With the death of R. Sears Hintze, June 18, 1981, it became necessary to reorganize the Physical Facilities Division. Details of this change are included on the accompanying Y News article, and on the organization chart on the following page.

Jeffery R. Holland was serving as president of Brigham Young University at this time. He had replaced Dallin H. Oaks in 1980. Rex E. Lee was appointed president of Brigham Young University in 1989, replacing President Holland.

Support Services Vice President Fred A. Schwendiman has announced the appointment of Edwin Cozzens as director of Physical Facilities with responsibility for the planning, construction and maintenance functions at BYU, BYU-Hawaii, Ricks College and other LDS Church Educational System schools.

Cozzens fills a position held by the late R. Sears Hintze of Provo.

Schwendiman also announced other personnel and organizational changes in the Physical Facilities Division.

He said Norman Faldmo, campus architect since 1976, replaces Cozzens as director of Planning and Architecture, and the Business Support Department under Douglas K. Christensen will now report directly to Cozzens rather than through the Physical Plant Department.

Schwendiman noted that other departments reporting to Cozzens include Physical Plant under Harold J. Anderson, Planning and Architecture under Faldmo and Space Utilization under Ed Haines.

The Auxiliary Maintenance Department under Don Gardner has been removed from Physical Facilities and now reports to Clyde Bair, director of General Services and Housing, Schwendiman said.

Cozzens is a native of Cowley, Wyo., and a 1962 civil engineering graduate of the University of Wyoming. He served as a consulting engineer to the City of Moab from 1962 to 1964 and then as a facilities engineer for Dynaelectron Corp. at the Green River Test Complex of the White Sands Missile Range.

He joined the BYU Physical Plant in 1971. He is a member of the American Society of Civil Engineers and the Association of Physical Plant Administrators.

Faldmo is a native of Bountiful. He graduated from the University of Utah in 1965 with a degree in architecture and worked in Salt Lake City as an architect prior to joining the BYU staff in 1971.

Christensen graduated from BYU in 1972 with a degree in accounting. He has worked at BYU since graduation, serving in the business office operations of Auxiliary Maintenance and the Physical Plant.

He is a member of the American Society for Training and Development and the Administrative Management Society.
Physical Facilities Division
Organization Chart - 10 November 1982

Personnel - 1981-1993

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Greetings

To: All Physical Facilities Division Employees

December 1984

HOLIDAY GREETINGS

Overall, I believe this has been one of the most productive and eventful years for our division since I have been with you. At this time of year, when expressions of love and appreciation become a little more warm and meaningful, I would like to share my feelings of deep appreciation with each of you for the outstanding service you have rendered to Brigham Young University this past year. We have received an abundance of recognition from the Administration for your performance in the individual shops and areas. We have tried diligently to pass along these comments to supervisors and trust that they have been shared with you.

As always, the grounds are "squeaky" clean, the building interiors sparkle from pride in cleanliness, professionally prepared plans for remodeling and other work continue to roll forth; quality new facilities keep coming on line, facilities are constantly heated or cooled with minimal problems, employees are efficiently moved from one location to another, gas is pumped, automobiles are repaired, furniture is re-upholstered, paint is applied, business and accounting functions are expertly handled and a myriad of other things falling under the jurisdiction of Physical Facilities is done daily. Our responsibilities are diverse and yet, sometimes repetitive, but they also can be very rewarding if we remember how important these tasks are to others in allowing them to accomplish the most important work at the University—that of teaching students the principles of life.

Although we may stumble at times, the important thing is that we never completely fall. I have been impressed with the feeling of unity and support within and between areas of Physical Facilities. That supportiveness is one of the most important elements which should exist in our organization. Although I am very proud of our performance this past year, hopefully we will all continue to look for ways to improve the quality of our service and efficiency in performing our duties.

At this special time of year, I want to express my appreciation, love and respect to each of you. May the spirit of Christmas permeate each of your homes and families with love and an abundance of the good things this life provides, is my sincere wish.

Kibo

December 1984

Personnel 1981-1993

600
Brigham Young University, Medical College of Georgia Win Award for Excellence

Brigham Young University, Provo, Utah, is the national winner of the first Award for Excellence in Facilities Management in the large campus category (5,000 and above FTE student enrollment). The winner in the small campus category (under 5,000 FTE student enrollment) is the Medical College of Georgia in Augusta, Georgia. The awards were presented at the Awards Banquet at APPA's 75th Annual Meeting in Washington, D.C.

The winners of the regional Awards for Excellence in the large campus category are: Eastern, Rochester Institute of Technology; Southeastern, Georgia State University; Midwest, Michigan State University; Central, University of Oklahoma; Rocky Mountain, Brigham Young University; and Pacific Coast, University of Idaho.

The regional award winners in the small campus category are: Eastern, University of Maryland/Baltimore; Southeastern, Medical College of Georgia; Central, Saint Mary's University; and Rocky Mountain, The Colorado College.

The Award for Excellence recognizes outstanding achievement in facilities management at college and university campuses and emphasizes the vital services provided by physical plant departments and their impact on the institution's educational mission.

APPA's Professional Affairs Committee made the selections based upon the following seven criteria: policies and procedures that foster communication between the physical plant department and campus community; quality of relationships between the physical plant department and campus community; campus appearance and condition; physical plant department initiative and innovation to support departmental and/or institutional overall mission; campus planning, training, education, and development of physical plant department employees; and ability to measure physical plant department success.

The deadline for applications for next year's Award for Excellence is April 1, 1989. An application booklet will be mailed to all members in the fall.
Physical Facilities Division
Organization Chart
1 September 1989
The following announcement was made by Edwin Cozzens
Asst. Adm. Vice President for Physical Facilities at Brigham Young University
22 November 1989:

I appreciate all of you being here today. I won’t keep you long because you have things to do before the long holiday weekend. In the interest of time and for the sake of clarity, I am pretty much going to read this announcement statement. Most of you were in this room a month ago when Dee Andersen met with us and challenged us to improve our image on campus. He wanted us to understand that the academic community is feeling the effect of budget restraints, which makes Physical Facilities vulnerable to criticism.

**Whether we want to believe it or not, there is a perception among some faculty and some administrators that we are inefficient and, thus, expensive.** They view our inefficiency as stealing from their budgets! When our people appear lax or inefficient, the faculty feels that we are robbing them of their limited funds. Some are unhappy with the high cost of doing business with Physical Facilities. The new administration is challenging our policy of discipline, asking why action isn’t being taken against workers who abuse employment privileges at the University. Dee is questioning the effectiveness of our supervision and is challenging us to become more efficient and to improve our image on campus. The recent award we received for “Excellence in Facilities Management” from APPA was given to us for being the best. However, an award like that comes with a price. People wonder if we have too much money to spend and if it is necessary.

In response to this perception and several other factors, today I am announcing some changes in the organization of Physical Facilities to begin the process of changing our image by becoming more professional. **Effective Monday, the following changes will be made:**

1. Doug Christensen will fill a new position as Director of the Church Educational System Capital Needs Analysis Program.
2. Scott Briggs will replace Doug as Managing Director of Physical Plant.
3. A new Project Administrator will be hired and become part of Physical Plant rather than reporting to me.
4. The Construction Section will become part of Physical Plant rather than Planning.

Now, let me pass out a copy of the new Organization Chart for the Physical Facilities Division and explain a few additional adjustments:

1. Daryl Tichy will assume some of Steve’s present responsibilities and report to Business Support.
2. Steve Marshall will become part of the CNA team with Doug (Review BYU CNA Board and Executive Committee).
Now, let me give you a brief explanation of these changes:

1. Both Doug and Scott are well-qualified and prepared to assume their new duties. These changes were received very favorably by Dee and the President’s Council.

2. Shifting Doug to the CNA position is similar to releasing a member of the Bishopric to become a Scoutmaster (Example). As most of you know, Doug was very instrumental in the development of the CNA Program. We have been operating CNA for nearly ten years. During that time, we have never had someone assigned full-time to operate the program. Rather, we have relied on many of you to serve double duty. There will still be broad involvement by many of you, but now Doug will be directly responsible to handle the daily operation of CNA. This major maintenance funding program will become more and more important in the years ahead as it is expanded to the Jerusalem, London and Washington, D.C., Centers, as well as providing assistance to LDS Business College, all in addition to what is now done for BYU, BYU-Hawaii Campus and Ricks College. Also, CNA programs will be implemented in the auxiliary and revenue areas at BYU and other campuses, if they desire the help. Finally, Doug has the right information management training and experience to maintain the viability and integrity of this unique program.

