SUL ROSS
THE FRONTIER UNIVERSITY of Texas

A member of The Texas State University System

SUL ROSS STATE UNIVERSITY MASTER PLAN
EAGLE PASS CAMPUS

2026

PRESIDENT'S LETTER

Dr. Carlos Hernandez
President

Part of what draws students to Sul Ross State University in the Middle Rio Grande region is the ability to stay close to home while they receive a first-class education. As we have the chance to expand our program offerings, it is time now that we offer them a "home away from home" in the form of a campus where they can benefit from our mission to deliver life-changing opportunities.

In the 1970s, a study center was established on the campus of Southwest Texas Junior College in Uvalde to provide upper-level courses for the residents of the city, along with those in Del Rio and Eagle Pass. The State Legislature renamed this center, Sul Ross State University Rio Grande College in 1995. With a desire to expand and include lower-level courses, this Master Plan continues our journey to providing a complete, four-year higher education experience focused on student success and realizing the dreams of the regional community.

The Sul Ross State University Master Plan-Eagle Pass Campus is unique in that it has been developed and designed on a 43-acre site that is currently undeveloped. The site, which is considered a blank slate, is a desert-like open space located in a thriving section of Eagle Pass adjacent to Southwest Texas College and Fort Duncan Medical Center.

Sul Ross State University has been a pillar of education and opportunity for underserved students since its establishment. Our students are majority Hispanic, first-generation, and often low-income reflecting the underlying demographics of the communities we serve. As they rise from a, sometimes, harsh environment, so will Sul Ross State University in Eagle Pass.

While our path forward may appear harsh and overgrown, we are clear about where we're headed.

The future is bright.

J. Carlos Hernandez, Ed.D.
President

ACKNOWLEDGMENTS

The planning team would like to thank the many individuals who contributed to the development of the Sul Ross State University Master Plan Eagle Pass Campus, including the President, Master Plan Committee, Board of Regents and System Administration who provided valuable insight and feedback about the vision for the campus.

MASTER PLAN COMMITTEE

Dr. Carlos Hernandez, President

Daniel Harper, Vice Chancellor and Chief Financial Officer, The Texas State University System

Peter Maass, Director of Capital Projects Administration, The Texas State University System

Mary Wickland, Interim Vice President for Finance and Operations

Bernie Cantens, Executive Vice President and Provost

Jorge Garza, Vice President and Chief Operating Officer, Rio Grande College

Ben Telesca, Vice President for Student Affairs

BOARD OF REGENTS

Stephen Lee, Chairman

Charlie Amato, Regent

Duke Austin, Regent

Sheila Faske, Regent

Russell Gordy, Regent

Tom Long, Regent

William F. Scott, Regent

Alan L. Tinsley, Regent

Johnny R. Weisman, Regent

Donavan Brown, Student Regent

CONSULTANT TEAM

FREESE AND NICHOLS

FACILITY PROGRAMMING AND CONSULTING

Project Cost Resources, Inc
Redefining Estimating

STERLING ILLUSTRATION


SR
SUL ROSS
THE FRONTIER UNIVERSITY of Texas

TABLE OF CONTENTS

Central Quad Illustration

EXECUTIVE SUMMARY

SCOPE OF THE MASTER PLAN

This Master Plan provides a multi-year comprehensive plan for a new four-year Sul Ross State University (SRSU) campus in Eagle Pass, Texas. It outlines the vision and framework for phased growth and development over multiple decades. In order to support SRSU's goals and provide a high-quality experience for students, faculty and staff, the campus is considered in terms of target enrollment and phased development of buildings, transportation, landscape and infrastructure.

The Master Plan includes project-specific recommendations to provide educational and experiential offerings in both the near- and long-term. The Master Plan is not intended to be constraining and prescriptive, and its graphics do not represent specific site or building designs. Rather, they illustrate recommended uses and locations of buildings, facilities, pedestrian gathering areas and landscape features.

The Master Plan is intended to allow flexibility and imagination while ensuring consistent, sustainable and quality implementation. It is intended to serve as the baseline to guide project designers while allowing and encouraging creativity. However, it should not be interpreted so loosely as to permit entirely different initiatives and conceptual directions. The goal is to achieve a balance between this Master Plan and mutual decisions that must be reached throughout each project's development process. The skillful use of this Master Plan by university planners, designers and facility managers will result in a functional, memorable and sustainable SRSU Eagle Pass Campus. This document should be a living document, periodically reexamined and updated as campus challenges evolve.

PROCESS

The development of the Master Plan included the four main phases described in Figure 1. In the Information Collection Phase, the planning team gathered information about the existing conditions on the property through a site visit and research. The team also reviewed the goals and vision for the campus and the programming for the first building that were developed during a previous planning exercise.

The Analysis & Schematic Phase included an analysis of the site location, environmental conditions, locally available utilities and previously developed demographic analysis. This analysis confirmed the target enrollment for SRSU Eagle Pass and informed the development of campus building blocks, including an updated program for the first building, and two initial concept plans. The Utility Master Plan was also started during this phase.

In the Review Phase, the planning team revised the selected concept plan and subsequently developed the draft Master Plan recommendations and illustrative plan. The planning team worked closely with SRSU leadership to review the recommendations and illustrative plan.

In the Refinement/Final Phase, the Master Plan document was finalized and presented to the SRSU leadership and the Board of Regents for approval.

PLANNING PHASES

Information Collection 1

Nov. 2025 - Dec. 2025

Meet with leadership
Gather site information
Review previous stakeholder input
Develop campus base map

Analysis & Schematic 2

Jan. 2026 - Feb. 2026

Analyze existing conditions
Confirm enrollment
Develop building blocks
Initiate Utility Master Plan
Revise Building 1 programming
Develop concept plans
Review with leadership

Review 3

Feb. 2026 - Mar. 2026

Revise selected concept plan
Develop recommendations
Create illustrative plan
Review with leadership

Refinement/ Final 4

Mar. 2026 - May 2026

Refine illustrative plan
Finalize graphics
Final review and presentation
Deliver Final Master Plan

Figure 1. Planning Phases

VISION & MISSION

WHO WE ARE

Sul Ross State University is a small, diverse community that values personal interactions while providing life-changing opportunities for students through quality undergraduate and graduate education, in-person and online.

MISSION STATEMENT

Sul Ross State University offers life-changing opportunities by delivering quality undergraduate and graduate education. We foster critical thinking, creativity, diversity, and research, empowering our students to excel beyond the frontiers of what is possible. We are a Hispanic serving public institution for the residents of the U.S./ Mexico borderlands, Southwest Texas region, and beyond.

VISION

We aspire to be the best value in Texas higher education and expand access to higher education for the underserved populations of the State. We will accomplish this by providing high quality, innovative, and flexible academic programs within a culturally inclusive environment, where students learn to develop creativity, foster critical thinking, enhance diversity, and engage in research to serve our region, state, and nation as impactful members of an educated society.

VALUES

- Student Access and Success
- Ethics and Integrity
- Academic Excellence
- Mutual Respect and Collaboration

STRATEGIC PLAN

One of the 2022-2027 SRSU Strategic Plan goals is to:

Implement The Texas State University System goal of transforming Rio Grande College into a branch campus prior to the transformation into an independent, four-year university in Eagle Pass, Texas.

There are 10 targeted outcomes of this goal, including:

- Transform Rio Grande College into a comprehensive university by creating, developing, and offering lower-level (freshmen and sophomore) coursework in addition to the existing upper-level and graduate coursework.
- Have degree programs specific to the Middle Rio Grande region.
- Develop and implement faculty recruitment procedures for expanding and retaining a diverse faculty.
- Elevate the status of Rio Grande College to the level of a branch campus in preparation for full university status.
- Prepare appropriate policies and procedures for full university status.
- Develop a tailored, experienced, and qualified workforce with the appropriate new administrative positions.
- Achieve the Texas State University System (TSUS) milestones required for branch campus status.
- Enhance the image and visibility of Rio Grande College as an emerging university.
- Broaden community engagement and public service opportunities among the surrounding communities of the region.
- Develop a marketing approach that effectively highlights Rio Grande College's role as a regional leader in higher education.

