

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**DATA SHEET**

**FOR NPS USE ONLY**

RECEIVED APR 28 1975

DATE ENTERED MAY 12 1975

**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

Goodsell Observatory (New Observatory)

AND/OR COMMON

Goodsell Observatory

**2 LOCATION**

STREET & NUMBER

Carleton College *campus*

—NOT FOR PUBLICATION

CITY, TOWN

Northfield

— VICINITY OF

CONGRESSIONAL DISTRICT

First

STATE

Minnesota

CODE

27

COUNTY

Rice

CODE

131

**3 CLASSIFICATION**

**CATEGORY**

- DISTRICT
- BUILDING(S)
- STRUCTURE
- SITE
- OBJECT

**OWNERSHIP**

- PUBLIC
- PRIVATE
- BOTH
- PUBLIC ACQUISITION**
- IN PROCESS
- BEING CONSIDERED

**STATUS**

- OCCUPIED
- UNOCCUPIED
- WORK IN PROGRESS
- ACCESSIBLE**
- YES: RESTRICTED
- YES: UNRESTRICTED
- NO

**PRESENT USE**

- AGRICULTURE
- MUSEUM
- COMMERCIAL
- EDUCATIONAL
- ENTERTAINMENT
- GOVERNMENT
- INDUSTRIAL
- MILITARY
- PARK
- PRIVATE RESIDENCE
- RELIGIOUS
- SCIENTIFIC
- TRANSPORTATION
- OTHER:

**4 OWNER OF PROPERTY**

NAME

Carleton College

STREET & NUMBER

CITY, TOWN

Northfield

— VICINITY OF

STATE

Minnesota

**5 LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE,  
REGISTRY OF DEEDS, ETC.

Register of Deeds, Rice County Courthouse

STREET & NUMBER

218 Northwest 3rd Street

CITY, TOWN

Faribault

STATE

Minnesota

**6 REPRESENTATION IN EXISTING SURVEYS**

TITLE

Statewide Historic Sites Survey

DATE

1974

—FEDERAL  STATE —COUNTY —LOCAL

DEPOSITORY FOR  
SURVEY RECORDS

Minnesota Historical Society -- Bldg. 25, Fort Snelling

CITY, TOWN

Saint Paul

STATE

Minnesota

# 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input checked="" type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input checked="" type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input 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

Goodsell Observatory is located on the western edge of the Carleton College campus, thirty feet above the flowage of Silver Creek known as Lyman Lakes.

Constructed in 1887 from the designs of J. Walter Stevens, a St. Paul, Minnesota architect, the building is a one and two story masonry structure. Designed in the Romanesque Revival style, the building is a series of two masses connected by a short one story space. One observatory is located in each section. St. Louis red brick is the primary exterior surfacing material with Lake Superior red sandstone utilized for window capping, cornice trim and base treatment.

Since the building has undergone such minor alteration (none to the exterior and minor to the scientific equipment and interior spaces) the following description of the building and its furnishings will be utilized. Where alterations have taken place or special comments are in order, they will be so noted in parenthesis. The descriptions are taken from January and October issues of the 1888 Sidereal Messenger published at the observatory.

"In excavating for the foundation of the building, the soil was found to be clay and loam to the depth of ten feet, and below this was a thick stratum of coarse gravel in which was placed the footing of all piers for the astronomical instruments. These piers are stone and cement laid in solid masonry, and stand wholly independent of the building and of the ground to their respective bases."

"The length of the building, east and west, is 80 feet; north and south, 100 feet. The material of the outer walls is the St. Louis red brick and the trimming and finish are the Lake Superior red sand stone. The clock-room is on the first floor of the main building, and is 27 feet in diameter. The large circular pier for the 16-inch equatorial is in the middle of this room, suitably cased to the height of 7½ feet and provided with shelves and glass doors for the display of specimens of meteors, astronomical photographs, and other objects of interest to the science. Opposite the doors leading to the east and west wings from the clock-room, large recesses were made in the equatorial pier in which are hung the sidereal and mean time clocks, the former facing the door of the east wing or Meridian Circle room, and the latter the door of the west wing, or Astronomical Library. The cases for these clocks are made of cherry and neatly carved, and they form part of the general case before mentioned. By this arrangement, it is believed that the clocks are placed as favorably as possible, at small expense, for temperature and stability of position. They are twelve feet apart, on nearly opposite portions of this solid stone pier, and hence synchronization was not expected, and no evidence of it has been noticed during the last year. The clock-room is provided with good heating apparatus, by which nearly uniform temperature can be maintained in very cold weather. As an experiment to save fuel as such times, four inch tubes were laid in the pier leading from the basement where the steam heating apparatus is, to the recesses, or air chambers behind the clocks, so that a determinate quantity of heat could be carried to these chambers if troublesome irregularities of temperature should occur in the larger clock-room without. The attempt to supply heat in this way has not yet been tried, as the ordinary radiators of the clock-room have been, so far, amply sufficient for the varying temperatures of one Minnesota winter, with only ordinary care. This is known by systematic records of thermometers placed inside the clock cases. Though not yet carefully tested there is little