3. The appointment of Scott Briggs as Managing Director of Physical Plant is a result of his demonstrated breadth of knowledge and experience in every facet of Physical Plant work, not the least of which is his excellent public relations skills. Scott has a unique talent of being able to sort out irrelevant details and get to the heart of a problem so a proper solution can be focused upon. I have worked with Scott in various capacities during the past fourteen years. I am reminded of a statement Bruce Hafen made recently concerning his appointment by President Lee as Provost: He said, “We work well together.” Scott is a no-nonsense person and we work well together. As you know, Scott has been serving as Chairman of an Internal Task Force to study areas of our operation to determine how we are doing. The first area of emphasis was organization—to determine if we were organized properly to serve the needs of the University. Presently, the Grounds Section is being reviewed. The Task Force will remain intact and additional areas such as Planning, Construction and shop functions will be studied.

4. The Project Administrator will have authority to monitor and coordinate details of projects with the Managers, Planning and Business Support. We need to do a better job of communicating with our customers. We need a “point man” to track progress, respond to customer inquiries and handle PR matters related to costs, etc.
5. It is mine and others’ opinion that Construction needs to be part of Physical Plant so that closer ties can be maintained with the other Managers over shop areas. This arrangement provides a check and balance between Planning and Construction. However, close cooperation between the two must continue! Now, please allow me to make a few short observations—a sort of combined mission statement/State of Physical Facilities, if you will:

There are three concerns Dee has (that I know of) before he leaves the University (whenever that is):
1. Auxiliary Services Organization
2. Physical Facilities Organization
3. Capital Needs Analysis—It can never be abused!

The following items need our undivided attention:
1. The organizational changes announced today are a sincere effort to use the talents and abilities of each individual to the maximum.
2. There may be additional adjustments which could affect some of the rest of you.
3. These refinements are necessary to better prepare to serve the needs of the University during the decade of the 90’s and even the next century.
4. I plan to be around until the end of the 90’s decade and turn of the century. My goal is to have the smoothest running Physical Facilities support operation ever at BYU before I leave.
5. To accomplish this, the Task Force and I will be identifying & correcting operational deficiencies to ensure a high level of professionalism in all areas of Physical Facilities.
6. This effort will undoubtedly affect most full-time employees to some degree. Some have been here a long time and are doing an exceptional or at least acceptable job. Others are not doing as well and, unless there is an attitude change, may need help locating another job. Longevity will no longer be considered a guarantee of “Job Security.” Monday, we had to fire a man. The process, from beginning to end, took only a few days. Contrary to popular belief, those who are not wiling to do what is necessary in their job will be dealt with as circumstances warrant. At all levels, better supervision is needed! As supervisors, we must realize that those who continually jeopardize our image must be confronted and eventually terminated. A replacement for anyone who becomes complacent is only as far away as a position notice on the bulletin board. The work force is abundant with anxious, qualified people. Our entire staff must understand this and guard themselves accordingly.
7. Overall, I believe we are doing pretty good, but we can always do better and we will!
8. I’m sure most of you are aware of changes which have occurred and are still occurring in Auxiliary Services. We will be maintaining a closer relationship with our sister maintenance organization than in the past. Lines of responsibility will be more clearly defined. This process is already underway for the Wilkinson Center and will be expanded to other areas in the immediate future.
9. In January, a group of us will be meeting with every dean and selected administrators of other areas of the university to open up a line of communication whereby they will feel comfortable in sharing with us any comments or complaints they have about our support role performance. Our clients are our critics and that’s the way it should be. We must strive for professionalism and work toward an image that others respect.
10. Finally, I invite any of you to share your suggestions for improving our image with me. Also, if any of you have questions about today’s announcement or would like further clarification, please see me after this meeting. I am pleased that Doug and Scott have accepted these new assignments and I expect full cooperation from everyone to make them successful.

Are there any questions?
I am going to give copies of this announcement to some of you and ask that you share it with your key people who were invited to be here today, but were excused. I will do that Monday. I appreciate your attendance today, knowing that it may have been inconvenient for some this near to the Thanksgiving holidays. Beyond that, Happy Thanksgiving to all of you and we’ll see you Monday!

Thanks.
Physical Facilities Division
Organization Chart
22 November 1989
Cyrus E. Dallin, a sculptor of national fame, born in Springville, Utah, spent his productive years in the eastern United States. He was commissioned to make a heroic-size bronze statue of Massasoit, the friendly chief of the Wampanogas who greeted the Pilgrim colonists at Plymouth Rock in 1620. Cyrus Dallin finished this commission in 1921 and it was placed on a large field boulder overlooking the sea at Plymouth, Massachusetts. He gave the original plaster figure of this work to the State of Utah. Later, another bronze was cast from this plaster and this bronze was placed outside and in front of the Utah State Capitol Building. The plaster was subsequently given to Brigham Young University. (Cyrus E. Dallin, Let Justice Be Done by Rell G. Francis, pp. 55-47.)

BYU displayed the plaster figure in the gallery of the Harris Fine Arts Center for several years and then had it cast in bronze so that it could be placed outside as it was originally intended. This first outside location was against the east wall of the Fine Arts Center. This setting for such an important and beautiful work of art drew considerable criticism and subsequently another, more appropriate outside site was chosen near the southwest corner of the Lee Library.
Welcome Sign to BYU Campus at University Parkway and Provo Canyon Road, designed by Boyd Datwyler, BYU Landscape Architect

"Over the past several years, students and visitors have been using the University Parkway entrance more than the main State Street entrance, where signs currently identify the university and welcome visitors" (Universe, 18 June 1987).
As pollution has increased, energy supplies have tightened and land fill space has dwindled, conservation of resources has become a vital national concern. Recycling has emerged as a major arm of the conservation effort. Concern over conservation and recycling has been felt keenly at Brigham Young University, one of the largest privately owned institutions in the United States. Our campus covers more than 635 acres, which includes over 8 million square feet of building space, 17 miles of roads, 62 miles of sidewalk, 196 acres of parking, and 320 acres of maintained landscape. The school size and complexity has given rise to significant challenges in waste management, challenges demanding new approaches to traditional problems.

In an effort to meet these challenges, the University has undertaken extensive planning and research. In 1990, this effort culminated in a campus-wide recycling program which has since become the centerpiece of BYU’s conservation plan. At the time, because no local companies existed to collect and process recovered products, existing University storage space was converted into a Materials Handling Area. Materials were gathered here from various campus locations, processed, and delivered to the appropriate recyclers.

These materials fall into three main categories; compost, assorted marketable collectables, and paper. Compost material makes up the largest portion of the University waste stream and comes from several sources. One source is green waste. When possible, grass is mulched back into lawn areas. But for several weeks during the spring and fall the grass grows faster, leaving clippings that require pickup. We combine these clippings with other green waste and animal waste from our farm areas to form a basis for our compost. By replacing our old chipper with a tub grinder, we’ve expanded our compost material to include wood pallets, trees, logs, used lumber, and theatrical sets, as well as non-marketable low-grade paper, such as wax cardboard and newspaper inserts. Kitchen and cafeteria waste, make up another component of our compost at BYU. Use of this material is made possible by our cafeteria pulping machines, which grind food waste and press out the water to form a pulp. A screwed press extrudes the pulp to a wall conduit to a container outside each building. From there, we pick it up, combine it with activating bio-organisms, and add it to the compost mix. We carefully cook this mix at 140 degrees for 3-6 weeks, aerating it every other day to add oxygen. Eventually, it is screened and sized for use in campus landscaping. Composting yields many benefits. As a soil amendment for sod, shrubs and trees, compost can reduce water costs by 33%. Garden areas using mulch chips 3-4 inches deep also cut watering by 1/3. Mulching hillsides and existing shrub beds produces comparable savings. The mulch assists in weed control as well. And food waste pulping offers several benefits in addition to compost. Kitchen areas stay cleaner and require less help on the food line. Food waste recovery avoids tipping at the local transfer station. Best of all, savings in water and sewer costs, exceed $30,000 a year.
University waste also contains several marketable collectables that can be gathered and sold. These include aluminum and other metals, as well as things like batteries, used oil and solvents and copier cartridges. The current market dictates the profitability of these items – prices vary. Several shops and other high-volume sites across campus produce surplus metal material; each of these is serviced directly by our salvage contractor. For smaller quantities of metal scrap and aluminum cans, our recycling personnel perform pickup and delivery to the Materials Handling Area. Here, we sort metal by type and transfer it to a salvage contractor.

