# APPENDIX B.

## SURVEY INSTRUMENT AND MATERIALS

**NATIONAL SCIENCE FOUNDATION**
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

nsf

OFFICE OF THE
DIRECTOR

Date

President's Name
Title
Institution
Address

Dear President's Name

I am writing to request your assistance in a matter of considerable importance to research efforts at higher education institutions. At the direction of Congress, the National Science Foundation is once again collecting information on the status and condition of academic science and engineering (S&E) research facilities in the United States. The *1999 NSF Survey of Scientific and Engineering Research Facilities,* co-sponsored by the Foundation and the National Institutes of Health, is about to begin. Your participation is very important to this effort.

The 1999 survey is the eighth in this biennial series and will form the basis for a Fall 2000 report to Congress. By providing information on the current status of research facilities and continuing the systematic assessment of changes in the status of facilities, the 1999 study will continue to provide policymakers with important updated data on the condition of S&E research facilities in the United States. A one-page summary of this survey is enclosed.

While your institution's participation in the survey is voluntary, we are certain that you appreciate the importance of this effort. We ask that you appoint a senior official to coordinate the survey at your institution. Please nominate this individual and return the enclosed coordinator identification form via fax at 617-492-5219 or by E-mailing the information to Abt Associates Inc., the contractor for the survey, at facilities@abtassoc.com. We would appreciate your response as soon as possible. A study representative will contact your office to make sure you have received this letter, if we have not heard from you. The complete package of survey materials will be sent in the next four to six weeks directly to the Coordinator you select.

To learn more about this study, you may wish to review the highlights of the most recent report to Congress at the study Web site: www.facilities.abtassoc.com. If you have any questions, please contact Dr. Leslie Christovich of the Division of Science Resources Studies at the National Science Foundation at (703) 306-1775, ext. 6910 or via e-mail at lchristo@nsf.gov. Thank you for your assistance in this important effort.

Sincerely,

Rita Colwell

Rita Colwell
Director

Enclosures: Coordinator Identification Form
Study Summary
Study Questions and Answers

«ABTID»

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Center for
Research Resources
Bethesda, Maryland 20892

Date

President's Name
Title
Institution
Address

Dear President's Name:

I am writing to request your assistance in a matter of considerable importance. Based on concerns raised by the academic community, Congress instructed the National Science Foundation (NSF) to collect information on the status and condition of science and engineering research facilities at the Nation's colleges and universities. At the request of the National Institutes of Health (NIH), which is co-sponsoring this effort, the 1999 *NSF Survey of Scientific and Engineering Research Facilities* again includes biomedical research organizations and independent hospitals. Your participation in the survey is voluntary.

The 1999 survey is the eighth in this biennial series and will form the basis for a September 2000 report to Congress. By providing an assessment of the current status of research facilities, and continuing the systematic assessment of changes in the status of facilities, the survey will provide policy makers with information not previously available. A one-page summary of this survey is enclosed.

I am certain that you appreciate the importance of this effort, and ask that you appoint a senior official to coordinate your institution's response. Please nominate this individual and return the enclosed coordinator identification form via fax at 617-492-5219 or by E-mailing the information to Abt Associates Inc., the contractor for the survey, at facilities@abtassoc.com. We would appreciate your response as soon as possible. A study representative will contact your office to make sure you have received this letter, if we have not heard from you. The complete package of survey materials will be sent in the next four to six weeks directly to the Coordinator you select.

To learn more about the study, you may wish to review the highlights of the most recent report to Congress at the study Web site: www.facilities.abtassoc.com. If you have any questions, please contact Dr. Leslie Christovich, NSF Project Officer for the study, at (703) 306-1775, ext. 6910 or via email at lchristo@nsf.gov. Thank you for your assistance in this important effort.

Sincerely yours,

Judith L. Vaitukaitis

Judith L. Vaitukaitis, M.D.
Director
National Center for Research Resources

Enclosures: Coordinator Identification Form
Study Summary
Study Questions and Answers

«ABTID»

National Science Foundation

## *Summary*
## *1999 Survey of Scientific and Engineering Research Facilities*

This survey gathers data on the amount, condition, costs, and adequacy of the physical facilities used to conduct science and engineering (S&E) research at research-performing academic institutions, nonprofit research organizations, and research hospitals.

### Background

During extensive Congressional hearings on the status of academic research facilities, many higher education officials expressed concerns about the financial burden of an increasing backlog of deferred maintenance, which was driven largely by the need to upgrade facilities to satisfy ever-growing technical, health and safety requirements. As a result of the hearings, in 1985 Congress directed the National Science Foundation (NSF) to design, establish, and maintain a biennial data collection and analytic capacity to identify and assess the research facilities needs of universities and colleges. Seven biennial surveys have been conducted.

### Eligibility

The 1999 survey will collect data from academic institutions that have an S&E doctoral program, all others that have separately budgeted S&E research expenditures of $150,000 or more, and all Historically Black Colleges and Universities with any R&D. The National Institutes of Health (NIH), cosponsor of the survey, added nonprofit research organizations and independent research hospitals receiving NIH funding.

This survey is the only source of information on the status of the nation's scientific research facilities. As such, the study has generated great interest among research organizations, academic institutions, and federal officials. To provide the most complete information, NSF is conducting a census of eligible institutions this year. As a result of this broader effort, some institutions are being included for the first time.

The questionnaire collects data on the following:

- research square footage;
- current and planned capital projects of at least $100,000;
- costs and the source of funds associated with capital projects;
- assessment of the adequacy of the amount of facilities space; and,
- assessment of the condition and quality of research facilities.

