

Draft
New Mexico State University
Master Plan
2017-2027

Draft
2017

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Preface

The New Mexico State University (NMSU) Master Plan Executive Committee is pleased to submit this physical and facilities Master Plan for the 2017-2027 planning horizon.

The previous Master Plan addressed the decade from 2006-2016. After the impact of the 2008 recession, a 2013 Master Plan Refresh to update the plan with realistic projections was commissioned with the original planners, Hanbury-Evans-Wright-Vlattas. The 2013 Refresh was also designed to bridge the gap between the 2006-2016 Master Plan and this 2017-2027 Master Plan.

The 2006-2016 plan envisioned enrollment growth to 25,000 students. Indeed, enrollment grew to 18,000 students midway through the planning period, and then began a slight but steady decline, finishing at approximately the same level at which it began. In addition, NMSU has had a robust strategic planning effort for many years, reaching back to 2005 when the current Chancellor, Garrey Carruthers, Ph.D., chaired the “Living the Vision” Committee while serving as Dean of the College of Business and as the Vice President for Economic Development. NMSU’s current strategic plan is *Vision 2020*, and the University is also working through a process titled, “Transforming NMSU into a 21st Century University”, which is an initiative that will right-size staffing levels and improve the efficiency of core services.

Because of these developments and the expiration of the 2006-2016 plan, the time was right for NMSU to develop a new physical and facilities Master Plan that complements and supports the University’s current academic goals and enrollment projections. An Executive Committee was assembled, and as guiding principles were developed, the team quickly realized that NMSU possessed a wealth of subordinate plans that would provide needed direction. In addition, a formal comparative space analysis was commissioned to be used in developing physical needs. This study confirmed what many already suspected: NMSU has ample space for its projected 18,000 students. After conducting a staffing study, Deloitte, a consulting and advisory firm, reported that NMSU was staffed correctly, but organized inefficiently; the same may be said of the space at NMSU.

This 2017-2027 plan supports *Vision 2020* and incorporates subordinate plans that consider utility development, deferred maintenance, residential housing and living, dining services, transportation and parking, Arrowhead Park, and Aggie Development Inc., while advocating for a reduction in net overall square footage. The plan’s focus is on diversity, inclusion, and student recruitment and retention through assembly of amenities that provide state-of-the-art support for these initiatives.

Much of this material is a compilation of college, community college, and department plans, and the material was borrowed and adapted from many NMSU websites. This was noted and the material sourced in the end notes by NMSU website name, rather than by linking in the document, since many of these URLs will change over the next ten years.

As we worked on this plan, we had a chance to broaden our knowledge about NMSU, while learning from each other and those who submitted input. We are grateful for this opportunity to have been of service.

Respectfully submitted, by the 2017-2027 NMSU Master Plan Executive Committee:

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Master Plan Changes and Summary

This 2017-2027 Master Plan consists of four main sections: the Introduction, Institutional Planning, Goals and Assumptions, and the Campus Plans.

2006 Plan

The 2006 Master Plan started with the premise that NMSU would look to its aspirational peers and match their volume of space. A comparative space benchmarking study was prepared, with one of the assumptions being that this study would assist with identifying areas where NMSU needed additional construction. In addition, NMSU projected that campus enrollment would reach 25,000 students by the end of the planning horizon.

This turned out to be unrealistic for several reasons, not the least of which was that population demographics did not support the increase. The economic recession of 2008 also slowed growth in surrounding areas.

2013 Refresh

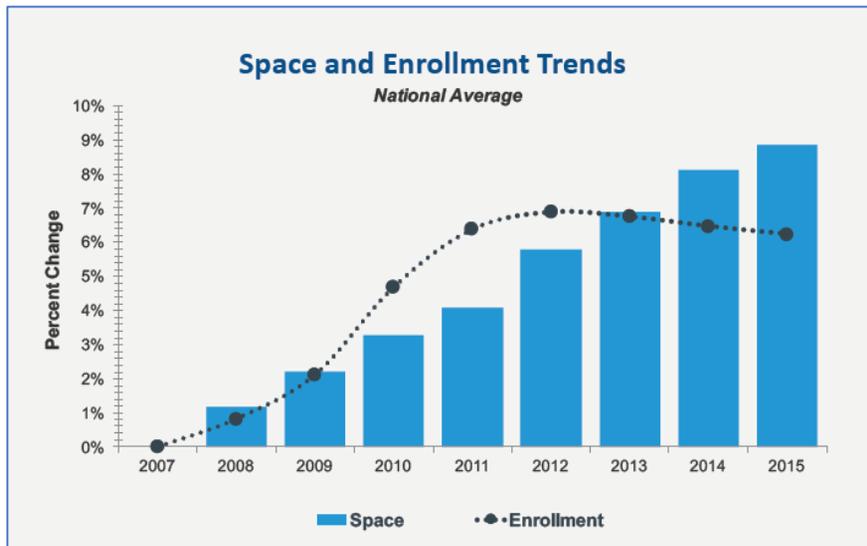
The need for several changes had become apparent by 2010. The 2006 Plan envisioned relocation of the Agricultural Facilities to a remote site, and a new baseball field built to the east of Memorial Stadium. Sections of the south campus were envisioned for research to replace Housing.

In 2013, a Master Plan Refresh was commissioned in order to bridge the gap between the 2006 Master Plan and the 2017 Master Plan. This refresh made the following updates:

- Listed the proposed change to the I25 Interchange
- Created the Heritage Farm
- Showed Baseball and softball fields remaining in place in light of a large donation to upgrade the baseball stadium
- Improved family housing as opposed to replacing with research facilities
- Added the Spiritual Center
- Added Therapeutic Riding
- Considered Rentfrow Hall additions
- Increased the size of the Arrowhead Research Park to accommodate the Burrell College of Osteopathic Medicine (BCOM)
- Included housing east of Rhodes Garrett Hamiel
- Considered parking lot north of Corbett Center and south of Rhodes Garrett Hamiel
- Increased the size to the Arrowhead Research Park to accommodate the Burrell College of Osteopathic Medicine (BCOM)

- Added the McFie ramble
- Outlined boundaries of properties north of University Avenue for potential development
- Deleted the Residential Community Building shown on the SE corner of Wells and Williams
- Considered new Family Housing in the block bounded by Wells, Williams, Locust, and Standley, where the current office of Facilities and Services is located
- Addressed the issue of emergency/delivery access paths and ADA parking/access in the core campus areas

2017 Master Plan



In addition, space utilization became the watchword across higher education, as the realization began to sink in that it was impractical and unwise to construct new facilities that were only used for several hours a day. Sightlines, a firm that assists over 200 institutions manage their facilities by providing comparative benchmarking data, wrote in its 2016 Annual State of Facilities in Higher Education Report:

“After seeing enrollment grow by 7 percent from 2007 to 2012, campuses experienced a leveling of enrollment between 2013 and 2015. All evidence supports a continuation of this leveling—or a greater decline—into the 2020s. Unfortunately, many campuses are still working to match available space to the pre-2013 enrollment projections through new construction. That

new space started to come on line just as the enrollment surge ended. The result was an expansion mismatch between space and enrollment.

Some of the mismatch is a result of delays in bringing any new space on line. Decisions to construct a building are made years before the building ever opens. Campus developers, therefore, are always at risk of building to old demand.”¹

¹ Sightlines, 2016 Annual Report on Higher Education

Another difference between the two plans is that the 2006 Plan was general in regard to architecture, while this 2017 Master Plan is specific by advocating for a return to the Trost Spanish Renaissance design.

Realistic enrollment projections, improved space utilization through a rigorous policy of “no new net space,” and a cohesive building appearance are the three major differences of the two plans. Several guiding principles then follow:

1. The current plan focuses on strategic renovations and/or new construction followed by demolition of the old facility. This approach is being used at Dan W. Williams Hall and with the agricultural facilities, and has the added impact of reducing deferred maintenance.
2. The 2006 Plan envisioned relocation of agricultural facilities; the 2017 Plan takes advantage of their historical significance.
3. Placemaking and amenities with areas such as McFie Circle will be a focus.
4. The 2017 Plan includes Arrowhead Park and Aggie Uptown updated development plans.
5. District changes include an Agriculture District 8 separate from Heritage Farm while Facilities and Services in the remains in the current location as a separate Facilities and Support District 10. In the 2013 Refresh, Facilities and Services was still shown moving east of the interstate. District re-numbering changes District 9 to West Campus/Heritage Farm, and District 11 becomes East Campus/Aggie Uptown.

Introduction

The **Introduction** provides background about the campuses, community colleges, and centers that comprise the NMSU System. The organizational structure and governance as it relates to facilities are detailed at a high level. The Introduction also discussed the differences between and changes from the 2006 Master Plan to the 2017 Master Plan.

Institutional Planning

The section on **Institutional Planning** is particularly important for a true understanding of how this 2017-2027 Master Plan was developed. *Vision 2020* is the current University Strategic Plan, and presently there is discussion about updating the name. This Master Plan is for the period of 2017-2027, which underscores the current efforts towards alignment of all institutional plans.

The physical master planning effort should and will support Vision 2020, as will all departmental, college, and community college plans.

Facilities and Services and Auxiliary Services, two of the largest administrative units, have built their subordinate plans around the institutional strategic plan for years; consequently, this Master Plan will recommend for adoption the following plans and studies as appendices: Utility Development; Housing; Transportation and Parking; Dining Services; Electric Infrastructure; Fire Alarm and Suppression; Water; Storm Drainage; Roofing; and Accessibility. In addition, Aggie Development Inc., and Arrowhead Research Park have also completed comprehensive master plans. Doña Ana Community College has an exemplary Master Plan.

Therefore, this 2017-2027 NMSU Master Plan strives to serve as the umbrella for the many subordinates plans by creating a unified document that becomes the vehicle for aligning all facility and physical plans with the Vision 2020.

Goals and Assumptions

No plan could function well or would be complete without guiding principles upon which the program is based. In this case, there are two major underlying drivers: (1) There is desire at all levels for a more consistent and cohesive campus appearance; and (2) Campus square footage will remain constant or be reduced over the planning horizon.

Campus Plans

There are two basic ways to approach a physical master plan: one is to paint a broad brush using regions and concepts, while the other is to address each facility individually. The 2006-2016 NMSU Master Plan divided the campus into nine regions, suggesting broad goals for each. As progress was made, the plan was updated annually by the NMSU Board of Regents.

The economic disruption of 2008-2009 short-circuited anticipated growth of NMSU; indeed, the City of Las Cruces and Doña Ana County also planned for growth that never materialized. The architects who prepared the 2006-2016 Master Plan returned to update their efforts with the 2013 Refresh, and commented that NMSU had made more progress on its plan than most other institutions they had developed, although most of the progress was in the first half of the decade.

As the outline for this 2017-2027 Master Plan was being prepared, the team's decision was to address major facilities individually, while modifying the previous regions for continuity. As a result, the regional concept is carried forward and specific building renovations are also considered.

Introduction

History

New Mexico was still a territory when Las Cruces College opened the doors of its two-room building in the fall of 1888. The organizers of Las Cruces College—led by Hiram Hadley, a respected educator from Indiana—had bigger plans in mind. In 1889, the New Mexico territorial legislature authorized the creation of an agricultural college and experiment station in the Las Cruces area. The institution, which was designated as the land-grant college for New Mexico under the Morrill Act, was named the New Mexico College of Agriculture and Mechanic Arts (NMA & MA).

Las Cruces College merged with NMA & MA, and the new school opened on January 21, 1890. That first semester, 35 students and six faculty members met in the two-room building of Las Cruces College until suitable buildings could be put on the 220-acre campus three miles south of Las Cruces.

By 1960, the school had grown greatly, and its name was changed by state constitutional amendment to New Mexico State University. Its growth since has been steady and impressive. In 2016, NMSU's Las Cruces campus enrolled 16,428 students from all 50 states and 71 nations. Regular faculty members numbered 694 and staff totaled 3,113. From humble beginnings, NMSU has emerged as a driving force in the state, region, and world, e.g. Agricultural Research.

The Land Grant Mission

NMSU's mission statement rests on its status as a land-grant institution: New Mexico State University is the state's land-grant university, serving the educational needs of New Mexico's diverse population through comprehensive programs of education, research, extension education, and public service. NMSU is committed to the education and advancement of its students, faculty, and staff, and of the constituents it serves across the state.

Architectural Origins

In 1907, the headline in Las Cruces' local newspaper announced, "New College to be Work of Art." Pioneer southwestern architect Henry C. Trost had been commissioned to design a plan for the fledgling NMA & MA, founded only 19 years earlier. The plan for what was to become NMSU included a horseshoe drive and 13 buildings that formed the school's centerpiece. The campus would have an east-west orientation and be open-ended in the west at its entrance. Buildings were to be constructed in what Trost called Spanish Renaissance architectural style, with hipped tile roofs and domed towers.

Although Trost's general layout for the University was followed for almost 30 years, it was never carried out in its entirety. Arches were planned to connect the buildings to form a complex resembling historic California missions, but this design component was never realized. Of the six Trost buildings designed and constructed on campus, only three remain: the former YMCA building, now the William B. Conroy Honors Center (1907), the Music Building (1911), and Young Hall (1928). While NMSU has strayed from Trost's original campus design, most of the campus retains a Southwestern flavor, and the Horseshoe continues to be the academic campus center, as Trost intended.

The Board of Regents, the Chancellor, and this 2017-2027 Master Plan all advocate a return to these origins; looking forward, building renovations will be consistent with the Spanish Renaissance Revival architectural style to provide a cohesive look to the campus.

NMSU System

The NMSU System provides learning opportunities to a diverse population of students and community members at five campuses, a satellite learning center in Albuquerque, cooperative extension offices in each of New Mexico's 33 counties, 12 research and science centers, and through distance education.

Community Colleges

The NMSU System consists of the Las Cruces Campus and four community colleges, with three campuses in Alamogordo, Grants, and Carlsbad. Doña Ana Community College (DACC) sits on 15 acres adjacent to the Las Cruces Campus, with another campus on the nearby Las Cruces East Mesa. DACC also has facilities in Anthony, Sunland Park, White Sands, and Chaparral.

Cooperative Extension

NMSU's Cooperative Extension Service provides practical, research-based knowledge throughout New Mexico and beyond. Extension staff members, working in all 33 counties and in tribal offices, deliver 4-H programs, conduct trainings, and share information about livestock, nutrition, horticulture, and many other topics.

Agricultural Experiment Station

A network of scientists conducting foundational and applied research to support agriculture, consumers, and the environment, Agricultural Experiment Stations operate throughout New Mexico. Since 1889, Agricultural Experiment Stations have contributed to economic development; sustainable use of natural resources; and safe, high-quality food and fiber for New Mexicans.

Agricultural Science Centers

Focusing on the needs of state and local communities, Agricultural Science Centers contribute knowledge reflecting New Mexico's specific environmental, economic, and cultural conditions. From crop production to forest biology, animal and range science, and homeowners' concerns, researchers at Agricultural Science Centers in each region of New Mexico study climates, soils, crops, and pests and provide recommendations tailored to local conditions. Facilities include:

- Leyendecker Plant Science Center (Las Cruces, NM)
- Fabian Garcia Research Center (Las Cruces, NM)
- Chihuahuan Desert Rangeland Research Center (Las Cruces, NM)
- Agricultural Science Center at Farmington, NM
- John T. Harrington Forestry Research Center at Mora, NM
- Clayton Livestock Research Center (Clayton, NM)
- Agricultural Science Center at Tucumcari, NM
- Agricultural Science Center at Clovis, NM
- Sustainable Agriculture Science Center at Alcalde, NM
- Agricultural Science Center at Los Lunas, NM
- Corona Range and Livestock Research Center (Corona, NM)
- Agricultural Science Center at Artesia, NM

Albuquerque Center

NMSU's Albuquerque Center is located on the campus of Central New Mexico University and offers a Masters of Social Work program while supporting New Mexico Education Designed to Generate Excellence in the Public Sector (NM EDGE), the Family & Child Welfare Training Project, and other partners. The Center's principal function is to coordinate between the facility and Las Cruces campus academic services, along with facility event management that serves thousands of guests annually. The Center's meeting, classroom, and office space provides a location more convenient to New Mexico's state capitol and to the Albuquerque International Sunport. Albuquerque's central location in the state makes it a natural hub for outreach into rural areas that lie beyond convenient access to Las Cruces.

Apache Point Observatory

The NMSU Astronomy Department operates the Apache Point Observatory for the Astrophysical Research Corporation, a collaborative partnership that includes NMSU, University of Washington, University of Chicago, the Institute of Advanced Study

(Princeton, NJ), Johns Hopkins University, Princeton University, and the University of Colorado at Boulder. Apache Point Observatory is in the Sacramento Mountains in southern New Mexico, and is home to four astronomical telescopes.

The 2017-2027 NMSU Master Plan strives to address all NMSU System components noted above.

Academics

NMSU is a Carnegie Higher Research Activity university comprised of eight colleges with over 100 degree choices.

College of Agricultural, Consumer and Environmental Sciences (ACES)

The tag line for ACES is “We Discover, Develop and Deliver Knowledge.” The College of ACES is an engine for economic and community development in New Mexico, improving the lives of New Mexicans through academic, research, and extension programs. ACES’ programs positively impact water usage and conservation, food and fiber production, environmental stewardship, and the health of New Mexicans. The college offers bachelor, Masters, and doctorate programs.

College of Arts and Sciences

The College of Arts and Sciences provides the core education that prepares students to be knowledgeable and responsible citizens of the world by conducting and promoting research, scholarship, creative endeavors and outreach to fulfill NMSU’s land-grant mission. The college includes 26 departments in the Sciences, Social Sciences, Fine Arts, and Humanities. The college is proud of its international reputation and leadership in scholarship and creative activities in a variety of fields, and its ability to provide interdisciplinary learning opportunities to its students.

College of Business

The College of Business offers majors in accounting, economics, finance, general business, information systems, international business, management, and marketing, including a PGA Golf Management program that is fully accredited and endorsed by the Professional Golfers Association of America.

College of Education

The College of Education is a national leader in educational leadership and teacher education with specializations in bilingual; multicultural; early childhood; science, technology, engineering, and mathematics (STEM); and special education. The college offers nationally accredited graduate training programs in speech-language pathology and mental health, and excellent undergraduate programs in kinesiology, dance, physical education, and athletic training.

College of Engineering

The College of Engineering offers degree programs in chemical and materials, civil, electrical and computer, industrial, mechanical and aerospace engineering; engineering physics; and engineering technology and survey engineering. Undergraduate engineering students have access to creative faculty members and graduate students who research and teach modern engineering problems and techniques in diverse areas including aerospace technology, information and security technology, bridge and infrastructure systems, water and energy, environment and waste management, computer engineering, and laser technology.

College of Health and Social Services

Dedicated to providing academic programs that address issues affecting the quality of life in a rapidly changing society, the College of Health and Social Services prepares graduates with the knowledge they need to make an impact in their communities. Available programs focus on improving the lives of individuals, families, and communities with majors in nursing, public health/community health education, and social work.

Honors College

NMSU's Honors College was the first of its kind in the state, and has provided highly talented students with challenging courses, a dedicated faculty, and enriching research experiences. With more than 3,500 Crimson Scholars on the Las Cruces campus, the Honors College serves a student body drawn from every department and creates a vibrant and diverse community that encourages the exchange of ideas.

Graduate School

The Graduate School promotes a high-quality learning environment that embraces diversity. NMSU is one of the few research extensive universities that reflect Hispanic, Native American, and other New Mexican cultures. Our international students from Latin American, Asian, African, and European countries add to the richness of our diversity.

Library

NMSU Library is one of two major academic research libraries in New Mexico. NMSU Library provides access to general and specialized collections as well as a broad range of information services to the entire NMSU System and beyond. We collaborate with other research libraries within the U.S. and globally. Collections and services are housed in Zuhl Library, which opened in 1992, and Branson Library, which opened in 1950. Combined, these libraries are open to the public 111 hours each week. Electronic access to services and e-resources is available 24 hours a day, seven days a week.

This physical Master Plan will support the initiatives of each of these colleges and the Library, as well as promoting collaboration through shared spaces.

Research

NMSU's Carnegie Classification is R2: Doctoral Universities – Higher Research Activity, with sponsored award expenditures totaling \$110,118,461 million in fiscal year 2016. Additionally, according to the most recently available statistics from the National Science Foundation, NMSU ranks fourth in research expenditures by Hispanic Serving Institutions. Although discovery occurs in many fields and disciplines at NMSU, several areas are research strengths:

- Animal and Range Science
- Biochemistry, Molecular Biology, and Genetics
- Computer Science and Electrical and Computer Engineering
- Energy and Biofuels
- Environment and Ecology
- Medical and Health Sciences
- Plant and Soil Sciences
- Space and Aerospace
- Water

Auxiliaries

Housing and Residential Life

NMSU Housing and Residential Life currently operates three residence halls, three apartment style communities, eight Greek/special interest houses, and 569 student family housing units. System capacity for unaccompanied students is 2,799 beds; fall 2015 occupancy was 81.8 percent, when adjusted for singles. Fall occupancy for student family housing was 66.5 percent. Seventeen percent of the Las Cruces campus population currently lives in campus housing.

Nearly all residence hall space is suite style, with a total 1,452 beds. Current residence halls are located in the central part of Las Cruces campus, in close proximity to the student union and dining facilities. The three apartment style communities have 1,093 beds and are comprised of 41 one-bedroom spaces, 808 two-bedroom spaces, and 244 four-bedroom spaces. All two- and four-bedroom apartments have full kitchen facilities.

Eight special interest facilities house six Greek chapters and two academically based programs, including ROTC. These spaces can house 24-32 residents and have a central lodge area and courtyard. Each of the eight houses includes a large kitchen and dining area. These facilities are anticipated to go offline in fall 2017.

Student family housing has 298 two-bedroom houses with private driveways and backyards, 199 two-bedroom town houses with private patios and shared parking lots, and 72 four-bedroom apartments. Family housing units have full kitchens and baths and are connected geographically to one another. Two complete playgrounds and a convenience store/laundry area are included within the community.