Our most common marketable collectable at BYU is paper. Because much paper recycling is labor intensive, recovery can be costly. But we’ve made our program cost effective by using three key principles. First, we depend upon the voluntary co-operation of students, as well as university employees, to separate materials at their point of origin. Collection bins placed across campus are used to separate materials in these categories. White office paper is any white paper without a glossy finish. Colored office paper is non-glossy colored paper. In our magazine bins we gather magazines, brochures and similar glossy finish papers and newspaper bins are for collecting news print only, not related materials such as phone books. These kinds of related products, which also include soft and hard covered books and catalogues, are picked up on special runs on an as-needed basis. We also pick up cardboard, most of which we compact at the point of collection. Recycling collection bins for use by students and visitors can be located easily in any campus building. Faculty and Staff can order personal containers for their offices free of charge by dialing our recycling hotline number. We try to cater to faculty needs by providing any container requested, from desk top trays to 50 gallon bins. Once these containers are full, office personnel bring them to central collection bins located in department offices and copy centers. Custodians move these bins out to the building loading docks where our staff picks them up for delivery to the Materials Handling Area. Recycling personnel also offer personalized assistance by making special collection runs after office moves, file purges and so forth. Faculty and staff can use our hotline to request this assistance as well as to locate central collection points or scheduled conservation training. To complete the conservation cycle, we encourage offices to purchase recycled products or those that can be reused, marketed or composted. We also ask departments to choose products that minimize packaging to reduce waste.

Our second key principle in our program is the encouragement of campus support. To enlist the voluntary efforts of the university community, we initiated a multi-faceted public awareness campaign. Working with the university art directory we created a poster to display at strategic locations. We worked with the university newspaper to publish several press releases on our program. Every year, we circulate brochures among university employees to explain new developments in campus recycling and we give a book mark to all new students inviting them to participate. We’ve involved university housing administrators to publicize collection points and emphasized their importance to student residents. The student body association now has its own committee to promote recycling. A related organization, Eco Response, has undertaken a variety of recycling and conservation projects.

Campus 1981-1993
615
The final key to our program’s overall success, is the use of existing resources. Instead of requesting a new facility to house our central processing area, we chose a pre-existing building and re-purposed it for paper handling. Here, the paper is moved by conveyor to a flucker, where it is bailed and stored. After a full truck load has been collected, the paper is shipped. The building also houses a document destruction unit that can shred or double shred sensitive documents as necessary. After shredding, more sensitive documents are added to our compost mix and completely destroyed. In addition to a pre-existing building, we employed a pre-existing collection system as well. We did this by integrating recycling into the university’s established waste handling system. But instead of creating more work for the waste handlers, our conservation program has actually reduced waste handling costs, by cutting the volume of waste sent to the county landfill by 60%. Before the inception of BYU’s conservation program, campus waste handlers employed two trucks, each with a three man crew, working 6 days a week. Today, the job is done over the same period of time by just one full-time employee, assisted by part-time student workers. These reductions have been possible in spite of the fact that even with conservation measures, the amount of garbage generated at the university continues to rise by about 10% per year.

As an adjunct to our conservation program, the university maintains a storage area beneath its football stadium for reusable surplus items. There, department representatives can browse among things like spare furniture and office equipment to meet their campus needs. After a time, if these items are not used on campus, they are sold to the public or donated to charity. Only as a last resort are they sent to the landfill.

Today, BYU’s conservation and recycling program is recognized as one of the most comprehensive in the United States among colleges and universities. We service some 2500 collection bins campus wide, and process nearly 4.5 tons of fiber every day. Although equipment costs started our program over $190,000 in the red we paid the deficit in full within four years and in 1995 we yielded a surplus at the university of over $220,000. Today, in spite of widespread losses in the recycling industry, BYU’s program still sustains itself, while returning thousands of dollars each year to the university budget. Word of our success has spread quickly. Mayors and other municipal officers from several Utah communities have visited BYU to see our program in action. As a public service, our staff hosts conferences and provides tours of recovery facilities to help those planning similar programs. At Brigham Young University, conservation and resource recovery have become part of our tradition. We base our program on the three R’s; Reduce, Reuse and Recycle. By taking advantage of existing resources, and building on a spirit of team work, BYU has created a program that benefits the environment, generates revenue and creates a cleaner, more positive university atmosphere.
Newspaper distribution and a bin for recycling

Pickup bins for aluminum cans and a trash receptacle

Recycle bins for colored and mixed paper

Campus 1981-1993

617
A typical office print room with shredder and paper recycle bins

Large tubs are provided at shops where scrap metals are generated

Bins on a service dock ready to be picked up

Filled bins are picked up periodically

Campus 1981-1993
618
Clippings, leaves, etc. are sorted at a storage yard

Recycled waste materials are mixed and readied for composting

A pile of composted material ready to be placed where needed

Chip mulch is used under trees

Campus 1981-1993
619
Paper is compacted into bales

Cardboard is compacted into bales

Bailed paper and cardboard is accumulated until enough for a truck load

Bailed paper and cardboard is shipped direct to paper manufacturer

Campus 1981-1993

620
Fountain and plaza south of Smoot Building remodeled - 1993

South entrance to the Smoot Building at completion of 1993 remodeling after fountain and pool were removed

Campus 1981-1993

621
Provo Temple grounds are maintained by BYU personnel
Spencer W. Kimball Tower - 1981

Brigham Young University was established in 1875 in a rented building on Provo's West Center Street. After several relocations, it moved into a building of its own on what was later called the Lower Campus at Fifth North and University Avenue. In 1908, property was purchased on Temple Hill and subsequent years saw building after building constructed on that spacious site called the Upper Campus. Students walked from one campus to the other for many years. Finally, in 1976 the Lower Campus was sold to a commercial developer. The classroom office and laboratory space lost in this sale was to be replaced with a new building on the Upper Campus. A committee was appointed by President Oaks in 1977 to determine what academic functions should be housed in a replacement building that would have the most beneficial effect on the overall University space problem. This Replacement Building Committee, with Dean Bruce B. Clark as chairman, recommended that the colleges of Social Science, Nursing, and Student Life occupy it when completed. Specific building requirements were developed, and the project was on its way to realization. The Board of trustees approved the name, Spencer W. Kimball Tower for this structure.

Kimball Tower Planning Committee Members

Standing: Martin B. Hickman, Susan C. Becker, Linda Jensen, Albert E. Haines, Fred A. Schwendiman, M. Ephraim Hatch
Seated: Maxine Cope, Curtis N. Van Alfen, Marion J. Bentley, David M. Sorenson, Bruce B. Clark, Chairman

Persons not in this photograph who served on this committee: Darrel J. Monson, Stanley A. Peterson, Blaine R. Porter, C. Terry Warner, Sam F. Brewster
Architect's rendering of the Spencer W. Kimball Tower - 1981

Buildings 1981-1993
624
Kimball Tower Building Project 7-63116 Data

Building Program: Ephraim Hatch
Architect: Beecher/Fetzer/Fetzer
Structural Engineer: Ralph L. Wadsworth, Inc.
Mechanical Engineer: Key Engineering, Inc.
Electrical Engineer: Valenco Value Engineering
Date of Bid Opening: 12 July 1978
Date of Contract: 4 August 1979
General Contractor: Christiansen Brothers Assoc.