### Methodology

The survey will be conducted beginning in November of 1999, with expected completion in the winter of 2000. Institutional coordinators can complete either a paper and pencil version or an Internet questionnaire, which will offer on-line help and other features to make it more convenient to complete.

### Report to Congress

The results of the study will be summarized in a report to Congress in September of 2000. Highlights of the report will be posted on the NSF Web site, www.nsf.gov. Currently, the site contains reports from each of the completed surveys in this ongoing effort. Please note that NSF and NIH do not use (or allow others to use) detailed responses in any manner that would identify a specific institution's data.

National Science Foundation

**Participating Institutions**

**Questions and Answers**

**The 1999 Survey of Scientific and Engineering Research Facilities**

1. **What is the purpose of the survey?**

   This survey resulted from a Congressional mandate to establish a system for identifying and assessing the research facilities needs of universities and colleges. The National Science Foundation (NSF) and the National Institutes of Health (NIH) currently co-sponsor the survey, which includes academic institutions, nonprofit biomedical research organizations and independent research hospitals. The survey collects data on square footage used for research in the sciences and engineering (S&E); current and planned capital projects; costs and sources of funds for construction, renovation and repair; and assessments of the condition, quality and adequacy of the space.

2. **Is it important for my institution to participate?**

   Yes, it is very important for each selected institution to participate. This survey is the only source of information on the status of the nation's S&E research facilities. As in the past, results of this year's survey will be submitted as a report to Congress. In addition, the study provides data used by the Executive Branch, many higher education associations, and university and college administrators to help make policy decisions.

3. **How was my institution selected to participate?**

   The survey is conducted on eligible academic institutions and biomedical research facilities. Eligible academic institutions have an S&E doctoral program or have separately budgeted S&E research expenditures of $150,000 or more. In addition, all Historically Black Colleges and Universities with any R&D expenditures are included. Nonprofit biomedical research organizations and independent research hospitals that receive at least $150,000 in extramural research funding from NIH are also eligible.

4. **Will my institution be identified by name?**

   NIH and NSF do not use (or allow others to use) detailed responses in any manner that would identify a specific institution's data. Only aggregate data appears in any reports or analysis.

5. **When will a summary of the results of the survey be available?**

   Data collection is scheduled to begin in mid-November 1999 so that a report to Congress can be submitted in September 2000. At that time, an overview of the results will be provided to all survey participants and will be posted on both the NSF Web site, www.nsf.gov and the study Web site, www.facilities.abtassoc.com.

**National Science Foundation / National Institutes of Health**
**The 1999 Survey of Scientific and Engineering Research Facilities**

# *INSTITUTIONAL COORDINATOR IDENTIFICATION FORM*

**abtid**

**President's Name**
**Title**
**Institution**
**Address**

**1999 Institutional Coordinator Name:** _____

**Institutional Coordinator's Title:** _____

**Please provide detailed contact information for the Institutional Coordinator you have selected below:**

**Contact Information:**

**Department:** _____

**Institution:** _____

**Institutional Coordinator's Full Address:** _____

_____

_____

**City/ State/ Zip:** _____

**Institutional Coordinator's Telephone:** (_____) _____

**Institutional Coordinator Email:** _____

**Appointed by:** _____

**Title:** _____

**Please Return the above information**
**via FAX: 1-617-492-5219 or Email: facilities@abtassoc.com**
**Attn: NSF/NIH – Facilities Survey**

c/o Abt Associates Inc., 55 Wheeler Street, Cambridge, MA 02138
If you have any questions please Email us at: facilities@abtassoc.com

OMB CLEARANCE NO. 3145-0101
EXPIRATION DATE: 08/31/2002

National Science Foundation
National Institutes of Health

SAMPLE

1002

# FY 1999 SURVEY OF SCIENTIFIC AND ENGINEERING RESEARCH FACILITIES

The president or chancellor of your institution named the individual on the label above to coordinate data collection for this survey. Please correct any wrong information on the label.

*All information that would permit identification of individuals or institutions will be kept confidential.*

*Contractor:* Abt Associates Inc.

*Technical Assistance:* 1-877-551-6139

*Mailing Address:* ATTN: NSF Facilities Survey
55 Wheeler Street
Cambridge MA 02138

*Survey Contact:* Amy E. Graham, Ph.D.
E-mail: facilities@abtassoc.com

*Sponsored by:* National Science Foundation
National Institutes of Health

*NSF Study Contact:* Leslie Christovich, Ph.D.
lchristo@nsf.gov

Acting out of concerns raised by the academic community, Congress directed the National Science Foundation (NSF) to collect and analyze data about research facilities at universities and colleges and to report to Congress every two years. This survey is in response to that requirement under authorization of the National Science Foundation Act of 1950, as amended. The National Institutes of Health (NIH), cosponsor of the survey, added a sample of biomedical research organizations and independent research hospitals.

The main topics in this year's survey are:

- amount of space in your institution;
- amount and condition of research space in your institution;
- costs of capital projects completed, begun, and planned;
- deferred capital projects; and
- animal research facilities.

We will use the information that you provide for a report that gives a broad, quantitative picture of:

- the cost, availability, and condition of existing science and engineering (S&E) research facilities; and
- the current capital spending by universities and colleges, sources of funding, and plans for future repair/renovation and new construction of S&E research facilities.