CAMPUS PLANNING PRINCIPLES

Based on SRSU leadership feedback and stakeholder input during a previous planning exercise, a series of campus planning principles were developed to reflect the values of SRSU, TSUS and the community vision for the campus. The following principles helped to guide planning decisions and evaluation of conceptual solutions developed during the planning process.

GUIDING PRINCIPLES

- **Establish a campus layout that harmonizes with nature.**
- **Promote a comfortable pedestrian experience.**
- **Foster and enhance outdoor experiences.**
- **Cultivate a welcoming environment.**
- **Plan for thoughtful and strategic phased growth.**
- **Solidify SRSU as an educational pillar of the region.**

MASTER PLAN OVERVIEW

SRSU has a long-standing commitment to expanding access to higher education across the Middle Rio Grande region. Building on decades of service through leased and shared facilities, the university has initiated development of a standalone Eagle Pass campus that will provide a full four-year academic experience, from undergraduate through graduate studies. This Master Plan establishes a comprehensive, long-range framework for campus development that is responsive to regional growth, evolving academic needs and available funding, while allowing flexibility for future adjustments.

The Master Plan for the SRSU Eagle Pass Campus envisions development on an undeveloped site designed to ultimately support an enrollment of up to 10,000 students. Campus development is organized into four primary phases, with Phase 1 divided into two sub-phases (Phase 1 and Phase 1A), each introducing facilities and infrastructure in a logical, scalable manner. Together, these phases guide the orderly growth of academic programs, student services, campus amenities and supporting infrastructure over multiple decades.

Phase 1 establishes the foundation of the campus by constructing the initial multipurpose academic and administrative building, along with essential facilities and site access improvements. This phase allows SRSU to transition many instructional activities to the new campus while maintaining administrative and support functions and some academic uses at existing off-campus locations. The first building sets the architectural character of the campus and introduces pedestrian-oriented design elements that will be carried forward in later phases.

Phase 1A expands academic capacity with an additional faculty and instructional building, allowing enrollment to grow and additional programs to be introduced. During this phase, campus circulation and parking are enhanced, and the academic core begins to take shape, enabling greater on-campus engagement while maintaining flexibility for continued online instruction.

Phase 2 marks a significant milestone in campus development, shifting from an initial academic presence to a more complete student-centered environment. This phase introduces major campus amenities, including a Learning Commons, Student Success Building, Central Plant and expanded outdoor gathering spaces. Parking is increasingly located at the campus perimeter, reinforcing a walkable academic core. By the end of Phase 2, all essential academic and student services are consolidated on campus, supporting enrollment of approximately 5,000 students.

Phase 3 continues expansion toward the northeast portion of the site and introduces facilities that enhance campus life and student wellness, including a Student Recreation Center and a centrally located parking garage. Additional academic buildings further strengthen the academic core, while pedestrian malls and open spaces continue to grow, supporting interaction, collaboration and campus identity.

Phase 4 represents full campus buildout, completing the northern portion of the site with additional academic buildings, fully realized pedestrian networks, and the Central Quad as the heart of the campus. Parking is consolidated along the campus edges, and the loop road is completed to provide continuous access and service circulation. At full buildout, the Eagle Pass Campus will function as a cohesive, fully connected institution designed to serve 10,000 students through a balance of in-person and online instruction.

While the phasing plan reflects the most logical development sequence based on projected enrollment, funding and infrastructure needs, the Master Plan is intended to remain flexible. Individual phases may be adjusted over time in response to changing conditions, while the Plan continues to serve as the guiding framework for the long-term growth and success of the Sul Ross State University Eagle Pass Campus.

Map 1. SRSU Eagle Pass Campus Master Plan

Scale: N.T.S. N

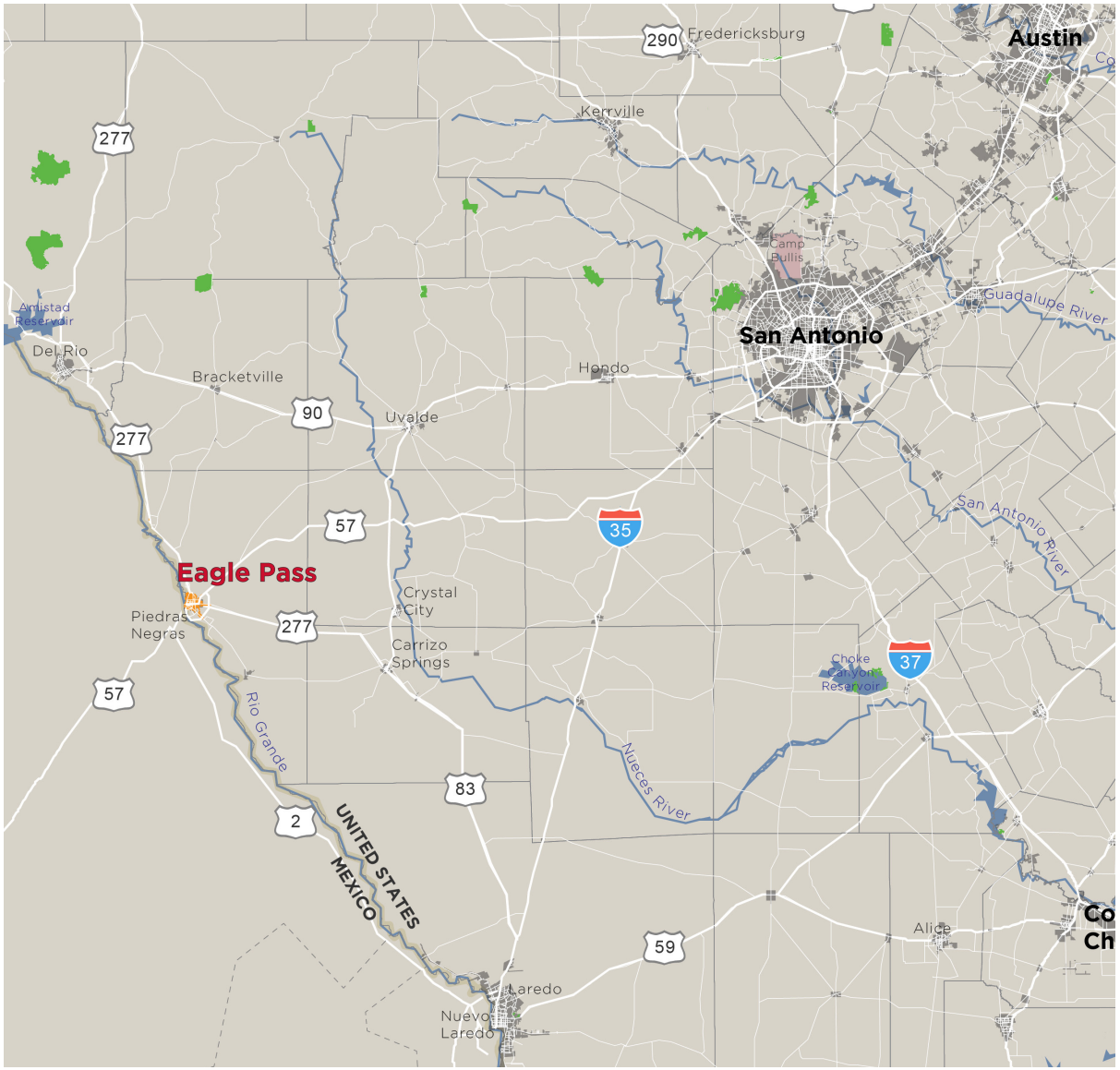
Figure 2. SRSU Eagle Pass Campus Aerial Illustration

Academic + Learning Commons Building and Pedestrian Mall Illustration

EXISTING CONDITIONS & ANALYSIS

REGIONAL CONTEXT

The future SRSU Eagle Pass Campus will be located in Eagle Pass, Texas, a city of approximately 29,000 residents and the county seat of Maverick County. Located approximately 130 miles southwest of San Antonio, the City of Eagle Pass is a border city along the banks of the Rio Grande River. The city is a major transportation corridor between the U.S. and Mexico and is connected by two bridges to Piedras Negras, Coahuila, Mexico. Piedras Negras has an approximate population of 206,000 inhabitants. Together, Eagle Pass and Piedras Negras form a larger binational metropolitan area.



Map 2. Regional Context Map

Scale: N.T.S.