Contractor's Representative: Waldemar Christiansen
Owner's Representative: Fred A. Schwendiman
Project Coordinator: Darrell Wilson
Completion Date: 23 March 1981
Floor Area of Building: 137,580 sq. ft.
Final Project Amount: $10,962,267.21
Cost Per Sq. Ft.: $70.47

Spencer W. Kimball Tower Model
Steel reinforcing for one of four corner columns

Buildings 1981-1993
625
The bronze statue of Karl G. Maeser, with hard hat and blue prints, provided around-the-clock quality control of the Kimball Tower project.
Kimball Tower construction continues on through the winter of 1979-80

Buildings 1981-1993

627
The Spencer W. Kimball Tower complete and occupied, March 1981

Buildings 1981-1993

628
Spencer W. Kimball Tower dedication service conducted in the Marriott Center March 9, 1982
This event was delayed due to President Kimball’s ill health.

Buildings 1981-1993
629
Observatory - West Mountain - 1981

An astronomical telescope was located on top of the Eyring Science Center on the Brigham Young University Campus for many years. An increase in both light and pollution in Utah Valley made observation at this location almost impossible. The most satisfactory condition for observing celestial bodies is above the smoke and haze of the valley, and far removed from the lights of a city.

A new observatory facility was approved for education and research by BYU faculty and students, to be located on West Mountain, south and west of Provo City. Permission to use this site on property owned and administered by the Bureau of Land Management was granted to BYU. This facility not only provides space for the telescope, it provides living facilities for a full-time resident and space for others on a short-stay basis, making it possible for advanced students and faculty members to use the telescope at night and sleep during day-time hours.

The existing telescope and equipment was moved from the Eyring Science Center to the new observatory.
Description of Project

- Telescope Room
- Office
- Library/Chart Room
- Galley
- Plate & Data Room
- Photo Dark Room
- Instrument Storage
- Computer Room
- Service Area

Observatory - West Mountain
Project 7-63176-802 Data

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<th>Ephraim Hatch</th>
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<td>Architect:</td>
<td>BYU Planning Section</td>
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<td>Date of Bid Opening:</td>
<td>11 September 1980</td>
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<tr>
<td>General Contractor:</td>
<td>J. Lyne Roberts &amp; Sons</td>
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<td>Contractor's Representative:</td>
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<td>Fred A. Schwendiman</td>
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<td>Darrell Wilson</td>
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<td>Completion Date:</td>
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<td>Floor Area (Observatory and Living Facilities):</td>
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Buildings 1981-1993
631
Construction underway on the observatory telescope room - 18 November 1980

Buildings 1981-1993
Installation of the observatory dome 9 July 1981 - Darrell Wilson, BYU Project Coordinator, observing

Buildings 1981-1993

633
Finished Observatory Project with Utah Lake and Utah Valley in the distance

The Completed Observatory and Residence Project, 1982

Buildings 1981-1993
634
Caroline Hemenway Harman Building - 1982

In 1921 a formal extension division was organized at Brigham Young University. The director was instructed to build an organization to extend the opportunities for education to those not enrolled in regular daytime classes. This academic program grew to include sixteen administrative units with over 300,000 persons enrolled worldwide in both credit and non-credit courses.

For several years, administrators of the Division of Continuing Education, as it is now called, were housed in a building constructed in 1952 that previously served as the campus bookstore. Conditions were very crowded and barely adequate.

Leon Weston "Pete" Harman generously provided the primary funding for the construction of a Continuing Education Administration Building to be appropriately named for his remarkable aunt, Caroline Hemenway Harman, who dedicated her life to reaching out and blessing the lives of others. She accomplished much in spite of severe hardships including adopting Pete when his mother died of pneumonia shortly after his birth. After looking for years to find an appropriate project to be dedicated in her memory, Pete decided on the new headquarters for the BYU Division of Continuing Education. Brigham Young University is grateful to Brother Harman and his wife, Arlene.

Approval was also given to construct a multipurpose facility, adjacent to the Harman Building to be used for Continuing Education conferences and also for church functions. It had not been possible to provide suitable housing for a number of campus wards on campus, and this facility was urgently needed. It consists of different sized meeting rooms serving Church needs on Sunday for nine wards, or an entire stake of married students. During the week, this building is used by Continuing Education.

Project 7-63158-802 Data

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<td>Structural Engineer:</td>
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<td>Mechanical Engineer:</td>
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<td>Date of Contract:</td>
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<th>Craig Zwick</th>
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<td>Fred A. Schwendiman</td>
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<td>Project Coordinator:</td>
<td>Allan Reckling</td>
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Buildings 1981-1993

636
President Dallin Oaks with Leon "Pete" Harman on the proposed site at the time this generous gift was announced 19 October 1978

Buildings 1981-1993
637
The Harman Building under construction - a view to the west with the Marriott Center in the background

Buildings 1981-1993
638
Main Entrance to the Harman Building from the parking lot on the west

Buildings 1981-1993

639
The glass east wall of the Harman Building provides a beautiful reflection of the mountains.
Harman Building Divisible Area

Harman Building Conference Room

Harman Building Administrative Office

Harman Building Auditorium

Buildings 1981-1993
641
The Harman Building completed and landscaped - 18 April 1982

Buildings 1981-1993
642
Heber J. Grant Building Renovation - 1982

In 1921, soon after Franklin S. Harris was appointed President of BYU, the importance of a suitable library was brought to his attention. Funds for this project were provided by the Church; $125,000 for the building and $40,000 for books. Groundbreaking for the building was conducted on 16 October 1924, and dedication services were held one year later.

A large reading room comprised half of the second floor, and offices and special rooms filled the remaining area. The first floor consisted of classrooms and offices.

After the first phase of the Harold B. Lee Library was completed in 1961 the Grant building served the university in a variety of ways. In 1981 the decision was made to locate the Testing Center in the Grant Building after a complete renovation. The Testing Center is capable of accommodating more than 500 students taking different tests at the same time, with computerized test results available within minutes of a test being handed in.

Project 7-63901-809 Data

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<th>BYU Planning Department</th>
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<td>Karren Engineering, Salt Lake City</td>
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<td>Mark Robinson, BYU</td>
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<td>Kyle Cummings</td>
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The Heber J. Grant Building, August 1982

Buildings 1981-1993

644
BYU architectural designers - left: Curt Jolley, Ron Jones, Larry McRae, and Owen McQueen
Other BYU personnel involved: Ed Haines, Space Utilization; Ted Sneddon, Estimator and Mark Robertson, Electrical Engineer

Grant Building - 9 February 1982
The Reading Room nearing completion, 22 July 1982

Buildings 1981-1993
645
The former Grant Building reading room renovated and being set up for a Testing Center, 23 August 1982

Buildings 1981-1993
646
Cougar Stadium Expansion to 66,000 Seats - 1982

In 1904 Brigham Young University conducted track and field events on a leveled plot of ground located about where the Joseph Smith Memorial Building now stands. These were not the first competitive sports for this institution but it was the first time a specially prepared field and track was used. A small wood grandstand shelter with bleachers was erected on the south side of the track in 1908. This facility served BYU football and track teams until 1928 when a new stadium was built where the Richards Building now stands. Hillside seating accommodated 5,508 spectators in the first phase of this construction. In 1946, after World War II, the seating area was expanded up to a total capacity of 9,200.

In subsequent years the student body grew in numbers creating a need that could not be satisfied by adding more seats at that site. Construction commenced in 1963 on a steel stadium located on Provo Canyon Road and 1600 North. Total permanent seating when completed in 1964 was 26,812. The first game for this new facility attracted over 36,000 people. A subsequent addition to the east stand increased the total capacity to 29,000 permanent seats.

The phenomenal success and increasing popularity of Cougar football teams created demands far in excess of available seating including 6,000 temporary bleacher seats in the end zones. Several thousand standing room only season tickets were sold to an enthusiastic public.

In June 1978, the architectural firm of Wadsworth, Jensen and Associates, Phoenix, Arizona, was commissioned by Brigham Young University to study and explore various possibilities for a future stadium expansion. Several contrasting and creative proposals were presented. All were too expensive.