Your participation in this survey is voluntary. However, your response is very important to us. Aggregate data from this report are used by Congress, the Executive Branch, many higher education associations, and university and college administrators to help make policy decisions. **NSF and NIH do not use or allow others to use detailed responses in any manner that would identify an individual institution's responses.**

This questionnaire is available on the World Wide Web (www). We strongly urge you to use the electronic version because it's more convenient and reduces the need for follow-up compared to the paper version. Go to http://www.facilities.abtassoc.com to access the web version of the questionnaire. You will need to enter a log-on ID and password; these are attached to the front of this paper questionnaire.

Preparing the information and completing the paper questionnaire requires an average of 24 hours. If you wish to comment on this burden, contact Suzanne H. Plimpton, Reports Clearance Officer, NSF, via email splimpto@nsf.gov or at 703-306-1125. Or contact the Office of Management and Budget, Paperwork Reduction Project (OMB Number 3145-0101), Washington, DC 20503.

Please return the completed survey as soon as possible to:

ATTN: NSF Facilities Survey
55 Wheeler Street
Cambridge MA 02138

If you have a question about a specific item in the survey, please contact Abt Associates, Inc. using the toll-free, technical assistance number: 1-877-551-6139. If you have general comments or concerns about the survey, please contact Dr. Amy Graham at 1-301-913-0553 or at Amy_Graham@abtassoc.com. Thank you for your participation.

# GUIDELINES

**Refer to these guidelines as you fill out the survey.**

## 1. Electronic questionnaire

You have the option of completing this survey using an electronic version of the questionnaire. We recommend that you use this version: it's more convenient and reduces the need for follow-up. You'll have access to an online help feature, too. To access the Internet version of the survey, just go to www.facilities.abtassoc.com. You will need to enter a log-on ID and a password; these are attached to the front of the survey.

## 2. Attention: previous survey participants

If your institution participated in the last cycle of this survey, you can review the final data for your institution. You simply go to the study web site, www.facilities.abtassoc.com, and follow the instructions. Where appropriate, you will have the option to use the historical data as your current submission.

## 3. The definition of research

In this survey, research is defined as all research activities of your institution that are budgeted and accounted for. Research can be funded by the institution itself, the federal government, state governments, foundations, corporations, or other sources.

## 4. What to include as research facilities

**In this survey, the term "research facilities"** ***includes:***

- ☑ research laboratories;
- ☑ controlled-environment space, such as clean or white rooms;
- ☑ technical-support space, such as carpentry and machine shops;
- ☑ facilities for laboratory animals, such as animal production colonies, holding rooms, isolation and germ-free rooms;
- ☑ faculty or staff offices, to the extent that they are used for research;
- ☑ department libraries, to the extent that they are used for research;
- ☑ fixed (built-in) equipment, such as fume hoods and benches;
- ☑ single pieces of non-fixed equipment each costing at least $1 million, such as MRI equipment; and
- ☑ leased space.

**It does** ***not*** **include:**

- ☒ facilities that have been designated as federally funded research and development centers (FFRDC);
- ☒ facilities that are used by faculty, but are not administered by the institution, such as research space at Veterans Administration or other non-university hospitals;
- ☒ facilities that are administered by your institution but are leased to others for their use.

## 5. What fields to include as science and engineering (S&E) fields

Because every institution has its own way of classifying fields of study, for consistency, please use the Cross Reference chart (see pages 30-32) to classify areas of study at your institution. The Cross Reference chart identifies the departments that are included within each of the S&E fields used in this survey. The Cross Reference chart is based on the classification of academic departments used by the National Center for Education Statistics.

Please note that if you are unable to separate data for academic departments, you may report the combined data under "Other Sciences, not elsewhere classified." Please also list the fields that those data represent in the space provided.

**For this survey, S&E fields *include*:**

- ☑ Engineering
- ☑ Physical sciences
- ☑ Earth, atmospheric, and ocean sciences
- ☑ Mathematics
- ☑ Computer sciences
- ☑ Agricultural sciences
- ☑ Biological sciences
- ☑ Medical sciences
- ☑ Psychology (including educational psychology)
- ☑ Social sciences
- ☑ Other sciences, not elsewhere classified

**They do *not* include:**

- ☒ law, business administration/management (except economics), humanities, history, the arts, or education (except educational psychology).

## *Instructions for completing Item 1*

- Item 1 asks about square footage used for research and instruction at your institution. Space is measured in terms of net assignable square feet (NASF), as defined below.

- In determining research NASF, be sure to include leased space used by your institution for your research and any animal research space. You may estimate if exact figures are not available.

- You will have to prorate the NASF in two cases: when space is used for more than one purpose and when space is shared by different S&E fields.

  If space is used for more than one purpose, prorate the NASF to reflect the proportion of use for the activity the item is asking about. For example, if space is used for S&E research only during the summer months (one-fourth of the year), then count 25% of the NASF as S&E research space.

  If space is shared by S&E fields, prorate the NASF to reflect the proportion of use by each field. For example, if space is used equally for research activity in Computer Sciences and Mathematics, count 50% of the NASF as research space for Computer Sciences and 50% for Mathematics.

- To complete the survey, you must classify your institution's departments and programs into "fields." For help in classifying your programs, refer to the Cross Reference chart on pages 30-32. The chart shows each department to be included in each field.

- For institutions using a facilities inventory system based on NCES, NACUBO, or WICHE classifications, in Column 1 ("Instructional NASF"), use only the space that is assigned to functional category 1 (Instruction); in Column 2 ("Research NASF"), use only the space that is assigned to functional category 2 (Research)[1].