Student Union

Corbett Center Student Union is the center for student life on Las Cruces campus and is committed to providing the campus community and guests with exceptional services, programs, facilities, and resources. Built in 1968, the Union is the second-largest facility on Las Cruces campus, with 213,000 gross square feet. After an 8.3 million renovation was completed in 1996, and a 15 million renovation began in February 2014, Corbett Center Student Union is the place to dine, study, relax with friends, exercise, snail mail and e-mail, and utilize favorite portable electronic devices.

Transportation and Parking

NMSU's transportation and parking program is a self-supporting enterprise operation. All money collected from parking ventures is allocated to support parking. The program does not receive tax or tuition money, but uses the money it collects from permit sales, meter collection, student fees, and fines to pay for all costs. These costs include new construction, maintenance of existing facilities, signage, and enforcement.

Pan American Center

The Pan American Center, built in 1968 and renovated in 2006-2007, is one of the best arenas in the American Southwest. With 215,633 gross square feet seating 13,140, the Pan Am hosts athletic events, including Aggie basketball and volleyball, as well as some of the top entertainers in America. The renovation and expansion project added an annex building to the south end of the arena that features offices, practice facilities and locker rooms, and a conference room named for former Special Events director and community icon Barbara "Mother" Hubbard.

Golf Course

The NMSU Golf Course opened in 1962. This championship 18-hole course is open to the public year-round. The course measures 7,078 yards from the longest tees with a slope rating of 129 and a 72.7 United States Golf Association rating. NMSU's PGA Golf Management (GM™) program students use the facility for practice and play. This program is the third in the nation to be endorsed by the Professional Golfers Association of America (PGA), is accredited by PGA, and is administered by the College of Business. NMSU is one of the few PGA Golf Management universities to own a golf course.

Athletics

The NMSU Athletic program competes in 16 sports in the Western Athletic Conference and in football in the Sunbelt Conference through the 2018-19 season. Men's Intercollegiate Sports include baseball, basketball, cross country, football, golf, and tennis. Women's Intercollegiate Sports consist of basketball, cross country, equestrian, golf, soccer, softball, swimming & diving, tennis, track & field (indoor & outdoor), and volleyball. NMSU football will become independent in 2018, and current plans are to eliminate the equestrian program after the 2017 season.

Activity Center and Intramurals²

The 100,000-square foot James B. Delamater Activity Center houses Recreational Sports, which includes Intramural Sports, Outdoor Recreation, the Aquatic Center, and the Wellness Programs. The Activity Center houses a weight room, cardio room, four racquetball courts, a 12-foot bouldering wall, a 25-foot climbing wall, dance/aerobic studio, indoor cycling room, indoor running track, six basketball/volleyball courts, the Outdoor Resource Center, and the Intramural Fields.

New Mexico Department of Agriculture (NMDA)³

In a unique arrangement, the NMDA is housed on NMSU's Las Cruces campus. Within the Constitution of the State of New Mexico, the founders called for "a department of agriculture which shall be under the control of the board of regents of the college of agriculture and mechanic arts." NMDA's founders codified a relationship between the University and the then-yet-to-be agriculture department. The NMDA's mission is to promote food protection; the agricultural market place, marketing, and economic development; beneficial use of natural resources; and public-private agricultural endeavors.

Physical Science Laboratory (PSL)⁴

² <http://recsports.nmsu.edu/facilities/activity-center/>

³ <http://www.nmda.nmsu.edu/history/>

The Physical Science Laboratory (PSL) was founded in 1946 in response to the nation's space and rocket programs. PSL's initial work was data reduction for exploitation of German V2 rocket technology for the U.S. War Department. From there, PSL's growth in capability and talent has expanded into diverse technical, scientific, and operational support programs over the past seven decades to provide exceptional and award-winning support to numerous scientific and technical activities across the nation and around the globe. Currently focused around three major research foci of Information Sciences and Security Systems (ISSS), Telemetry & Missile Systems (TMS), and 21st Century Aerospace, PSL has conceived numerous initiatives that spotlight PSL and NMSU talented staff and faculty that will strengthen the regional economy. These include the modern electronic battlefield and related systems, unmanned aircraft systems (UAS) operation and flight test support for the FAA, homeland and cyber security efforts, educational outreach programs (STEM), and suborbital aerospace operational & test support services.

Carlsbad Environmental Monitoring Center (CEMRC)⁵

The Carlsbad Environmental Monitoring & Research Center is a division of the College of Engineering at New Mexico State University. This 26,000 gross square foot radiochemistry facility includes environmental and general radiochemistry laboratories, a special plutonium-uranium lab, an in vivo bioassay facility, mobile laboratories, computing operations and offices. The facility can perform a wide range of environmental and radiochemistry work, characterization, monitoring, and feasibility studies in support of performance assessment, radiological and environmental training and education, subsurface flow and transport experiments, nuclear energy issues, and issues involving Homeland Security. CEMRC has partnered with Los Alamos National Laboratory (LANL), Sandia National Laboratory (SNL), and Nuclear Waste Partnership, LLC (NWP) to create a unique facility with programs that include: environmental monitoring of almost any radiological and inorganic constituent.

Arrowhead Park

Arrowhead Park is a 175-acre master planned community for science and technology that showcases NMSU's commitment to economic development. This public-private partnership advances startup and existing businesses, job growth, and wealth creation by connecting the many resources of NMSU and the region in innovative partnerships through the provision of land, space, technology, services, and unique program offerings.

Enrollment and Employment

{CURRENT CHART WILL BE PLACED HERE}

⁴ <https://psl.nmsu.edu/>

⁵ <http://www.cemrc.org/>

NMSU System enrollment was 25,312 in 2016-2017. Faculty and staff numbered 1,062 and 2,519, respectively (correct FTE/headcount).

NMSU Organizational Components

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Board of Regents

The five members of the Board of Regents, one of whom is a student, are appointed by the Governor of New Mexico with the consent of the New Mexico Senate. Members generally hold five regular meetings each year, and are responsible for fiduciary oversight of the NMSU System as well for providing guidance through the establishment of policies and strategic goals.

Chancellor and Campus Presidents

The Chancellor is the chief executive officer of the NMSU System and vested with responsibility for its operation and management. The functional chief executive officers of each of the campuses in the NMSU System are the campus Presidents; each of these reports to the Chancellor. In 2013, Garrey E. Carruthers, Ph.D. became NMSU's 27th president and the first NMSU graduate to hold the office. He serves as Chancellor for the NMSU System and President of the Las Cruces campus.

Executive Vice President and Provost

The Executive Vice President and Provost is the deputy chief executive officer, with responsibility for managing the colleges and academic units and oversight of all educational affairs and activities, including research and academic personnel. Senior personnel reporting to the Provost include the Deans of the eight colleges; the Vice Presidents for Economic Development, for Research, and for Student Affairs and Enrollment Management; the Associate Provost for International and Border Programs; the Assistant Vice President for Institutional Analysis; a Chief of Staff; and the Associate Vice President and Deputy Provost.

Senior Vice President for Administration and Finance

The Senior Vice President for Administration and Finance (SVPAF) is responsible for ensuring leadership, oversight and stewardship for all aspects of business and financial affairs for the NMSU system. The SVPAF oversees an administrative organizational structure that includes all aspects of budget management and reporting, financial operations, business operations, stewardship of physical assets, information technology and communications, and facilities planning and management.

Vice President for Research

The Vice President for Research (VPR) is the chief advocate and facilitator for campus research activities and for programmatic excellence in research. The Office of the VPR serves the University with oversight and promotion of external research funding and associated regulations, needs and capabilities.

Vice President for Student Affairs and Enrollment Management

Student Affairs and Enrollment Management (SAEM) supports students at every stage in their academic journey, with services to help students get to NMSU, stay, thrive, and plan for their life after NMSU. The office oversees health and wellness programs including the Campus Health Center and Recreational Sports; student engagement; student life and the Dean of Students; University Financial Aid and Scholarship Services; and the University Registrar.

Management of Physical Facilities

NMSU's Facilities and Services consists of the Project Development and Engineering group that manages both capital construction and small projects across the NMSU System. Facilities Operations, which is organized in traditional shops, is responsible for the physical operation and maintenance of NMSU Las Cruces campus Instructional and General (I&G) buildings. Environmental Health and Safety is responsible for environmental compliance and the health and welfare of NMSU faculty, staff, and students at the five campuses of the NMSU System and its 12 Agricultural Science Centers.

The Facilities Administration unit provides oversight of business operations. The Sustainability and Environmental Policy Manager ensures that sustainable practices are incorporated into all activities. The University Architect oversees campus planning and the NMSU Master Plan. The NMSU Fire Department is a full-service fire department that provides fire suppression, emergency medical services, hazardous material response, and technical rescue response, as well as medical standbys for all athletic games, special events, and concerts. In July 2016, Facilities and Services was recognized with a national excellence in facilities management award.

Real Estate

NMSU lands holdings are categorized by Fee Ownership or outright full control, Ownership with Reversion Clause, and Bureau of Land Management (BLM) Lease with Option to Purchase. Acreage east of Interstate 25 acquired between 1990 and 1995 is an example of ownership with reversion clause, and the DACC East Mesa campus exists under a lease with option to purchase. The BLM desires that development be near completion before they transfer patent or ownership to such parcels.

Land Holdings

{CURRENT LAND HOLDINGS CHART WILL BE PLACED HERE}

The Regents of NMSU own and manage approximately 85,321 acres of real property across the state of New Mexico. Of these, 78,938 acres are tied up in the two largest land holdings: the Chihuahuan Desert Rangeland Research Center that consists of 60,800 acres in Doña Ana County and the Corona Range and Livestock Research Center, which encompasses 18,138 acres in Lincoln and Torrance counties.

State Trust Lands

There are 194,571 surface acres and 254,200 subsurface acres of State Trust Lands currently allocated to NMSU, although these are not associated with ownership and control, as the lands are owned and managed by the State Land Office. Thus, NMSU's Las Cruces campus is blessed with an abundance of real estate resources that exceed those needed for foreseeable academic and research needs, creating an asset available for other uses.

Office of Real Estate

The Office of Real Estate currently oversees and manages a portfolio of more than 350 active lease payables, lease receivables, rights of way, and easements with unique terms and conditions. This Master Plan anticipates use of the real estate holdings to generate additional revenue for NMSU. Approximately 15 years ago, the Regents approved the development and potential disposal of several specific parcels of land, and sales resulted in the following:

- Sale of the corner of Espina Street and University Avenue (now a successful commercial center).
- Sale of 20 acres south of Interstate 10 (now a residential development).
- Renegotiation of a lease for Memorial Medical Center, which ultimately transferred title to the underlying lands to the City of Las Cruces and Doña Ana County. This enabled competitive sale of 11 acres east of I-25 and south of University Avenue, which resulted in a successful commercial development.
- Sale of 12.68 acres of land on Wisconsin Avenue north of University Avenue for the private development of an upscale multi-family project. Proceeds of the sale are to be earmarked for East Campus infrastructure development and proposed golf course redevelopment.

Proceeds from sales were deposited in NMSU's land account and/or directed toward specific projects. For example, proceeds from the sale of the 11 acres noted above were used to offset costs associated with the construction of the new Golf Course Club House.

Attempts to seek long-term leases and public-private partnerships have been hampered by the need to work through the established procurement protocols of a public entity. The 2008 recession suppressed external capital and interest in development

activities. A challenge of real estate development activities at a university is the “eternal” nature of the institution. Such institutions view the impacts of development decisions over a long time frame and with knowledge that their actions will have significant impacts, both positive and negative, on the institution. This sometimes dampens enthusiasm for accepting risk associated with public-private partnership real estate development activities.

In 2013, NMSU accomplished a survey of its real estate operations by the Counselors of Real Estate (CRE). The CRE directed attention to several challenges and opportunities which the group felt would benefit NMSU. These are discussed throughout the 2017-2027 Master Plan.

Aggie Development Incorporated

Partially in response to the CRE report, NMSU chose to develop a new 501c (3) corporation. Aggie Development Inc. provides NMSU an important tool to use in appropriate situations to enhance its ability to generate new revenue streams from select properties. Aggie Development Inc. was created under the University Research Park and Economic Development Act and is tasked with real estate development, effective management of NMSU’s real estate and water assets, and the creation of new public-private partnerships to benefit the University and the surrounding community. All of the corporation’s net revenue will be contributed to the University.

Institutional Relationships

New Mexico Higher Education Department

The New Mexico Higher Education Department (NMHED) is responsible for the review and approval of public college and university Capital Projects. The NMHED is committed to the concept of responsible use of public funds for providing appropriate and relevant learning environments for New Mexico's students.

The Capital Projects Director (CPD) is responsible for the statutory management of all areas of capital projects for NMHED, including the Capital Projects Process and Evaluation of infrastructure and facilities for Institutions of Higher Education (IHE). The CPD develops and manages the policies, standards, database, strategic initiatives, and reports for NMHED information pertaining to the campuses of publicly funded state institutions. The CPD also manages the annual statewide capital outlay hearings leading to NMHED's funding recommendations for all IHEs and special schools. The Capital Projects Committee provides guidance, reviews, and approves appropriate funding of public higher education infrastructure and facilities. The CPD coordinates all work and outcomes of the Capital

Projects Committee, including monthly meetings for review and recommendation of projects for the IHE. This includes annual statewide capital outlay hearings leading to NMHED's funding recommendation for capital projects for the IHE and special schools.⁶

State Board of Finance

The Board of Finance Division provides operational, analytical, and administrative support to the State Board of Finance (SBOF) in accordance with statutory mandates. The SBOF has broad statutory responsibilities for general supervision of the fiscal affairs of the State, in addition to other regulatory and oversight functions. As this relates to NMSU, the SBOF approves capital projects depending upon dollar threshold and funding source.

*New Mexico State University Foundation, Inc.*⁷

The mission of the NMSU Foundation, Inc. is to foster personal and corporate philanthropy, to continually excel in its fundraising performance, to be a prudent and productive steward of its endowments, and to honor its profound fiduciary responsibility to its donors, all within its commitment to proudly serve and assist NMSU in becoming one of the nation's preeminent universities.

The Foundation is a separately incorporated, nonprofit organization developed solely for the benefit of NMSU. The Foundation is approved by the Internal Revenue Service as a charitable, tax-exempt organization and is registered with the New Mexico State Corporation Commission.

State Land Board

Each state contains land grants to support a variety of public institutions – principally, public schools. There are approximately 9 million surface acres and 13 million mineral acres of Trust Lands in New Mexico. Revenue generated from New Mexico's Trust lands are deposited into 21 trust accounts that provide support for their respective beneficiaries. Public schools are the designee of just over 73 percent of trust land in New Mexico and receive 83 percent of the revenue generated by state trust land in the state. In 2016, the share for the NMSU System was almost 4 million dollars.

Las Cruces Area Facilities

⁶ <http://www.hed.state.nm.us/institutions/cp.aspx>

⁷ <https://advancing.nmsu.edu/foundation/donors-foundation>

NMSU has multiple facilities in the Las Cruces area, including the Las Cruces campus; the Fabian Garcia Science Center; the Leyendecker Plant Science Center; and the Chihuahuan Desert Rangeland Research Center (also known as the College Ranch). DACC has campuses in Las Cruces, as well at other locations across the county.

*Las Cruces Campus*⁸

NMSU's 900-acre Las Cruces campus is located in Las Cruces, NM. Home to more than 15,000 enrolled students, the campus hosts a diverse population of learners and nearly 3,800 faculty and staff members supporting them. As a thriving center of higher education deeply rooted in the Southwestern tradition, its role as a comprehensive university is recognized throughout the state.

*Fabian Garcia Science Center*⁹

A component of NMSU since 1906, the FGSC was named for a professor of horticulture and first director of the State Agricultural Experiment Station in 1913. Currently, the FGSC houses the Chile Pepper Institute and research plots and greenhouses supporting alfalfa breeding and genetics, viticulture, cotton, horticulture, nematology, micro-plot, turf grass water management, a crop pest management program, and onion research. Gardens open to the public are a popular venue for community visitors.

*Leyendecker Plant Science Research Center*¹⁰

The LPSRC is a working farm consisting of 203 acres south of NMSU's Las Cruces campus. The LPSRC serves the needs of irrigated agriculture in southcentral and southwestern New Mexico with a variety of research initiatives. Current projects include cotton, chile, alfalfa, and onion plant breeding; precision farming; pecan research; and drip irrigation research.

*Chihuahuan Desert Rangeland Research Center*¹¹

The Chihuahuan Desert Rangeland Research Center (CDRRC; College Ranch) is a major source of arid lands research in the Department of Animal and Range Sciences, which is part of the College of ACES. Established in 1927 to conduct "educational, demonstrative, and experimental development with livestock, grazing methods, and range forage," the CDRRC is involved in areas of

⁸ <https://oia.nmsu.edu/files/2016/05/Factbook-2015-2.pdf>

⁹ <http://fabiangarciasc.nmsu.edu/history.html>

¹⁰ http://aces.nmsu.edu/directory/?staff_search_action=dept&criteria=86

¹¹ <http://chihuahuansc.nmsu.edu/>

study such as livestock grazing strategies, determining the influence of range conditions on wildlife populations, and assessing interactions between common plant species.

NMSU System Campuses and Community Colleges

NMSU declares that “the state is our campus,” and the system has a presence in every county in New Mexico.

NMSU Alamogordo

NMSU-A is a two-year community college campus dedicated to the concept of high-quality, cost-effective education that meets the needs of a diverse community. While some students continue to value the long-established core courses, others seek alternatives to the traditional liberal arts education. Every effort is being made at NMSU-A to keep programs and curricula flexible to accommodate varied and expanding community educational needs.

NMSU-A was established in 1958 with an initial enrollment of 278 students. Classes were held at night on the Alamogordo High School campus. The objective of this post-secondary educational venture was to serve the military and civilian personnel from Holloman Air Force Base, as well as students from the local non-military population. Over time, the number and the character of students’ objectives have grown. NMSU-A has evolved from offering only two-year traditional education courses to providing occupational/technical programs and courses for personal enrichment as well as selected bachelor degree completion programs through NMSU Distance Education.

NMSU Carlsbad

NMSU Carlsbad is a two-year branch community college independently accredited by the North Central Association. For 1998, 1999, and 2000, NMSU Carlsbad was the only two-year college in the state to be recognized consecutively by Quality New Mexico. NMSU Carlsbad has a population of approximately 2,000 students, 41 full-time faculty members, 63 part-time faculty members, and 72 full-time staff members.

NMSU Carlsbad offers a variety of quality educational opportunities. The college is the Eddy County provider of Adult Basic Education services. It offers developmental studies designed to provide students with basic skills needed to achieve academic success. Certificate programs of 30 to 36 credit hours are designed to provide the students with marketable and employable skills upon completion.

*Doña Ana Community College*¹²

DACC offers 39 degree programs and 14 certificate programs, recognizing the needs of local employers by preparing students poised to serve as high-quality employees. DACC also serves businesses through a Customized Training Program and a Small Business Development Center. DACC hosts several campuses and facilities throughout southern New Mexico, including a 15-acre Central Campus adjacent to NMSU's Las Cruces campus in Las Cruces, East Mesa Campus (Las Cruces), Gadsden Center (Anthony), Sunland Park Center (Sunland Park), Chaparral Learning Center (Chaparral), and Hatch Learning Center (Hatch).

NMSU Grants

NMSU Grants was established in 1968 through the cooperative efforts of NMSU and Grants Municipal Schools. During the first year, classes were held in the evening in public school facilities and were taught by qualified part-time instructors from the community. In August 1969, the college moved to its present site, previously home to the Grants Job Corps Center. From 1977-1978, a main building was constructed to house academic classrooms, a student lounge, the library, and faculty/administrative offices. The former Job Corp Vocational Building and gymnasium were also renovated at that time.

Today, NMSU Grants operates programs that embrace innovation and teaching and learning to promote a sustainable, prosperous community. The campus was home to nearly 1,000 students in the 2016-2017 academic year.

Agricultural Experiment Stations¹³

NMSU's Agricultural Experiment Station is the principal research unit of the College of ACES. All research faculty in the college have appointments in the Agricultural Experiment Station. The Agricultural Experiment Station is not a physical site, but rather a system of scientists who work on facilities on Las Cruces campus in Las Cruces and at 12 agricultural science and research centers located throughout the state. The Agricultural Experiment Station system also interacts with other University research units and various state and federal agencies to provide opportunities for research that will benefit the citizens of New Mexico.

Extension Offices

The Cooperative Extension Service provides the people of New Mexico with practical, research-based knowledge and programs to improve their quality of life. The base programs of the Cooperative Extension Service are:

¹² <https://dacc.nmsu.edu/aboutus/>

¹³ <http://aces.nmsu.edu/aes/offcampus.html>

- Agriculture and natural resources
- Consumer and family issues
- Youth development
- Community economic development

City of Las Cruces

The City of Las Cruces is the second largest city in New Mexico and is located in Doña Ana County, approximately 45 miles north of El Paso, Texas, and 225 miles south of Albuquerque. NMSU, agriculture, White Sands Missile Range, and manufacturing constitute the traditional economic base of Las Cruces. Population is increasing at a similar pace as the national average and is currently estimated at 1.2 percent per year. In 2015, Las Cruces was 294 on the list of the 300 largest cities in the United States. As of the 2010 census, the population was 97,618, and in 2015 the estimated population was 101,643.

History

The Las Cruces Convention and Visitors Bureau states:

There are multiple theories as to how Las Cruces got its name. One theory suggests that sometime during the 18th Century, a bishop, a priest, a Mexican Army colonel, a captain, four trappers and four choir boys were attacked near the Rio Grande and only one – a boy – survived. Crosses were erected in their honor, and the name, El Pueblo del Jardin de Las Cruces, (the City of the Garden of Crosses,) evolved. Other stories say multiple crosses were erected in the area to mark the grave sites of the many victims of Apache raids. Still another story is that a group of 40 travelers from Taos, NM were killed just as they reached Las Cruces. But some people feel that the name is simply the Spanish translation for “crossing” or “crossroads.”¹⁴

Doña Ana County

Established in 1852, Doña Ana County is the second-most populated of the 33 counties in New Mexico. Las Cruces is the county seat. Doña Ana County borders West Texas and the Mexican state of Chihuahua to the south. As of the 2010 census, the population was 209,233.