LOCATION & SURROUNDING CONTEXT

Spanning 43.38 acres, the SRSU Eagle Pass Campus is located in the eastern part of Eagle Pass, approximately 4 miles east of the Rio Grande and the U.S.-Mexico border. Currently, the campus site can be accessed via one major highway, US Highway (US) 277, which leads directly to International Bridge 1 and provides access for cross-border traffic. US 277 also connects to US 57, which serves as the primary east-west route to San Antonio.

Surrounding uses include neighboring medical facilities like the Fort Duncan Regional Medical Center to the northwest, industrial warehouses to the north, and C.C. Winn High School and residential areas to the south. Much of the surrounding area to the east remains undeveloped.

Map 3. Location & Surrounding Context Map

Scale: N.T.S.

SITE ACCESS & CONNECTIONS

Potential site access points exist along US 277, N. Foster Maldonado Boulevard and Medical Drive. US 277 is a Texas Department of Transportation (TxDOT) highway and provides local and regional connectivity to adjacent commercial, medical and institutional facilities. A traffic signal is located at the intersection of US 277 and N. Foster Maldonado Boulevard. A secondary access road to C.C. Winn High School is located on the south side of US 277, just east of the SRSU property boundary. Access to the campus from US 277 will need to be designed thoughtfully, with consideration of access management strategies and TxDOT requirements. More information is provided in the Development Considerations section on page 28.

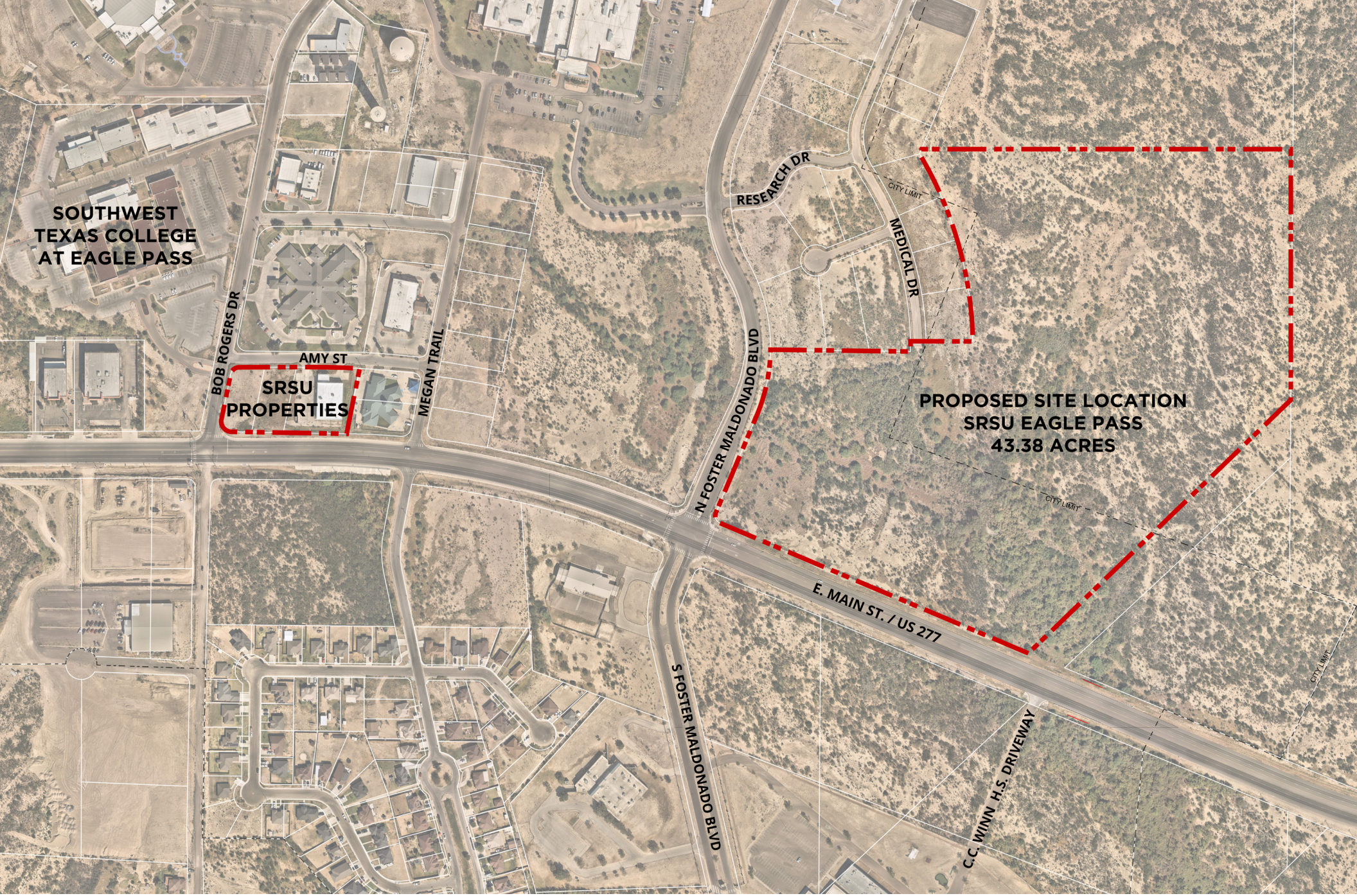
SRSU currently leases spaces for academic and administrative uses at the Southwest Texas College at Eagle Pass (STC) located less than 1 mile to the west of the new campus on Bob Rogers Drive. They also own two buildings (one under construction) on Amy Street, which are situated between the campus and STC. During the first few phases of development, SRSU uses will shift locations to gradually move all academic and nearly all administrative spaces to the new campus.

Since on-campus housing will not be offered, all students will be commuting to campus. Partnerships with local transit agencies could be explored to facilitate viable commuting options for students.

Access from Medical Drive

View facing east from Foster Maldonado Blvd.

US 277 Frontage (to the right in the image)



Map 4. Site Access & Connections Map

Scale: N.T.S. N

STORMWATER DRAINAGE

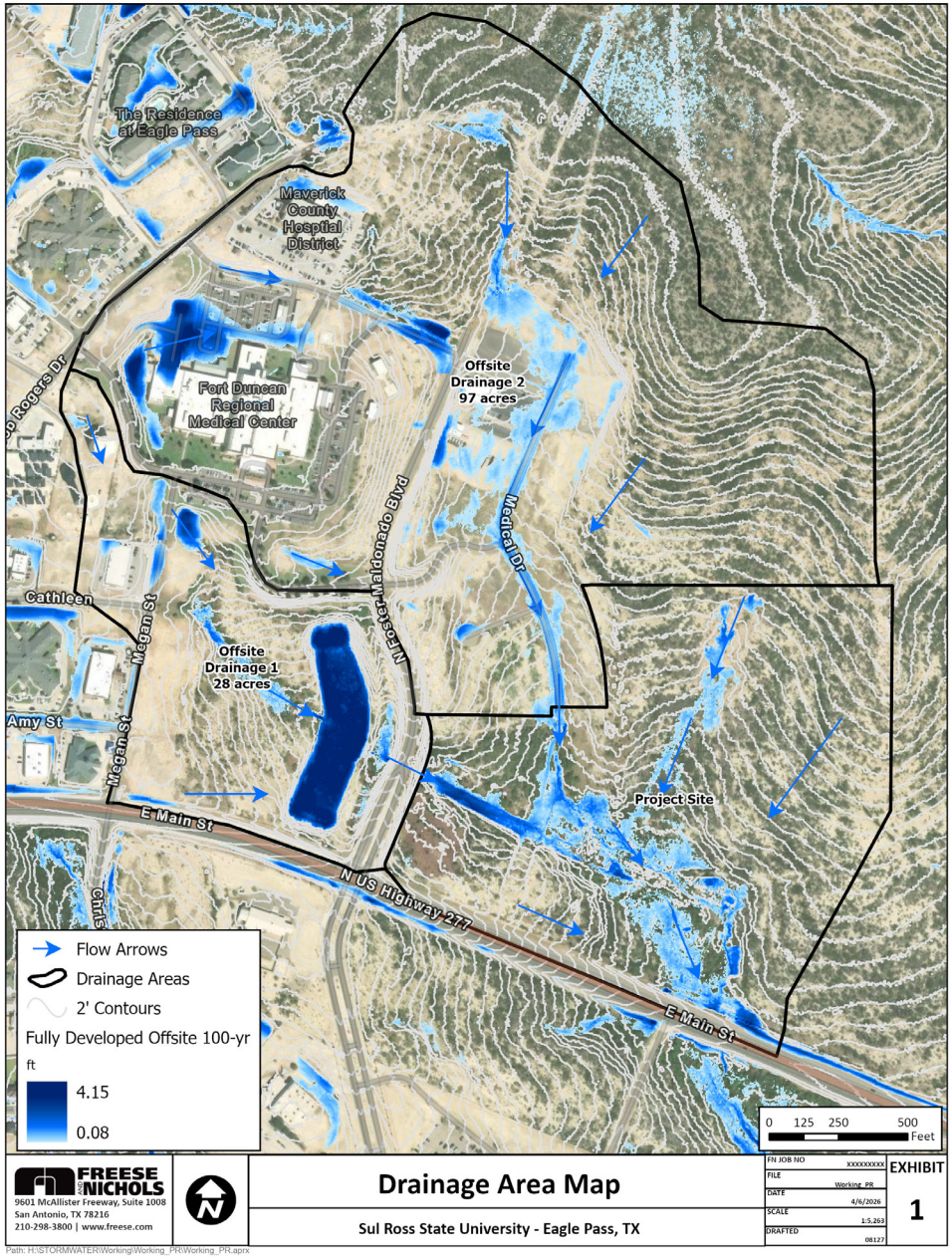
The site receives off-site drainage from both the north and west, including a detention basin to the west. Stormwater conveys overland runoff to a drainage corridor, draining from west to east, which exits the site at the southeast property corner toward a culvert beneath US 277. Based on site topography, a natural swale extends from the northeast portion of the site toward the drainage corridor. The property survey identifies a “drainage way” generally extending from the end of Medical Drive to the same culvert under US 277 just beyond the property’s southeast corner.