- **Definitions:**

  **net assignable square feet (NASF):** Is the sum of all areas (in square feet) on all floors of a building assigned to, or available to be assigned to, an occupant for specific use, such as instruction or research. NASF should be measured from the inside faces of walls.

  **research:** Refers to all research activities of your institution that are budgeted and accounted for. Research can be funded by the institution itself, the federal government, state governments, foundations, corporations, or other sources.

  **research space**: Refers to the NASF of space in facilities within which research activities take place. Research space may include (to the extent the areas are used for research): research laboratories, controlled-environment space, facilities for laboratory animals, faculty and staff offices, department libraries, and space that houses fixed equipment (i.e. equipment that is built into facilities, such as fume hoods and lab benches) and pieces of non-fixed equipment costing $1 million or more.

[1] For institutions using a facilities inventory system based on NCES, NACUBO, or WICHE , please refer to the Postsecondary Education Facilities Inventory and Classification Manual, U.S. Department of Education, Office of Educational Research and Improvement, NCES 92-165 ; the 1988 NACUBO Taxonomy of Functions; or the 1972 WICHE Program Classification Structure.

**1a. What was the amount of NASF used for instruction and research in each of the fields listed below at the end of your FY 1999?** *Be sure to include leased space and animal research space. You may estimate if exact figures are not available.*

Past participants: Check here if data have not changed since last submission (1998 survey) _____

| S&E FIELD | Instructional NASF | Research NASF | Is any of this research space leased? *(Check all that apply)* |
|---|---|---|---|
| Engineering | | | |
| Physical sciences | | | |
| Earth, atmospheric, and ocean sciences | | | |
| Mathematics | | | |
| Computer sciences | | | |
| Agricultural sciences | | | |
| Biological sciences other than medical school | | | |
| Biological sciences in medical school | | | |
| Medical sciences other than medical school | | | |
| Medical sciences in medical school | | | |
| Psychology | | | |
| Social sciences | | | |
| Other sciences, not elsewhere classified<br>Please list: | | | |
| **TOTAL #1: ALL S&E FIELDS** | | | |
| **TOTAL #2: ALL NON-SCIENCE FIELDS**<br>[for example, law, business administration/ management (except economics), humanities, history, the arts, or education (except educational psychology)] | | | |
| **TOTAL #3: GRAND TOTAL**<br>(sum of Total #1 and Total #2) | | | |

**1b. How much of the total research space for all S&E fields (Total #1 under Research NASF in the table above) is leased?** *If you do not know the exact amount, please provide your best estimate.*

_____ NASF of leased research space

## *Instructions for completing Item 2*

- Item 2 asks about the adequacy of the amount of S&E research space for current research program commitments (in column 1). For fields with inadequate space, please also indicate the additional amount needed (in column 2). Inadequate space is defined as space that is not sufficient to support the needs of your current S&E research program commitments in the field; or non-existent, but needed.

- **New Definitions**:

  **research program commitments:** Refers to all research and development activities of an institution that are budgeted, approved, and funded.

  Research program commitments *include:*
  - current faculty and staff or those to whom offers have been made,
  - grants awarded, whether or not research has actually begun, and
  - programs which have been approved.

  Research program commitments do *not* include:
  - potential staff without offers,
  - grants applied for but not awarded, and
  - programs designed but not yet approved.

- **Definitions to review:**

  **research space:** Refers to the NASF of space in facilities within which research activities take place.

**2. Please rate the adequacy of the amount of S&E research space available at your institution.**

Past participants: Check here if data have not changed since last submission (1998 survey) _____

**Key:**

| | |
|---|---|
| A = *Adequate* | sufficient amount of space to support all the needs of your current S&E research program commitments in the field |
| I = *Inadequate* | insufficient space to support the needs of your current S&E research program commitments in the field; Or non-existent, but needed |
| NA = *Not applicable* | No space reported or needed |

| | Column 1 | | | Column 2 |
|---|---|---|---|---|
| | **Amount of S&E research space** *For each field, circle the one best response* | | | **If the amount of space is inadequate or is nonexistent but needed:** *Enter additional space needed* |
| **S&E FIELD** | **Adequate** | **Inadequate** | **Not Applicable** | **Additional NASF Needed** |
| Engineering | A | I | N/A | |
| Physical sciences | A | I | N/A | |
| Earth, atmospheric, and ocean sciences | A | I | N/A | |
| Mathematics | A | I | N/A | |
| Computer sciences | A | I | N/A | |
| Agricultural sciences | A | I | N/A | |
| Biological sciences other than medical school | A | I | N/A | |
| Biological sciences in medical school | A | I | N/A | |
| Medical sciences other than medical school | A | I | N/A | |
| Medical sciences in medical school | A | I | N/A | |
| Psychology | A | I | N/A | |
| Social sciences | A | I | N/A | |
| Other sciences, not elsewhere classified<br>Please list: | A | I | N/A | |

## *Instructions for completing Item 3*

- Item 3 asks about the condition of S&E research facilities at your institution, where the term "facilities" is defined below. Consider only space supporting your current S&E research program commitments.

- If you have space requiring replacement, please indicate the amount of space that is funded and scheduled for replacement in your FY 2000 or FY 2001 in column 2.

- **New Definitions:**

  **research facilities:** Refers to the space, fixed equipment, and selected pieces of expensive non-fixed equipment used to conduct research. Research facilities may include the following (to the extent that they are used for research): research laboratories, controlled-environment space, technical-support space, facilities for laboratory animals, faculty or staff offices, department libraries, fixed equipment (such as fume hoods and benches), and single pieces of non-fixed equipment each costing at least $1 million (such as MRI equipment).