¹⁴ <http://www.lascrucescvb.org/contact-us/las-cruces-history/>

Institutional Planning

Vision 2020¹⁵

Strategic Planning and Performance Management

NMSU's Board of Regents adopted the most recent version of *Vision 2020* on July 21, 2015. In the spring of 2015, Chancellor Garrey Carruthers and Provost Dan Howard conducted Vision 2020 Strategic Planning Forums with each college, community college, and administrative division. With feedback from all sectors, *Vision 2020* was enhanced, and is now inclusive of the NMSU System's four community colleges. NMSU engaged the Board of Regents in dialogue during the annual summer strategic planning session. Encouraged by the Board, NMSU has defined target performance levels for each key performance indicator in the plan.

Vision 2020's Goals

1. Academics and Graduation – Provide stellar programs, instruction, and services to achieve timely graduation
2. Diversity and Internationalization – Provide a diverse academic environment supportive of a global society
3. Research and Creative Activity – Promote discovery, encourage innovation, and inspire creative achievement
4. Economic Development and Community Engagement – Drive economic, social, educational, and community development
5. Resource Stewardship – Optimize resources to effectively support teaching, research, and service

2006-2016 Master Plan and 2013 Refresh

The 2006-2016 Master Plan sorted the Las Cruces campus into districts to guide development; the 2013 Master Plan Refresh adjusted these districts. In addition, the 2006-2016 Master Plan contained sections for each of the community colleges. DACC has developed its own Facility Master Plan that aligns with this plan.

Campus Regions

As listed in the 2006-2016 Master Plan, planning districts included:

- District 1- University Avenue
- District 2- Existing Housing
- District 3- New Housing

¹⁵ <https://plan.nmsu.edu/>

- District 4- Academic
- District 5- Academic/Research
- District 6- Arrowhead Park
- District 7- Athletic
- District 8- West Campus
- District 9- East Campus

The 2013 Refresh:

- Reinforced the Heritage Farm concept
- Left Housing in District 5, instead of converting this area to a research district
- Updated the Baseball Complex in its current location
- Recommended leaving District 3 “as is” with Athletics while finding a new home for Greek Housing
- Expanded McFie Circle
- Contemplated a new arena, Rentfrow Expansion, and a new Fire Department
- Outlined boundaries along University Avenue for potential development
- Added Family Housing in the current Facilities and Services (FS) location, moving FS east of Interstate 25
- Considered emergency/delivery/access paths around the campus core areas

Emergency Planning

Emergency Planning is coordinated by the NMSU Emergency Planning Committee, which exists to study, recommend, and implement coordinated emergency preparedness and response activities for the NMSU System. The committee will plan and coordinate for potential emergent conditions brought on by both natural and man-made situations that potentially place university system personnel or assets in harm’s way. Such incidents consist of, but are not limited to weather, fire, criminal acts, and hazardous materials.

As related to the Master Plan, the Emergency Planning Committee primarily deals with flooding and fire protection.

Capital Planning Process

NMSU’s University Architect and the Associate Vice President for Facilities and Services arrange an annual meeting with the Deans of the Colleges to review capital outlay requests for the year, during which the individual colleges and departments communicate their

goals, concerns, and needs. The NMSU system capital outlay process is a formal process that begins with the Deans and Vice Presidents and includes the President's Academic Committee to ensure alignment with *Vision 2020*. This process then proceeds through approvals by the Board of Regents and the NMHED.

Maintenance Planning (BRR)

The NMSU System receives an annual allocation for capital renewal. A BRR task force was formed in 2014 and met every other week for 12 months to develop a five-year BRR Plan for the Las Cruces campus. A number of reports were commissioned in the development of this plan: Roof Assessment by Building Technology Associates (BTA) ThyssenKrupp Elevator Assessment; AON Fire Protection and Life Safety System Assessments; Bohannon Huston Site Electrical Infrastructure Master Plan; GLHN Utility Development Plan; Accessibility Survey of Campus Buildings; NMSU Data Center Planning Report; Las Cruces campus Drainage Study; Structural Integrity Study for the NMSU Utility Tunnel; Chemistry and Biochemistry Exhaust System Study; and the Water Master Plan. The BRR Plan was created with input from staff in Facility Operations, Project Development and Engineering, Environmental Health and Safety, the NMSU Fire Department, the University Architect, and the University Engineer. These plans, which provide an objective assessment to prioritize work, are listed online in the Facilities and Services Library.¹⁶

This plan was an improvement from a previous methodology and allocates approximately \$700,000 more in BRR towards needed infrastructure and maintenance, as well as improving the tracking of improvements that have been accomplished. The single most significant process improvement is that the coordinated and integrated planning allows for work consolidation on various systems. For example, the fire alarm and elevators in a building may be upgraded simultaneously, thus saving approximately 10 percent on renovation costs.

Sustainability Planning

NMSU's sustainability focus has advanced since 2007 when President Michael Martin signed the American College and University Presidents' Climate Commitment (ACUPCC), and 2009 when interim President Waded Cruzado signed the Talloires Declaration. With the development of the NMSU Climate Action Plan in 2009, the Sustainability Council was established and in 2011, the Manager of Environmental Policy and Sustainability position was created in Facilities and Services.

NMSU Sustainable Design Guidelines

NMSU has instituted a set of guidelines to foster its continued development as an environmentally and socially responsible institution:

¹⁶ <https://facilities.nmsu.edu/library/>

- Sustainability is integral to the design philosophy
- Innovation and creativity are key to achieve sustainability objectives
- Follow goals of the Climate Leadership Commitment (ACUPCC)
- Design buildings in a climate-responsive manner; minimize building size and footprint to reduce resource consumption
- Plan for “100-Year Buildings” and design for flexibility of use using current classroom technology, long-lived interior and exterior materials
- Incorporate solar and renewable energy systems
- Use site design to create a “Sense of Place” appropriate to our Chihuahuan desert climate
- Maximize use of captured water (rainwater and graywater)
- Sustainable purchasing (i.e., materials sourcing, care and repair, upcycling, and end of use programs)

This Master Plan will incorporate the Office of Sustainability’s Initiatives when possible:

- Relationships
- Energy reduction
- Waste reduction
- Water conservation
- Climate change resilience
- Food and health
- Green buildings
- Materials
- Transportation
- Social justice

NMSU Physical Planning Committees

Three committees handle recommendations for approval to the Chancellor for the physical appearance of the campus.

Campus Planning Committee

The Campus Planning Committee (CPC) was established by the Chancellor as an advisory group to review proposed projects that impact the visual and physical appearance of Las Cruces campus and to offer commentary on all system architecture and signage. The CPC is also NMSU’s heritage and historic preservation committee and reviews all issues related to historic preservation and

implementation of the Heritage Preservation Plan. The CPC also hears appeals to the Wayfinding/Signage policy. The CPC is chaired by the University Architect.

Space and Classroom Committee

The University Space Committee, which is co-chaired by representatives for the Office of the Provost and Executive Vice President/University Architect from Facilities and Services, approves all allocations of University space. Assignments are made after careful consideration of all relevant factors and consultation with the units involved.

The Space Committee is a University Board whose actions include:

- Reviewing annual space utilization statistics (All space classifications are defined by the Postsecondary Education Facilities Inventory and Classification Manual)
- Analyzing space utilization and establishing standards for all space categories
- Providing oversight and making recommendations to the Chancellor on specific space change requests
- Assisting in the development of systematic long range plans to prioritize and implement facility renovations, upgrades, and technology improvements
- Consulting with various constituents regarding space allocations (e.g., Facilities and Services custodial and maintenance staff, Facilities and Services Project Development departmental staff, students, and faculty, as appropriate)
- Consulting with the CPC, the President's Academic Council and/or University Budget Committee as needed

Student Technology Advisory Committee

The STAC is a collaboration of students from all colleges at NMSU's Las Cruces campus. The group's focus is to help drive technology initiatives across campus, primarily through the campus-wide Student Technology Fee, and projects supported by fee funds. Students serving on this committee help formulate new ideas, propose new projects, assist in project details, and are the primary go-to group for ICT when student feedback is needed for improving current services. The group's primary task is to ensure students voices are heard and are represented on all issues related to technology.

Auxiliary Services

Housing and Residential Living

NMSU recognizes the important role student housing plays in meeting institutional goals and enhancing campus life. To help achieve enrollment goals and address other student recruitment and retention priorities, NMSU will use housing facilities as strategic assets to develop a comprehensive campus community to improve student satisfaction. In March 2008, NMSU engaged Brailsford and

Dunlavey (B&D) to update the 2002 Student Housing Master Plan for Las Cruces campus. The goal of the master planning process was to develop a long-term strategic plan to improve NMSU's aging housing stock through targeted renovation and new construction. The first priority identified was the completion of Phase II of Chamisa Village, finished in 2012. The second was the demolition and replacement of Monagle Hall, which has also been completed. Planning for a replacement hall is underway.

In 2013, NMSU employed the Counselors of Real Estate (CRE) to provide an analysis of the highest and best uses of real estate. While not specifically a subject of the report, CRE made several suggestions related to improving the residential experience and recommended a first-year residency requirement. In late summer 2015, the Residential Student Success Initiative (RSSI) was formed to work collaboratively with campus partners to align the on-campus living experience with *Vision 2020* in building connections and support academic success outside the classroom. The committee was focused on the first-year experience and evaluation of processes for administering a first-year residency program. RSSI provided recommendations to enhance the living experience to help first-year students successfully transition into the academic, social, and personal demands of college.

In fall 2015, NMSU again contracted with B&D to complete an update to the 2009 Student Housing Master Plan, assess demand for on-campus housing, and establish a vision for the housing system. Input from campus administrators, University community members, off-campus market factors, and the student body were critical. Strategic visioning identified first- and second-year student housing as NMSU's priorities to support the development of new or improved housing communities. The communities will include space to integrate academics and housing. This will create an extension of the learning environment to support first- and second-year student recruitment and retention, connecting housing to *Vision 2020* and academic programs.

Dining Services

In 2011, NMSU commissioned ENVISION STRATEGIES to prepare a Dining Services Master Plan. The result was a strategic plan that evaluated facilities, programs, and services and compared identified customer needs to best practice standards. The plan identified capital and operational strategies to satisfy identified demand and developed recommendations to align the dining program with other strategic planning initiatives, such as the Campus Master Plan, Housing Master Plan, and Corbett Center Student Union Assessment Study. The plan was also intended to assist Auxiliary Services in optimizing operating efficiencies and financial performance. This study was used to guide renovations at the Corbett Center Student Union.

Transportation and Parking

NMSU's transportation and parking program is a self-supporting enterprise operation. The program does not receive taxes, student fees, or tuition funds. Money collected from permit sales, meter collection, and fines are allocated to support parking department

costs. These costs include new construction, maintenance of existing facilities, signage, and enforcement. The campus shuttle service is funded entirely by an allocation of student fees and operated by the City of Las Cruces via contract with NMSU.

In 2011, Auxiliary Services commissioned a Master Plan for Transportation and Parking Services, intended to provide a comprehensive guide to best serve the transportation needs of the University community while considering the overall goals of the institution. The analysis reviewed the operation of the campus shuttle system and use of NMSU fleet vehicles, the capability of the parking system to meet on-campus parking requirements of each constituent group, and how existing roadways and transportation infrastructure mitigated pedestrian/vehicle conflicts. The plan provided recommendations to alleviate deficiencies in any transportation and parking components while maintaining NMSU's goal to continue to be a preeminent educational and research institution for the State of New Mexico.

Funding challenges have hampered full implementation of this plan, and the NMSU community has been resistant to the goal of moving parking to the perimeter of campus, which has been exacerbated by the limitations of the campus shuttle system. NMSU has sufficient parking capacity to meet its current campus needs; however, efforts continue to work toward the goal of moving parking to the perimeter of campus.

Currently, the New Mexico Department of Transportation has plans to widen Triviz Drive at the east end of campus. This project will greatly alter campus entrances, and the traffic consultants who worked on the 2011 plan have been engaged to assist with planning. Because the Triviz Drive construction will advance NMSU's transportation connections with the City of Las Cruces, the goals of this planning are to reinvigorate the Transportation and Parking Master Plan and to continue efforts to clearly define the NMSU borders with signage that supports its marketing and branding.

Athletics

Athletics is guided by several advisory committees that assist the Athletic Director. In 2016, a request for proposal for Athletic Master Planning was issued and awarded to a design team consisting of the global design firm HOK and Studio D Architects.

Recreation and Intramurals

In 2014, the architectural firm of Van H. Gilbert was commissioned to develop a planning document for the NMSU Activity and Aquatic Center. This document was to be used to develop documents for bond issuance that could be used to finance the project. Currently, this project is on hold.

Planning Partners - City of Las Cruces/Doña Ana County

The University works as a partner with the City of Las Cruces and Doña Ana County for planning future growth and development. The University Architect's Office and the NMSU Office of Real Estate participate in City Council and Planning and Development meetings. The University Architect is member of the University District Citizen's Design Review Committee, which evaluates and responds to development projects planned for the University Avenue corridor. Collaboration occurs through group meetings, community outreach, and key development discussions related to planning, community development, buildings, and utilities.

Goals and Assumptions

Physical Planning Goals and Objectives

The guiding principles of this Master Plan were developed in consultation with various constituencies that make up the NMSU community and were revised as the plan was developed.

Space and Transforming NMSU into a 21st Century University

NMSU has sufficient square footage to meet the goals set by *Vision 2020* and will right-size and align space in much the same manner as the process for *Transforming NMSU into a 21st Century University*. The overarching objective of this Master Plan will be to effectively administer classroom, research, and administrative space; facilities; and technology with the assistance of electronic room scheduling. Each College and unit shall be encouraged to address programmatic space needs in their respective strategic plans.

Academics

Efficient use of space will be used to enhance investments in new pedagogies such as active learning classrooms.

Architecture

Modifications and additions to campus buildings will support the predominant style, Spanish Renaissance, which is typically represented with red tile roofs and dome or tower elements suited to the Southwest's arid climate.

Preservation

Historically significant structures and landscapes must be acknowledged to promote appreciation, understanding, and respect. The viewshed corridor extending from the original College Drive gateway at the west end of campus (The Pike), through the center of The Horseshoe, to "A" (Tortugas) Mountain will be preserved and strengthened.

Asset Development

NMSU shall develop its many assets and resource holdings by leveraging public-private partnerships and identifying highest and best use for system landholdings. This Master Plan will support NMSU's responsible management and development of designated real estate and water rights in a reasonable manner and maximize the University's return from these assets.

Engagement

Carnegie Foundation Community Engagement Classification and Association of Public and Land-grant Universities Innovation and Economic Prosperity University designations will be maintained. This Master Plan will enhance and promote community engagement activities with inviting public facilities, such as parks and fields. Student engagement, achievement, and retention will be advanced through the establishment of technology-enhanced spaces that combine state-of-the-art technologies with innovative building design.

Research Collaboration

Strategic research partnerships with regional, national, and international institutions, governments, laboratories, and industries will be promoted by offering shared physical and logistical work spaces.

Accessibility

A safe environment with welcoming, Americans with Disabilities Act (ADA)-compliant routes of travel, inclusive facilities with shade and seating, and informal gathering places along pedestrian pathways will be a priority. Physical facilities will be constructed and renovated with consideration for equal opportunity and inclusion for all people regardless of race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information.

Placemaking

NMSU will preserve and enhance existing open spaces. The placemaking process will capitalize on the abundance of University land through the creation of exterior spaces for a variety of uses including informal meetings and gatherings, as well as passive recreation and outdoor classrooms. The process transforms low-use, low-appeal areas through a unified vision that focuses on intrinsic beauty, sustainability, mobility, safety, and economic viability by reimagining everyday spaces for a greater connection with place.

Transportation/Parking

Parking will shift to the perimeter of the campus. Eliminated parking spaces will be replaced by planned new spaces. The visual appearance of surface parking will be enhanced by designing functional parking on campus. As parking moves outside the academic core, the Aggie Shuttle will serve peripheral parking lots, as well as point-to-point service, with increased routes.

Housing and Student Amenities

Campus housing will be accommodating for first-year, upperclassmen, graduate students, families, and Greek life. Planning will consider strategic demolition of aging buildings, enhancing housing with historical value, renovating some facilities, and constructing key new buildings. Amenities and services will be combined with dining, sustainability, and entertainment (such as maker spaces) for recruitment and retention.

Environment

Landscape designs that minimize environmental impacts, enhance the natural beauty of local environment, and provide areas for social interaction and instruction will be employed.

University Avenue Corridor Development

In collaboration with the City of Las Cruces, NMSU will promote a mixed-use district that provides a suitable and desirable urban corridor along University Avenue. Campus identity on University Avenue presents an opportunity to reinforce the urban edge, introduce a landscape parkway, establish an enhanced pedestrian experience, and encourage development on the community side of University Avenue. University Avenue serves as a front door to the campus for visitors and this Master Plan will establish a sense of arrival and reinforce the identity of NMSU.

Las Cruces Campus Planning Framework

District 1 - University Avenue

University Avenue establishes the northern boundary of the campus. The 2006-2016 Master Plan envisioned University Avenue as a rich pedestrian environment where the City of Las Cruces and NMSU would work together to encourage mixed use development that serves faculty, staff, and student needs. This initiative will be carried forward. Since the 2006-2016 Plan, the City of Las Cruces has constructed a Convention Center, and plans for an adjacent hotel are well underway. This pairing of these complementary sites will enhance the vitality of this district.

District 2 - Existing Housing

The 2006-2016 Plan proposed that new graduate housing would be located along the south side of University Avenue at Jordan Street; this recommendation was abandoned. Monagle Hall has been demolished and Chamisa II was constructed on the remainder of the current Alumni Dorms site. This district will remain focused on housing and be invigorated, with emphasis on the first-year experience.

District 3 - Existing Academic/Athletics

The 2006-2016 Plan could not foresee a \$1.5 million-dollar donation to the baseball stadium, nor the gift that led to the creation of Sisbarro Park and the new walking track. Existing track facilities could eventually be relocated, as was recommended in the 2006-2016 Plan. Support facilities could similarly be relocated to the eastern area of campus. Existing astronomical observatories will remain.

District 4 - Academic Core

The 2006-2016 Plan recognized the existing Academic Core District of campus and proposed several infill opportunities and potential selective demolition of buildings or the removal of small parking lots. The Associated Students of NMSU (ASNMSU) Center for the Arts was constructed, and voters approved the 2016 General Obligation Bond that will fund the new Art Department and University Art Gallery Building.

District 5 - Family Housing

Existing family housing remains in the area south of Stewart Street. This zone will require strategic removals of older family housing groups and renovation of the more desirable Sutherland Village. This area remains within a comfortable walking distance to the core of campus, provides excellent visibility from I-10, and creates both visual and practical links between Arrowhead Park and the campus.

District 6 - Arrowhead Park

The 2006-2016 Plan recommended that the 272-acre park be fully developed, and this recommendation will be carried forward. The 2016 Arrowhead Park Master Plan will be used to guide this development.

District 7 – Athletics

Athletics has engaged an architect to assist with master planning. Enhanced efforts to attract donors will be a priority.

District 8 – Agriculture District

The future redevelopment of the agricultural education facilities is located within the southwestern quadrant of the main campus. The future development opportunities in this area will celebrate the Aggie heritage at NMSU, will retain an architectural vernacular, and bring the preferred architectural style from the academic core in order to link with the broader campus.

District 9 - West Campus and Heritage Farm

The western end of campus has historically been identified with NMSU's agricultural heritage. This Master Plan celebrates this heritage, setting aside a portion of the current cultivated land as a heritage landscape to be used for cultivation and pasture, with well-maintained and appropriate fencing at the road edges.

District 10 – Facilities and Support

This district includes Facilities and Services, along with critical university support, the Fire Department, Warehouse/Storage and Environmental Health & Services, and places these service functions on the outside of the campus core but still in close proximity to respond in an emergency.

District 11 - East Campus/Aggie Uptown

This Master Plan recognizes significant long-term growth opportunities on the east campus. The 2016 Aggie Development Inc. Development Plan will be used to provide direction to this activity.

Community Colleges

The premise of no new net space will carry over to NMSU's community colleges. Emphasis will be on more efficient use of existing spaces, strategic renovations, and addressing deferred maintenance. NMSU Carlsbad is evaluating the possibility of adding an Early College High School, and DACC is contemplating several strategic moves, including the transfer of the Hatch Campus to its local school district.

Remote Sites

Funding and deferred maintenance at remote sites continue to be problematic and challenging. Several assessments were completed on remote sites, and these will be used to foster efforts to maximize the use of funds.

Las Cruces Campus

Existing Conditions

NMSU's Las Cruces campus is located at the southern boundary of Las Cruces at the intersection of Interstates 10 and 25, two of the most important highways in the western United States. Separated by I-25, the campus consists of 900 acres to the west of the route with an additional 2,500 acres to the east. The west campus contains the primary academic, residence life, and sports facilities; the east campus is predominantly an open space reserve, but is home to the NMSU Golf Course and clubhouse, the New Mexico Farm and Ranch Heritage Museum, rodeo facilities, and the Las Cruces Campus President's residence.

The campus provides 92 baccalaureate degree programs, 57 master's degree programs, and 31 doctoral programs. *Vision 2020* has a growth target of 18,000 students on Las Cruces campus, with the goal of maintaining this enrollment and growing its graduate student population.