(see continuation sheet)

# 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 checked="" type="checkbox"/> SCIENCE	
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input checked="" 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 checked="" type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)	
		<input type="checkbox"/> INVENTION			

SPECIFIC DATES 1882, 1878, 1887

BUILDER/ARCHITECT J. Walter Stevens  
St. Paul, Minnesota

## STATEMENT OF SIGNIFICANCE

Built in 1887, Goodsell Observatory is the second of two astronomical observatories constructed at Carleton College; a small midwestern liberal arts school which is most noted for being the educational home of the world renowned economist, Thorsen Veblen.

The building is significant for three main reasons. First, it is a complete intact and basically unchanged 19th century astronomical laboratory, the only one known to survive in this condition in Minnesota and one of the few in the country. Most noteworthy is the vast array of scientific equipment still in use within the confines of the building which is either original to the building or which was transferred to the building from the old 1878 observatory. The latter includes, among other equipment, the 8" Alvan clock refractor telescope and the Byrne portable equatorial telescope. The two chief pieces of equipment, original to the present building and which are also still in use, are the 16 inch Brasher visual refractor telescope and the 5 inch Meridian circle. The former is the largest of its type in Minnesota and the latter was given to the school through a donation by James J. Hill, the founder of the Great Northern Railroad. The donation of the latter was also one of the major factors behind the construction of the present building as the old observatory could not accommodate this equipment.

Secondly, the building is significant for being the official Time Station from 1887 to the 1930s for all of Minnesota and most of the upper mid and northwest portion of the country. It was one of a few such stations operating throughout the country at the turn of the century. This practice served all railroad traffic as well as most communities and many private businesses as the central point for correct time. The telegraph equipment, the sidereal and central mean clocks and all supportive equipment are still intact with most of it still in use by the school. The time station began at the school in 1877 or 1878, as keeper of standard time for the state. In the 1880s the service expanded beyond the state's boundaries. In 1887, the service was again greatly upgraded and expanded when it was relocated to the present facility.

The third point of significant is Goodsell Observatory's role in the scientific literary field. The man who is mainly responsible for the conception and realization of the building is William Wallace Payne, a mathematician and astronomer at the school from 1871 to 1907. He is also responsible for the establishment of Popular Astronomy. The publication, begun in 1882 as the Sidereal Messenger, soon gained international recognition as one of the leading professional journals of its day. Renamed Astronomy and Astro-Physics in 1892, it was published jointly with the University of Chicago until 1894 when the journal was divided between the two parties; Carleton College renaming their portion Popular Astronomy and the University of Chicago renaming their portion the Astro Physical Journal.

(see continuation sheet)

# 9 MAJOR BIBLIOGRAPHICAL REFERENCES

- Sidereal Messenger; ed. by William Wallace Payne, pub. by Carleton College, issue No. 59, 60 Northfield, 1888.
- History of Rice County, Minn., ed. by Rev. Edward D. Neill, pub. by Minnesota Historical Society, Minneapolis, 1882.
- Carleton: The First Century, by Leal A. Headley & Merrill E. Jarchow, Carleton College Press, Northfield, 1966.
- A Century of Men and Ideas in Minnesota Congregationalism; Steem, A.M., pub. by

# 10 GEOGRAPHICAL DATA

Minneapolis Congregational Conference of Minnesota, Minneapolis, 1956, p. 41.