BYU architects, working with F/F/K/R studied the problem and developed a concept that was accepted by the BYU administration. Plans were completed in February of 1982 that called for lowering the playing field to accommodate 7,000 additional field level seats, 14,790 seats in each end zone, and an expanded press box to include 42 loges. Space beneath the end zone stands would be used for expanded concessions and restrooms. A Cougar Club board room, along with dining facilities for the Cougar Club and President's guests, would be constructed under the existing west stands. This expansion of the stadium brings its total capacity to 66,000, which makes it the 24th largest in the nation.
Cougar Stadium Expansion to 66,000 seats - 1982

Project 7-63180-802 Data

Demolition for Cougar Stadium Expansion

Architect: F/F/K/R
Structural Engineer: Reaveley Engineers & Assoc.
Mechanical Engineer: Skanchy Engineering
Electrical Engineer: Becherer & Nielson
Date of Bid Opening: 10 November 1981
Contractor: Paulsen Construction Co.
Contractor's Representative: Byron Paulsen
Owner's Representative: Fred A. Schwendiman
University Inspector: Finn Murdoch
Total Contract Cost: $56,127.96
Date of Acceptance of Project: 15 January 1982

Excavation for Cougar Stadium Expansion

Architect: F/F/K/R
Structural Engineer: Reaveley & Assoc.
Mechanical Engineer: Skanchy Engineering
Electrical Engineer: Becherer & Nielson
Date of Bid Opening: 10 November 1981
Contractor: Clegg Construction Co.
Contractor's Representative: Kent Olsen
Owner's Representative: Fred A. Schwendiman
University Inspector: Finn Murdoch
Total Project Amount: $144,775.04
Date of Acceptance: 15 January 1982

Cougar Stadium Expansion to 66,000 seats - 1982

Project 7-63180-809 Data

Architect: F/F/K/R
Structural Engineer: Reaveley Engineers & Assoc.
Mechanical Engineer: Skanchy Engineering
Electrical Engineer: Becherer & Nielson
Date of Bid Opening: 20 January 1982
Contractor: Layton Construction Co.
Contractor's Representative: Alan S. Layton
Owner's Representative: Fred A. Schwendiman
Project Coordinator: Finn Murdoch
Total Project Amount: $17,204,691.41
Date of Acceptance of Project: 1 January 1983

Buildings 1981-1993

648
Cougar Stadium before expansion to 66,000 seats - 1980

Buildings 1981-1993

649
Cougar Stadium, Fall of 1982, after expansion to 66,000 seats

Buildings 1981-1993

650
The Jesse Knight Building, completed in 1960, provided the first permanent home for the College of Business, predecessor to the School of Management. After nine years growth the Jesse Knight Building provided less than half the space needed by the School of Management. A new office and classroom building was announced after private contributions were sufficient to cover the entire project. The Tanner Building was the university’s first academic building to be financed completely through non-church funding.

This 148,190 square foot structure has a total seating capacity of 2500 students, and has 116 faculty offices and 9 departmental office suites. A glass roofed central atrium serves as a passive solar collector and brings natural light into the interior rooms of the building, cutting the need for artificial lighting. The building was designed in such a way as to give it the look and atmosphere of a corporate office building.

It was named for President N. Eldon Tanner, first counselor in the LDS Church’s presidency and first vice-chairman of the university’s Board of Trustees, because of his exemplary achievements in business, industry and church service. From his beginnings as a school teacher, farmer, and storekeeper, he became a government leader and then president of a Canadian oil company. He forsook his private business career in 1961 when called to full-time church service. He served as counselor to four presidents of the Church prior to his death in 1982.
Beginning of Tanner Building construction - 5 November 1980
This site, north of the Richards Building, was formerly a playfield

Tanner Building Project  7-63170  Data

Building Program:    Ephraim Hatch
Architect:           Fowler, Ferguson, Kingston, Ruben
Structural Engineer: KKBNA
Mechanical Engineer: Bridgers & Paxton
Electrical Engineer: Becherer/Nielson

General Contractor: Paulsen Construction Company
Owner's Representative: Fred A. Schwendiman
Total Project Cost:  $12,681,548.56
Completion Date:     1 March 1983
Floor Area:          147,702 sq. ft.
A view to the east of the Tanner Building - granite skin nearing completion - 11 November 1981
The atrium in the Tanner Building as seen from above

Buildings 1981-1993
654
A classroom in the Tanner Building - 4 April 1983

Buildings 1981-1993
655
The N. Eldon Tanner Building - a view from the top of the Kimball Tower - 1982

Buildings 1981-1993

656
Roland A. Crabtree Technology Building - 1985

By 1982 the rapidly growing Engineering Sciences and Technology Department was housed in five different buildings, some of which were very unsightly and functionally inadequate. There was a great need to consolidate this department into one facility with highly specialized laboratories for computer-aided design and manufacturing.

The Roland Crabtree family generously provided major funding for the construction of a new building that would provide these many special needs such as electrical power requirements and forklift access to laboratories for installation of heavy equipment. This building was named after Roland A Crabtree, a major residential land developer in the Seattle area. He and his wife were also noted for their service in the LDS Church. At the dedication of the building in October 1985, in keeping with the technology theme, a specially modified robot was activated and successfully cut the ribbon.

This building included a Coal Combustion Laboratory, a large study area, offices, laboratory rooms, classrooms, and a multi-media auditorium. The building has facilities to give the students thorough computer-age experiences.

Project 7-63199 Data

Building Program: Ephraim Hatch and Gene Libutti
Architects: Fowler/Ferguson/Kingston/Ruben
Structural Engineers: Reaveley and Associates
Mechanical Engineers: Van Boerum and Frank Associates
Electrical Engineers: Becherer - Nielson Associates
Date if Bid Opening: 12 April 1983
General Contractor: Layton Construction Co.
Contractor's Representative: Alan S. Layton
Owner's Representative: Fred A. Schwendiman
Project Coordinator: Finn Murdoch
Floor Area: 100,048 Gross Sq. Ft.
Total Project Cost: $8,139,681.60.

Buildings 1981-1993
Architect's rendering of the Roland A. Crabtree Engineering Sciences and Technology Building

Buildings 1981-1993
658
Left: Ed Cozzens, BYU Asst. Admin. Vice President-Physical Facilities; Norman Faldmo, BYU Planning Director

Standing, Left: Joe Ruben, Ray Kingston and Dan Gibson
Seated, Left: Frank Ferguson and Robert Fowler

BYU Construction Section
Left: Al Nelson, Finn Murdoch and Paul Rasmussen

Alan Layton, Jr. - General Contractor

Buildings 1981-1993
659
Crabtree Technology Building site

Excavation for Crabtree Building - 29 June 1983

Crabtree Building steel framing - 30 September 1983

Crabtree Technology Building - 7 March 1984

Buildings 1981-1993
660
Roland A. Crabtree Technology Building - 1985

Buildings 1981-1993

661
Herald R. Clark Building Renovation - 1985

The Herald R. Clark Building, first constructed in 1952-1953, was officially selected as the site for the David M. Kennedy Center for International Studies in July 1983. Renovation work was begun in August, 1984 and completed in July 1985.

Nearly two years after the official inauguration of the Center, its relocation to the Clark Building brought together for the first time, under one roof, all of BYU's international and area studies programs. The building's completely redesigned interior features a spacious entrance, impressive conference room with a custom-built round conference table, administrative suites, classrooms, resource center, publication services areas, student assistant offices and space for research faculty. Offices for Study Abroad and the International Internships Program are also located with the Center. These facilities are located on the second level of the building. The first, or basement level, remodeled as a separate project, is used for other university functions, including classrooms.

David M. Kennedy, for whom the Center is named, had been involved in important government, industry and church positions throughout his working life. His service included: Secretary of the U.S. Treasury during the Nixon administration, Ambassador-at-Large for the United States, President and Chairman of a major bank in Illinois, and most recently, Ambassador-at-Large for The Church of Jesus Christ of Latter-day Saints.

Kennedy Center Renovation Project 763228 Data

Original Clark Building Project Data - 1952

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Building Program: Gene Libutti
Architect: Warren J. Jones, BYU
Interior Designer: Lynn R. LeMone
Structural Engineer: Karren Engineering, Salt Lake City
Mechanical Engineer: Heath Engineering, Salt Lake City
Electrical Engineer: Tasco Engineering
Contract was Negotiated: Broderick and Howell
Contractor's Representative: DeRae Broderick
Owner's Representative: Edwin Cozzens
Project Coordinator: Kyle Cummings
Total Project Amount: $1,700,596.45
Cost per Sq. Ft. (second level): $84.39
Completion Date: 1 December 1985

Buildings 1981-1993
662
Clark Building exterior renovation - February 1985

Clark Building interior renovation - March 1985

Kennedy Center conference room - August 1985

Kennedy Center main entry foyer - August 1985

Buildings 1981-1993

664
Karl G. Maeser Memorial Building Renovation - 1985

Soon after the death of Karl G. Maeser in 1901 plans were begun to erect a fitting memorial for this great teacher. Ten years later the Maeser Memorial Building was completed. It was the first permanent building on the BYU upper campus.