Surrounding Land Use

The Las Cruces campus is affectionately defined by the area "within the triangle." The north edge of the triangle is the north side of University Avenue, consisting of residential and commercial development. The City of Las Cruces developed a University District Plan in 2010. Development goals for the University Avenue Corridor for NMSU aim to reinforce the urban edge and campus identity; provide a pedestrian/bicycle friendly environment; and encourage mixed use commercial buildings with residences above the ground floor. The City has deployed zoning restrictions to permit uses and standards that would support development for the north side of University Avenue by defining building height, setbacks, maximum ground floor area, parking at the rear or side of buildings, and building massing in the current zoning ordinance.

The triangle boundary to the east is I-25. Excluding the NMSU Golf Course, clubhouse, and the President's Residence, land use to the east of I-25 is zoned as single family residential. The triangle boundary to the west is I-10. Areas to the west of the interstate are a mix of single and multi-family residential, limited commercial, and private school buildings.

Transportation and Access

Automobile traffic is the predominant mode of transportation along University Avenue with access points to the frontage roads Triviz Drive and Sam Steel Way. Transit movement by local public transportation is a small percentage of the activity. The major access points to the University are from University Avenue with nine intersecting streets and 12 points of access. Entrances are from

the frontage roads: three access points from Triviz Drive and five from Sam Steel Way. Bicycle activity within campus varies. Bike lanes are provided along University Avenue, Espina Street, and Stewart Street.

Pedestrian access will be improved with additional sidewalks around the perimeter of the campus will make pedestrian travel safer. Foot traffic around the residential and academic core, along with the pedestrian malls for pedestrian movement around campus, is good. There are areas of conflict along pedestrian pathways, mostly entering and exiting parking lots. The University has been involved in city planning efforts and will be working to connect to surrounding multi-use trails whenever possible. This effort will improve transportation to and from the campus.

Site Characteristics

Opportunities and Constraints

Opportunities for land development within Las Cruces campus are extraordinary and unique. In the next decade, NMSU will potentially be developing or undertaking:

- Construction of a new Department of Art and University Art Gallery Building and University Hotel on University Avenue.
- Renovation of historic Rhodes-Garrett-Hamiel Complex and family houses and adding a new residence hall and apartment buildings, for a total of 2,000 new or renovated beds.
- Reestablishment of McFie Circle as a pedestrian open space in the center of academic core.
- Removal of a section of older, under-contributing family housing to right-size the residential options.
- Construction of additional buildings in Arrowhead Park.
- Redefinition of the Agriculture Educational Facilities with an architectural vernacular to celebrate Aggie heritage.
- Transformation of the historical entry to campus along College Drive to celebrate the history of the agricultural roots and founding of the institution, while acknowledging the importance of agriculture and engaging the community and other local resources.
- Development of alternate revenue streams for the University with Aggie Uptown, which will bring commercial, medical and residential spaces together around a pedestrian plaza adjacent to a renovated and extended NMSU Golf Course designed by a leader in golf course architecture.

Constraints include funding opportunities available to the institution with declining enrollment. Funding comes from various sources, including federal funding, state appropriations, auxiliary funding, and private donations. By far, the largest is state funding. The state General Obligation (GO) Bonds have been averaging \$22-25 million per GO Bond year. The 2016 GO Bond was approved

by voters in November 2016 to fund \$22.5 million for the New Department of Art and University Art Gallery Building. There will be five additional GO Bond years in the next decade. NMSU maintains a Five-Year Facilities Plan as part of the Capital Projects process. Priority is based on programmatic needs, goals and objectives of individual colleges, and system-wide guiding principles. Considering that each five-year plan has two projects, then the plan essentially is the foundation for the decade. Any disruption to this cycle would create a significant burden to the execution of this plan; if, for example, if a bond issue was not passed by the voters, as occurred in 2010. NMSU is actively pursuing alternate revenue sources from public-private partnerships, ground leases for development, and when practical, the sale of land that is not critical to support the University's goals.

Open Space and Landscape

The New Mexico Higher Education Department has challenged each institution of higher learning to focus on efficient use of space and has stressed a “no new net square footage” policy. As a result, exterior spaces around campus and areas between buildings will become even more important resources for NMSU to develop. This idea is commonly referred to as “placemaking.” Placemaking emphasizes the creation of useful public spaces to support the institution and community at large. NMSU will be targeting key locations, starting with McFie Circle, to enrich the experience of students, faculty, and staff.

Placemaking is a process and philosophy that will allow the University to capitalize on open spaces to create meaningful places. The climate of Las Cruces, as with much of New Mexico, makes land resources extremely valuable as outdoor rooms. Placemaking requires vision, creates destinations, and enhances experiences with collaboration and site-specific transformation.

Maximizing the potential of captivating landscape views and principles, a sustainable approach to landscape will be utilized for the campus open spaces. Emphasis will be placed on forming gathering spaces, maintaining athletic fields, and moving towards a more pedestrian-oriented community. Courtyards, circulation, and identifiable edges will result in a greater sense of place and branding for the University. Entrance gateways will be studied and improved, stronger residential quads and connectors will be established, and plantings and signage will be critical in the transition and transformation of outdoor spaces.

Building Age and Condition

The physical space is an important component of the learning experience. Evidence suggests that elements of the physical environment – safety, indoor air quality, lighting, temperature, communication, and information systems – all have an impact on educational performance, recruitment, and retention. Proper planning will improve the learning environment, allowing educators to focus on student learning and teaching techniques.

There are several ways to calculate average campus age. The association of higher education facilities professionals, APPA, simply calculates an average. Sightlines, a third-party benchmarking firm, adjusts for what they term “renovation age.” No matter how it is calculated, the buildings of NMSU are old and aging when compared to peer institutions. Deferred maintenance is problematic.

The use of a Facility Condition Index (FCI) as an indicator of the physical conditions of buildings is the preferred methodology in determining optimal distribution of capital funds for renovations and new construction. The state established an initiative in 2006 to utilize an FCI to provide a benchmark with which to compare the relative condition of college facilities and created a database to track this information through a pilot program in which NMSU was one of five institutions to participate. NMSU updated this report and has employed Assetworks Assessment and Needs Analysis (ANA) to help manage this effort.

NMSU is committed to continuous improvement of the physical learning environment and experience. There are several components that are evaluated as part of this process, including space utilization, full time student enrollment trends, timeline for project completion, funding from other sources, “Green Screen,” safety, and programmatic use.

Space Inventory

The condition and quality of buildings varies greatly across the campus. A great deal of campus space was constructed during the 1960s and 1970s, a time when enrollments were increasing rapidly and building space was in great demand. Consequently, many buildings constructed during that time were built at lower costs and have shorter life spans. Repairing and renovating existing obsolete space is a high priority for the University. This chart is from the 2015 Sightlines report:

{CURRENT BUILDING AGE CHART INSERTED HERE}

Historical Preservation

In 2005, The Getty Foundation awarded NMSU a Campus Heritage Grant to support a comprehensive survey of historic buildings and landscapes and to develop historic preservation policies and guidelines to direct future conservation work and maintenance activities. According to the Getty Foundation website, these grants are designed to help colleges and universities “make plans to care for, maintain, and preserve their important historic resources.” The New Mexico State Heritage Preservation Plan was prepared by Van Citters: Historic Preservation, LLC. The goal of the NMSU Heritage Preservation Plan was to identify and discuss the historically significant buildings, structures, landscapes, and objects located on Las Cruces campus that contribute to architectural and cultural heritage of the University. In addition, the Preservation Plan was intended to supplement NMSU’s 2006-2016 Master Plan and work in concert with the overall goals of that plan. Ten years later, the Heritage Preservation Plan is an even more

important component of the 2017-2027 Master Plan. The NMSU Board of Regents has formally adopted the Heritage Preservation Plan.

NMSU has a distinguished architectural history centering on well-known regional architect Henry C. Trost. His influence on campus design and planning is still evident some 100 years after its initial implementation. Subsequent campus building styles have reflected updates on Trost's original ideas, which have in turn been influenced by more modern designs but yet continue to be regionally inspired. The University's agricultural heritage has played an important role in shaping campus planning. The close proximity of traditional academic facilities with those specifically designed to meet the agricultural curriculum has resulted in a unique campus layout that is still visible today. Overall, NMSU has done an excellent job of maintaining its campus heritage while still accommodating tremendous growth, particularly during the last 50 years. This is reflected in the number of historic buildings.

The Heritage Preservation Plan identifies four historic districts with contributing buildings and structures: The Academic Historic District, the West Side Farm Historic District, the Animal Sciences Historic District, and the Sutherland-Tom Fort Historic District.

In addition, the plan discusses significant cultural landscapes and places that contribute to the campus heritage. The historic districts and individual historic properties have been defined as those buildings, or in the case of districts, groups of buildings that meet criteria set forth for the National Register of Historic Places, and are thus included or eligible for inclusion in the National Register. In addition to National Register properties, the plan has identified Heritage Conservation Places that do not meet the strict standards of the National Register, but nonetheless contribute to the University's overall sense of place.

The Heritage Preservation Plan summarizes the recommendations by historic districts as follows:

The Academic Historic District

Substantial new construction is planned along University Avenue, on the north side of the campus Horseshoe. The Heritage Preservation Plan identifies the Horseshoe and the historic buildings along its perimeter as important and worthy of preservation. University planners will strive to honor the heritage of this historic core of the campus and the visual attributes of the original campus plan.

The West Side Farm Historic District

The west end of NMSU comprises agricultural fields that date to the earliest days of the campus and reflect its historic land grant status. Care should be taken to integrate this agricultural complex with the University's agricultural heritage, which can be

accomplished through not only building design, but also through interpretive displays, signage, and preservation of the remaining fields.

Animal Sciences Historic District

The construction of future academic facilities will alter this district. Although the need for new facilities designed for advancements in educational curriculum are always important for a university, the demolition of buildings and structures in this district would affect the look of this area. Although many students and faculty may welcome the elimination of the sights, sounds, and smells associated with the care and feeding of livestock in such close proximity to the campus, others will undoubtedly feel a sense of loss of this aspect of the University's heritage. The Heritage Preservation Plan recommends comprehensive historical documentation of this area prior to any demolition to preserve a record of this heritage.

Sutherland-Tom Fort Historic District

A long-range recommendation in this Master Plan calls for the demolition of buildings in this district. These properties retain a high degree of architectural integrity and represent an important period in post-world war II development for campus housing that is set within a national context. Again, the need for planned growth is often at odds with the desire for preservation; however, it is recommended that NMSU study alternatives and develop mitigation plans to minimize the adverse effects of any new development on these historic resources.

There is a need for preserving historic buildings, districts, and heritage places on campus. This Master Plan highlights the variety of historic preservation resources found on campus, and the Preservation Plan supplements this plan with balanced, reasonable historic preservation recommendations which recognizes the importance of conserving the University's heritage while acknowledging the need for growth and development.

Finally, the Preservation Plan offers suggestions for future studies that will enhance this plan's serviceability. The plan contains six appendices that illuminate federal and state historic preservation legislation and guidelines, which will aid University architects and planners in integrating the preservation plan's recommendations with overall campus Master Plan. There are also appendices that discuss other campus properties of interest, most notably, those that are less than 50 years old. There is also an appendix on the Fabian Garcia Horticultural Farm, which exemplifies the types of NMSU historic properties located near Las Cruces campus.

Planning and Design Guidelines

Architectural Principles

The University has identified Spanish Renaissance Revival as the predominant style for a more unified campus architecture. This principle applies to construction of new buildings, renovations, and selective demolition of non-contributing structures. Architecture should be contextual, support the prevalent style and be focused on elevating the overall appearance of the campus for all projects, no matter the size or complexity.

Emphasis is given to the use of materials and features that reinforce Spanish architecture:

- Earth tones found in southwestern landscape
- Plain stucco walls
- Low pitched tile roofs or elements
- Massing sensitivity to adjacent structures (three to four stories maximum)
- Simple colonnades or arched forms
- Detail reserved for focal points
- Use of indigenous stone for the building base and site walls
- Bronze wrought iron accents
- Buildings and landscaped designed to the human scale
- Excellence in design, execution, and meaning
- Consideration of climate
- Use of tower elements, when appropriate for building type
- Current sustainability-minded design technologies

Landscape Principles

The goal of the 2017-2027 Master Plan is to maintain the manicured landscape character of the Horseshoe Lawn, McFie Circle, and the residential spaces that are dedicated as gathering places for the University, while encouraging the use of a more sustainable landscape approach for most of the campus and other open spaces. This concept works well within the regional context of NMSU – a green river valley surrounded by desert mesa. The intent is to maintain and reinforce the unique qualities of these two types of landscapes and to avoid hybridizing them into landscapes of little distinction. The courtyards, greens, and athletic fields thus become pedestrian oriented oases within the overall campus landscape.

Buildings on the campus will be grouped around several major open spaces: Horseshoe Lawn, the newly completed McFie Circle, and Residential Center. The Horseshoe Lawn will remain the historical heart of the campus, offering an open flexible space for informal

activities and public gatherings. The large informal canopy tree planting should stay intact. New trees will be placed strategically to enhance and define the space.

Courtyards and quads should be developed to provide for a diversity of uses, including interactive gathering areas such as dining terraces, outdoor classrooms, small amphitheaters, passive/informal play areas, and quiet personal spaces such as reading gardens. Courtyard designs should reflect individuality and difference in expression. The proposed character of an open space should relate to its immediate surroundings and reflect the proposed uses for the adjacent building. Open spaces should possess adequate edge definition to avoid a sense of unplanned relationship with their surroundings and to enhance the experience of being within them. Courtyards associated with buildings have a strong edge definition, while open spaces between buildings will require additional elements such as walls or planting to create their edges.

Open spaces can be “activated” through selective location of program elements such as cafes, lounges, and entries. Small gathering areas should be provided at key building entries and pedestrian intersections to encourage increased social interaction between students, faculty, and staff. The landscape of courtyards and quads should respond to the Las Cruces climate of hot summers and mild winters.

Planting of deciduous trees providing for shade in the summer and sunny light spaces that take advantage of mild winter days are desirable. Selected and limited use of water in key gathering areas can provide a cool retreat or oasis in hot summer months. Low shrubs and groundcovers should be planted adjacent to buildings to soften the edges of the structures.

In contrast to the lush, irrigated “valley” nature of the campus greens, the campus edges and informal open spaces will be characterized with a more “picturesque” desert landscape reminiscent of the natural landscape of southern New Mexico. While the climate of Las Cruces allows a great variety of evergreen trees to grow, the intent is to provide a more “sustainable” landscape of long-lived, low maintenance, drought tolerant plants also reinforce the overall University identity. Use of more native and naturalized trees, such as Desert Willow, mesquite, oaks, sycamores and pines should be the primary trees, with select plantings of primarily native and accent and flowering plants and shrubs. The ground covering can consist of “natural” grasses, establishing a signature landscape for the campus. Select use of native accent ground covers and shrubs may be utilized. The use of turf grass should be limited to areas of functional and symbolic needs.

University Avenue Sites

The proposed transformation of University Avenue into a successful town/gown edge will require cooperation between NMSU, the City of Las Cruces, and the private sector. The University will support and encourage private development proposals that reflect this intention. The City proposes a street section that will include a landscaped median in the center and a landscape verge with street trees adjacent to the curb, sidewalks in-board, marked crosswalks, pedestrian scaled lighting, and a dedicated bike lane on both sides of the street.

The City approved a private sector mixed use development for the northwest corner of Espina Street and University Avenue that will place the buildings and public spaces on the street with associated parking in the back. The Las Cruces Convention Center is located on the western end of the campus. NMSU is planning to locate its proposed hotel and conference center in proximity to the Convention Center to facilitate joint use. Ground breaking on the hotel is scheduled for fall of 2017.

The University will locate its next art building on University Avenue to complement the existing ASNMSU Center for the Arts building at the southeast corner of Espina Street and University Avenue. These improvements will provide University Avenue with rich public spaces and significant architectural character that is complementary to the campus. Parking will be accommodated via surface lots or improved transportation. NMSU is also committed that future infill development adjacent to University Avenue will have a public entrance that greets the community.

Many of the parking lots with entry drives from University Avenue will be removed, but appropriate service access will be maintained. Pan Am Plaza is on land that is currently leased long term from NMSU. As a result of the Master Plan process, the lease holder is exploring ways to bring mixed use development toward the street while maintaining parking in the center of the site. Existing uses are accommodated in the plan, while creating a pedestrian friendly environment along the street. The University will also consider replacing the three sorority houses as new mixed-use buildings are added. These buildings will also provide either goods or services at the first floor (street level), with graduate housing located on the upper floors.

Sidewalks will be wide enough to allow street vending or other special events. A cul-de-sac will prevent vehicular traffic from moving beyond access to visitor or other short-term parking. A new north-south pedestrian mall will allow access to a new central green space that will provide a hinge at the intersection of the academic district, student services, and housing zones. This new space will replace existing parking lots on the east side of Milton Hall, creating a new central campus oval for student events and informal gathering. As new buildings come on-line and the existing programs located in Milton Hall are relocated, the plan recommends that Milton be removed and the central green expanded to the west.

Las Cruces Campus District Framework

The District concept is an important concept to carry forward that connects the 2006-2016 and the 2017-2027 Master Plans.

District 1 - University Avenue

The street itself would be transformed an environment dominated by motorized vehicles to one where both pedestrians and automobiles are equally at home. The City of Las Cruces appears ready to modify the governing overlay district rules to encourage mixed use development that places buildings with sidewalks and a landscape edge adjacent to the street with parking behind the facilities.

NMSU would address University Avenue by placing future buildings, such as the new Department of Art and University Art Gallery, with orientations that address both the street and the campus. A landscape verge for shade trees would be placed along the street, with sidewalk adjacent and pedestrian scaled lighting. NMSU has placed its Center for the Arts building at the corner of University Avenue and Espina Street. This venue helps to create an extended use cycle on University property that will be a catalyst for private sector commercial development on the north side of the street.

Additionally, NMSU is proposing a reconfiguration of the entrance at Jordan Street that will serve as the primary means by which visitors will enter campus. New mixed-use buildings could be placed on either side of Jordan Street to provide student related retail and services at the first floor level, with graduate housing at the second and third floors. The 2006-2016 Plan recommended that new commercial development be placed in front of the existing Pan Am Plaza, creating a pedestrian scale development along the street. A new pedestrian plaza is envisioned at the northeast corner of University Avenue and Locust Street in front of the Dublin's Street Pub. Parking would remain in the center of the development, with any replacement parking required placed on the east side of the existing strip center.

District 2 - Existing Housing

The 2017-2027 Master Plan proposes that new housing will be located along the south side of University Avenue at Jordan Street to take advantage of the commercial activity. Monagle Hall has been removed; this will allow a new freshman residence hall to be constructed, opening in fall 2019. Rhodes-Garrett-Hamiel and Garcia Hall would remain and be renovated to rehabilitation standards for historic properties. Phase 2 of the residence hall renovation could be to the east of Locust Street. Phase 3 for housing development proposes single student apartments to be located east of Chamisa Village and south of Alumni Pond. The reinvention of the open space surrounding the Regents' Grove is envisioned by reshaping Alumni Pond into a water feature that will be designated to assist with storm water management.

The American Indian Student Center takes advantage of a unique place on campus to meet its programmatic needs for adjacency to student housing, commuter parking, the amphitheater on the east end of Corbett Center, and with water and open space with views to the mountains. Expansion of the existing Alumni Pond is recommended to bring this popular amenity down into the Regent's Lawn and to increase its visibility and make it more proximate to the American Indian Student Center. The knoll on which the Center is to be placed affords excellent views to the Organ Mountains and a commanding presence on the lawn. Relocation of student services from the Educational Services Building to a new location within the academic core is also imagined; this could perhaps be in the area opened by the demolition of Regents Row.

District 3 - Existing Academic/Athletics

The 2006-2016 Plan proposed that existing recreation fields remain; improvements to facilities were suggested by the 2013 Master Plan Refresh. Existing track facilities could be relocated to the athletics district on the east side of the recreation field. Support facilities should similarly be relocated to the eastern area of campus. Existing astronomical observatories would remain. Connections for continuing Research Drive and providing a new east-west street just south of the existing Chiller Plant would assist in mobility and provide an additional parking lot. Other considerations will include shared green spaces for community events.

District 4 - Academic Core

The 2006-2016 Plan recognized the existing Academic Core District of campus and proposes several infill opportunities and potential selective demolition of buildings and removal of small parking lots. The facilities plan contemplates three new buildings within this zone and one just outside this zone:

- New Art Department and University Art Gallery Building in the current location of Parking Lot 11 (2019)
- Graduate Student Center Facility to replace Regents Row buildings at the corner of Williams Avenue and Stewart Street
- College of Education expansion to west and south sides of O'Donnell Hall

A new campus green is proposed between Milton Hall and the Corbett Center central core space of campus, creating a nexus of activity where the two main existing east-west pedestrian paths intersect. Milton Hall would remain in the near-term years, but as new classroom buildings are built providing replacement space for its programs, it could be removed, allowing its full potential as a major green space. Potential demolition of the latest addition to Breland Hall and preservation of its historic building could provide an expansion site for the Zuhl Library, allowing renovation of Branson Library and/or its conversion to another use. Additional

phases of the arts building are proposed within the two-year time frame on the north side of the Business Complex. A parking lot will most likely need to be constructed with the project, after the existing Dan W. Williams Hall and Williams Annex are demolished.

District 5 - Family Housing

Existing family housing remains in the area south of Stewart Street. This zone will require strategic removals of older family housing groups and renovation of the more desirable Sutherland Village. This area remains within a comfortable walking distance to the core of campus, provides excellent visibility from I-10, and creates both visual and practical links between Arrowhead Park and the campus.

District 6 - Arrowhead Park

Poised at the intersection of two of the most significant interstates in the American West, Arrowhead Park is a critical resource to NMSU, not only to accommodate the immediacy often required by potential research partners, but as a means of visibility from the interstates to showcase NMSU's commitment to advancing research and economic development. The Park allows flexibility to the University to develop new partnerships quickly with private sector entities developing emerging technologies, and it provides critically needed swing and surge space for newly acquired grants allowing the development of lab space outside the state funding paradigm. With the anticipated rise of the civilian space industry and continuing ties to White Sands Missile Range, Arrowhead Park allows NMSU the potential to respond quickly to immediate needs.