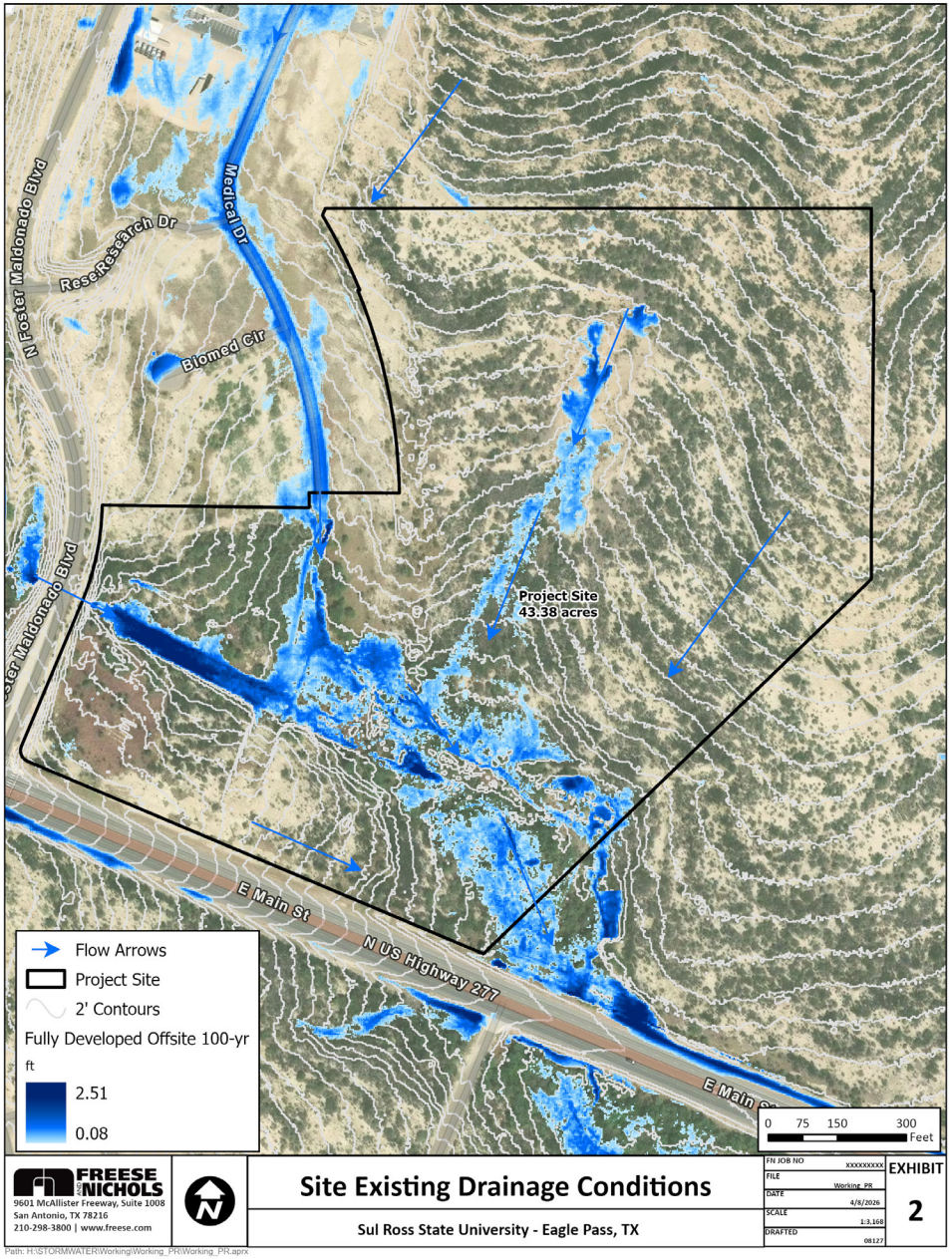
There are no floodplains or floodways on or near the project site. One outfall from a storm drain line originating from Medical Drive to the north is located on the property and has the potential for connectivity in the future.

Detention Basin on Adjacent Property

Approximate Location of Daylighted Stormwater Pipe from Medical Drive

Outfall Pipes Draining Adjacent Detention Basin into SRSU Property





Map 5. Drainage Condition Maps

SOILS, SUN AND WIND

Site soils have been identified utilizing the WebSoil Survey produced by the USDA Natural Resources Conservation Service (NRCS). NRCS mapping indicates that the primary site soils are Maverick Association (MKC) and Verick Fine Sandy Loam, 1 to 5% slopes (VKC). These soil classes are well drained and part of Hydrologic Group D with slow infiltration rates.

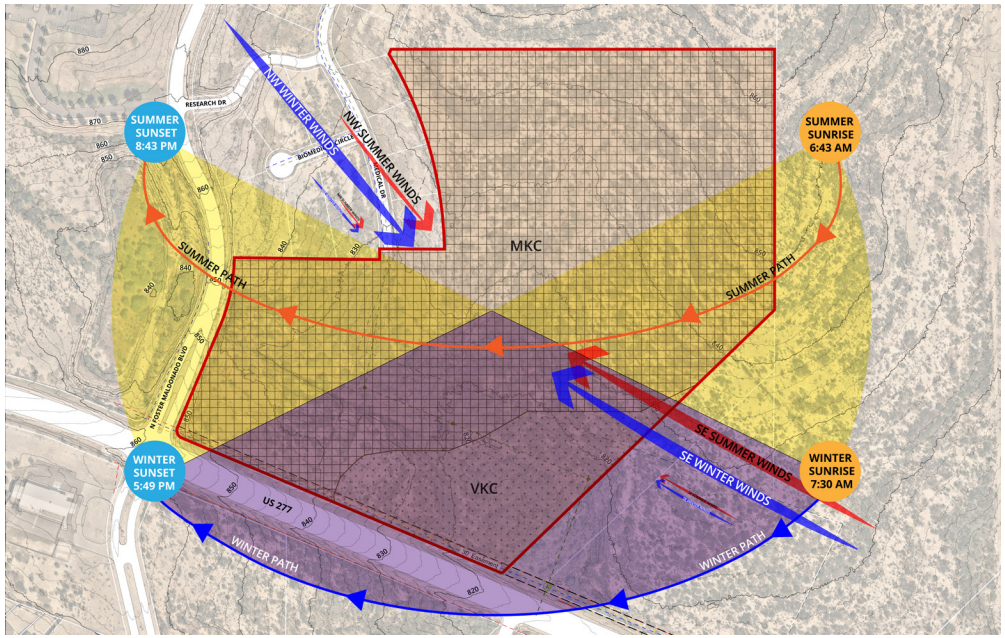
Wind data collected through the Automated Surface Observing Systems (ASOS), the nation's primary surface weather observing network, indicates that prevailing winds blow from the southeast and northwest. In the hot summer months, these winds could help provide air circulation in outdoor spaces.

