STATEMENT OF SIGNIFICANCE

Vanderbilt University opened for classes on October 4, 1875. The first catalog of the University was issued during the first school year and referred to offering a degree in civil engineering. This was planned as a graduate degree since the first professor of engineering, Olin H. Landreth was not hired to teach engineering until the summer of 1879. Engineering classes were first held in the main building (now Kirkland Hall) and in Science Hall (completed 1880). Engineering was at first a "school" in the "academic department" but was later set up under its own dean, Olin H. Landreth, in 1886. This is the same year that Landreth designed and supervised construction of the West Side Row student dormitories.

In 1887 William T. Magruder was appointed the first professor of Mechanical Engineering. In January 1888 Cornelius Vanderbilt II gave the university funds to build Mechanical Engineering Hall and to make other improvements to the campus. The cornerstone of the building was laid on May 9, 1888. Magruder participated in the ceremonies by placing the sealed box of papers in the stone.

Inspired by the interest in Mechanics Hall and the great Corliss steam engine at the 1876 Philadelphia Centennial, the American Society of Mechanical Engineers was founded in New York in 1880. Professor Landreth of Vanderbilt was a vice-president of the society and perhaps induced the society to hold its 17th semi-annual meeting in Nashville May 8-12, 1888, and to participate in laying the cornerstone of the building.

Mechanical Engineering Hall at Vanderbilt was probably the first building in Tennessee specifically designed from the outset for the teaching of engineering. The University of Tennessee at Knoxville School of Engineering is older; it was started in 1869 to take advantage of the Morrill Act (1862), but Estabrook Hall was not built until 1893, nor was it completed and so named until 1906. Estabrook apparently grew out of a campus maintenance carpenter shop and was gradually added to and modified. Following completion of Vanderbilt's Mechanical Engineering Hall, Professor Magruder sent plans and drawings of the building to Charles W. Dabney, president of the University of Tennessee, for his information.

Professor Magruder acted as the University's engineer on the job and he probably provided a great deal of input as to the general layout and design. He was rewarded for doing a good job by being given the additional job of superintendent of buildings for all the Vanderbilt campuses; a job he held until he left Vanderbilt in 1896. He kept a meticulous file on all his activities; i.e. copies of his outgoing mail from 1888-1896 are in the Vanderbilt archives and form a basis for our knowledge of the building.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Bailey, Joel (former chairman, Mechanical Engineering Department, University of TN);
 correspondence to Dillard Jacobs
 Landreth, Olin H., file in Vanderbilt University Archives
 Morse, Charles R. "History of the University of Tennessee." The University of Tennessee Magazine, Vol. 50, No. 9, p. 363.
 Magruder, William T., file of outgoing correspondence in Vanderbilt University Archives
 Nashville American, May 9, 1888.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 2
 UTM REFERENCES Quad name Nashville West Scale 1:24000

A	1,6	51,800,0	4,000,01,0,0	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION Beginning at a point on the west side of 21st Avenue South at its intersection with Grand Avenue, thence westerly 350 feet to a point, thence southerly 250 feet to a point, thence easterly 350 feet to a point at the boundary of 21st Avenue South, thence northerly 250 feet along the margin of 21st Avenue South to the point of beginning.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE
Dillard Jacobs, member
 ORGANIZATION
Tennessee Historic Sites Advisory Committee DATE
April 1977
 STREET & NUMBER
Tn. Historical Commission, 170 Second Avenue North TELEPHONE
(615) 741-2371
 CITY OR TOWN
Nashville STATE
Tennessee

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL STATE LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE Herbert L. Hays DATE 5/12/78
 TITLE
Executive Director, Tennessee Historical Commission

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

Charles W. Hays DATE 12-13-78
 DIRECTOR, OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION
 ATTEST: Jerry H. Gilmore KEEPER OF THE NATIONAL REGISTER
 KEEPER OF THE NATIONAL REGISTER DATE 12/12/78

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CONTINUATION SHEET

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Nashville architect W. C. Smith, who designed the main building, the old Gymnasium, and Science Hall, appears to have been the architect for the building. At least he was paid at least \$250.00 for his services; none of the original tracings now in the Vanderbilt Plant Operations files carry any signatures or dates. The firm of W. G. Bush and Company supplied the brick and provided the brick masonry. They made the special tapered and rounded brick in a hand-operated brick press that was still in existence in 1974, according to John S. Herbert. Herbert believes that the fancy terracotta filigree work and special designs over the entrance were made by the Seaboard Terracotta Co. of Amboy, New Jersey. The local firm of Ryan & Shea did the original plumbing.

A distinctive feature of the building is the inclusion in the front exterior wall of a stone bearing the inscription "BETHEL 1790." (Mr. Robert McGaw, secretary of the university, understands that this stone and adjacent bricks came from historic Methodist colleges of this region.) The terracotta designs over the doorway showing a T square, triangle, dividers, pumps, hammer, anvil, and gear, as well as the model of Watt's governor on the roof are equally unusual features of the building.