This edifice was first used as a classroom building, but it has since been used for many other university programs, both academic and administrative. Early uses included housing the Student Army Training Corps (1918), the College of Commerce and Business Administration (1921), the University President's office (1931), the BYU Press, the Archaeology and English departments (1961), and the History, Political Science, French, Italian and German departments. Now (2004) home of Undergraduate Education.

In 1984 the decision was made to completely renovate the building and restore it to its original dignity. In summary: many of the interior walls were removed to make way for classrooms, a floor built in the 1960's over the lecture hall balcony was removed and the lecture hall was restored to its original splendor, and a ramp and elevator were installed for handicapped accessibility. The building was "earthquake proofed" using a wet-process gunite called shotcrete, which was sprayed over steel reinforcing bars. The deteriorating exterior limestone was ground smooth and coated with a water repellent.

As a final touch to the restoration of this structure: the Karl G. Maeser bronze statue was relocated from the west side of the Eyring Science Center to the east side of this building.

Project 7-63227-809 Data

Building Program: Gene Libutti
Architect/Designer: Ronald B. Jones (BYU Planning and Architecture Department)
Interior Designer: Lynn R. LeMone (BYU Planning and Architecture Department)
Structural Engineer: Karren Engineering, Salt Lake City
Mechanical Engineer: Clifford W. Riley (BYU Engineering Department)
Electrical Engineer: Mark S. Robertson (BYU Engineering Department)
Date of Bid Opening: 26 July 1984
General Contractor: Layton Construction Company, Salt Lake City
Contractor's Representative: Alan S. Layton, Jr.
Owner's Representative: Edwin Cozzens
Project Coordinator: Kyle Cummings
Total Project Amount: $1,616,276.80
Completion Date: October 1985

Buildings 1981-1993
665
Karl G. Maeser Building - built 1911 - renovated 1985

Buildings 1981-1993
666
Maeser Building - grinding and texturing exterior stone

Ron B. Jones, BYU Architect / Designer

Maeser Building - new suspended ceilings were installed

All features of the Maeser Building were upgraded

Buildings 1981-1993

667
The Maser Building two-level lecture hall restored

The renovated Maeser Building stairs

Buildings 1981-1993
668
To help solve the problem of a space shortage on campus BYU purchased a three-acre plot of ground with a 28,000 sq. ft. building that once housed the Albertson's Food Center located at 2230 North Canyon Road.

Buildings 1981-1993
669
Brigham Young University began conducting "studies abroad" in Jerusalem in 1968. This program was very successful and, eleven years later in 1979, Church leaders decided to build a structure that would serve both the needs of the university and the Mormon community in Jerusalem. Elder Howard W. Hunter was assigned to direct this project, with Fred A. Schwendiman as his assistant. They were joined by Robert Taylor, Director of BYU Travel Studies and Dr. David Galbraith, Resident Director of the BYU Jerusalem Semester Abroad. This team explored land acquisition, budget parameters, construction costs and legal matters. Some years later Fred Schwendiman said, "We were constantly being blessed by events and happenings that were favorable to our progress. Divine guidance interceded, for at times there was no obvious or logical answer as to how some things unfolded. Only later did we recognize the intent, purpose, and value of earlier events and decisions."

Some 26 sites for this center were considered. They were narrowed down to 7 for President Kimball to look at. The Mount Scopus site was not on the list because it was restricted "Greenbelt Preserve," and not available. This was explained to President Kimball, but he felt strongly that Mount Scopus was where the center should be built. It took from October 23, 1979 until April 2, 1984, and the approval of five Israeli Government Ministries, to obtain the lease of five acres upon which the Center now stands.

It was decided to begin construction immediately and design the building as the work progressed, a process called "fast-track." It was also decided not to contract it out. The following men were engaged to supervise and manage this project: David Reznik, a local architect; Frank Ferguson, a Utah architect; Eli Rahat, local engineer and construction supervisor; Robert Smith, BYU accountant; and Fred A. Schwendiman, BYU project manager.

### Project Data

- **Project Manager:** Fred A. Schwendiman
- **Building Program:** Robert Taylor and Ephraim Hatch
- **Architects:** David Reznik and Frank Ferguson
- **Construction Supervisor:** Eli Rahat
- **Accountant:** Robert Smith
- **Facilities Included:** Residential rooms for 170 students, 10 apartments, food preparation and serving area, instructional rooms, library, auditorium and exhibit area.
- **Building Size:** 120,000 sq. ft.
- **Date of Dedication:** 16 May 1989 by President Howard W. Hunter

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(The following information is condensed from The Jerusalem Center for Near Eastern Studies, a book compiled by Daryl Tichy, BYU and the 24 March 1987 Universe)
LDS Jerusalem Center for Near Eastern Studies during construction

Buildings 1981-1993
671
Old Jerusalem
Dome of the Rock on the far right, Hebrew University, far left - LDS Jerusalem Center
right of church steeple, near top of Mount Scopus

Buildings 1981-1993
672
The Brigham Young University Jerusalem Center For Near Eastern Studies (courtesy Haws Marble)

Buildings 1981-1993
673
An evening class in session at the BYU Jerusalem Center

Buildings 1981-1993
674
The Auditorium in the BYU Jerusalem Center

Buildings 1981-1993
675
President's house converted to Visitors Center - 1989

Since President Franklin S. Harris and his family moved into the remodeled house located north of the Brimhall Building in 1928 all presidents and their families have lived there until the inauguration of President Lee who already had a home in Provo.

Moving the Hosting Service into what was the president's home will give them more room for receptions and catering events. A small building was built on the hillside to house the electric hosting carts.
The BYU London Study Abroad Center has been housed in a 125 year old Victorian building that was the Russian ambassador's private home before BYU purchased it 12 years ago. Structural, electrical, and plumbing problems necessitated this very extensive renovation. (The Daily Universe, 27 June 1990)
When completed in 1971, the Talmage Building housed the departments of Math, Statistics and Computer Sciences. Many changes took place in the computer field through the following 16 years, making the original building inadequate in several critical ways. Early mainframe computers were centrally located, and provided with ample electrical power and cooling. These mainframe computers became obsolete and were replaced with small personal computers located in teaching laboratories in many areas of the building. Electrical power and air conditioning was designed for the earlier computers, and did not meet the decentralized computer laboratory arrangement.

The best solution to this problem was to construct an addition to the Talmage Building with power and air conditioning designed to meet the ever changing requirements of computers. The space vacated when Computer Sciences moved into the new addition was modified to meet the needs of the Statistics and Mathematics Departments.
Computer instruction room - Talmage Building 1991 addition

Project 7-63256-8020 Data

Building Program: Gene Libutti  
Architect: Richardson Associates  
Structural Engineer: E.W. Allen & Associates  
Mechanical Engineer: Heath Engineering  
Electrical Engineer: Kay Engineering  
Date of Bid Opening: 23 March 1989

Contractor: Hogan & Tingey Construction  
Contractor's Representative: Bruce Tingey  
Owner's Representative: Edwin Cozzens  
Project Coordinator: Lon J. Wallace  
Total Project Cost: $5,889,768.39  
Date of Acceptance: 17 May 1991  
Floor Area: 57,870 sq. ft.

Buildings 1981-1993

679
Milton A. Barlow Center  
(Washington, D.C.) - 1991

The 10,690 sq. ft. seminar building in Washington, D.C. provides housing for 44 to 50 students and advisors. It not only provides affordable housing but also creates a noticeable presence for BYU and the Church in Washington that strengthens their stature among the nation's leaders and decision makers according to President Lee.