Sun path models indicate that during the summer months, the region receives sunlight at a higher angle and for longer durations than in winter months. The sun path models help inform building orientation, which can influence a building's exposure to direct solar radiation. With minimal existing areas of natural shade on the property, providing outdoor shade (e.g., structures, trees) will be important.

SLOPES

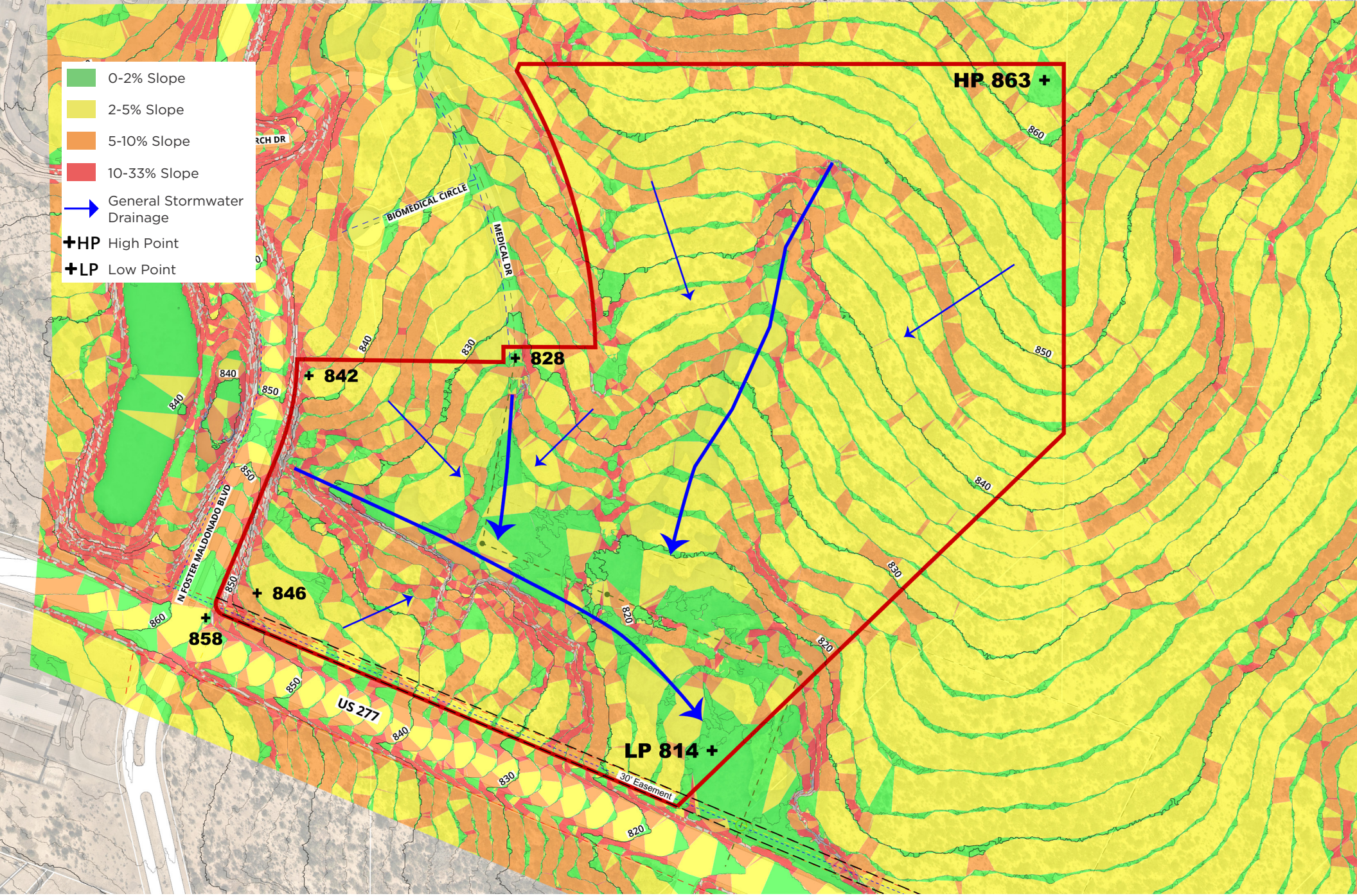
Historical records indicate the site has remained undeveloped from at least 1940 until the late 2000s, at which point the western portion underwent initial grading and disturbance. The topography slopes gently toward the south-southeast, with a prominent west-to-east drainage channel located toward the southern boundary that conveys off-site runoff from the west.

Most of the site features gradients between 2% and 5%. Slopes under 5% are ideal for developing buildings, parking lots and pedestrian circulation. While areas with slopes between 5% and 10% are developable, they will require additional site grading. To minimize environmental impact and construction costs, minimizing development in areas with slopes exceeding 10% is best. However, to maximize development potential on this site, some development will be necessary in areas with over 10% slope. These areas will require additional grading solutions such as retaining walls or multi-level building entries, among others.



Map 6. Soils, Sun and Wind Map

Scale: N.T.S.



Map 7. Slopes and Drainage Map

Scale: N.T.S.

EXISTING UTILITIES

MECHANICAL & PLUMBING

HVAC

Currently, there are no existing heating, ventilation, and air conditioning (HVAC) utilities or infrastructure in place at the site. All HVAC related infrastructure will be developed in phases as required for the buildout of the campus. Refer to the proposed utilities section of the report for related utilities and infrastructure that will be needed.

NATURAL GAS

The natural gas main on the south side of the project site serves as a crucial energy source for the area. This infrastructure ensures a reliable and convenient supply of natural gas, supporting various needs of the campus.

DOMESTIC WATER

Two 12-inch water mains, located parallel to US 277 and N. Foster Maldonado, play a vital role in the water supply infrastructure. These mains serve as a key conduit for providing clean and potable water to the campus, contributing to the overall well-being and functionality of the campus. An additional 8-inch water line runs parallel to Medical Drive to the north of the site.

SANITARY SEWER

An existing sanitary sewer main runs through the project site and can serve as the primary solution for wastewater management for the proposed development. Given its location within the site, the main provides a practical connection point for future campus facilities. This approach is more appropriate than relying on septic systems and supports the scale of the planned campus development. These utility features collectively contribute to the overall functionality and sustainability of the project site, ensuring that essential services are readily available for both current and future developments.