The plan recommends that the 272-acre park be fully developed and indicates the potential for approximately 2.3 million gross square feet exclusive of the area currently occupied by the greenhouses. With this area included, the potential for the Park is approximately 3 million gross square feet. With the potential for a second interchange on I-25, the 2006-2016 Master Plan proposes to extend the current park access road northward to intersect with Wells Street at Aggie Memorial Stadium.

With the recent opening of the Burrell College of Osteopathic Medicine (BCOM) at the north end of the park, at the corner of Wells Street and Triviz Drive, further development is planned. Arrowhead Place is planned to open in 2018, adjacent to BCOM.

District 7 - Athletic

The plan recommends considering the relocation of the track, but other athletic venues will remain. Ample parking is available for the zones to the north and south of Aggie Memorial Stadium. With the parking lot in front of the Fulton Center shared with Pan-American Center parking, these parking areas are sufficient for game days and other special events. This district needs to convey

strongly positive visuals of the campus for arriving visitors. ADA improvements are necessary in the Athletic Facilities, and funding for repair and renovation is problematical.

District 8 - Agriculture

The proposed FY18 Funding priority #1 request includes new facilities for the College of Agricultural, Consumer and Environmental Sciences (ACES). These new structures include a Biomedical Research Building, Feed Mill & Processing Facility, and a Food Science Learning & Safety Center. The new facilities are designed to achieve the following goals:

- Provide premier agriculture education facilities for teaching and outreach
- Increase hands-on experimental learning
- Increase opportunities to partner with industry leaders
- Facility design to support safety

District 9 - West Campus and Heritage Farm

NMSU will showcase its agricultural roots, advance current research, and support private and public economic initiatives with the development of Heritage Farm: a welcoming, park-like gateway to the NMSU campus. The creation of a Heritage Farm seeks to address educational and outreach goals while also contributing to the local economy. Maintaining an agricultural presence that is deep rooted in New Mexico tradition is also essential to the vitality of the farming and ranch industries. Private gifts will serve as a catalyst for fulfilling NMSU's vision and mission. This will allow a new entrance on College Drive to be created as the primary entry into campus from the I-10 end of University Avenue. The new entry would be a two-lane road with pecan trees on both sides. Heritage Farm will be a gateway, distinct entry point of University Avenue and College Drive.

The 10-acre site will ultimately include an array of New Mexico crops: pecans, cotton, alfalfa, hops, grapes, chile peppers, grasses, onions, and more. A winery and brewery will be constructed to highlight students who work in grape growing, wine development, and the art of using hops and barley in beer brewing. These will serve as learning laboratories for these disciplines.

An arboretum, walkways, park settings, setting areas and multi-use gathering points will also serve as a tourist destination and a place for community members to enjoy. Experiential learning for K-12 and guided tours and will incorporate historical acequias/agricultural waterways to prove importance of water in the Southwest. NMSU plans to connect walkways and trails along University Avenue to various attractions throughout the City of Las Cruces.

Other plans include restoration of the Seed House (the oldest adobe structure on NMSU campus) and adaptive reuse of the Chile Pepper Institute. Starting with roof renovation, structural correction of roof configuration, and new roof materials to protect structure from water infiltration, the proper restoration of the Nematology Lab is a key component, as it connects the founding of NMSU with agritourist goals for tomorrow.

District 10 - Facilities and Support

There are no current plans for major changes to the Facilities & Services area. The Office of Facilities and Services consists of one main building for design/planning, construction and administration. The yard area, along with numerous small structures for operation is organized in traditional shops and is responsible for the physical operation and maintenance of NMSU Las Cruces buildings. The NMSU Fire Department is a full-service fire department that provides fire suppression, emergency medical services, hazardous material response, and technical rescue response as well as medical standbys for all athletic games, special events, and concerts. Keeping these vital repair, operations and safety services centrally located, but removed from the academic core, allows for access to travel routes around campus and response in a timely manner.

District 11 - East Campus/Aggie Uptown

To further long-term growth opportunities and leverage NMSU's land assets, Aggie Development Inc. was established. The county Metropolitan Planning Organization has recommended the southern extension of Sonoma Ranch Boulevard connecting NMSU to the rapidly developing northeast area of Las Cruces. Currently home of the University Golf Course, Las Cruces campus President's home, New Mexico Farm and Ranch Heritage Museum, and NMSU rodeo complex, the plan establishes the following program for the 2,300-acre site:

- Expand the 18-hole golf course, with elimination of the nine holes closest to the frontage road, and renovate the remaining nine holes, for a 27-hole golf course
- Develop programs that continue the learning experience for students
- Undertake limited development adjacent to the Las Alturas neighborhood
- Undertake new development compatible with NMSU's mission and goals
- Establish a special purpose housing zone within the fee-simple property boundary
- Generate a reoccurring revenue stream for Aggie Development Inc. and NMSU
- Use public-private partnerships and/or Tax Increment Development Districts to develop core facilities

Vehicle, Pedestrian, and Bicycle Circulation

Campus Entry Drives - College, Union, Wells, Stewart, Williams, Jordan

To reinforce campus entry and identity, the planting of pecan trees is proposed to continue along all major campus entry drives. These campus entries provide opportunities for identity marking, which will help NMSU achieve greater visibility in the community and provide clear signals that tell visitors where to enter the campus.

As a highly visible identity feature, the formal double row of pecan trees will be planted to create a campus entry “icon.” The pecan tree is perhaps the most noteworthy signature tree on campus, currently used to announce campus arrival at several important west entry drives and should be continued along the east, as well. At the new Jordan Street entry off University Avenue, a formal planting of canopy trees in an urban setting is proposed.

In addition, the New Mexico Department of Transportation is currently in the design phase of upgrades to the Triviz Drive/University Avenue/Interstate 25 intersection. This work will significantly alter this entrance and offer an opportunity for branding that NMSU will not have again for a long while. As a result, NMSU will need to design and identify a way to fund enhancements at this entrance.

Pedestrian Circulation

The major landscape corridor within the existing Academic District, the International Mall, is the symbolic link between major student and academic facilities. The landscape for the Mall proposes a formal planting of singular species of canopy trees linking the three major green spaces of the central campus: Horseshoe Lawn, new Campus Green, and the reconfigured Regents Lawn and Alumni Pond. The International Mall is overly-wide to accommodate high pedestrian activity. Maintaining views to A (Tortugas) Mountain are important.

Malls should be treated with a consistent quality of landscape, hardscape, signage, and lighting. Planting should be formally spaced, clearly defining the pedestrian space. Pedestrian scale lighting and formal plantings of canopy and flowering trees reinforce the hierarchy of the promenades within the pedestrian network, orienting pedestrians to the circulation network. Openings in the promenade planting shall be permitted at building edges and entries. Specific tree species are identified for each mall to create a unique character and identity for each corridor.

Academic and social interaction should be encouraged with the provision of formal and informal seating areas. Seating areas with ample shade and lighting should be located at key intersections and primary entries to buildings. To further enhance the pedestrian experience, thematic concepts will be developed for key promenades. Both the 2006-2016 and the 2017-2027 Master Plans identify several existing and new campus corridors. Distinct canopy trees, which visually and spatially define circulation routes, give each corridor a distinctive identity mark.

Generally, pedestrian malls are proposed with formal rows of canopy trees. Street corridors will maintain an informal park-like character, except at campus entries. Secondary walks are less formal and are based on a loose network of narrower walks and paths, frequently diverging from the campus grid to reinforce diagonal desire lines. Malls are distinguished from the less-formal secondary network by a distinctive formal planting of canopy and flowering trees and a wider width (15-20 feet), while the secondary walks are designed only as wide as necessary to accommodate passing students, generally 6-10 feet wide. Pedestrian walks shall be designed to be ADA-accessible. The unavoidable length of ramps should be acknowledged and incorporated into site design, with stairs provided at the sides as complimentary elements. Walks providing universal access, with a maximum slope of 1:20 are preferred over ramps or stairs.

The concrete on the International Mall and Frenger Mall is deteriorating and a replacement plan will need to be developed over the life of this plan. New and sustainable materials will be used, and ASNMSU will be consulted to help with the selection.

Bicycle Access

The Las Cruces Metropolitan Planning Organization (MPO) proposed improvements to the bicycle path network that would greatly increase NMSU's connectivity and accessibility within this network. These improvements will provide bicycle facilities around the perimeter of campus, as well as increased access to the residential areas to the north, east, and west of campus. The University, though, should independently evaluate which connections are most important and would have the greatest effect before allocating funds for these purposes.

In conjunction with the MPO bicycle plan, NMSU will examine its own bicycle facilities on campus. As a policy, bicycles on campus should not be allowed to be ridden on sidewalks, unless separately marked bicycle lanes are present. Exceptions could be made where sidewalk width is excessive or where low levels of pedestrian activity occur. A set of standards for bicycle racks, their maintenance, and their location will be devised and implemented. A consistent appearance and location of bicycle parking fixtures would allow riders to know where a bike rack should be and what it will look like, and should provide ample spaces.

Transit Access

The need to use peripheral parking lots will increase as McFie Circle is reconstructed. This need may also be augmented by more individuals who want to park in free lots, due to fuel costs or other financial reasons. To make the peripheral lots attractive and to increase their use and diminish the extent of illegal parking in the heart of campus, it will be necessary to provide reliable and timely transportation from the lots to various locations on campus. Although a major tenet of the 2006-2016 Master Plan is to avoid

extending the walk between classes from east to west, there will still be a need to support the large surface parking lots on the edges of campus with a transportation system.

The need for the Aggie Shuttle will doubtless remain, although its routes may change over time. Whether a campus circulator, such as the Aggie Shuttle, can be combined with a point-to-point service, such as those serving peripheral parking lots, is a question that will soon need to be resolved.

Parking Improvements

Parking and Transportation Services manages over 13,000 parking spaces on NMSU's Las Cruces and satellite campuses. Parking lots presently occupy prime interior sites that will eventually better serve NMSU's needs in instructional, research, and support functions as enrollment increases. Other than required service vehicle and limited disabled parking, parking will eventually be consolidated at the campus perimeter or in remote locations supported by shuttle transit. The amount of additional parking can be mitigated by successful implementation of transportation demand management strategies.

The projected static nature of NMSU's population and plan recommendations for infill growth on many of the existing parking lots in the campus interior will fundamentally shift the nature of the parking supply and demand. Assuming NMSU continues with its current model of providing ample, low-cost parking to satisfy demand, approximately 1,200 more parking spaces could be added in 2018 at the site of the landfill. Approximately 4,300 spaces would be displaced by the recommended planning strategy to move parking to the periphery of campus and infill buildings in the interior of campus.

Utilities

Reliable utilities are a necessity to support academic and research functions. NMSU has more than 5 million square feet of building space on the Las Cruces campus and owns and maintains utility systems such as chilled water, steam, natural gas, electric power and generation, telecommunications, potable and non-potable water, sanitary sewer, storm water, utility metering, building and utility energy management, Central and Satellite Utility Plants, and a tunnel system for utility distribution.

Electrical power is furnished by two sources: a co-generation plant that provides approximately 4.5 megawatts of electrical power and El Paso Electric (EPE). NMSU provides water to Las Cruces campus and DACC Central Campus via four domestic water wells and two research water wells. Domestic water storage for Las Cruces campus is provided by a 5 million-gallon tank and a 4 million-gallon tank located east of I-25. The City of Las Cruces provides both high pressure and low pressure natural gas to Las Cruces campus. Natural gas is distributed through NMSU-owned and operated natural gas lines. The City of Las Cruces also accepts sanitary waste

from Las Cruces campus into its sanitary collection system, and some storm water runoff into its drainage system. Numerous storm water runoff holding ponds are located throughout Las Cruces campus. NMSU generates steam at the Central Utility Plant and produces chilled water at the Central and Satellite Utility Plants. NMSU has an ice storage facility that supplements the chilled water production at the Satellite Utility Plant.

Existing Utilities and Future Plans

The oldest utilities date back to the 1950s, when NMSU installed a tunnel system to supply power, water, steam, and chilled water to the various buildings located in the center of campus clustered around and east of the Horseshoe. There have been major upgrades to utilities at Las Cruces campus, but many utilities systems are 40-60 years old. NMSU is continually upgrading these facilities as funding becomes available, guided by replacement/refurbishment master plans for specific utilities.

Utility Metering

Utility metering is provided by NMSU's Utilities Department, with some internet-connected meters that interface with the NMSU Niagara Automated System. Production and use metering includes electrical, chilled water, steam, domestic water, and utilities provided by City of Las Cruces Utilities (CLCU) and EPE: electric power, natural gas, and three locations of sanitary sewer. All major Las Cruces campus buildings have individual meters that are monitored electronically or read manually. Implementation of a "smart meter" communications system has been in progress on Las Cruces campus for over ten years. NMSU will continue smart meter installations to all Las Cruces campus buildings to monitor and manage power consumption.

Energy Management

NMSU Facilities and Services utilizes a web-based central Energy Management System to monitor and interact with 56 campus buildings, two utility plants, four photovoltaic sites, and four domestic water wells. The Tridium Niagara application is currently providing real-time information on electricity and natural gas power flows to NMSU, which allows development of utility dashboards to track and trend campus energy consumptions. There is an ongoing effort to expand network-based electric, chilled water, steam, natural gas, and domestic water building utility meters to facilitate integration of these meters into the Niagara environment. There is potential for the expansion of the Niagara Energy Management system to satellite campuses

Electric

EPE supplies approximately 60 percent of Las Cruces campus electricity via the NMSU-owned and operated Tortugas and Geothermal Substations, at 23,900 volts. The Tortugas Substation can supply approximately 19 megawatts to Las Cruces campus; the Geothermal Substation can supply approximately 2 megawatts. NMSU also owns and operates a co-generation plant capable of

providing 4.5 megawatts of power to the core of campus, at 4,160 volts. NMSU operates 225-kW of photovoltaic generation at four different sites: 180-kW at the Satellite Plant, 50-kW at SWTDI, 15-kW at Campus Health, and 10-kW at the Center for the Arts.

NMSU's electrical distribution utilizes a system of medium voltage transformers and switches to supply electrical power to all Las Cruces campus buildings. This electrical system provides numerous redundant and overlapping circuits. High priority research and special event buildings are interconnected to backup power generators capable of supplying power for emergency lighting, cold storage, data storage, and data storage cooling. NMSU also has a 500-kilowatt backup generator system that operates at 4,160 volts. This system is used for emergency egress lighting and miscellaneous power for buildings without individual backup generators.

In 2014, NMSU acquired engineering services for a Las Cruces campus electrical infrastructure master plan which identifies approximately \$15.5 million in medium voltage electrical system updates and improvements to better serve the campus and improve reliability. This plan incorporated reliability analysis based on best practices for the design of reliable power systems and focuses on moving essential research, data center and emergency use buildings onto the turbine and moving non-essential buildings on to the EPE feeders.¹⁷

Future plans include:

- Replacing the 4,160-volt system with 23,900-volt system equipment. This includes both new and replacement interconnect switches, building transformer upgrades, redundant circuit maintenance, and new cable installation.
- Replacing old 23,900-volt cable with new cable. This includes additional switches and switching modules, upgrade of vault and vault grounding systems
- Placing critical buildings on the NMSU turbine
- Adding photovoltaic installations
- Upgrading the Tortugas Substation in the form of circuit expansion
- Executing Third Party Power agreements, or other type of agreements, for a possible new 10 to 20 megawatt power generation station

Water: Domestic and Research

NMSU currently has established rights to approximately 7,000 acre feet of water. This water is pumped from four Las Cruces campus wells to two large storage tanks, where it is distributed throughout the campus for drinking, cooking, research, irrigation, chilled

¹⁷ Electric Infrastructure Master Plan

water, and steam. NMSU has four wells located on the west side of Las Cruces campus. An older storage tank holds 4 million gallons and was refurbished in 2010. The newer tank, completed in 2009, holds 5 million gallons. A 250,000-gallon tank serves the President's residence and the rodeo grounds. NMSU has two research wells: one dedicated to the Turf Research Farm, with a capacity of 1,100 GPM and a small fisheries research well at Knox Hall for fish research.¹⁸

Future plans include:

- Adding another 3,100 GPM capacity well to the system
- Constructing a 24" water line from the four campus wells to the large storage tanks
- Replacing the 250,000-gallon water tank with a pump skid
- Filing an application for a new domestic well
- Re-drilling of Las Cruces campus Well-11 to add capacity and redundancy to the domestic water system

Natural Gas: High and Low Pressure

NMSU owns two underground natural gas distribution systems on Las Cruces campus, each of which is connected to a CLCU master meter on the perimeter of campus. The newest system, built in 1996, is a high-pressure natural gas system dedicated to the Turbine located at the Central Utility Plant (CUP). NMSU accepts high pressure natural gas at 400 PSI, which is lowered to 200 PSI to feed the co-generation turbine. The 200 PSI natural gas pressure is then lowered to 20 PSI to feed the CUP boilers. From the CUP, natural gas is routed to the central area of campus utilizing a much older underground delivery system for building heating, hot water generation, research and laboratory applications, cooking needs at Corbett Center and Frenger Food Court, and kilns and forges at Williams Arts. NMSU also accepts 50 PSI natural gas at the Neale Hall regulator. This delivery system was built in the 1950s. Natural gas pressure is lowered to 20 PSI for distribution in various applications from building heating and hot water generation on the west and south side of campus.¹⁹

Both systems contain a combination of metal and polyethylene piping. Metal piping on the south side of campus is old, has extensive leaks, and is being replaced with polyethylene as funding becomes available.

Future plans include:

- Replacing steel distribution lines with new polyethylene piping

¹⁸ Water Master Plan

¹⁹ Utility Development Plan

- Retiring natural gas lines in Family Housing on the south side of campus in conversion of building/residence to electric appliances, HVAC, and water heaters
- Adding redundancy to the natural gas system by looping the systems together
- Combining low pressure and high pressure natural gas into one single point of service

Chilled Water

Facilities and Services currently utilizes a chilled water production and distribution system to provide space cooling services for approximately 60 buildings on Las Cruces campus, comprising nearly 4 million square feet of conditioned space. Currently, 20 million ton-hours of refrigeration is delivered to campus annually at a peak rate of roughly 6,800 tons. Current production is accomplished by three 1,500 ton electrically driven centrifugal chillers; one two-stage 2,500-ton electrical driven chiller; and a 1,250-ton steam driven chiller and relevant support equipment. NMSU has a 3 million-gallon cool pool for chilled water storage of 12,000 tons of ice storage for supplemental chilled water distribution. NMSU most recently completed a chilled water production and distribution system upgrade that included an increase in flow efficiency with the installation of a new delivery system, new chiller plant with dual stage chiller, ice production, new flow pumps, and a steam driven chiller.²⁰

Future plans include:

- Increasing thermal storage
- Replacing distribution and isolation valves
- Adding cooling capacity to the Satellite Utility Plant

Steam

NMSU currently uses a natural gas fired steam production system to make chilled water for cooling and this steam is then distributed to 63 buildings on Las Cruces campus for space heating, domestic hot water heating, food preparation, and swimming pool heating. Annual production is roughly 163 million lbs. of steam at 65,000 lbs./hour. Free steam is also collected from the heat recovery steam generator on the cogeneration turbine.

The steam production manifold consists of two 44,000 lb./hr. tube boilers, one 17,000 lb./hr. tube boiler, and one 22,400 lb./hr. heat recovery steam generator working in conjunction with the Solar Taurus-60 gas fired turbine. Campus distribution contains approximately 18,800 linear feet of schedule 40 steel pipe located in the tunnel system and direct buried.

²⁰ Utility Development Plan

NMSU Utilities has recently replaced the undersized Central Plant header and associated ancillary equipment. With the addition of the steam driven chiller at the Central Plant, yearly steam production and use are more balanced through the summer and winter months. ²¹

Future plans include:

- Replacing the boiler economizer that captures waste heat
- Installing other efficiency enhancements or replacing of 50-year-old boilers
- Evaluating the production of hot water local in the buildings

Sanitary Sewer

Las Cruces campus is connected to the City of Las Cruces at two locations: the Knox Street metering station and at an unmetered location east and north of the Chemistry Complex. The Knox Street station serves all of Las Cruces campus, including Arrowhead Park, the Pan American Center, Skeen Hall, and the Center for the Arts. The unmetered Chemistry Complex location serves Dan Williams Hall and Annex, Health and Social Services Building, Business Complex, Kent Hall, Gardiner Hall, Chemistry Complex, Conroy Honors, and the Barnes and Noble Book Store. Campus buildings east of I-25 are typically on individual building septic tanks.

Future plans include:

- Replacing undersized and clay piping with larger sized polyethylene pipe
- Mapping the complete sewer system
- Adding CLCU metered flow at Chemistry Complex

Telecommunications and Internet

The Information and Communications Technologies Department (ICT) at NMSU designs and installs communications infrastructure and provisions and monitors telecommunications services for the university. NMSU houses two regional telephone nodes and a regional fiber optic hub. Voice and data are provided to NMSU via fiber optic and copper cables. The Las Cruces campus communications infrastructure currently supports voice, data, video, security, fire alarms, and Voice over Internet Protocol services. ²²

²¹ Utility Development Plan

²² ICT Internal Strategic Plan

Future plans include:

- Implementing a research science Demilitarized Zone(DMZ) that will be its own network with its own infrastructure. This will require ICT to secure more data center space for researchers needs.
- Upgrading campus fiber infrastructure and building network infrastructure. ICT plans to connect research buildings to the research science DMZ and intra building backbones at 10Gbps (min).
- Continuing its CHECS-Net effort (New Mexico Council for Higher Education Computing/Communication Services), a statewide network consortium that helps connect schools, colleges, and universities throughout the state to the network hubs in Albuquerque or Las Cruces. NMSU’s research science DMZ can be used as a strategic-shared resource for research efforts throughout the region as an extension of the CHECS-Net model of sharing resources and collaborating among members.