ACREAGE OF NOMINATED PROPERTY less than 1 acre

UTM REFERENCES

A	1, 5	4, 8, 7	8, 7, 0	4, 9	2, 2	9, 7, 0	B					
	ZONE	EASTING		NORTHING				ZONE	EASTING	NORTHING		
C							D					

*UTM OK  
CD*

VERBAL BOUNDARY DESCRIPTION

## 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

Thomas Lutz in conjunction with Mrs. Ruthmary Penick, Archivist Carleton College

ORGANIZATION

DATE

Minnesota Historical Society/Carleton College

3/17/75

STREET & NUMBER

TELEPHONE

Building 25, Fort Snelling/Carleton College

612-726-1171

CITY OR TOWN

STATE

St. Paul/Northfield

Minnesota

# 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.

FEDERAL REPRESENTATIVE SIGNATURE

*Russell W. Fridley* 3/28/75

TITLE Russell W. Fridley  
State Historic Preservation Officer

DATE

FOR NPS USE ONLY

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

*Arant A. Connally*

DATE 5/13/75

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST

*Ronald M. Greenberg*

DATE 5/9/75

KEEPER OF THE NATIONAL REGISTER

*Actg*

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

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Goodsell

CONTINUATION SHEET

Observatory

ITEM NUMBER 7

PAGE 1

doubt but that the central massive stone pier has had a favorably modifying influence in steadying the temperature of the clock-room. (Heat is now supplied from the central campus power house). The clocks referred to were made by The E. Howard Clock and Watch Company of Boston, Mass., and are respectively numbered 195 and 196. (The clocks are original to the first observatory, being transferred at the completion of the present facility). At another time a showing of the kind of work these clocks have done will be made as it has been learned from an extended series of observations of stars for fundamental places by the aid of the Repsold Meridian Circle. In this clock-room is also the Chronograph, Chronometer Case containing a Bond Chronometer, No. 374, (Both original to the first observatory.) meteorological instruments and the table of telegraph instruments used in transmitting the daily time signals to railways and cities using the Standard Central Time furnished by the observatory."

"The east wing of the observatory is devoted entirely to the Meridian Circle. (Constructed by Messrs. A. Repsold and Sons, Hamburg, Germany.) It is 27 feet 6 inches north and south, and 22 feet 10 inches east and west, inside measure. From floor to ceiling it is 12 feet 2 inches. The four piers (supporting the instrument) stand on three separate foundations. All have good footing 10 feet below the floor in coarse gravel. They are built of limestone and the best cement. Above the floor each of the piers is covered with heavy felting and finished outside with sherry and ash. At the base below the floor the respective sizes of the piers are as follows:

Central one is 9 feet by 3 feet 6 inches.

The bases of the north and south collimator piers are equal, being 4 feet by 3 feet 6 inches. The cellar is the same size as room above, with good wall 18 inches thick on all sides, with one inside entrance and two outside ventilating windows. The depth of cellar is 8 feet.

The north and south openings of the observing room for the meridian are 26 inches wide, and provided each with two shutters securely held in place by the iron adjustable frame, commonly used in observatories for this purpose, and plainly shown in the cut. There are two doors for the meridian opening in the roof, each about 14 feet long and 3 feet wide outside. These doors are opened easily and quickly by levers of steel 10 feet long and 2 inches in diameter, weighing each about 80 lbs. The doors are hinged to the roof and their weight is partly counterpoised by the weight of the levers so that a pull of 35 lbs is sufficient to open them under any circumstances if clear of snow or sleet."

"The collimating telescopes are 33 inches long, with objectives 2.64 inches in diameter, and the main telescope between the middle piers (in vertical position) is 58 inches long. The object glass was made by A. Clark & Sons, Cambridgeport, Mass., and has a clear aperture of 4.80 inches and a focal length of 57.5 inches. The diameter of the graduated portion of the circles is 21.8 inches. One circle is

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Goodsell

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movable, and is divided to degrees, the other is fixed and divided to two minutes of arc. The circles are each provided with four microscopes having micrometers which measure directly to one second of arc and which are adjusted closely enough to detect an error of one-tenth of a second of arc."

"The west wing contains the library for astronomy and mathematics. (Now subdivided for library and offices.) It is the same size as the Meridian Circle room, 26 by 22 feet and 11 3/4 feet high. On the west and north, there are two rows of small windows, twenty in all, placed high in the walls giving ample light for library purposes and increasing its shelf room very considerably."