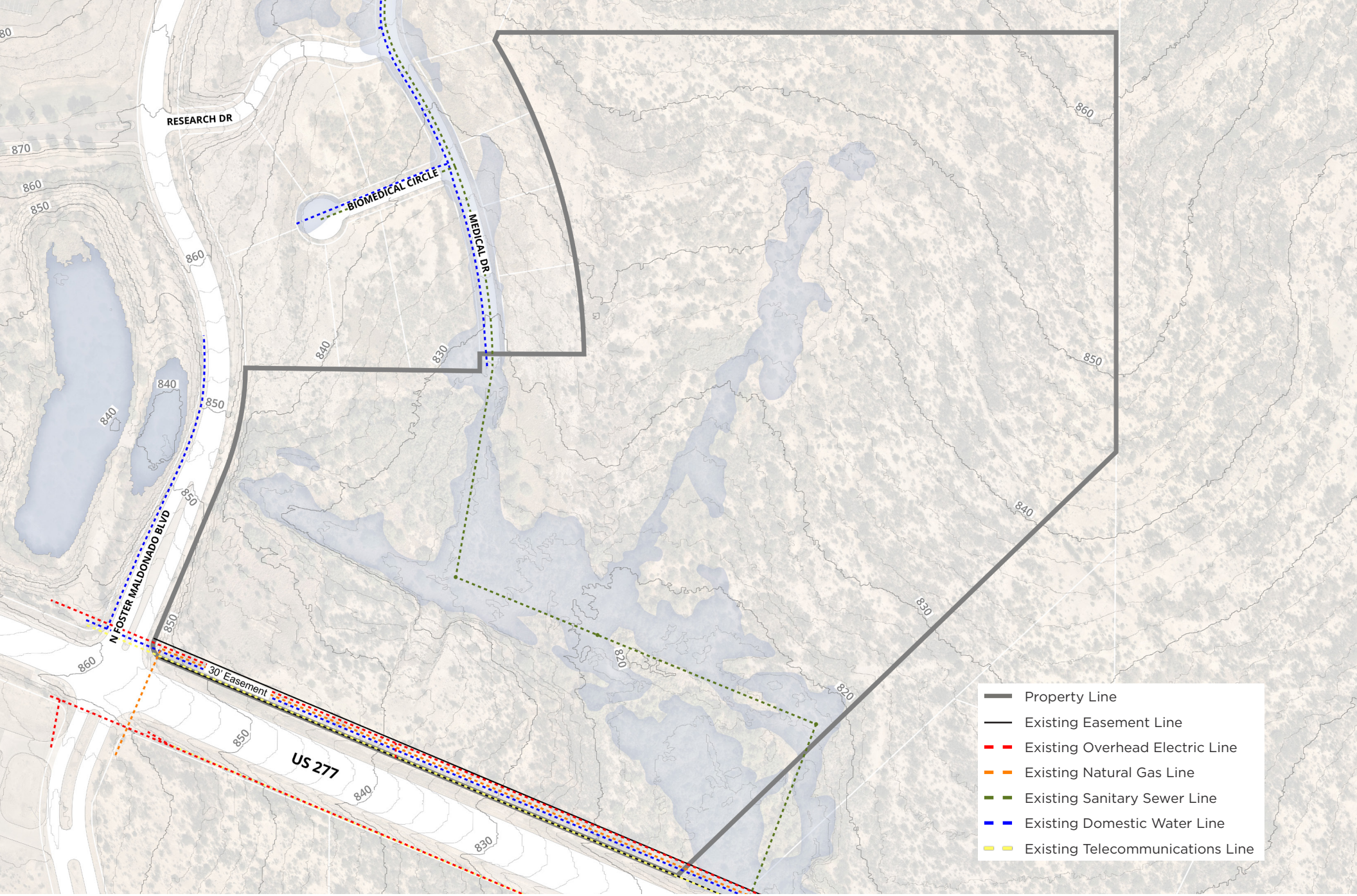
ELECTRICAL

There are no existing electrical utilities within the property. The planning team confirmed with Rio Grande Electric Cooperative (RGEC) that they own the nearest overhead electrical lines that are located south of the property. While the property survey did not show any electric utilities west of the property, there are streetlights along N. Foster Maldonado Boulevard and Medical Drive. It is assumed that electric utilities are available in these areas, but will need to be verified with RGEC.

STORMWATER

There is one outfall from a storm drain line originating from Medical Drive to the north located on the property. This line has the potential for connectivity in the future. The site's natural drainage patterns are described on the previous pages.

While there was no stormwater line shown on the property survey along Medical Drive, storm inlets and the outfall pipe were located during the site visit.



Map 8. Existing Utilities Map

Scale: N.T.S.

DEVELOPMENT CONSIDERATIONS

Based on the previous analysis and input from leadership, there are key development considerations to keep in mind as the new SRSU Eagle Pass Campus is planned and developed.

SLOPES

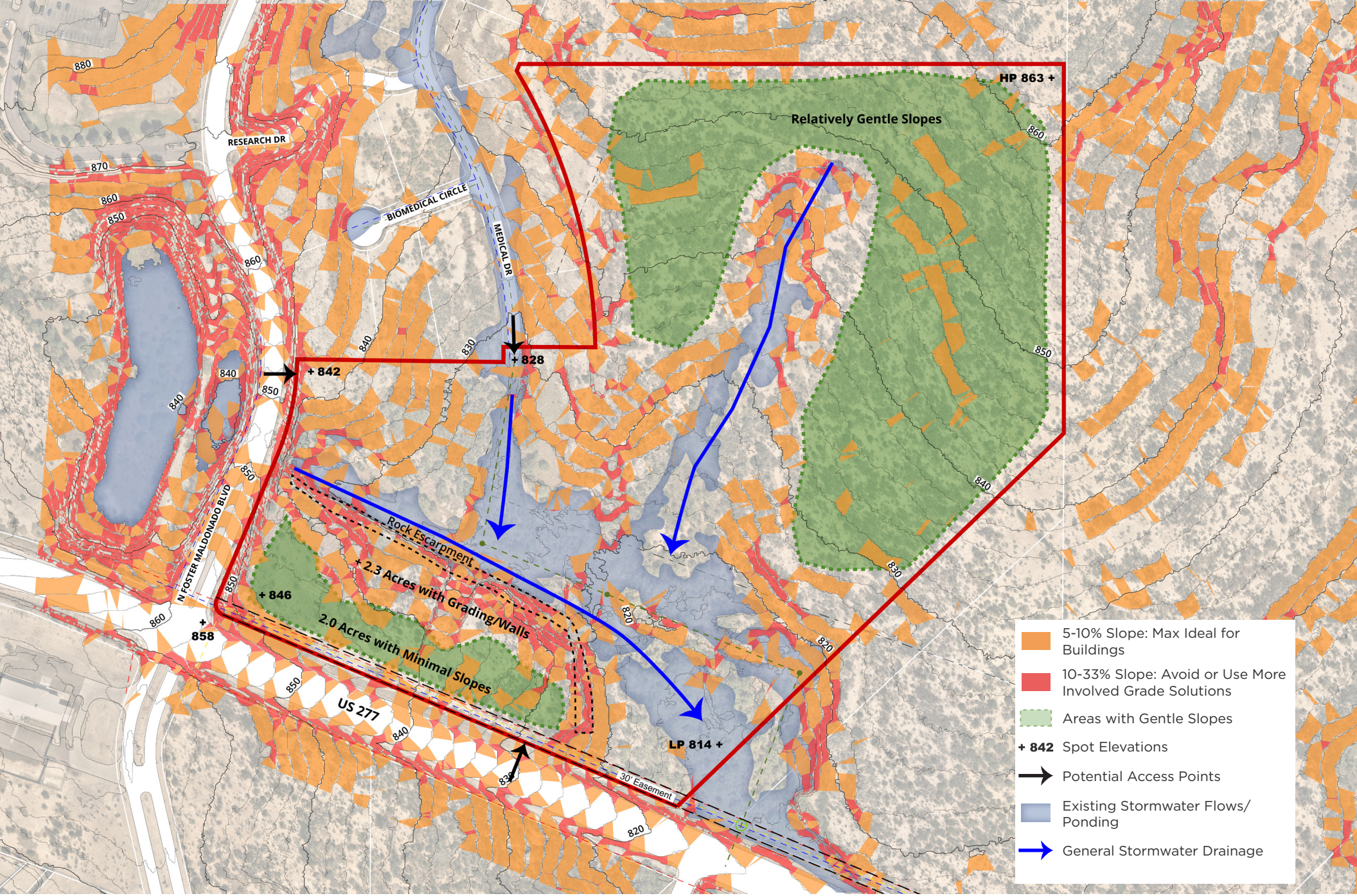
- The property contains a wide range of slopes. The two largest areas with minimal slope are located in the northeast corner of the site and on approximately 2.0 acres along the US 277 frontage. With site grading and potential retaining walls, the flatter area near US 277 could be expanded by approximately 2.3 additional acres, increasing the amount of developable land adjacent to the highway.
- Due to varying slope percentages and directions, some buildings may need to step with the terrain, allowing entry at different floor levels depending on location. Retaining walls and additional grading will likely be required in steeper areas to maximize development potential.
- The northern portion of the site is at a higher elevation and has potential to offer scenic views to the south.