  **repair/renovation:** Refers to both the major and minor repair/renovation of existing facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

  **major repair/renovation:** Refers to an extensive repair/renovation project that results in facilities that are equivalent, or nearly equivalent, to new facilities in their ability to support S&E research.

- **Definitions to review:**

  **research space:** Refers to the NASF of space in facilities within which research activities take place.

  **research program commitments:** Refers to all research and development activities of an institution that are budgeted, approved, and funded. Research program commitments *include:*

  - current faculty and staff or those to whom offers have been made;
  - grants awarded, whether or not research has actually begun; and
  - programs which have been approved.

**3. Please rate the current condition of your S&E research FACILITIES by indicating the percentage of space that falls into each category. If any of the facilities requires replacement, please indicate the amount funded AND scheduled for replacement in your FY 2000 or FY 2001.**

Past participants: Check here if data have not changed since last submission (1998 survey) _____

**Key:**

*A* = Suitable for the most scientifically competitive research in the field

*B* = Effective for most levels of research in the field, but may require minor repair/renovation

*C*= Requires major repair/renovation to be used effectively

*D* = Requires replacement

*NA* = Not applicable (i.e. no research facilities in the field)

| S&E FIELD | Column 1 | | | | | | Column 2 |
|---|---|---|---|---|---|---|---|
| | **Condition of research facilities**<br>*For each field, fill in the percentage of research space that falls into each category.*<br>*Check "not applicable" if no research facilities in field* | | | | | | **If any space requires replacement as shown in column D:** *Enter the amount funded and scheduled for replacement in your FY 2000 or 2001* |
| | **Suitable for most scientifically competitive research (A)** | **Suitable for most levels of research (B)** | **Requires major repair or renovation (C)** | **Requires replacement (D)** | **Total** | **Not Applicable** | **NASF** |
| Engineering | | | | | 100% | | |
| Physical sciences | | | | | 100% | | |
| Earth, atmospheric, and ocean sciences | | | | | 100% | | |
| Mathematics | | | | | 100% | | |
| Computer sciences | | | | | 100% | | |
| Agricultural sciences | | | | | 100% | | |
| Biological sciences other than medical school | | | | | 100% | | |
| Biological sciences in medical school | | | | | 100% | | |
| Medical sciences other than medical school | | | | | 100% | | |
| Medical sciences in medical school | | | | | 100% | | |
| Psychology | | | | | 100% | | |
| Social sciences | | | | | 100% | | |
| Other sciences, not elsewhere classified<br>Please list: | | | | | 100% | | |

### *Instructions for completing Item 4*

- Item 4 asks for information on repair or renovation of S&E research facilities. Consider only projects that began during your FY 1998 or FY 1999. (Consider the start-date for a project to be the date on which repair/renovation actually began.)

- Include ONLY those projects whose prorated cost is more than $5,000 and less than or equal to $100,000.

- **New definitions**:

  **completion costs:** Includes costs for planning; site preparation; and repair/renovation of the research space; fixed equipment; non-fixed equipment costing $1 million or more; and building infrastructure.

  **building infrastructure:** Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

- **Definitions to review:**

  **repair/renovation:** Refers to both the major and minor repair/renovation of existing facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

4. **What is the total dollar amount for completion costs of *repair/renovation* of S&E research facilities, each costing between $5,000 and $100,000 and begun in FY 1998 or FY 1999?**

$ _____ Total completion costs

## *Instructions for completing Item 5*

- Items 5a and 5b ask about both repair/renovation and new construction of S&E research facilities. In both cases, include only individual projects costing over $100,000. Do not total the cost of several small projects and report their combined costs as over $100,000.

- Consider only projects that began during your FY 1998 or FY 1999. (Consider the start-date for a project to be the date on which repair/renovation or new construction actually began.)

- As before, if space is shared by S&E fields, prorate the NASF and cost to reflect the proportion of use by each field. For example, if space is used equally for research activity in Computer Sciences and Mathematics, count 50% of the NASF as research space for Computer Sciences and 50% for Mathematics.

- **New Definitions**:

  **new construction:** Refers to construction of a new building or additions to an existing building.

  **project**: Refers to a specific plan or design to construct new space, or repair/renovate or replace existing space.

- **Definitions to review:**

  **building infrastructure:** Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

  **completion costs:** Includes costs for planning; site preparation; and repair/renovation or new construction of the research space; fixed equipment; non-fixed equipment costing $1 million or more; and building infrastructure.

  **fixed equipment:** Refers to equipment that is built into facilities, such as fume hoods and lab benches.

  **net assignable square feet (NASF):** The sum of all areas (in square feet) on all floors of a building assigned to, or available to be assigned to, an occupant for specific use, such as instruction or research. NASF should be measured from the inside faces of walls.

  **non-fixed equipment:** Refers to equipment that is not built into the facilities. Single pieces of non-fixed equipment must each cost at least $1 million to be included in completion costs (for example, MRI equipment).