(The Daily Universe, 18 September 1989)
Joseph Smith Memorial Building - 1941 and 1991

The first Joseph Smith Memorial Building (photo below) was dedicated in 1941. It was used for many purposes over the years, and was remodeled so many times that its original character was almost lost. The many changes to the building, as well as modern building code requirements, influenced the University administration and Board of Trustees to replace it with a new structure that would provide larger classrooms, additional offices, an improved auditorium, a student commons area, and last but not least, it must maintain much of the old building's character.

The new replacement building was built to the west of the old one. When the new building was completed, the old one was razed. The Benson Building was built on the site of the first Joseph Smith Building, as well as the area on east to the Widtsoe Building.
Project 7-63262-8020K-1728 and 764958 Data

Building Programmer: Gene Libutti
Architect: Markham & Markham
Structural Engineer: Karren & Assoc.
Mechanical Engineer: Heath Engineering
Electrical Engineer: Nielsen Engineering
Date of Bid Opening: 7 October 1990
Contractor: Layton Construction
Contractor's Representative: Alan Layton
Owner's Representative: Edwin Cozzens
Project Coordinator: Craig Barrus
Gross Floor Area: 75,000 sq. ft.
Total Project Cost: $7,135,687.34
Date of Acceptance: 24 August 1992

Buildings 1981-1993
683
Student commons area - Joseph Smith Building

Auditorium - Joseph Smith Building

Buildings 1981-1993
684
Joseph Smith Building classroom

Joseph Smith Building faculty office

Joseph Smith Building copy center

"The Vision" Sculpture by Avard Fairbanks in the atrium of the 1991 Joseph Smith Building

Buildings 1981-1993
685
The Foreign Language Complex consists of four residence buildings and one central building, providing housing for 74 women and 71 men students. The central building has two multipurpose rooms, a head residence apartment, offices and laundry facilities.
Married Student Housing - 1992
Wymount Quads 16 and 17

This project provides 40 one bedroom apartments, and 40 three bedroom apartments

Professional Team:

**Architect/Engineer:** FFKR
**Structural Engineer:** Bsumek Uu & Frank
**Mechanical Engineer:** Van Boerum & Frank
**Electrical Engineer:** Becherer Nielsen

**Contractor's Rep.:** DeRae Broderick
**Owner's Representative:** Edwin Cozzens
**Project Coordinator:** John Cowan

**Total Project Amount:** $3,162,665.68
**Completion Date:** 29 September 1992
**Sq. Ft. in project:** 60,240

Project 7-63285-8020,K-5198  Data

Buildings 1981-1993
687
Chemicals Management Building - 1993

Since environmental laws were first enacted, the ability to comply with these laws has become increasingly difficult. As time progresses, additional chemicals are declared hazardous, storage and treatment standards become more strict, and additional waste sources are discovered on campus.

The Chemicals Management facility in 1991 was a temporary building, remodeled to store hazardous wastes. This facility had 13 specific OSHA and EPA law violations. These violations seriously compromised the safety and environmental aspects of a hazardous waste storage on campus. If these violations had been discovered by the regulators, fines would have been assessed, and the publicity would definitely have been highly unfavorable.

In 1991, authorization was received to construct a Chemicals Management Building which would safely store and process all hazardous materials produced at Brigham Young University in accordance with OSHA, EPA, and NFC laws and regulations.

**Project 7-63294-8020 Data**

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<td>Date of Scheduled Completion:</td>
<td>3 November 1992</td>
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<td>Date of Acceptance of Project:</td>
<td>13 August 1993</td>
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Missionary Training Center Remodeling and Expansion - 1993

In 1989, the Provo Missionary Training Center reached a peak of 2,677 missionaries in residence. The peak effective capacity at that time was 2,600. After careful study, a committee consisting of representatives from the MTC administration, BYU Physical Facilities Division, Student Auxiliary Services, and the architectural firm of Richardson Design Partnership, submitted a proposal to the Missionary Executive Council (which was approved) to expand the present facilities to accommodate 4,000 missionaries by adding new multipurpose facilities, classrooms, residence halls, and dining facilities.
Project 7-63278-8020 K2738 and 763291, 766254 Data

- **Building Program:** Gene Libutti
- **Architect:** Richardson Design Partnership
- **Structural Engineer:** Reaveley Engineering
- **Mechanical Engineer:** Heath Engineers
- **Electrical Engineer:** Electrical Consulting Engineers
- **Civil Engineer:** Beckhoff Watson & Preator Eng
- **Contractor:** Layton Const. Co.
- **Contractor's Representative:** Alan S. Layton
- **Owner's Representative:** Edwin Cozzens
- **Project Coordinator:** Craig Barrus
- **Floor Area:** 230,000 Sq. ft.
- **Total Project Cost:** $23,175,359.76
- **Date of Bid Opening:** 17 October 1991
- **Date of Acceptance:** 15 June 1994

Aerial view of expanded Provo Missionary Training Center

Buildings 1981-1993

690
Missionary Training Center Multi-purpose Facility - 1993 Addition
Museum of Art - 1993

Over the years, Brigham Young University acquired a permanent collection of art objects, more than 14,000 pieces. Generally speaking the collection is rich in works by American artists with representative works from most periods. There is some depth in paintings of the Hudson River School, American Barbizon, American Impressionism, Social Realism, Regionalism, and Western American art. The twenty-three panorama paintings of C.C.A. Christensen and the Maynard Dixon collection are of particular interest.

Bronzes by Mahonri M. Young on subjects ranging from boxers, laborers, and figures in American West, including his plaster models, are the focal points of the sculpture collection. Contemporary sculpture is represented.

Highlights of the collection of works on paper include sixteenth and seventeenth-century prints, Japanese wood block prints, and several thousand sketches, drawings, pastels, watercolors, and prints by J. Alden Weir and Mahonri M. Young.

The Asian collection consists primarily of jade and ivory carvings, a few scrolls, together with miscellaneous examples of screens, porcelain vases, and bronze vessels.

The collection of decorative arts is small at present and consists primarily of tapestries and a few examples of Meissen pottery.

The building and programs were required to conform to the American Association of Museums' criterion for a museum which is as follows: "A museum is a permanent non-profit institution, essentially educational or aesthetic in purpose, with professional staff, which acquires objects, cares for them, and exhibits them to the public on some regular schedule." Brigham Young University's Museum of Art will meet this criterion in the following ways:

1. The museum was to be a permanent nonprofit institution.
2. The museum was to be essentially aesthetic and educational in purpose.
3. The museum was to have a professional staff.
4. The museum was to acquire objects.
5. The museum was to care for its collection.
6. The museum was to offer exhibits to the public on a regular schedule.

The audience was to be the university students, faculty, and visiting scholars. It would seek to serve the many diverse academic disciplines at the university in its exhibition schedule and accompanying programs. Although the museum staff will be eager to collaborate with this audience, it will maintain its own autonomy.

The expanded audience will include general public, women, adults, school children and young people, retired citizens, ethnic groups, and disabled persons.
Architect's rendering of the Brigham Young University Museum of Art - 1993

Project 7-63254-8020 Data

Building Program: Gene Libutti
Architect: Langenheim & Associates / CCDR
Structural Engineer: Reaveley Engineering & Associates
Mechanical Engineer: Van Boerum & Frank Associates
Electrical Engineer: Becherer Nielsen Associates
Date of Bid Opening: 26 February 1991

General Contractor: Layton Const. Co.
Contractor's Representative: Alan Layton
Owner's Representative: Edwin Cozzens
Project Coordinator: Craig Lybbert
Total Project Cost: $15,056,351.60
Floor Area: 98,024 sq. ft.
Date of Acceptance of Project: 19 October 1993

Buildings 1981-1993
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BYU Museum of Art central area