ACCESS

- The southern boundary of the property is approximately 1,100 feet long. Any driveway along this frontage must maintain minimum separation distances from the signalized intersection at N. Foster Maldonado Boulevard to the west and the secondary access to C.C. Winn High School to the east (south side of US 277). Map 9 illustrates an access location that maximizes separation from N. Foster Maldonado Boulevard while maintaining approximately 410 feet from the high school access road.
- US 277 is a TxDOT highway. Under TxDOT's most restrictive standards, 1,210 feet is required between two opposing left turns to provide adequate queuing space between them within the center turn lane. Traffic counts collected for a driveway permit will determine whether this standard applies at the proposed southern access. If a full-access driveway (left and right turns in and out) is not permitted, the entrance would be limited to right-in/right-out movements.
- A second potential access point is illustrated on Map 9 along N. Foster Maldonado Boulevard, where adequate sight distance is available in both directions.
- As later campus phases are developed, providing multiple campus access points will help reduce internal congestion.

STORMWATER

- Stormwater from an existing detention pond west of the site flows east through the property, effectively dividing it. Adequate space must be preserved for this drainage to prevent impacts to campus development. A vehicular and pedestrian bridge will be required to cross the channel.
- Additional stormwater enters the site from properties to the north at Medical Drive and will need to be considered as stormwater infrastructure is sized.
- A natural swale runs from the northern portion of the property toward the drainage channel to the south. To the extent possible, this drainage pattern should be preserved and can even be enhanced as a site amenity where it traverses the developed campus area.



Map 9. Development Considerations Map

Scale: N.T.S.

Multipurpose Building Illustration

RECOMMENDATIONS & PHASING

GROWTH IN THE RIO GRANDE

The West Texas job market offers the opportunity for growth in several academic programs SRSU currently offers as well as potential opportunities for new program development. This specifically applies to the Middle Rio Grande and its close proximity to Mexico and its emerging markets.

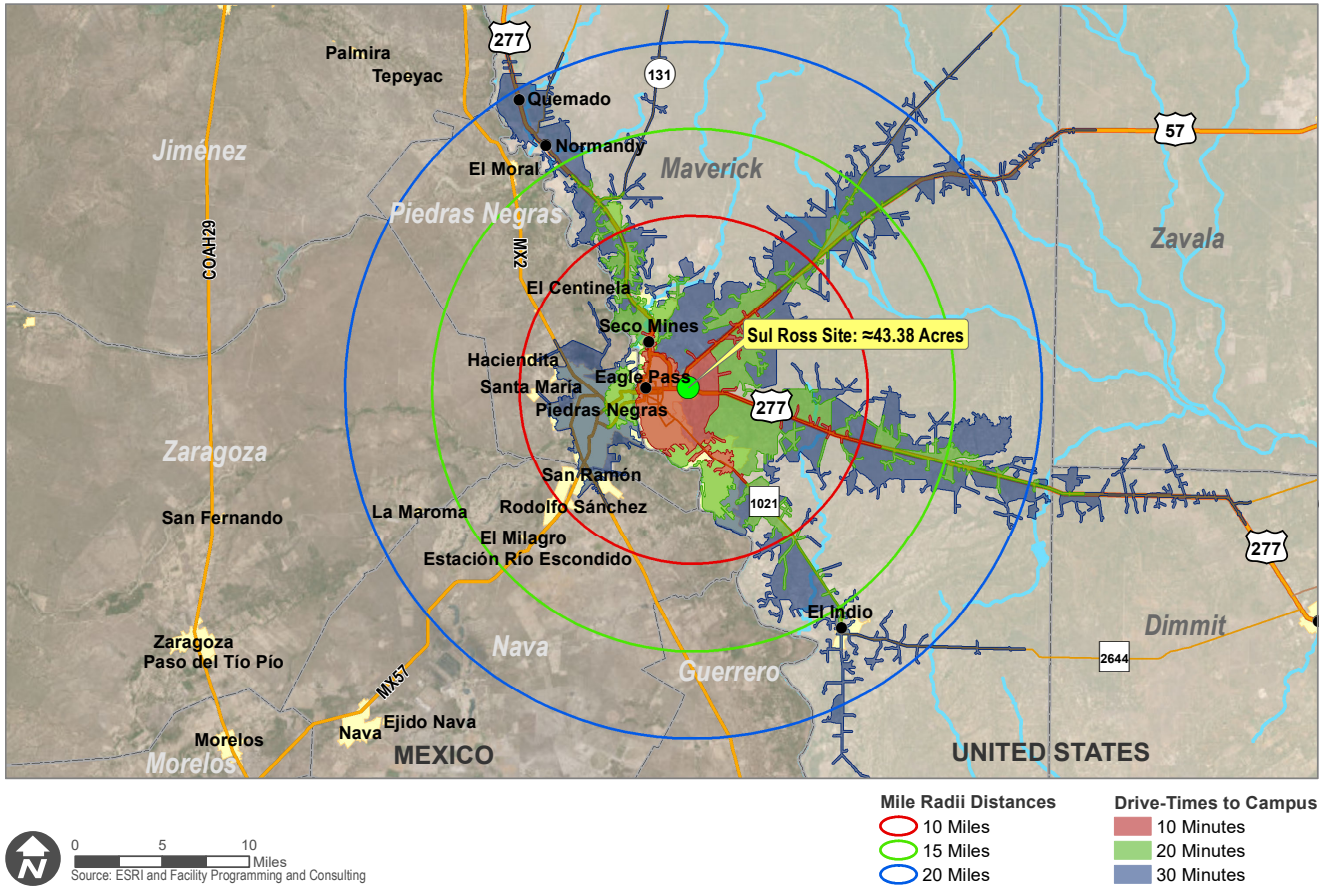
Based on an analysis of West Texas, review of Texas bachelor degree completions throughout the state, and labor market projections and trends, Hanover Research recommended several programs and degrees at various levels which they see as appropriate for development in the Middle Rio Grande.

Additional analysis based on 2026 Environmental Systems Research Institute, Inc. (Esri) data provides general alignment with the earlier Hanover Research recommendations. Health Care, Business, Management and Science-related equivalent fields are still highly employed fields within the region based on education level.

The future campus location in Eagle Pass also creates the opportunity to provide further educational services for the population of the Middle Rio Grande and young adults just across the border of Mexico looking for an in-person university education.

A recent land purchase by SRSU, combined with special financial designation from the Texas Legislature, is supporting construction of an initial building to launch a standalone campus to serve this area.

The map below provides a visual reference of the realistic drive times and distances most students are willing to travel on a day-to-day basis to attend in-person courses in higher education. The extent of the 20-mile radius and 30-minute travel distance illustrated below will most likely identify the area of residence for daily on-campus students as the long-term plan for this campus does not include providing on-campus housing.



Map 10. Mile Radii Distances and Typical Drive-Times to the Sul Ross State University Eagle Pass Campus

TARGET ENROLLMENT

Discussions with SRSU leadership regarding the development of the standalone campus and its capacity provided an overall Master Plan direction with a targeted enrollment of 10,000 students at full build-out. Looking at the population within the nearby communities which the campus will aim to serve in relation to other nearby educational opportunities, a campus build-out of 10,000 students was proposed as a multi-decade plan.

This Master Plan proposes the full campus buildout to be completed in four phases. Speed of enrollment growth, development of additional on-campus undergraduate programs, student retention, and additional funding may all impact the phasing as the campus moves forward.

Based on the current available funds provided by the legislature for the development of the campus, the first phase is projected to be constructed in two components, Phase 1 and Phase 1A.

The Texas Higher Education Coordinating Board (THECB) provides a formula for projecting space needs for new and existing campuses based on enrollment, staff, faculty and anticipated programs. These numbers are a guideline and are campus-dependent based on the number of undergraduate students versus graduate students and on-campus versus online students. Further explanation of the method and its calculations are provided on the following page.

The following gross square footage (GSF) and parking counts are recommended for each phase of the project based on the THECB guidelines and the projected student population.