"Adjoining the library, on the east, with a door into the hall-way, leading from the clock-room in the main part of the building, is a small study or class-room designed for the accommodation of special students in astronomy or mathematics. (Now used as a tutorial/seminar room.) It is 12 by 18 feet in size and is provided with blackboards of ample size, made of fine, large slabs of the Pennsylvania slate. On the opposite side of the hall, before referred to, is the janitor's room, (now used as office space) 11 by 13 feet. Next to this room is the door-way leading to the basement and the stairs to the second story and the large equatorial observing room. The hall leading to the north from the clock-room, opens into the prime vertical room, which is 13 by 14 feet, and 11 3/4 feet high. In it is mounted, in the prime vertical, a 3-inch Fauth transit instrument, on an independent, rectangular pier 34 by 18 inches, and 35 inches high, above the floor. The roof of this room is provided with shutters exactly like those belonging to the meridian circle room. On the north side of the building, and connected to it by the prime vertical room, is a class and lecture-room twenty-four feet square with two outside entrances. Behind the rostrum in the west side is a clear white wall space, sixteen feet long by nine and one-half feet high, prepared especially for the projection of pictures by the stereopticon. This room will comfortably seat fifty students for lecture or recitation purposes, and to this end chairs have been provided with facilities for taking notes. From the cloak-room of the north entrance is the stairway leading to the small equatorial room with open shutter as shown in the cut. In this observing room is mounted the Clark 8 1/2 inch equatorial which was built for Carleton College in 1878. It is a fine telescope and is now as good as on the day of its first mounting. The pier supporting it is carried up from the basement with solid masonry of stone and cement to the floor of the observing room. Above this floor it is built of brick to the height of seven feet, and cased with wood. The brick base was found not to be sufficiently firm for a proper support of the equatorial, so a cast iron rectangular cap, of the size of the top of pier, and three-fourths of an inch in thickness, was furnished. Through the corners of this piece four iron rods were run and imbedded into the angles of the pier and finally very securely anchored in the cap-stone below." (The domes were constructed by Messrs. Warner and Swasey of Cleveland, Ohio.)

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Goodsell

CONTINUATION SHEET Observatory ITEM NUMBER 8 PAGE 3

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"PA" was published until the 1950s with the editorial office continually being maintained at the observatory. Prof. Payne continued as editor of the publication until his retirement in 1907. He is also the party who first instituted the time service previously mentioned.

The building is also significant for two additional reasons. One is its architecture, for it is a superbly preserved example of Romanesque Revival architecture. The building has suffered no exterior alterations except for the possible resurfacing of the two domes. The interior has undergone only minor changes with the most important scientific areas remaining in original condition. Lastly, the building has been continually used as an astronomical laboratory and teaching facility for its entire history. It has served not only Carleton College but many other neighboring colleges which recognized this building as a very specialized center of scientific learning.

In summary, the building is an unusual combination of a number of historical components which individually would be significant in their own right. However, as a group they make Goodsell Observatory one of the most significant buildings in the state.

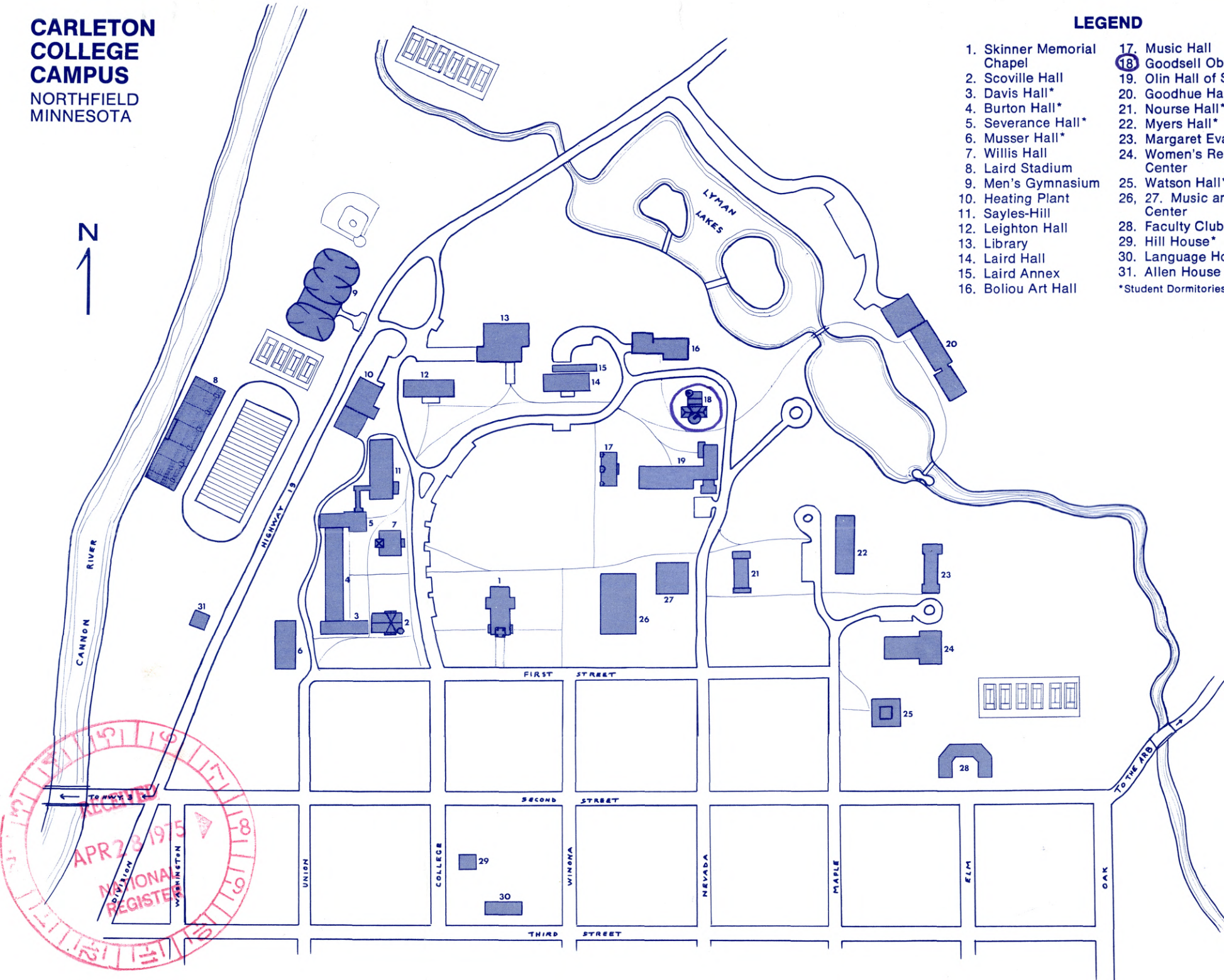
Goodsell Observatory, originally known as New Observatory for a short period in its early history, was named in honor of Charles Morehouse Goodsell, the man recognized as the founder of the college.