  **repair/renovation:** Refers to the repair/renovation of existing facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

**5a. Did your institution have any individual new construction or repair/renovation of S&E research facilities in your FY 1998 or FY 1999 costing over $100,000?** *Be sure to include animal research space.*

Yes_____*(Continue)*

No_____*(Skip to Item 8, page 21)*

**5b. Please report the completion costs and NASF for any repair/renovation or new construction of S&E research facilities costing over $100,000. For biological and medical sciences ONLY, please also report completion costs and NASF for just those projects costing over $500,000.** *(Note: The costs and NASF of the over-$500,000 projects should be included in columns 1 through 4 as well.)*

| S&E FIELD | REPAIR/RENOVATION over $100,000 begun during your FY 1998 or FY 1999 | | NEW CONSTRUCTION over $100,000 begun during your FY 1998 or FY 1999 | | REPAIR/ RENOVATION over $500,000 begun during your FY 1998 or FY 1999 | | NEW CONSTRUCTION over $500,000 begun during your FY 1998 or FY 1999 | |
|---|---|---|---|---|---|---|---|---|
| | Column 1 | Column 2 | Column 3 | Column 4 | Column 5 | Column 6 | Column 7 | Column 8 |
| | Cost | NASF | Cost | NASF | Cost | NASF | Cost | NASF |
| Engineering | | | | | | | | |
| Physical sciences | | | | | | | | |
| Earth, atmospheric, and ocean sciences | | | | | | | | |
| Mathematics | | | | | | | | |
| Computer sciences | | | | | | | | |
| Agricultural sciences | | | | | | | | |
| Biological sciences other than medical school | | | | | | | | |
| Biological sciences in medical school | | | | | | | | |
| Medical sciences other than medical school | | | | | | | | |
| Medical sciences in medical school | | | | | | | | |
| Psychology | | | | | | | | |
| Social sciences | | | | | | | | |
| Other sciences, not elsewhere classified Please list: | | | | | | | | |
| TOTAL #1: ALL S&E FIELDS | | | | | | | | |

**5c. Did the cost of any of the repair/renovation or new construction projects include one or more pieces of non-fixed equipment, each costing over $1 million?**

Yes_____ *(Continue)*

No_____ *(Skip to Item 6)*

**5d. List each field that had one or more pieces of non-fixed equipment, each costing over $1 million. Then, enter the total cost of those pieces of equipment in the table.**

| List Name of FIELD From Page 15, Item 5b | At least one piece of non-fixed equipment costing over $1 million in REPAIR/RENOVATION | At least one piece of non-fixed equipment costing over $1 million in NEW CONSTRUCTION |
|---|---|---|
| _____ | $ | $ |
| _____ | $ | $ |
| _____ | $ | $ |
| _____ | $ | $ |
| _____ | $ | $ |

# COSTS OF NEW BUILDING CONSTRUCTION

### *Instructions for completing Item 6*

- This item concerns new building construction at your institution during your FY 1998 or FY 1999.
- Please consider all new building construction that contains any S&E research space. However, consider the total completion costs of each new building (and not just the prorated share for construction of research space.)
- Note that this question is the ONLY question in this survey that focuses on buildings per se.

**6a. Did you report any NEW CONSTRUCTION projects for S&E facilities in question 5b?**

Yes_____ *(Continue)*

No_____ *(Skip to Item 7, page 18)*

**6b. Did any of the NEW CONSTRUCTION work include a single building with a total project cost (based on total space, not just research space) of at least $25 million?**

Yes_____

No_____

**7a. What were the various sources of funding for repair/renovation and/or new construction of S&E research facilities in your FY 1998 or FY 1999, each costing over $100,000?** *Be sure to include animal research space and be sure your total is consistent with the corresponding totals you reported in 5b.*

| SOURCE | Column 1<br>Dollar amount for REPAIR/RENOVATION projects costing over $100,000 | Column 2<br>Dollar amount for NEW CONSTRUCTION projects costing over $100,000 |
|---|---|---|
| Federal government | | |
| State or local government | | |
| Private donations | | |
| Institutional funds (see definitions on page 18) | | |
| Tax-exempt bonds | | |
| Other debt financing | | |
| Other sources<br>Please list: | | |
| **TOTAL** (These totals should equal the corresponding totals in columns 1 and 3, Item 5b, page 15) | | |

**7b. Can you identify the amount of indirect costs recovered from federal grants and contracts?** *(Note that these costs are included under "Institutional funds" above.)*

Yes_____ *(Continue)*

No_____ *(Skip to Item 8, page 20)*

Not applicable, institutional funds are not a source of funds for these projects _____ *(Skip to Item 8, page 20)*

**7c. What is the amount of indirect costs recovered from federal grants and/or contracts that is included in the "Institutional funds" (row 4) amount listed above?**

| SOURCE | REPAIR/RENOVATION | NEW CONSTRUCTION |
|---|---|---|
| Indirect costs recovered from federal grants/contracts | $ | $ |

## *Instructions for completing Item 8*

- Item 8 asks for information on PLANNED S&E research facilities projects, where "planned" means funded and scheduled but not yet begun. Item 8 also asks for the estimated completion costs for planned projects to extend, repair or renovate central campus infrastructure, which is defined below.

- Consider only projects scheduled to begin during your FY 2000 or FY 2001 whose prorated cost in a given field is over $100,000. Estimate if exact figures are not available

- As before, if space is shared by S&E fields, prorate the NASF and cost to reflect the proportion of use by each field. For example, if space is used equally for research activity in Computer Sciences and Mathematics, count 50% of the NASF as research space for Computer Sciences and 50% for Mathematics.

- **New Definitions**:

  **central campus infrastructure:** Refers primarily to systems that exist between the buildings of a campus (excluding the area within five feet of any individual building foundation) and to the non-architectural elements of campus design (central wiring for telecommunications systems, storage or disposal facilities, electrical wiring between buildings, central heating and air exchange systems, drains and sewers, roadways, walkways, parking systems, etc.)