Tunnel System

The NMSU tunnel system comprises approximately 15,000 linear feet beneath Las Cruces campus. This tunnel system contains steam, chilled water, domestic water, NG, electrical lines, and fiber optic cables that feed most buildings on campus. The tunnel system has been built in phases starting in the 1950s. Facilities and Services acquired engineering services for a tunnel master plan and conditions study, which was completed in 2014. Tunnel areas are ranked according to the severity of damage or disrepair and prioritized for repair or replacement with preliminary opinions of construction costs. Five repair priority levels are based on the result of visual inspection and materials testing. Areas designated as Category A areas are of highest priority; Category B areas are designated high priority; Category C areas are designated medium priority; Category D areas are designated low priority; and Category E areas are lowest priority. The initial cost estimate to repair the entire tunnel system is approximately \$2.8 million.²³

Future plans include:

- Refurbishing the tunnel system as a whole

Central Utility Plant

The Central Utility Plant located behind Thomas and Brown Hall on Sweet Street houses the main utility production on Las Cruces campus. This plant contains a 4.5-MW natural gas fired turbine that supplies 40 percent of the electricity consumed on campus. Production capabilities are 65,000 pounds of steam and approximately 6,000-tons chilled water per hour; a 3 million-gallon chilled water storage tank, 1-MW backup diesel generator for continuous power; a 4,160-volt substation for the turbine and turbine

²³ Bohannon Huston Tunnel Plan

circuits; and a 4,160-volt non-essential gear substation. The 4.5-MW turbine is fired by high pressure natural gas. Electricity generated by the turbine is used to power Las Cruces campus buildings, including a dedicated circuit for the Computer Center. The waste heat from the turbine is used for steam generation to help with 105,000 lb./hrs. of tube boiler steam generation. When steam is not required for heating, it can be used to power a 1,250-ton steam driven chiller which produces chilled water for building cooling. Chilled water is stored via a 3 million-gallon cool pool.

Future plans include:

- Expansion of the thermal storage capacity by converting it from water storage to ice storage within the same footprint
- Boiler controls enhancements to facilitate the ability to run the machines in standalone mode which provides improved equipment reliability
- Enhancements to the boiler fuel firing systems, refractory and installation of boiler blowdown heat recovery systems to improve efficiency
- Continued expansion of utility metering campus wide to facilitate measurement and performance verification of utility production and building consumption

Satellite Chiller Plant

The Satellite Chiller Plant is located off Stewart Street, west of the Natatorium. This building houses a 2,500 ton two-stage chiller that produces 20,000 ton hours for chilled water to cool the campus.

Future plans include:

- Cooling capacity to track concurrently with campus growth is possible if necessary.
- This 2012 Cooling Plant was designed to readily accept two major system upgrades in chilled water production with the flexibility to opt for Thermal Ice Storage or conventional chilled water producing units.

Outdoor Lighting

Lighting is provided on Las Cruces campus for building entrances, sidewalks, roadways, parking lots, and architectural highlights. Facilities and Services conducts an annual outdoor lighting tour with representatives from the NMSU Fire Department and Police departments, Facilities Services, Associated Students of NMSU, Parking and Transportation Services, Student Housing, and University Architect and Engineer to walk the campus at night to determine where new or upgraded lighting is needed. These projects are prioritized and installed as funding becomes available.

Future plans include:

- Upgrading existing high pressure sodium and pulsed metal halide fixtures to 4,000K LED fixtures, providing both energy and maintenance savings
- Upgrading existing 1960s steel lighting poles to campus approved spun concrete poles. This has been an ongoing project for several years with poles being replaced as funding becomes available.
- Adding security and pedestrian lighting as needs are identified

Storm Water Runoff

The Las Cruces campus storm water runoff manages snow melt and rainfall runoff from buildings, streets, sidewalks, and grounds as well as any surface flow that runs onto the campus from surrounding areas. The system is made up of arroyos, dams, overland flow routes, curb and gutter installations, underground pipes and cisterns, and local and area retention ponds. Runoff exits the campus as surface flow into City of Las Cruces storm drain infrastructure, Elephant Butte Irrigation District laterals, and underground pipes. Facilities and Services plans and maintains physical infrastructure and various regulatory programs related to storm water. These programs include CLCU regulations related to MS4, which protects streams and rivers from pollution and sediment in storm water runoff. MS4 is also a requirement of the Clean Water Act.

While many improvements have been made to storm water runoff infrastructure, ongoing development on the Las Cruces campus as well as more restrictive regulations require NMSU to install more detention and channeling infrastructure to manage the runoff, protect buildings and property, and provide better water quality management.

Future plans include:

- Adding runoff detention and water quality infrastructure
- Adding flood protection, especially for low lying buildings on the south and west side of campus

Fire Protection

In 2014, NMSU Facilities and Services commissioned a Fire Protection and Fire Life Safety System Assessment plan. Aon Fire Protection Engineering, now known as Jensen Hughes, was selected to evaluate NMSU's fire protection and life safety systems on

the Las Cruces campus. Criteria used for the evaluations are based on the current standards adopted by the New Mexico State Fire Marshal's Office and NMSU Fire Department, which is the Authority Having Jurisdiction (AHJ) for the Las Cruces campus.²⁴

The codes that apply to this project are the newest iteration of the International Fire Code (IFC) and National Fire Protection Association (NFPA) Standards for new construction and the 2003 editions of NFPA 1 and NFPA 101 for existing facilities. Federal standards that apply include the Americans with Disabilities Act.

In 2016, Facilities and Services and the NMSU Fire Department ensured that the construction followed the latest iterations of the IFC and NFPA to include fire alarm and/or suppression sprinkler systems in:

- Jett Hall
- Rentfrow Gym
- Coca Cola Gym
- Burrell College of Osteopathic Medicine
- Doña Ana Community College
- Cotton Gin
- Club 27
- Women's Swim Team Locker Room

Future plans include

- Developing a comprehensive plan on backup power and redundancies for all fire alarm systems
- The plan is focused on network based systems that meet reliability and performance standards outlined by NFPA72
- Jett Hall will be NMSU's first network based fire alarm system

Las Cruces Campus Master Plan

This Master Plan and all subordinate plans will support *Vision 2020's* Goals of Academic and Graduation, Diversity and Internationalization, Research and Creative Activity, Economic Development and Community Engagement, and Resource Stewardship. The development process included participation from members of the administration, faculty, staff, students, local

²⁴ Fire Protection Master Plan

leadership, and residents. The end product will serve as the guidance document for the next decade, derived from exploration of the past, present and future development opportunities, along with an evaluation of the campus fabric and regional context.

NMSU has 80 major buildings that each occupy more than 10,000 gross square feet on Las Cruces campus. In addition to increasing place-making areas and student amenities and shoring up deferred maintenance, this plan will focus on strategic renovations as guided by the capital outlay process.

College of Agricultural, Consumer and Environmental Sciences (ACES)

The college is housed in Gerald Thomas Hall, Knox Hall, Neale Hall, Skeen Hall, and Tejada. An Agricultural Education Facilities Master Plan was developed 2015 in conjunction with the capital outlay process that addresses all ACES facilities.

The University has started the process to refresh this Agricultural Education Facilities (AEF) Master Plan under the leadership of the new Dean for the College of ACES. This 45-acre AEF District on the Las Cruces campus is unique among American collegiate campuses in that animals are housed on campus, and reside adjacent to the campus academic core and mall. The redevelopment of agricultural facilities will be in phases, with the first to focus on research, laboratories, and classrooms.

College of Arts and Sciences

The College of Arts and Sciences is the largest at NMSU, and is housed in the ASNMSU Center for the Arts, Astronomy Building, Biology Annex, Breland Hall, Chemistry, Clara Belle Williams Hall, Dan W. Williams, Dan W. Williams Annex, Foster Biology, Gardiner Hall, Milton Hall, Music Building, Science Hall, and Walden Hall.

The ASNMSU Center for the Arts was a New Mexico Centennial Building, and is host to numerous events and outside activities in addition to housing NMSU performing arts programs. Breland Hall houses the administrative functions for the College of Arts and Sciences, the Criminal Justice Department, Department of Geography, Department of History, and support services.

The fume hood exhaust system in the Chemistry Building has exceeded its capacity, and there may be an opportunity for a Performance Contract to replace the exhaust system. Regardless, this facility will need to be addressed in near term.

The Music Building also is approaching the need for comprehensive renovations. The practice rooms need upgrades, and the Performance Hall is in need of upgrades to the lights and lighting system.

Clara Belle Williams Hall, named for the first African-American student to graduate from New Mexico College of Agriculture and Mechanic Arts, is home to the Department of English.

Gardiner Hall was renovated in 2008 and houses the Geology and Physics department. The Speech Building is shared with the College of Education. Milton Hall is shared space with KRWG radio and the Creative Media Institute for Film and Digital Arts and should be considered for demolition at some point in the future. Foster Biology was renovated in 2006.

Currently, the Department of Art and University Art Gallery occupy Dan W. Williams Hall and Annex. A new art building will be built in the parking lot adjacent to Kent Hall and Dan W. Williams Hall, on University Avenue. The project is currently in design development and construction is expected to be complete by fall 2019. Walden Hall is home to the Math Success Center, which provides tutoring for math disciplines.

College of Business

Major facilities that house the College of Business include Pete V. Domenici Hall, the Business Complex, and Guthrie Hall. Domenici Hall, a renovation and expansion of the former Hershel Zohn building for the theater arts, opened in 2014 as the flagship building of the College of Business. This state-of-the-art building honors the legacy of retired U.S. Senator Pete Domenici. The Business Complex was constructed in 1983. Estimates of renovations at Guthrie Hall have been prepared in anticipation of potential donor interest.

College of Education

Buildings assigned to the College of Education are O'Donnell Hall, Rentfrow Hall (formerly Rentfrow Gym), as well as some space in the Activity Center and in the Speech Building.

The University has started the process for the Phase 1 programming, cost estimates, and renderings for a Facilities Study for the College of Education. The objective of the study is to determine the needs of the college, whether programs can be consolidated, and if additional space is needed. This programming would address how that space would be formulated, based upon the greatest needs.

College of Engineering

College of Engineering facilities include Engineering Complex I (ECI), John Whitlock Hernandez Hall (ECII), and Ed and the Harold Foreman Engineering Complex, or ECIII. Goddard Hall, Jett Hall, and Thomas and Brown are the other main facilities of the College of Engineering.

ECl is home to the Engineering New Mexico Resource Network, the Alliance for Minority Participation, as well as offices, classrooms, and laboratories. The building was constructed in 1980.

Hernandez Hall was originally known as ECII and houses Civil, Agricultural and Geological Engineering (CAGE). Construction was completed in 1989 and the Engineering Complex II became John Whitlock Hernandez Hall in 2002.



ECIII was constructed in 1997 where the old Dairy Laboratory used to stand. Departments housed in ECIII include Industrial Engineering and Engineering Technology. The college intends to develop the third floor suite as a Learning Community of Engineering and Aggie Innovation Space, serving student needs and providing a collaborative educational space for student-staff interaction. ECIII was named the Ed and Harold Foreman Complex in 2006.

Jett Hall has undergone a major interior renovation of the original 1956 structure in 2017. Laboratories, classrooms and offices have been upgraded with modern amenities.

Goddard Hall is an architecturally significant historic structure from 1913 and is listed on the National Register of Historic Places. Goddard Annex was added in 1937. The administration for the College of Engineering is housed in Goddard Hall. Both Goddard Hall and Goddard Annex underwent a major renovation in 2001. This renovation project is a model of how to preserve historical buildings by retaining the original characteristics and updating for code compliance, resulting in a beautiful example of Spanish Renaissance Revival architecture.

Thomas and Brown, home to Electrical Engineering department, will be the next engineering facility that needs renovation but will compete against other facilities for funding priority over the next decade.

College of Health and Social Services

Health and Social Services is located in a single facility that was built in 2003 and expanded in 2010. Memorial Tower was part of the west stands of the first Aggie Memorial Stadium dating from 1950. This Art Deco style tower was named to honor Aggies who died serving in the military, and was incorporated into the design of the Health and Social Services facility. The Health and Social Services building and annex are Trost Revival buildings, and house the college's programs, administration, classrooms, and auditorium.

Honors College

Conroy Honors College is located in the historic William B. Conroy Building. This is a Henry Trost-designed Spanish Renaissance Revival building and is listed on the National Register of Historic Places. Built in 1907, it was originally the YMCA building. Over time it served various functions, from housing the Music Department to Air Force ROTC program. It sat vacant for two decades from 1982-2002, when the derelict structure was restored. In 2003, an elevator and stair tower were added to the east side of the building for ADA-compliant accessibility. The Conroy Honors Center is example of excellence in historic preservation, refurbishing one of the original campus buildings for future generations to cherish.

Graduate School

The Graduate School is housed in the Educational Services Building. Regents Row will be closed in summer 2017. One academic function for any replacement building could be the Graduate School Center Facility.

Shared and Other Facilities

Milton Hall houses the Creative Media Institute and KRWG radio. The station first signed on the air on June 29, 1973; its call letters were assigned in honor of Ralph Willis Goddard, an educator and pioneer broadcaster in Las Cruces, who was employed as an instructor at NMSU.

Barnes and Noble Bookstore has been the campus bookstore and the building houses the Auxiliary Services headquarters since 2013. It also includes a café and fast food restaurant. The Computer Center was built in 1966, and underwent additions and improvements in 1987, with the construction of the Science Hall.

Hadley Hall replaced the University's original administration building by the same name in 1953 and continues to house NMSU's administration, along with finance, human resources, purchasing, and real estate offices. Wooten Hall was constructed in 2002 as the Jornada USDA Experimental Range Headquarters for rangeland research programs.

Hardman and Jacobs Undergraduate Learning Center replaced its two namesake buildings to become an integrated service and classroom space with classrooms, computer labs, key student services, and technology support resources in 2015.

Dove Hall was built in 1936 as the home economics building, and is now home to University Advancement. Dove Hall was renovated in 2003. Young Hall is the original library building from 1928, and is a Trost building that now houses the ROTC program.

Garcia Annex was funded by the estate of Fabian Garcia upon his passing in 1948 as a men's memorial dormitory, and today supports students through diversity programs, career services, and international programs. The building will soon be the new center for academic advising, beginning in fall 2017.

The Educational Services Center was built in 1978 for student services such as the Graduate School, University Registrar, admissions, and financial aid.

The Materials Warehouse Services provides internal support for Facilities and Services shops and to Housing departments.

New Mexico Department of Agriculture (NMDA)

In 1975, the current NMDA building was constructed as the first solar heated and cooled building in the country, but is no longer powered by solar. In December 2015, a series of meetings were conducted at the New Mexico Department of Agriculture (NMDA) Las Cruces District Office, located on the New Mexico State University campus in Las Cruces, New Mexico, with the Secretary of NMDA, the Director of NMDA, the Division Directors, and the various NMDA staff. The meetings were held to determine the spatial needs for the Las Cruces main facility, the Albuquerque District Office (ADO), and the Peanut Grading Station (PGS) located in Portales, New Mexico. The first priority identified is the laboratories at the Las Cruces Office and the second priority is the Albuquerque District Office. The proposed NMDA addition and renovation to the Las Cruces and Portales facilities and the replacement of the Albuquerque District Office are envisioned to provide the necessary laboratory, technical, and administrative spaces for this economic development and regulatory agency.

This plan sets forth the space needs for NMDA over the next ten years.

Physical Sciences Laboratory (PSL)

Clinton P. Anderson Hall was constructed as the Physical Science Laboratory in 1965, and was updated and expanded in 1993 for personnel at satellite tracking stations worldwide. Needs for the next ten years are:

- Asbestos abatement of remaining areas in Anderson Hall
- Repaving of back parking lot
- Garage/Carpenter shop (Building 279) renovated and steam line repaired

- Auditorium remodel project continued
- Fab Shop (Building 280) roof replacement
- 2nd Floor ceiling tiles replaced and new lighting installed
- Kitchen in snack bar area remodel
- Front lobby counter area upgrade
- New fencing around compound
- Tunnel stabilized

Carlsbad Environmental Monitoring and Research Center (CEMRC)

The needs for the next ten years are:

- Radiochemistry lab 150 remodel (currently in process at a total cost of \$498,000)
- Radiochemistry lab 158 remodel and science wing ventilation upgrade – currently designed and partially funded, estimated to be completed by 2020 at a total cost of \$1,230,000
- Science wing roof replacement
- Facility chiller replacement
- Main facility restroom remodel
- Facility boiler replacement

Housing Development

As noted throughout this plan, NMSU has identified improving the housing stock as a high priority. In the fall 2015, NMSU contracted Brailsford & Dunlavey, Inc. to complete an update to the 2009 Student Housing Master Plan. The purpose of this study was to assess current demand for on-campus housing and establish a vision for future improvements to the housing system. Input from campus administrators, the community, off-campus market factors, and the student body were of critical importance to the University. This provided NMSU with qualitative and quantitative research to determine how best to address future housing improvements.

Per the Housing Master Plan, the following next steps should be considered:

- The University should develop new or improved housing communities for first- and second-year students to support their recruitment and retention.
- Housing should connect to the *Vision 2020* strategic plan and academic programs. Housing cannot effectively support the University if it is developing projects and programming in isolation.

- A detailed residential life plan should be implemented to determine the level of staffing, programming, and support necessary to achieve the desired goals of increased academic success and graduation rates

NMSU has issued revenue bonds for the construction of a 300 bed new facility that will open in fall of 2019, and for \$11 million in renovations that will take place over the next two years.

Corbett Center Student Union

Large portions of the Corbett Center Student Union were renovated in 1996 and in 2016. Corbett Center's Food Court area was renovated in 2011 and the main dining facility, Taos Restaurant, was renovated in 2012. Sodexo, the campus dining partner, operates all food service locations in Corbett Center Student Union. Aging bakery and pizza ovens were replaced in 2016 with more efficient, up to date equipment. Lighting fixtures in the building are being updated with more efficient LED fixtures as funding allows.

Extensive repairs to the exterior of the building in 2017 will include adding expansion joints to repair and prevent cracking on the large exterior walls, replacing stucco as needed, replacing concrete stairways and walkways at the main entrances on the north and east sides of the building, and improving storm water drainage at the east side of the building. The third floor interior west corridor and four meeting rooms are scheduled to receive new carpet and/or acoustical wall covering in 2017.

Future plans include updating the flooring in the main corridor and food court areas on the first floor; installing security measures, including electronic access controlled entrances; and adding a building wide intercom/announcement system. The first floor interior pebble style flooring (east entrance), the Aggie Underground, and an open-air courtyard at the east side of the building will be evaluated for renovation in the coming years. Updating food service areas in Corbett Center is likely to occur between 2021-2027. Replacement of the main kitchen steam kettle islands and dish machine is probable within three to five years.

Golf Clubhouse

The Golf Clubhouse is a center feature of the NMSU Golf Course, and houses the Professional Golfers of America (PGA) program. The current clubhouse replaced the original facility on University Avenue, and was completed in 2004. The design plans for the golf course renovation includes retaining nine holes from the original course, and adding a new 18-hole loop course to the east and south. This change will allow the clubhouse building to be more appropriately positioned in a more central location to the links style course.

Athletics

Athletic Facilities consist of the Baseball and Softball Complexes, a running track, the Fulton Center (which houses Athletics' offices), Coca Cola Weight Training facility, the Football Coach's Office Building, and Aggie Memorial Stadium. Targeted renovations are planned to accommodate future program needs. A new parking lot is planned on the old landfill site, with additional parking located to the south and east for use by both commuter students and sports fans.

An architect was recently selected to develop an Athletic Master Plan that will guide program development and fundraising efforts. It is anticipated that Payne Street will become a tree-lined avenue with wide sidewalks leading from parking lots of athletic venues. Internal pathways should facilitate pedestrian movement within and between venues. Care should be taken to provide shade and seating along pathways with special attention given to venue entry plazas and support spaces.

Aggie Memorial Stadium

Aggie Memorial Stadium was constructed in 1978, the Field House was built in 1996, the Fulton Center was added in 2004, turf replacement was completed in 2015, and the President's Skybox (Club 27) was also launched in 2015. Few upgrades and modifications have been made to seating area and press box, and improvements for ADA are recommended. The architect developing the Athletics Master Plan has completed an initial study for the stadium. The evaluation prepared in early 2017 proposed a new press box, opening the lower seating bowl with a railing, adding a unifying shade structure, restroom/concession stand renovations, south end seating, fewer field graphics and updated technology. Funding opportunities for the complete renovation of this facility are currently being explored.

Pan American Center

The Pan American Center was renovated in 2006 and houses the offices for the men's and women's basketball and women's volleyball programs. In addition to hosting numerous concerts and family shows annually, the Pan American Center is the venue for University basketball and volleyball games, commencements, and other campus-based events. Anticipated needs over the next ten years will be new and efficient court lighting, seating replacement, ADA improvements, and a new sound system. A significant challenge is that the same efforts that have kept student fees low have also precluded an investment in repair and renovation funds, thus driving up the deferred maintenance backlog.

The Pan American Center was completed in 1968, expanded in 2004, and partially reroofed in 2015. The Athletics Master Plan will also address Pan American Center renovations. An initial study, also in early 2017, suggested venue improvements for the new lobby arrival experience, premium seating, concession areas, a hall of fame, improved views, public address system, event lighting, and video technology. The funding options for the Pan American Center are a priority for Athletics and Special Events, which share the

use of the building for sporting events and performances. The University, local community, and regional area would greatly benefit financially from the transformation of this outdated structure.