One of many exhibits in the Museum of Art

Museum of Art preparation and storage area

Museum of Art food serving area

Buildings 1981-1993
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The Utilities Department consists of design, service and maintenance capabilities and consultant resources to manage and expand utility infrastructure elements. Four service groups, or Shops, are accountable for reliable water and waste water control; power distribution and protection; lighting; building ventilation and temperature control; fire alarm systems; elevator servicing; central heat and chilled water plants operation; electronic security systems; and miscellaneous mechanical and electrical devices and assemblies. Many utility improvement and construction projects have been performed through the years.
1983
Fireline improvements
Install water line near road to MPS
Insulate heat plenum & room in RB
Electricity at storage building south of Haws field
Install Emergency telephone & light at stadium
Fume Hood exhaust in the ESC
HTW water line/chilled water line in Technology Bldg.
Culinary Water Section for utilities/Tech. Bldg.
Utility Extension for the Technology Bldg.
Lighting of intramural playing fields - Phase II
Construct storm sewer at the Clyde Building
Install a new FHD/6/0/disc in the PHP central controls
ELWC Coil Replacement
Install Lighting and controls in the Tanner Building
Install points in JC-80 system in ESC
JC-80 system in Eyring Science Center
Retrofit WIDB (Duct work Changes)
Stadium - Heating/Cooling Revisions
1984
Connective work on chillers throughout campus
Waterline relocation sewer/storm lines-married housing phase 2
Extension of campus culinary water system 1430 North
Change & Replace air conditioning coils at Tanner Bldg.
Chilled Water piping for Maeser Bldg.
Campus Culinary Water System Improvements
Correct chilled water piping in Clyde Bldg.
Install self contained temp. controlled valves in Allen Hall
Remodel existing mechanical system at PHP Greenhouse
Duct work changes & Air balancing for Widtsoe bldg.
Re-pipe condensor water in HBLL
Complete electrical work in Brimhall Bldg.
New electrical duct bank vault cd to vault cb
Install magnetic tape transport in JC8O System
Replace filters in Clyde Bldg.
Heating water extension to Maeser Bldg.
Air conditioning in cougar club room
ELWC Bowling Alley Air Conditioning
Furnish air handling equipment for Clark Bldg. Remodel
Install new light hangers w/quick disconnects in MC
Change out and install new housing and fan in CHP
Freight Elevator in Fletcher Bldg.
Marriott Center Relighting
Retrofit HVAC System in Martin Bldg.
Continue retrofitting mechanical system in TNRB - Phase 3
Complete retrofit of Tanner Bldg.
1985
Provide cooling at MTC Administration Bldg. Laundry room
Repair boiler #2 at central heating plant
Modification to fan system at 8M - MTC
Plumbing at WIDB (Piping changes, Valves, Insulation)
1986
Modification of Fan system at WIDB
Repair of boiler no. 2
Modification to fan system
Replace cooling coil drain pans at Marriott Center
Sewer system for Skaggs research ranch - Malta Idaho
Six roof top units at Fletcher Bldg.
Plumbing work at Martin Bldg.
Plumbing work at Widtsoe Bldg.
Install lighting control system in Marriott Center
Perform mechanical work at Mt. Vision
Perform electrical work at Mt. Vision
Replace 8 boiler tubes for boiler #3 CHP
Replace boiler tubes in boiler #5 CHP
Fan System at MTC M7, M9, M10
Smoke stack work with boilers CHP
Waterline system at SFH
Meter box SFH
Repair of boiler No. 2 CHP
Central Chilled Water Plant - Mezzanine
Install by-pass pipe around chilled water plant pumps
HBLL - Fire sprinklers, levels 3-6, north wing
Fire sprinklers on levels 3-6 no. wing HBLL

1987
Chilled Water Plant Rigging
Mechanical Work at Widtsoe Building
Modify Exhaust Duct work Rm. 201 Widtsoe Bldg.
Install 4" secondary heating piping & acc. From HGB to BRMB
Resurface Supply fan on boiler No. 5
Chimney modification at the central heating plant
Campus utility access raise to grade

1988
Lighting control installation bookstore/WSC
CCW By-pass pump
Heating plant duct work enclosure
Install A/C unit & Ductwork in office suite D444, HFAC
Install fire hydrant at BRMB
Compliance testing on heating plant
Remodel Fire Alarm System, Snell Bldg.
RB/SFH - Chilled Water Expansion
ESC/HGB - Install New Elevator
Install Chilled water to RB & SFH
Upgrade elevator in Marriott center
Replace 12 Cooling coils in ELWC fan system

1988
Water Detection system comp. Rm. 2327 HBLL
Chilled Water HGB
Install new service elevator, ESC & New elevator HGB
Fire sprinklers for MORC & GSRB
Install refrigeration piping system Kimball Tower
Refurbish Coil wall in RB
Remove re-heat coils in North section of HBLL
Relocate electric conduits & Space frame, MC
Relocate electric conduits & wiring in Heating Plant
Cooling tower May Hall
Install Duct Work in JKHB
BYU Stadium boiler
Modify chilled water piping in Maeser & BRMB
1988 Boiler control room HVAC system, CHP
Install Insulation on chilled water pipes in JRCB
Repipe drinking fountain & Insulate pressure pump at TNRB
Add Evap. Cooler at CCWP
Married Student Housing Gas Conversion
High Density Mobile Storage - JRCB

Utilities 1981-1993
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Utilities 1981-1993
700
A few major projects improving utility operations are described on the following pages.
Building Air-conditioning Upgrades

1982/83 Air Conditioning retrofit in Jesse Knight & Smoot buildings: The dual duct boxes and thermostats were changed to a variable volume supply system with the addition of variable frequency drives on the fan motors and some duct modifications and rebalancing of the entire system. Digital control was used for the control of static pressure in the supply ductwork and for building static pressure control. These were the first retrofits of this nature on campus in which a constant volume air system was changed to variable volume with variable speed fans to save electrical energy and to increase comfort control.

1984 Stadium Heating/Cooling Revisions: In the time since the addition of the loges in 1982, it became obvious that cooling was needed in the loges. The gas-fired heaters were replaced with fan coil units to provide heating and cooling. A 50-ton chiller and eight 100 ton-hr ice storage units provide cooled glycol for cooling and a heat exchanger heats the glycol for heating.

1990 Clark Law building Retrofit Heating and Air Conditioning System: The dampers in the reheat boxes were replaced, digital controls installed, and variable frequency drives installed on the fan systems. This resulted in a dramatic increase in the comfort of the building and decrease in electrical energy usage offsetting the increased load of the library addition.

Fire Protection

In 1987 fire sprinkling was added to the H. B. Lee Library north wing on levels 3-6 making the building fully covered with fire sprinkling and to remove the insurance surcharge. In the following years, fire sprinkling was added to the following buildings: Widtsoe, Martin, Smoot, Brimhall, Smith Fieldhouse, Harris Fine Arts Center, Clyde, Richards, Snell, and B66. All future buildings were provided with fire sprinkling.

Outside Utilities

1986 Water main: A new 8” water meter was installed at the west end of the Smith Fieldhouse and a main line run along the south side of this building. The 8” water line was later extended up the hill and connected to the water main in the roadway west of the Kimball Tower providing greater flow capacity to the upper west side of campus.
Central Heating Plant Improvements

Commencing in the 1980’s and continuing into the 21st century, substantive changes have been pursued by the Utilities Department. Operational, mechanical, electrical, and structural improvements to the Central Heating Plant were completed in 1992 to meet Utah clean air objectives. This resulted in a facility using natural gas boilers for the winter period when climatic conditions typically produces temperature inversions and the concentrations of PM10 particulate in the Utah County air shed. Deliveries of Carbon County coal continue to provide the economical fuel during the eight non-winter months. A “baghouse” filters any particulate from the coal boiler flue gas discharge prior to dispersion into the atmosphere.

Central Heating Plant Bag House

Flue gas ductwork systems, Central Heating Plant

Pneumatic, manual controls were replaced by sophisticated electronic control devices and network.

This Centralized Motor Control Center replaced obsolete and cramped control centers

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Central Chiller Water Plant Improvements

1988 - Chilled Water Expansion: The central chilled water piping was extended to the Richards Building and the Smith Fieldhouse with capacity for future buildings.

1987 Chilled Water Plant Expansion: The partial second floor was extended to the north and a lower level pump room added to provide space for three 200 hp system pumps controlled with variable speed drives and three 1000-ton electric chillers and associated equipment. These improvements allowed the removal of the chilled water pumps in the buildings served with chilled water. Chillers in the McKay, Jesse Knight, Smoot, Brimhall and Alumni buildings were eventually removed.

1989 Evaporative Cooling at the Central Chilled Water Plant: Heat exchangers were installed to cool the chilled water loop with cooling tower water when the outside wet bulb temperature is below the loop temperature. This improvement reduced the hours of chiller operation and provided year-round chilled water for campus.