  **planned project:** Refers to a project that is funded and scheduled but on which construction has not yet begun.

- **Definitions to review:**

  **building infrastructure:** Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

  **fixed equipment:** Refers to equipment that is built into facilities, such as fume hoods and lab benches.

  **net assignable square feet (NASF):** The sum of all areas (in square feet) on all floors of a building assigned to, or available to be assigned to, an occupant for specific use, such as instruction or research. NASF should be measured from the inside faces of walls.

  **new construction:** Refers to construction of a new building or additions to an existing building.

  **project:** Refers to a specific plan or design to construct new space, or repair/renovate or replace existing space.

  **repair/renovation:** Refers to both the major and minor repair/renovation of existing facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

**8a. Has your institution funded AND scheduled any individual repair/renovation or new construction of S&E research facilities in your FY 2000 or FY 2001 that cost over $100,000?**

Yes_____ *(Continue)*

No_____ *(Skip to Item 9, page 23)*

**8b. Please report the estimated costs and NASF for any S&E research facilities projects funded and scheduled to begin in your FY 2000 or FY 2001 with an estimated completion cost over $100,000.**

| FIELD | REPAIR/RENOVATION over $100,000 scheduled to begin in your FY 2000 or FY 2001 | | NEW CONSTRUCTION over $100,000 scheduled to begin in your FY 2000 or FY 2001 | |
|---|---|---|---|---|
| | Estimated Cost | Estimated NASF | Estimated Cost | Estimated NASF |
| Engineering | | | | |
| Physical sciences | | | | |
| Earth, atmospheric, and ocean sciences | | | | |
| Mathematics | | | | |
| Computer sciences | | | | |
| Agricultural sciences | | | | |
| Biological sciences other than medical school | | | | |
| Biological sciences in medical school | | | | |
| Medical sciences other than medical school | | | | |
| Medical sciences in medical school | | | | |
| Psychology | | | | |
| Social sciences | | | | |
| Other sciences, not elsewhere classified Please list: | | | | |
| TOTAL #1: ALL S&E FIELDS | | | | |
| TOTAL #2: CENTRAL CAMPUS INFRASTRUCTURE (See Definitions on page 20) | | | | |
| TOTAL #3: GRAND TOTAL (sum of Total #1 and Total #2) | | | | |

## *Instructions for completing Item 9*

- Item 9 seeks information on deferred S&E research facilities projects, where "deferred projects" are defined below. Item 9 further distinguishes between deferred projects that are and are not included in your institutional plan.

- **New Definitions:**

  **deferred project:** Refers to a repair/renovation or new construction project that meets all of the following criteria:

  - is necessary to meet your current S&E research program commitments,
  - is not scheduled for your FY 2000 or FY 2001,
  - does not have funding, and
  - is neither for the purpose of developing new programs nor for expanding faculty beyond what is required to fulfill current S&E research program commitments.

  **institutional plan:** Refers to an institution's approved plan, including goals, strategies, steps, and budgets, for fulfilling the institution's mission during a specific time period.

- **Definitions to Review:**

  **building infrastructure:** Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

  **central campus infrastructure:** Refers primarily to systems that exist between the buildings of a campus (excluding the area within five feet of any individual building foundation) and to the non-architectural elements of campus design (central wiring for telecommunications systems, storage/disposal facilities, electrical wiring between buildings, central heating and air exchange systems, drains and sewers, roadways, walkways, parking systems, etc.)

  **fixed equipment:** Refers to equipment that is built into facilities, such as fume hoods and lab benches.

  **new construction:** Refers to construction of a new building or additions to an existing building.

  **repair/renovation:** Refers to both the major and minor repair/renovation of existing facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

**9a. Does your institution have any deferred projects for repair/renovation or new construction of S&E research facilities?**

Yes_____ *(Continue)*

No_____ *(Skip to Item 10, page 25)*

**9b. Please report the estimated costs of all deferred projects for repair/renovation or new construction of S&E research facilities that are needed, but not scheduled for your FY 2000 or FY 2001.**

| FIELD | Estimated cost for deferred projects needed for current S&E research program commitments | | | |
|---|---|---|---|---|
| | REPAIR/RENOVATION Costs | | NEW CONSTRUCTION Costs | |
| | Included in your institutional plan | Not included in your institutional plan | Included in your institutional plan | Not included in your institutional plan |
| Engineering | | | | |
| Physical sciences | | | | |
| Earth, atmospheric, and ocean sciences | | | | |
| Mathematics | | | | |
| Computer sciences | | | | |
| Agricultural sciences | | | | |
| Biological sciences other than medical school | | | | |
| Biological sciences in medical school | | | | |
| Medical sciences other than medical school | | | | |
| Medical sciences in medical school | | | | |
| Psychology | | | | |
| Social sciences | | | | |
| Other sciences, not elsewhere classified Please list | | | | |
| TOTAL #1: ALL S&E FIELDS | | | | |
| TOTAL #2: CENTRAL CAMPUS INFRA-STRUCTURE (See definition on page 22) | | | | |
| TOTAL #3: GRAND TOTAL (sum of Total #1 and Total #2) | | | | |

## *Instructions for completing Item 10*

- Item 10 asks about facilities for laboratory animals, including both housing and laboratory space, as defined below. Include as laboratory animal facilities both departmental and central facilities that are subject to government and state policies and regulations concerning humane care and use of laboratory animals.