James B. Delamater Activity Center, Natatorium, Recreation and Intramurals

The Activity Center was built in 1973, renovated in 1996, dedicated to James B. Delamater in 1997, and studied in 2014 for a combined Activities and Aquatic Center transformation. The Natatorium opened in 1963, with a pool renovation in 2002. Concept sketches for a much-needed facilities infrastructure project were completed in 2016, with the expectation of donor support. Facility needs include pool lighting, branding, platforms, information technology, electrical, air conditioning upgrade, and additional spectator bleachers. The recreation areas are of great importance to the students. ASNMSU has sought funding for restroom/locker room renovations for the Activity Center. Donor funds supported the creation of the Women's Swim Team Locker Room. A partial or complete perimeter fence has been discussed for the intramural fields to reduce maintenance cost caused by community use of the grassed areas. The intramural fields are heavily used by K-12 groups for soccer practice. NMSU encourages public use, and is working a way to limit use in certain areas to address student concerns.

Arrowhead Park

The vision of Arrowhead Park is to be the premier regional community for science and technology. In 2016, a Master Plan was completed, laying the Foundation for "A Significant Place" through:

- Quality, competitive, sustainable real estate development
- Ensuring standards of NMSU and Arrowhead Center are maintained, and enhancing the community around the Park
- Development standard to assure tenants of value of their investment

Identified Goals for Development Plan

- Become a "best-in-class" mixed-use development
 - 10-20-year plan for a true live-learn-work-play environment
- Class A office to attract high wage paying tenant companies
- Gateway to NMSU campus and to City of Las Cruces
- Flexible spaces to inspire innovation, entrepreneurship, and technology development
- Enable NMSU Research collaborations with corporate partners
- Target Sectors –
 - Life Sciences, Aerospace, AgriBiz, Water/Energy, Digital / Creative Media

Circulation

- Enhancing Connection to NMSU & Community
- Opportunities for students, faculty, local residents
- New connector from Locust across arroyo to Town Center
- Tie to Sisbarro Park trail system and campus bike paths
- Integrate with MPO regional trail system
- Extension of Aggie and Roadrunner transit systems
- Future I-10 interchange and Arrowhead Drive

Park Architecture

- Holding true to Historic NMSU Style
- Spanish Renaissance Revival
- Tile Roofs, Corbels / Red Trim
- Two-Toned Stucco, Punched Windows
- Expanded Architectural Features
- Incorporate more Class A, tech office park features
- Expanded Glass Areas
- Greater Use of common spaces, plazas, patios

Landscape Development

- Welcoming Environment
- Extensive landscaping to green and soften the environment
- Water features to cool the surroundings, attract wildlife
- Shading through trees and structures
- Plants and groundcovers consistent with native landscape
- Multi-use trails and paths, arroyo upgrades

East Campus/Aggie Uptown

NMSU's East Campus 2,300-acre area is situated east of Interstate 25 and south of University Avenue at the base of A (Tortugas) Mountain. The main feature of the area is the NMSU Golf Course facility, which was originally constructed in 1962 with a new

clubhouse facility added in 2005. The East Campus also houses the Las Cruces campus President's Residence, the New Mexico Farm and Ranch Heritage Museum, and NMSU's rodeo complex.

In 2016, Aggie Development Incorporated commissioned Dekker/Perich/Sabatini to study this area to provide a starting point for a master planning effort. The purpose of the East Campus Development Plan is to provide a framework to guide future development on NMSU East Campus land. The vision for a successful development plan is the transformation of the underdeveloped project area that will continue to further the academic programs of the University, ensuring that the cultural resources, scenic views, and current recreational uses are preserved. The University will support and encourage private/public partnerships that reflect the vision of the plan.

Guiding principles include:

- Positioning lands to create long-term value for NMSU
- Developing programs that continue the learning experience for the students
- Ensuring new development are compatible with the University's mission
- Generating reoccurring revenue for Aggie Development Inc. and NMSU.
- Positioning property assets to derive the maximum return for the University with minimal risk
- Using public-private partnerships to develop core facilities such as mixed use commercial center, golf course, retirement community, housing and rodeo complex
- Connecting to the campus and greater community
- Continuing to advocate for the extension of Sonoma Ranch Boulevard and Geothermal Drive
- Connecting the East Campus to Las Cruces campus and making it integral to the NMSU brand
- Integrating sustainable development strategies
- Extending campus roadways, open space, and bikeway network to greater metropolitan area
- Recognizing the cultural and recreational significance of Tortugas (A) Mountain
- Maintaining the view corridor from Las Cruces campus to Tortugas (A) Mountain

The development plan focused on immediate development opportunities and long-term goals for the project. It became clear to the team that Phase 1 of the East Campus Development Plan would accommodate immediate development opportunities on 36 acres of land that fronts on University Avenue. This parcel consists of all the land that is north of the existing golf course and has immediate development opportunities. This parcel is situated at a major intersection in Las Cruces with immediate access to Interstate 25 and infrastructure.

Phase 2 involves 92 acres of land and is the most ambitious part of the development plan. Phase 2 would necessitate the elimination of nine holes of the existing golf course to create a 128-acre mixed use development parcel at the Interstate 25 and University Avenue intersection. It was determined early in the process that if nine holes of the existing golf course were removed, that it would be replaced with an 18-hole championship golf course to the east and south of the existing clubhouse, creating a 27-hole golf course facility for NMSU. For the 128-acre development to become a reality, NMSU hired nationally renowned golf course designer Jim Engh to provide a routing plan on a portion of the 2,300 acres of land NMSU already owns. The funding for this development will come from selling surplus land north of University Avenue and/or pledged revenues from ground leased parcels in Phase 1. Once the new 18-hole course is completed, then development of Phase 2 can begin immediately with designs on creating a continuing care community/medical community/destination urban retail/housing project at the terminus of Telshor Boulevard, along with possible alumni/faculty housing.

Phase 3 involves the bulk of the 2,300 acres of NMSU-owned land that has been set aside for future institutional space, special purpose programs, cultural/recreational areas, and a future land bank. The NMSU Rodeo Arena is also situated in this area, and there has been some discussion regarding the redevelopment of the rodeo complex with a covered arena adjacent to the New Mexico Farm and Ranch Heritage Museum on Dripping Springs Road.

Removal of Facilities/Demolition Plan

Current growth targets suggest that NMSU will recruit and retain 18,000 students enrolled by fall 2027, with an overall campus population of 25,000, including faculty and staff. Available data from a Peer Space Benchmarking Study completed in 2017 indicate that NMSU has a surplus of approximately 150,000 gross square feet; consequently, NMSU will employ a rule of “no new net square footage” that focuses on remodels and/or replaces existing square footage while enhancing the campus’s pedestrian character of rich open spaces and intimate courtyards.

To date, NMSU has eliminated 159,607 gross square feet (GSF).

Building Name	Year Built	GSF	Year Demolished
Jacobs Hall	1963	22,433	2015
American Telephone and Telegraph (ATT) Building	1969	943	2015
Observatory "A" Mountain South	1964	1,915	2015
Soil Instrument Storage	1953	683	2016
Nutrition Building	1953	1,120	2016
Horse Farm Office	1935	6,011	2016
Horse Farm Paddock	1901	5,045	2016
Monagle Residence Hall	1965	121,457	2017

This 2017-2027 Master Plan identifies several existing buildings for demolition, based on factors that not only included their physical condition, but the potential density they contributed to campus and whether the programmatic function they served in their present locations was in the long-term best interest of the campus. The following buildings are recommended to be demolished over time and their users moved to new or renovated spaces:

Building	Cons	GSF	Demo	Building	Cons	GSF	Demo
Regents Row	1962	73,260	2017	Feed Mill	1950	3,997	2019
Geothermal Greenhouse	1985	6,000	2017	Neal Hall (Meat Lab only)	1951	5,624	2019
Geothermal Greenhouse	1985	6,000	2017	Livestock Office	1952	7,713	2019
Aquaculture Greenhouse	1993	3,062	2017	Commodity Barn	1956	6,137	2019
Nason House Garage	1956	999	2018	Livestock Judging Pavilion	1957	3,899	2019
Ag Service Storage	1976	3,697	2019	Hay Storage (North)	1968	3,890	2019
Flammable Storage	1972	862	2019	Beef Office	1963	1,462	2019
Chemical Waste	1982	1,856	2019	Feeding Research Building	1969	3,440	2019
Cosmic Ray Lab	1989	917	2019	Biological Control Insectary	1973	7,224	2019
Horse Farm Storage	1946	3,212	2019	Wells Hall	1978	20,049	2019
Chemical showers	1993	235	2019	Hay Storage (South)	1956	2,011	2019
Dan W. Williams Hall	1938	34,740	2019	Dan W. Williams Hall Annex	1984	11,970	2019

This plan will eliminate 212,276 in total square footage.

Adoption of Supporting Plans/Appendices

As stated throughout this 2017-2027 NMSU System Master Plan, the NMSU System has prepared many supporting plans over the years. In anticipation of the effort to create this plan, University Architect Greg Walke compiled this Index of Component Plans in March 2015:

The following are master plans and addenda that have been adopted by the Regents. These may be viewed in the Facilities & Services (FS) library website under Master Plans.²⁵

Master Plan, adopted December 15, 2006

All other plans (listed as appendices below) are components of, additions to or revisions of this plan.

Appendix A.1 Heritage Preservation Plan, Volume 1, adopted March 14, 2011

Appendix A.2 Heritage Preservation Plan, Volume 2, adopted March 14, 2011

Note: this is one plan comprised of two volumes; it's also known as the university's historic preservation plan.

Appendix B Housing Master Plan, adopted June 20, 2013

Appendix C Food Service Master Plan, adopted June 20, 2013

Appendix D Transportation Master Plan, adopted June 20, 2013

Appendix E 2013 Master Plan Update, adopted December 13, 2013

This is the base plan and most recent update, and shows the most recent planning decisions.

Other Plans

The following are master plans, reports and analyses of a comprehensive, long-range planning nature, but that have not been incorporated into the Master Plan.

²⁵ <http://facilities.nmsu.edu/library/>

Campus Signage Policy (“Wayfinding”), 2006 Climate Action Plan, dated September 4, 2009 Utility Development Plan, dated 12/03/2009

Former Landfill Final Closure and Post Closure (CPC) Plan, dated May 2013

Structural Integrity Study for NMSU Utility Tunnel (System), October 10,2013

Water Master Plan

June 2003

October 2008

Water System Plan Update, dated March 2014

Site Electrical Infrastructure Master Plan, dated August 29, 2014

DACC Facilities Master Plan, dated September 2014

Fire Protection and Fire Life Safety Assessment, dated October 16, 2014

Storm Water Management Plan

Other Plans and Information:

The following are additional plans and reports for reference and background.

ADA (Americans with Disabilities Act) Study, Volumes 1 and 2, 2004

ADA STUDY 2016

City of Las Cruces University District Plan 2010 NMSU Zoning Map 2012

NMSU Facilities Conditions Report, June 2012

Arrowhead Master Plan (currently being updated)

Agricultural Science Centers Assessment, dated 6/5/2012

This plan will propose the current revisions and additions to the Appendices:

Appendix A.1 Heritage Preservation Plan, Volume 1, adopted March 14, 2011

Appendix A.2 Heritage Preservation Plan, Volume 2, adopted March 14, 2011

- Appendix B.1 Housing Master Plan, adopted June 20, 2013
- Appendix B.2 Housing Master Plan update 2015
- Appendix C Food Service Master Plan, adopted June 20, 2013
- Appendix D Transportation Master Plan, adopted June 20, 2013
- Appendix E 2013 Master Plan Update, adopted December 13, 2013
- Appendix F Utility Development Plan
- Appendix G Fire Protection Plan
- Appendix H Electrical Infrastructure Master Plan

- Appendix I.1 Water Master Plan 2003
- Appendix I.2 Water Master Plan 2008
- Appendix I.3 Water Master Plan 2014

- Appendix J New Mexico Department of Agriculture Programming Study

- Appendix K.1 Doña Ana Community College Facilities Master Plan 2008
- Appendix K.2 Doña Ana Community College Facilities Master Plan 2015

- Appendix L.1 Arrowhead Research Park Master Plan
- Appendix L.2 Arrowhead Research Park Master Plan 2015

- Appendix M Aggie Uptown/East Campus

NMSU Alamogordo

NMSU Alamogordo (NMSU-A) serves a host community population of approximately 35,000 residents. The main industries in Alamogordo are a hospital, the campus, various service industries, and Holloman Air Force Base, with population growth mainly seen through the influx of retired military personal. Academic program expansion is expected in distance education, continuing education for retirees, and targeted vocational clusters. NMSU-A also is working with Holloman Air Force Base on a variety of initiatives.

The NMSU-A campus consists of 511 acres located on a hillside in the northeast quadrant of the City of Alamogordo and offers its students a two-year traditional education as well as course work in occupational and technical programs. Currently consisting of 13 buildings, the main academic campus (which contains 12 buildings) is separated from its multi-use building (the Tays Center), a land bank area, and campus remote parking by Scenic Drive.

Current enrollment at Alamogordo for fall 2016 is at headcount 1,807 and 800.3 FTE. Enrollment is expected to increase gradually over the next several years in response to increased activity at Holloman Air Force Base and improved area high school graduation numbers. The 2006-2016 Master Plan anticipated growth, including several new facilities. With the downturn in the state economy, slowing of population growth, and the decline in high school graduates, NMSU-A will focus on renovations and better utilization of existing facilities.

Completed Projects

These projects were accomplished over the last planning period:

- Improvements for ADA accessibility to restrooms at the Student Union Building, Pro Tech Building, and Henry Campbell Art Center
- New trades center attached to the existing Tays Center
 - Houses the new automotive trades center and multi-purpose trades center, in addition to classrooms
 - Funded primarily from the 2008 Local GO Bonds and 2007 and 2008 General Fund appropriations
- Health Services Addition to the Charles Reidlinger Science Center
 - The first building within the NMSU System and only the twelfth building within the entire state of New Mexico
 - to achieve the LEED Gold designation
- Classroom Building Improvements
- Tays Center, Renewable Energy Storage and Canopy
 - The canopy provides covered outdoor classroom space for the welding and renewable energies programs

- Renovation to Townsend Library
 - Provides library improvements with a new finished floor, electrical/data upgrade for computer stations, restrooms renovation, and new configuration of book stacks to meet ADA requirements.
- Alamogordo Renovation to the Faculty Office Building
 - Consisted of infrastructure improvements to include utilities, roof replacement, HVAC upgrades, solar panel installation, establish grid tie, and restroom renovations
- Renovation to the existing kitchen and sale areas in Student Union Building
 - Provides a more space efficient for food preparation and sale areas

Contemplated Changes

These projects are from the state Five-Year Plans:

2018-2019 (2018 GO Bond)

Replacement of Adult Education / Tays Roof / miscellaneous roofs
Road, site and parking lot improvements including lighting

2019-2020

PPD Renovations
Mechanical ductwork and boiler feed lines

2020 – 2021 (GO Bond)

Road, site and parking lot improvements including lighting
Library elevator modernization
Information Technology Infrastructure Upgrades

2021-2022

Campbell Art Center renovations

Per instructions from the Department of Higher Education, each of these years has two priorities, effectively making this a ten-year plan. The Alamogordo Physical Plant building needs renovations, as does the Campbell Art Center. The Advanced Technology Center

was constructed such that expansion would be relatively easily accomplished to accommodate growth. The land north of the Tays Center that is currently dedicated as a walking trail is set aside as a land bank for future expansion.

Campus Utility Planning

NMSU-A has made many lighting improvements as funds became available. This strategy has been highly successful in reducing maintenance and operating costs.

Electrical

Public Service New Mexico provides electrical power to the campus through five PNM-owned meters. NMSU-A owns the entire medium voltage infrastructure past the metering points. This included nine point-of-common-coupling transformers, three switches and the interconnecting duct banks. NMSU-A supplies all labor and material to repair/ replace medium voltage equipment. No future electrical expansion is planned at this time. PNM has also installed 15-kW of photovoltaic on the roof of the Classroom building. It should be pointed out that Alamogordo receives power at the discounted rate for owning its own equipment but that PNM still performs maintenance. This will need to be addressed at some point in the future.

Natural Gas

Natural gas is supplied to the campus by New Mexico Gas. Natural gas is distributed to the 12 campus buildings through four metering sites.

Domestic Water and Sanitary Waste

Domestic water is supplied to the campus by the City of Alamogordo. NMSU-A has three storm water runoff holding ponds that drains into area arroyos, located throughout its campus. The City of Alamogordo is also responsible for the maintenance and inspection of all six campus fire hydrants and the three fire hydrants along Scenic Drive.

Energy Management

Building energy management is by a Computrol Energy Management System, except for the Rohovec and Henry Campbell Arts Centers. This system controls building HVAC and lighting. Future plans are to include the Rohovec and Henry Campbell Arts Buildings.

Communication Services are provided to the Campus by Century Link.

NMSU Carlsbad

The Carlsbad campus serves a host community population of approximately 55,000 residents in Eddy County, with a significant portion of students commuting from the neighboring City of Artesia. The main industries in the area are in oil and natural gas exploration and agriculture, although tourism offers untapped potential, with the area being ideal for eco-tourism, mountain biking, caving, hiking, and rock climbing. Pot Ash mining is considered to be strong, but with only a ten-year lifespan. A center for federal law enforcement training is located in Artesia, to the north of campus.

The Carlsbad campus occupies a hillside site and is organized north to south with a covered pedestrian walk and adjoining courtyards linking the three existing buildings. The 2006-2016 Master Plan proposed that any new development continue to be organized along this spine, that the courtyards between buildings be enhanced with more seating and informal gathering spaces, and that the open parcel at the front of the campus be held in reserve. The up-slope of the mesa and the area south up to the Monitoring Research Center would be dedicated as land banks. These recommendations continue.

Current enrollment at Carlsbad for fall 2016 is at 1790 and a FTE of 885.8. Enrollment is expected to show a gradual increase with the addition of 70 Early College High School students per academic year and the proposed addition of nuclear technician, radiation control, and fire technology degree options. The 2006 Master Plan anticipated growth, including several new facilities. With the downturn in the state economy, slowing of population growth, and the decline in high school graduates, Carlsbad Community College will focus on renovations and better utilization of existing facilities.

Completed Projects

These projects were completed during the last planning period:

- Main Building New Fire Sprinkler System
 - This project added a fire protection sprinkler system and interior area fire separation walls to NMSU Carlsbad's Main Building. Installation of these components brought the facility up to current life safety code requirements.
- Re-roofing of major buildings
- Restroom remodels and ADA upgrades
- Allied Health and Training
 - Construction of a new facility to house allied health training and for classrooms, laboratories, and offices to support the nursing program. The new addition was funded primarily from the 2008 State GO Bonds and 2008 Local GO Bonds.

- Carlsbad Drainage improvements
- Boiler replacement and Information Technology renovation
- Elevator addition
- Lighting upgrades

Contemplated Changes

These projects are from the state Five-Year Plans:

2018-2019 (2018 GO Bond)

Site improvements to include design and installation of drainage system
Learning Assistance Center Renovation

2019-2020

New roof on Computer Building
Site and parking improvements

2020-2021 (2020 GO Bond)

Art and music rooms renovation

2021-2022

Vocational Training Center
Growth of vocational programs may necessitate an increase in space

2022-2023 (2022 GO Bond)

Welding room renovation

Per instructions from the Department of Higher Education, each year has two priorities, effectively making this a ten-year plan. As emphasis is placed on vocational education and Aggie Pathways, expansion of trades may require an increase in space over the life of this plan. In addition, NMSU Carlsbad and Carlsbad Independent School District are exploring options for co-location of an Early College High School.

Campus Utility Planning

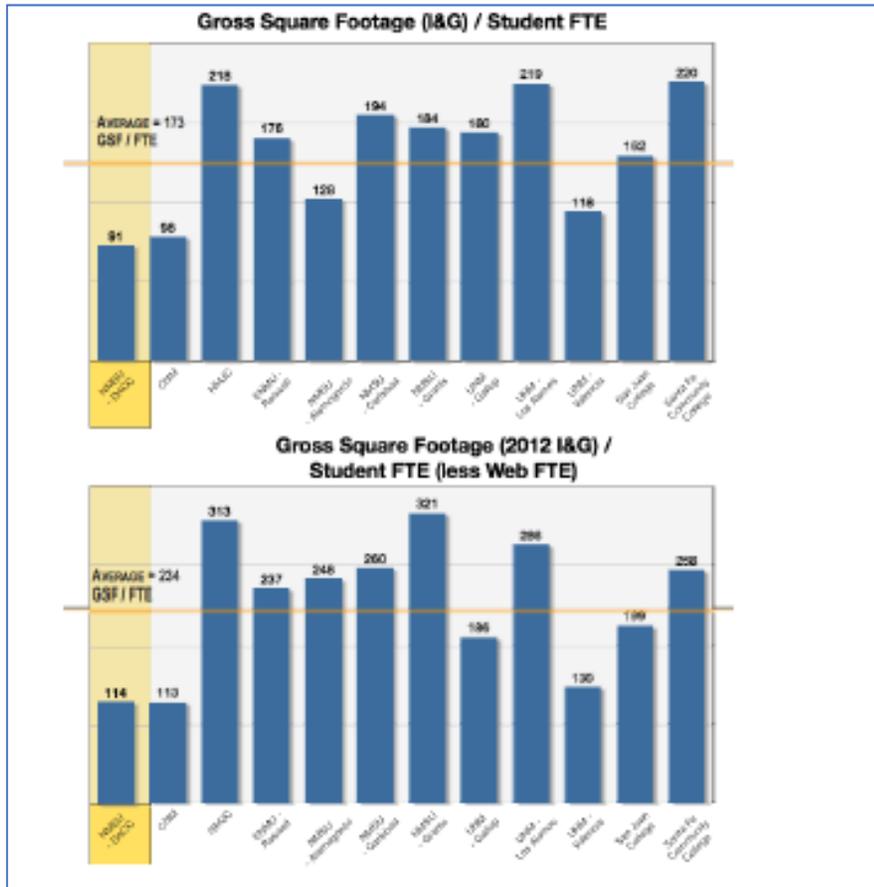
Electrical power is provided to NMSU Carlsbad by Excel Energy through three metering points located at the point-of-common-coupling transformers. All medium voltage equipment belongs to Excel Energy. Communication services are provided by Century Link. The New Mexico Gas Company provides natural gas to Carlsbad campus buildings through two metering sites. Energy management is provided via a BacNet system that allows for control of heating and cooling for all buildings

The City of Carlsbad provides domestic water via four meters distributed at main buildings throughout the Carlsbad campus. The city also accepts sanitary waste from the campus into its sanitary collection system and storm water runoff into its drainage systems and natural water ways.