**CARLETON  
COLLEGE  
CAMPUS**  
NORTHFIELD  
MINNESOTA



**LEGEND**

- |                            |                                |
|----------------------------|--------------------------------|
| 1. Skinner Memorial Chapel | 17. Music Hall                 |
| 2. Scoville Hall           | 18. Goodsell Observatory       |
| 3. Davis Hall*             | 19. Olin Hall of Science       |
| 4. Burton Hall*            | 20. Goodhue Hall*              |
| 5. Severance Hall*         | 21. Nourse Hall*               |
| 6. Musser Hall*            | 22. Myers Hall*                |
| 7. Willis Hall             | 23. Margaret Evans Hall*       |
| 8. Laird Stadium           | 24. Women's Recreation Center  |
| 9. Men's Gymnasium         | 25. Watson Hall*               |
| 10. Heating Plant          | 26, 27. Music and Drama Center |
| 11. Sayles-Hill            | 28. Faculty Club               |
| 12. Leighton Hall          | 29. Hill House*                |
| 13. Library                | 30. Language House*            |
| 14. Laird Hall             | 31. Allen House                |
| 15. Laird Annex            | *Student Dormitories           |
| 16. Boliou Art Hall        |                                |





UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES  
PROPERTY MAP FORM**

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SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*  
TYPE ALL ENTRIES -- ENCLOSE WITH MAP

**1 NAME**

HISTORIC

Goodsell Observatory (New Observatory)

AND/OR COMMON

Goodsell Observatory

**2 LOCATION**

CITY, TOWN

Northfield

\_\_\_ VICINITY OF

COUNTY

Rice

STATE

Minnesota

**3 MAP REFERENCE**

SOURCE

USGS - Northfield Quadrangle, Minnesota, 7.5 Minute Series

SCALE

1:24000

DATE 1960

**4 REQUIREMENTS**

TO BE INCLUDED ON ALL MAPS

1. PROPERTY BOUNDARIES
2. NORTH ARROW
3. UTM REFERENCES

United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number \_\_\_\_\_ Page \_\_\_\_\_

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ADDITIONAL INFORMATION

for Keeper Melvin Lyman  
11/19/89

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Continuation Sheet

Section number \_\_\_\_\_ Page \_\_\_\_\_

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Note: These changes apply to  
Goodsell Observatory in Rice  
County, Minnesota.

REFERENCE NUMBER: 75001025

STATE: MINNESOTA

COUNTY: Rice

RESOURCE NAME (HISTORIC): Goodsell Observatory, Carlton College

CITY:

VICINITY OF:

ADDRESS: off 1st. St. E.

CERTIFICATION DATE:

REMOVED DATE:

COMMENTS:

Nina M. Archabal  
Nina M. Archabal  
State Historic Preservation Officer

JUN 17 1988  
Date