- Do not include in your laboratory animal facilities space:

  - agricultural field buildings sheltering animals that do not directly support research or that are not subject to government regulations concerning humane care and use of laboratory animals; or
  - areas for treatment of animals that are veterinary patients.

- **New Definitions:**

  **animal housing NASF:** Refers to all general animal housing (for example, cage rooms, stalls, wards, isolation rooms) and maintenance areas (for example, feed storage rooms, cage-washing rooms, shops, storage), if these areas directly support research. (Animal housing NASF are Codes 570 and 575 in the *Postsecondary Education Facilities Inventory and Classification Manual.*)

  **animal laboratory NASF:** Refers to all animal laboratory space used exclusively for research activities, such as bench space, animal production colonies, holding rooms, germ-free rooms, surgical facilities, and recovery rooms.

  **total animal research NASF:** Refers to the combined amount of animal laboratory and animal housing NASF.

**10a. Does your institution have facilities for laboratory animals?**

Yes_____ *(Continue)*

No_____ *(Skip to Item 11, page 27)*

**10b. Below, fill in the amounts of your *animal housing NASF* and *animal laboratory NASF*. Add the two figures to arrive at your *total animal research NASF*.**

_____ Animal housing NASF

+ _____ Animal laboratory NASF

= _____ Total animal research NASF

**10c. Please indicate whether the total amount of animal research NASF available to your institution is adequate or inadequate.** *Please check (√) the one best response.*

Adequate *(i.e. sufficient amount of space to support all the needs of your current S&E research program commitments in the field)* ___

Inadequate *(insufficient space to support the needs of your current S&E research program commitments, or non-existent, but needed)*_____

***If inadequate or non-existent but needed*, please specify the NASF of additional space needed.**

_____ NASF needed

**10d. Please rate the current condition of your animal research facilities by indicating the percentage of space in each category.**

| | % of space |
|---|---|
| Suitable for most scientifically competitive research | |
| Suitable for most levels of scientific research; may require minor repair or renovation | |
| Requires major repair/renovation to be used effectively | |
| Requires replacement | |
| Total | 100% |

***If any space requires replacement*, how much space is funded and scheduled for replacement in your FY 2000 and FY 2001?** _____**NASF**

**10e. Did your institution have any individual new construction or repair/renovation of facilities for laboratory animals in your FY 1998 or FY 1999, each costing over $100,000?**

Yes_____*(Continue)*

No_____*(Skip to Item 10g)*

**10f. Please report the completion costs and NASF for any repair/renovation or new construction of facilities for laboratory animals costing over $100,000 and begun during your FY 1998 or 1999.**

| | REPAIR/RENOVATION | | NEW CONSTRUCTION | |
|---|---|---|---|---|
| | Cost | NASF | Cost | NASF |
| Facilities for laboratory animals | | | | |

**10g. Has your institution funded and scheduled any individual new construction or repair/renovation of facilities for laboratory animals in your FY 2000 or FY 2001, each costing over $100,000?**

Yes_____*(Continue)*

No_____*(Skip to Item 10i)*

**10h. Please fill in estimated costs and NASF for repair/renovation and new construction of facilities for laboratory animals, each costing over $100,000 and scheduled to begin during your FY 2000 or FY 2001.**

| | REPAIR/RENOVATION | | NEW CONSTRUCTION | |
|---|---|---|---|---|
| | Estimated Cost | NASF | Estimated Cost | NASF |
| Scheduled for 2000/2001 | | | | |

**10i. Does your institution have a need for specially adaptive animal research facilities? (e.g., facilities for mouse induced mutants; barrier facilities; fish research facilities; or BL-2 or BL-3 facilities for infected research animals?)**

Yes _____

No_____*(Skip to Item 11, page 27)*

**10j. Please specify the type of specially adapted animal research facilities that your institution needs. List up to three types.**

1st Type: _____

2nd Type: _____

3rd Type: _____

# 11. FACILITY and RESPONDENT INFORMATION

*Instructions*: **Please answer the following questions about your facility and the respondent(s) completing this questionnaire.**

**11a. Are you responding on behalf of a college or university?**

Yes_____ *(Continue)*

No_____ *(Skip to question 11g)*

**11b. Does your university have a medical school?**

Yes _____ *(Continue)*

No_____ *(Skip to question 11e)*

**11c. What is the name of the medical school at your college or university?**

*Please write the name here:*_____

**11d. Did you include S&E research space in the medical school in the responses for your institution?**

Yes_____

No_____

**11e. Does your college or university have S&E research space on more than one campus? (Typically, each campus would have separate administrative offices.)**

Yes_____ *(Continue)*

No_____ *(Skip to question 11g)*

**11f. Please list the names of each campus with S&E research space and check (√) whether you included the space at each of these campuses in the responses for your institution.**

| Name of Campus | Included in response (√ means "yes") |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

**11g. About how many individuals (including yourself) helped to complete this questionnaire?**

Number of individuals_____

**11h. Please write the title of the people who spent significant time providing data to fill out this questionnaire. If you don't know the person's complete title, please give us what information you can.** *Please note that these titles will be removed from the database and are requested as part of our efforts to improve the survey.*

Institutional coordinator_____
Title of respondent_____
Title of respondent_____
Title of respondent_____
Title of respondent_____

**Please indicate approximately how many minutes it took you and anyone else involved to complete this questionnaire**

Minutes [ | | ]

## Comments:

***Thank you very much for your participation***

Return this completed questionnaire in the enclosed pre-paid envelope or mail directly to:

Attn: NSF Facilities Survey
55 Wheeler Street
Cambridge MA 02138