Future plans include HVAC controls systems and software and computer upgrades, along with fire protection improvements.

NMSU Doña Ana Community College

As stated throughout, this 2017-2027 Master Plan is a compilation of many documents and plans. One of these plans is the Facilities Master Plan commissioned to guide capital improvements at DACC. First prepared and adopted in 1994 and refined in 1998, 2004, and 2008, the Facilities Master Plan developed by DACC and Architectural Research Consultants identifies specific and general needs anticipated from 2015 to 2022.²⁶ DACC has been very efficient in space utilization, and in keeping with the overall strategy for the system, DACC will focus on improved utilization and renovations to existing facilities while continuing to be responsive to service area growth and demand for new programs.



As with NMSU’s 2006-2016 Master Plan, the optimistic projections in the 2015 DACC Plan did not materialize; the mid-range enrollment projections anticipated another 1,016 FTE students by 2022 (from 5,447 to 6,463 FTE). Population and high school graduation data still suggest modest future growth, but perhaps not at the levels anticipated in the last Master Plan.

DACC is currently in the process of updating the 2015 plan, with a target completion date of early 2018. This master planning will center on information and projections based on anticipated growth at that time. In accordance with NMSU Administrative Rules and current practice, this plan will be approved by the NMSU Board of Regents and adopted as an appendix to the 2017-2027 NMSU Facilities Master Plan to coordinate alignment with *Vision 2020*. If economic conditions change and/or that growth is not realized, as was the case with the DACC Hatch Center, adjustments will be made to the plan through the approval process and incorporated into the subsequent Master Plan.

²⁶ DACC Facilities Master Plan

The following is excerpted from the **DACC 2015-2022 Plan**:

“HISTORY AND ORGANIZATION

In 1965, the New Mexico Department of Education designated Doña Ana County as an appropriate site in southern New Mexico for an area vocational-technical school. In 1971, the Boards of Education of the Gadsden, Hatch, and Las Cruces school districts requested that New Mexico State University establish a branch community college. It was to be located on the NMSU campus in Las Cruces and offer postsecondary vocational-technical education in Doña Ana County. The New Mexico State University Board of Regents approved the request in 1972, and the voters in Doña Ana County approved an operational mill levy in May 1973. The institution became an official entity on July 1, 1973. It began offering vocational training programs on September 4, 1973, as the Doña Ana County Occupational Education Branch of New Mexico State University.

Capital improvement implications at each site are:

The East Mesa Campus is now DACC’s primary campus. The East Mesa Campus will maintain a presence of all academic programs. Its major focus will be business and information systems, technical studies programs with synergy with business and information systems, and general studies. The development strategy will be to continue to provide additional classrooms, laboratories, faculty offices and associated academic support to meet expected enrollments in all phases of development.

The immediate capital improvement focus will be site development activities to relocate overhead electric lines, provide a new entrance road from Sonoma Ranch Boulevard, and provide an expanded facility for physical plant activities. The next phase of development will continue to provide additional classrooms, laboratories, and support space for expected student enrollments.

The Central Campus at NMSU will continue to maintain a presence of all academic programs. Its major focus will be on technical studies, and health and public services. Adult basic education will continue at the site.

As the original DACC campus, this site has the oldest facilities. The immediate capital improvement focus is to renovate the original 1978 building to upgrade the classroom and laboratory facilities to optimal designed

configurations and improve information technology capabilities.

The Workforce Center will continue to focus on workforce development and customized training. It will also serve as a supplementary site for technical studies (i.e., apprenticeship, facilities maintenance and/or construction-related industries) and adult basic education classroom space.

The immediate capital improvement focus will be to provide an addition to support the electronics program, and provide roof and parking lot repairs.

Other satellites will grow in a phased manner to respond to service area growth, demographics and available resources.”

Current enrollment in the Doña Ana Community College system for fall 2016 is at 8,241 headcount and 5017.7 FTE. Enrollment is anticipated to remain relatively flat. Improving graduation rates suggest opportunities for modest enrollment growth as well as a targeted focus on improving retention and completion. With the downturn in the state economy and the slowing of population growth, Doña Ana Community College will focus on renovations and better utilization of existing facilities to meet these needs.

Completed Projects

These projects were completed during the last planning horizon:

- East Mesa Center Phase 5
 - The plan includes a large lecture style classroom/auditorium space, courtyard, lobby space, and support spaces behind the stage.
 - This project was funded by a 2006 General Obligation Bond.
- East Mesa Center Phases 6 & 7
 - Facilities house classrooms, computer laboratories, and offices for the Public Safety Program, Hospitality Program, and the Student Development Center
 - Funding for the project came from 2008 Local General Obligation Bonds.
- Chiller Replacement
- Chaparral Center

- The new center replaced the temporary portables currently serving the growing areas of the county. The project included development of the new site, extension of roads and utilities into the site, construction of a new parking lot, and storm water ponding areas.
- The Mesilla Valley Economic Development Alliance Board was involved by providing information on incoming jobs and the kinds of vacancies that will be available.
- Trades Center Addition:
 - Two small additions to the Gadsden Center included remodeled and added spaces that house computer labs, a health lab, and offices.
- Hatch Center
 - The project includes the development of the new site, extension of roads and utilities into the site, construction of a new parking lot and storm water ponding areas. The source of funds is from 2005, 2006, and 2009 Local GO Bonds, and 2006 DACC Revenue Bond
- DACC East Mesa Improvements
 - This project creates a new campus entrance between Sonoma Ranch Boulevard and Loop Road, and includes a new entrance at Sonoma Ranch Boulevard. This will facilitate the ability for new students and visitors to locate the campus, and more importantly, will provide an efficient means of expediting student evacuation during an emergency situation.

Contemplated Changes

Hatch Phase 2 was initially identified as a possible future project based on projected growth in the 2009-2016 DACC Facilities Master Plan. However, based on revised projections and the economic recession, this project was reduced to a possible future project for \$2 million in the 2015-2022 plan only if and when the projected growth and enrollment were realized. As economic conditions did not improve and adequate utilization of the facility was unable to be achieved, this satellite campus is scheduled to be closed effective July 1, 2017 thus eliminating the need for consideration of future phases to this facility.

These projects are from the state Five-Year Plans:

2018-2019 (2018 GO Bond)

- Infrastructure upgrades and replacement
 - East Mesa Campus Main Building roof
 - DACC Central Campus Health Building roof
 - Espina Campus programmable lock replacements

Information Technology infrastructure upgrades

- Wireless infrastructure and access points in various locations
 - Classrooms in East Mesa Main, Academic Resources, and Student Resources buildings and Espina Campus
 - Health Building (IPAD Initiative Plan)
- Gadsden Center cabling upgrade to current standards
- Network upgrades and server/router replacements at East Mesa and Espina campuses

2019-2020

Infrastructure upgrades and replacement

- Workforce Center roof
- Workforce Center parking lot (drainage/code issues)
- East Mesa Campus programmable lock replacements

Information Technology infrastructure upgrades

- Wireless infrastructure and access points
- Network upgrades and server/router replacements

2020-2021 (2020 GO Bond)

Infrastructure upgrades and replacement

- Gadsden Center rooftop HVAC unit replacements
- Sunland Park Center rooftop HVAC unit replacements
- East Mesa Campus rooftop HVAC unit replacements
- Resurface Sunland Park Center parking lot
- Workforce Center programmable lock replacements

Information Technology infrastructure upgrades

- Wireless infrastructure and access points
- Network upgrades and server/router replacements

2021-2022

Infrastructure upgrades and replacement

- Espina Campus Buildings stucco replacement
- East Mesa Campus parking lot refinish

Information Technology infrastructure upgrades
Wireless infrastructure and access points
Network upgrades and server/router replacements

2022-2023 (2020 GO Bond)

Infrastructure upgrades and replacement
Espina Campus Technical Studies, Classroom, and Health
Building Lab infrastructure and restroom upgrades
Sunland Park Center roof
Information Technology infrastructure upgrades
Wireless infrastructure and access points
Network upgrades and server/router replacements

2023-2024

Infrastructure upgrades and replacement
Espina Campus HVAC and chiller replacements
Gadsden Center parking lot resurface
Information Technology infrastructure upgrades
Wireless infrastructure and access points
Network upgrades and server/router replacements

Per instructions from the Department of Higher Education, each year has two priorities, effectively making this a ten-year plan. As emphasis is placed on vocational education and Aggie Pathways, enrollment will be carefully monitored and adjustments made the planning efforts as conditions warrant.

These DACC projects will be funded with the local funds during the planning period:

Workforce Development Center, Las Cruces, NM - Lab expansion and facility renewal

The Workforce Center will continue to focus on workforce development, customized training, and technical studies programs. The immediate capital improvement focus will be to provide expansion of lab space and provide roof and parking lot repairs.

Gadsden Center – Phase 3 for additional classrooms, labs, support space Cost

The focus is to expand the Gadsden Center with additional necessary science classrooms and laboratories to enhance student completion by creating additional pathways to completion. The addition of two science labs will allow for expansion of science course offerings and the resulting expansion of career and technical education opportunities

Infrastructure improvements/facility renewal satellites

For other facilities, roof systems, heating, ventilating and air conditioning systems, building lighting and power systems, building interior finishes and exterior envelopes in need of major repair and replacement.

Technology/equipment acquisition

For all campuses, upgrade of information technology, network, wireless access, fiber optic lines, and server replacements.

DACC Campuses Utility Planning

Espina Campus

The DACC Espina Campus is located within the NMSU Las Cruces campus. All utilities are provided and metered by NMSU. Las Cruces campus utility systems that serve DACC are chilled water, steam, natural gas, electric power and generation, telecommunications, potable and non-potable water, sanitary sewer, storm water runoff, utility metering, building and utility energy management, Central and Satellite Utility Plants, and a tunnel system for utility distribution. Electrical power is provided by two sources: a co-generation plant provides approximately 4.5 megawatts of electrical power and EPE. NMSU provides water to DACC Central Campus via four domestic water wells and two research water wells. Domestic water storage for the campus is provided by a 5-million-gallon tank and a 4-million-gallon tank, located east of I-25.

The CLCU Department provides high pressure and low pressure natural gas to the Las Cruces campus. Distribution of natural gas is through NMSU-owned and operated natural gas lines. CLCU also accepts sanitary waste from the Las Cruces campus into its sanitary collection system and some storm water runoff into its drainage system. DACC has numerous storm water runoff holding ponds located throughout its campus. More information on Las Cruces campus utilities can be found in the Las Cruces Campus Master Plan.

East Mesa Campus

The East Mesa Campus encompasses five buildings on 60 acres. Electric service and metering to each of the five buildings is provided by EPE. Natural gas and domestic water are provided and metered by CLCU. Outdoor lighting is provided and operated on campus by

DACC and is surveyed periodically to determine where new or upgraded lighting is needed. Projects are prioritized and completed as funding comes available. Future plans include upgrading existing lighting to LED lighting, thus saving energy and providing maintenance savings.

Workforce Center

The Workforce Center is a 32,000-square foot building supporting Community Education, Customized Training, Small Business Development and Technical Studies programs. Electric service and metering are provided by EPE. Natural gas and domestic water are provided and metered by CLCU. Outdoor lighting is provided on campus by DACC and is surveyed periodically to determine where new or upgraded lighting is needed. Projects are prioritized and completed as funding comes available. Future plans include upgrading existing lighting to LED lighting, thus saving energy and providing maintenance savings.

Gadsden

The Gadsden Campus encompasses one building and two portables on 20 acres. Electric service and metering are provided by EPE. Propane for heating and domestic hot water is provided by Cortez Gas Company. Future plans call for the elimination of propane and connecting to the high-pressure gas line adjacent to the property, when eventual expansion warrants. Domestic water is provided and metered by Anthony Water, as is sanitary sewer and storm water runoff. Future plans are for the installation of booster pumps to improve domestic water supply and fire hydrant supply from the water district. Outdoor lighting is provided by DACC, and lighting is surveyed periodically to determine where new or upgraded lighting is needed. Projects are prioritized and completed as funding comes available. Future are to upgrade existing lighting to LED lighting, thus saving energy and providing maintenance savings.

Chaparral

The Chaparral Campus encompasses one building and three portables on 20 acres. Electric service and metering are provided by EPE. Natural gas is provided and metered by New Mexico Gas Company. Domestic water is furnished and metered by Lake Section Water District. Outdoor lighting is owned and operated by DACC and is surveyed periodically to determine where new or upgraded lighting is needed. Projects are prioritized and completed as funding comes available, and the future are to upgrade existing lighting to LED lighting for energy and maintenance savings.

Sunland Park

The Sunland Park Campus encompasses one building and three portables on 17 acres. Electric service and metering are provided by EPE. New Mexico Gas Company provides natural gas. Domestic water is provided and metered by Camino Real Water District. Outdoor lighting is owned and operated by DACC and is surveyed periodically to determine where new or upgraded lighting is

needed. Projects are prioritized and completed as funding comes available, and the future are to upgrade existing lighting to LED lighting for energy and maintenance savings.

NMSU Grants

NMSU Grants serves a host community population of approximately 9,000 residents in the City of Grants and 25,000 residents in Cibola County.

The Grants Campus sits on 40 acres located at the base of Mount Taylor on the north side of the City of Grants and emphasizes a two-year traditional education as well as course work in occupational and technical programs. The campus is a former Job Core site and currently uses two of the original buildings: the McClure Educational Center for instructional space and building maintenance shops and the Fidel Activities Center as a gymnasium/multipurpose facility. Martinez Memorial Hall, completed in 1978, provides both administrative and classroom space, faculty offices, library, and a cafe.

These comments from the 2006-2016 Master Plan are still true and incorporated in the 2017-2027 Master Plan:

Plans for the Grants Campus reflects the desire to create a park-like, pedestrian-focused environment with shade and outdoor seating linking buildings together and providing a structure for building architecture that reflects the regions cultural heritage. The landscape is rich with desert flora and should be a lab to teach about solar, water conservation and wind, while celebrating local art. Moving the parking to the perimeter is the first step to implementing the plan. A new drop-off is proposed at the western edge of the campus with drivers being given the choice between parking to the north or south. Pedestrian paths will lead from the parking lots into an interior open space. Lawn in this space is reflective of the desire to have an area for informal student gathering or special events so it will have to be irrigated to be maintained. A formal plaza is desired in front Martinez Memorial Hall, the administration-classroom building. The lava rock walls at the perimeter of the existing lawn courtyards on the west side of Martinez Hall will be removed allowing pedestrian use to be more flexible. It is highly desirable that a signature architectural character be established that reflects the cultural heritage of the region which is approximately one-third Native American, one-third Hispanic and one-third a mixture of others.

Also carried over was the desire to include pedestrian amenities, and a center green space connecting campus buildings featuring regional art and landscaping reflecting the southwest environment.

Current enrollment in Grants Community College for fall 2016 is at a headcount of 950 with a FTE Of 411. With the downturn in the state economy, slowing of population growth, and the decline in high school graduates, NMSU Grants will focus on renovations and

better utilization of existing facilities.

Completed Projects

These projects were completed in the last planning period:

Contemplated Changes

These projects are from the state Five-Year Plans:

2018-2019 (2018 GO Bond)

Martinez Hall Renovations to include HVAC, center roof, and restroom ADA upgrades

2019-2020

Fidel Hall renovations

2020-2021 (2020 GO Bond)

Martinez Hall renovations, including exterior stucco

2021-2022

Martinez Hall south roof replacement

Fidel Hall energy upgrades (heat pumps/rooftop units, HVAC automation)

Martinez Hall Electrical Distribution Upgrade

2022-2023 (2022 GO Bond)

Martinez Hall north ramp and wall replacement

Small Business Development Center roof replacement

Martinez Hall business and administration office renovation

Martinez Hall library roof replacement

Martinez Hall cyber cafe roof replacement

Utilities

Overview

The City of Grants Utilities provides domestic water to NMSU Grants. The city also accepts sanitary waste from the campus into its sanitary collection system and storm water runoff into its drainage systems and natural waterways. Electrical power is provided to the campus by Continental Divide Electric Cooperative. Communication services are provided by Century Link. The Gas Company of New Mexico provides natural gas to the campus. Upgrades to these utilities are provided by the utility companies and is based upon campus needs.

Water

Water to NMSU Grants is provided by the City of Grants via a 6-inch water line coming onto the campus at the Third Street entrance. In addition to providing domestic water to all buildings, this line provides water to two fire hydrants: one located near the day care and the other at the University Boulevard entrance.

Sanitary Waste

Sewage service is provided by the City of Grants. Sewage from all buildings converges at a manhole near the maintenance yard before flowing into the city sewage system near Second Street.

Electric

Continental Divide Electric Coop provides electrical power to the entire campus. Each major building (Martinez, Fidel, and McClure) have a minimum of one transformer supplying power.

Communications

Telephone service is in two forms: Voice Over Internet Protocol (VOIP) and analog lines, both of which are provided by Century Link. VOIP is used for all voice telephone communication, while analog lines are reserved for fax machines, fire alarm panels, and elevator emergency phones. Internet service is also provided by Century Link via a fiber optic cable daisy-chained to all major building.

Natural Gas

The Gas Company of New Mexico provided natural gas to all buildings on campus. Most buildings are individually metered, while others may share a meter.

Agricultural Experiment Stations

Artesia | Agricultural Science Center at Artesia



The Agricultural Science Center at Artesia focuses on the research addressing the agricultural interests of the Pecos River Valley. Ongoing research includes fertility studies and manure use in crop production, integrated pest management, weed management, and performance evaluation of crop cultivars.

- Headquarters building has serious foundation and structural repair needs due to settling and water damage
- Oil spill remediation on soil of the south part of the center is still needed.

Corona Range and Livestock Research Center



The primary mission of the Corona Range and Livestock Research Center (CRLRC) is to enhance the understanding of woody brush innovation, hydrology, cow-calf production, and big game management and to develop innovative solutions to improve economic development in rangeland-bound communities. Plans call for the development of Cabins and a Laboratory to complete Phase II of the Southwest Center for Rangeland Sustainability so that the outreach, academic and research mission of the SWCRS can be realized.

- Headquarters and North Camp residences have deferred maintenance needs

Los Lunas | Agricultural Science Center at Los Lunas



The Agricultural Science Center at Los Lunas performs research on agronomic and horticultural crops, and sustainable farming practices for the middle Rio Grande Valley and portions of central New Mexico. The ASC at Los Lunas is co-located with USDA-NRCS Plant Materials Center (PMC), whose mission is to develop native plant materials and effective plant technologies to address natural resource conservation needs in the southwestern United States.

- Internet connectivity is being addressed at the Center
- Need 3-phase power at the Center

Alcalde | Sustainable Agriculture Science Center at Alcalde



The Sustainable Agriculture Science at Alcalde is dedicated to research on sustainable agriculture and related issues that benefit small family farms in North Central New Mexico.

- Have serious repair/maintenance needs at the headquarters building (last estimated to be approximately \$2 million)
- Residences need electrical and plumbing upgrades

Clovis | Agricultural Science Center at Clovis



For more than half a century, research at the Agricultural Science Center at Clovis has helped agricultural producers in eastern New Mexico increase profitability and sustainability with research on limited irrigated and dryland farming systems, alternative crops, and needs of the dairy industry in the Southwest, as determined by producers. Located 15 miles north of the city on State Road 288, the center lies in the heart of the largest crop production area in New Mexico.

- Greenhouse needs repairs
- Headquarters roof has leaks from hail damage

Clayton Livestock Research Center



Scientists at the Clayton Livestock Research Center conduct research on shipping protocols for cattle, particularly evaluating the health and performance of newly received cattle and nutrition and management from feedlot to slaughter. Other research involves irrigated pastures and native grasslands, including grazing and stocking densities on locoweed-infested pastures.

- The mixing boxes are inoperable. The CLRC has been put on stand-down status until they can be fixed, as they represent a safety hazard for employees and animals.

Mora | John T. Harrington Forestry Research Center at Mora



The mission for the John T. Harrington Forestry Research Center at Mora is to conduct research and outreach throughout New Mexico and beyond in the areas of forest biology, native plant production, and reforestation biology.

- JTH Forestry Research Center has roof repair needs
- Residence trailers need repairs

Farmington | Agricultural Science Center at Farmington



The mission of the Agricultural Science Center at Farmington is to provide research-based information for small agricultural producers, industrial operators interested in natural resource management, rural and urban homeowners, and interested growers in the Four Corners region. The station works closely with the Navajo Agricultural Products Industry (NAPI).

- Center needs junction box electrical tie in to NAPI system
- Residence needs final ADA upgrades

Chihuahuan Desert Rangeland Research Center



New Mexico State University operates the Chihuahuan Desert Rangeland Research Center to protect and ensure availability of its resources for teaching, research, and extension endeavors that benefit the citizens of New Mexico as originally declared by Congress in 1927. The Chihuahuan Desert Rangeland Research Center conducts educational, demonstrative, and experimental development with livestock, grazing methods, and range forage, including investigation of the sustainability and management of natural resources and environmental ecosystems.

- Residence needs repairs

Fabian Garcia Research Center



The first deed signed for Fabian Garcia Research Center was in 1906. Currently the center has 41.10 acres of land available. Fabian Garcia, professor of Horticulture from 1906-1945, was named the first director of the State Agricultural Experiment Station in 1913. He produced the first reliable chile pod, which was the beginning of the hot "Sandia" pepper.

Leyendecker Plant Science Center



Leyendecker headquarters is nestled among pecan trees. The land was purchased by the University in 1969 and consists of 203.00 acres. Projects occurring at the Leyendecker Plant Science Center include: hoop house project, cotton, chile, alfalfa and onion plant breeding, precision farming, pecan research, drip irrigation research, and a multitude of other projects and programs.