PHASE 1

Supports 2,500 students and a target of 130,422 assignable square feet (ASF) of space

- **PHASE 1 - MULTIPURPOSE BUILDING AND FACILITIES**
  - 45,000 GSF of building spaces
  - Approximately 310-335 parking spaces
- **PHASE 1A - ACADEMIC GROWTH**
  - Additional 80,000 GSF of building spaces
  - Additional approximately 190 parking spaces

PHASE 2

Supports 5,000 students and a target of 260,843 ASF of space

- Additional 245,000 GSF of building spaces
- Additional approximately 500 parking spaces

PHASE 3

Supports 7,500 students and a target of 391,265 ASF of space

- Additional 140,000 GSF of building spaces
- Additional approximately 500 parking spaces

PHASE 4

Supports 10,000 students and a target of 521,686 ASF of space

- Additional 210,000 GSF of building spaces
- Additional approximately 500 parking spaces

ACADEMIC FIVE-FACTOR MODEL

The current SRSU facility in Eagle Pass utilizes space on the STC campus and a recently constructed building a few blocks away on Amy Street. SRSU occupies one existing building on the STC campus. This Master Plan, which develops a full-scale campus for 10,000 students over the course of several decades, will provide a permanent home in Eagle Pass for a new four-year SRSU Eagle Pass Campus.

To help higher education institutions better project and manage space needs, the THECB has created the Academic Five-Factor Model to help with space planning. This model was utilized to develop the overall required square footage by category for the SRSU Eagle Pass Campus.

The Five-Factor Model, as published by the THECB in 2005, projects the Educational and General (E&G) space required for a public university, technical college or state college needed to fulfill its mission of teaching, research and public service. Campuses are also comprised of other spaces such as dormitories, bookstores, intercollegiate athletics or other auxiliary enterprises that are not included in the space model calculations.

The base unit of the model's factors are room types which are grouped into the five space categories in the model and are associated with the specific data that drive each particular type of space.

FACTOR 1: TEACHING SPACE

Teaching space includes rooms used for instruction and are represented in the institution's facilities inventory by room type. The following room types are considered in this factor:

- 100: Classrooms
- 210-235: Class labs, special class labs and self-study labs
- 500: Physical education, demonstration, audiovisual and animal quarters
- 600: Assembly, exhibition, lounge, meeting rooms and locker rooms

FACTOR 2: LIBRARY SPACE

Library space includes all room type 400s (reading/study rooms, stack space and associated service areas) and all room type 300s with a 41 (library) usage code. Library space is calculated primarily using the Association of College and Research Libraries (ACRL) standards for college libraries.

FACTOR 3: RESEARCH SPACE

Research space includes all non-class (research) laboratories and service rooms (room types 250 and 255). Predicted research space is determined using one of two methods, depending on which method yields the greatest net assignable square foot (NASF) prediction.

FACTOR 4: OFFICE SPACE

Office space includes all offices, conference rooms and associated service areas (room type 300s). Type 300 rooms reported with a 41 (library) usage code used in the library factor formula are omitted from the office space calculation to eliminate duplication. Predicted office space is determined using one of two methods, depending on which method yields the greatest NASF prediction.

FACTOR 5: SUPPORT SPACE

Support space is calculated at 9% of the sum of predicted space from the teaching, library, research and office factors. Support space includes all data processing/ computer rooms, shops, storage, vehicle storage and associated service areas (room type 700s).

Due to the space model's multipliers and factors, each institution will have a slightly different targeted number of ASF to full time equivalent (FTE) students for their campus. A national ratio ranges from 90-130 ASF per one FTE student dependent on campus programs, services and research.

BUILDING 1 - MULTIPURPOSE BUILDING
(40,000 GSF)

- Instructional spaces
- Small library component with study spaces
- Faculty offices
- Administrative spaces
- Vending services

FACILITIES SUPPORT BUILDING
(5,000 GSF)

- Mail service
- Facilities shop spaces
- IT spaces

BUILDING 2 - ACADEMIC/FACULTY OFFICE BUILDING
(80,000 GSF)

- General academic instruction
- Additional science labs
- Faculty office
- Student support spaces
- Study spaces
- Vending

CENTRAL PLANT
(10,000 GSF)

- Previously constructed buildings will be converted to tie into the Central Plant and all future buildings will tie into the Central Plant at time of construction.

BUILDING 3 - ACADEMIC/LEARNING COMMONS
(80,000 GSF)

- Library
- Instructional spaces
- Study areas
- Faculty offices

BUILDING 4 - STUDENT SUCCESS BUILDING
(90,000 GSF)

- Onboarding services with Welcome Center component
- Instructional spaces
- Student lounge
- “Hang-out” space
- Food service component
- College Administration

BUILDING 5 - ACADEMIC BUILDING
(75,000 GSF)

- Instructional spaces
- SIM spaces
- Skills labs
- Flexible lecture spaces
- Study areas
- Faculty offices

BUILDING 6 - STUDENT RECREATION CENTER
(40,000 GSF)

- Gymnasium
- Fitness equipment
- Wellness space
- Yoga, etc.

BUILDING 7 - GENERAL ACADEMIC BUILDING
(90,000 GSF)

- Instructional spaces
- Study areas
- Faculty offices

BUILDING 8 - GENERAL ACADEMIC BUILDING
(60,000 GSF)

- Instructional spaces
- Study areas
- Faculty offices

BUILDING 9 - ACADEMIC BUILDING
(100,000 GSF)

- Flexible open-bay areas
- Skills spaces
- Shops
- General instructional spaces
- Faculty offices

BUILDING 10 - GENERAL ACADEMIC BUILDING
(50,000 GSF)

- Instructional spaces
- Study areas
- Faculty offices

MASTER PLAN OVERVIEW

SRSU has a long-standing commitment to expanding access to higher education across the Middle Rio Grande region. Building on decades of service through leased and shared facilities, the university has initiated development of a standalone Eagle Pass campus that will provide a full four-year academic experience, from undergraduate through graduate studies. This Master Plan establishes a comprehensive, long-range framework for campus development that is responsive to regional growth, evolving academic needs and available funding, while allowing flexibility for future adjustments.

The Master Plan for the SRSU Eagle Pass Campus envisions development on an undeveloped site designed to ultimately support an enrollment of up to 10,000 students. Campus development is organized into four primary phases, with Phase 1 divided into two sub-phases (Phase 1 and Phase 1A), each introducing facilities and infrastructure in a logical, scalable manner. Together, these phases guide the orderly growth of academic programs, student services, campus amenities and supporting infrastructure over multiple decades.

Phase 1 establishes the foundation of the campus by constructing the initial multipurpose academic and administrative building, along with essential facilities and site access improvements. This phase allows SRSU to transition many instructional activities to the new campus while maintaining administrative and support functions and some academic uses at existing off-campus locations. The first building sets the architectural character of the campus and introduces pedestrian-oriented design elements that will be carried forward in later phases.

Phase 1A expands academic capacity with an additional faculty and instructional building, allowing enrollment to grow and additional programs to be introduced. During this phase, campus circulation and parking are enhanced, and the academic core begins to take shape, enabling greater on-campus engagement while maintaining flexibility for continued online instruction.

Phase 2 marks a significant milestone in campus development, shifting from an initial academic presence to a more complete student-centered environment. This phase introduces major campus amenities, including a Learning Commons, Student Success Building, Central Plant and expanded outdoor gathering spaces. Parking is increasingly located at the campus perimeter, reinforcing a walkable academic core. By the end of Phase 2, all essential academic and student services are consolidated on campus, supporting enrollment of approximately 5,000 students.

Phase 3 continues expansion toward the northeast portion of the site and introduces facilities that enhance campus life and student wellness, including a Student Recreation Center and a centrally located parking garage. Additional academic buildings further strengthen the academic core, while pedestrian malls and open spaces continue to grow, supporting interaction, collaboration and campus identity.

Phase 4 represents full campus buildout, completing the northern portion of the site with additional academic buildings, fully realized pedestrian networks, and the Central Quad as the heart of the campus. Parking is consolidated along the campus edges, and the loop road is completed to provide continuous access and service circulation. At full buildout, the Eagle Pass Campus will function as a cohesive, fully connected institution designed to serve 10,000 students through a balance of in-person and online instruction.

While the phasing plan reflects the most logical development sequence based on projected enrollment, funding and infrastructure needs, the Master Plan is intended to remain flexible. Individual phases may be adjusted over time in response to changing conditions, while the Plan continues to serve as the guiding framework for the long-term growth and success of the Sul Ross State University Eagle Pass Campus.

Map 11. SRSU Eagle Pass Campus Master Plan

Scale: N.T.S. N

Figure 3. SRSU Eagle Pass Campus Aerial Illustration

PHASE 1

INTRODUCTION

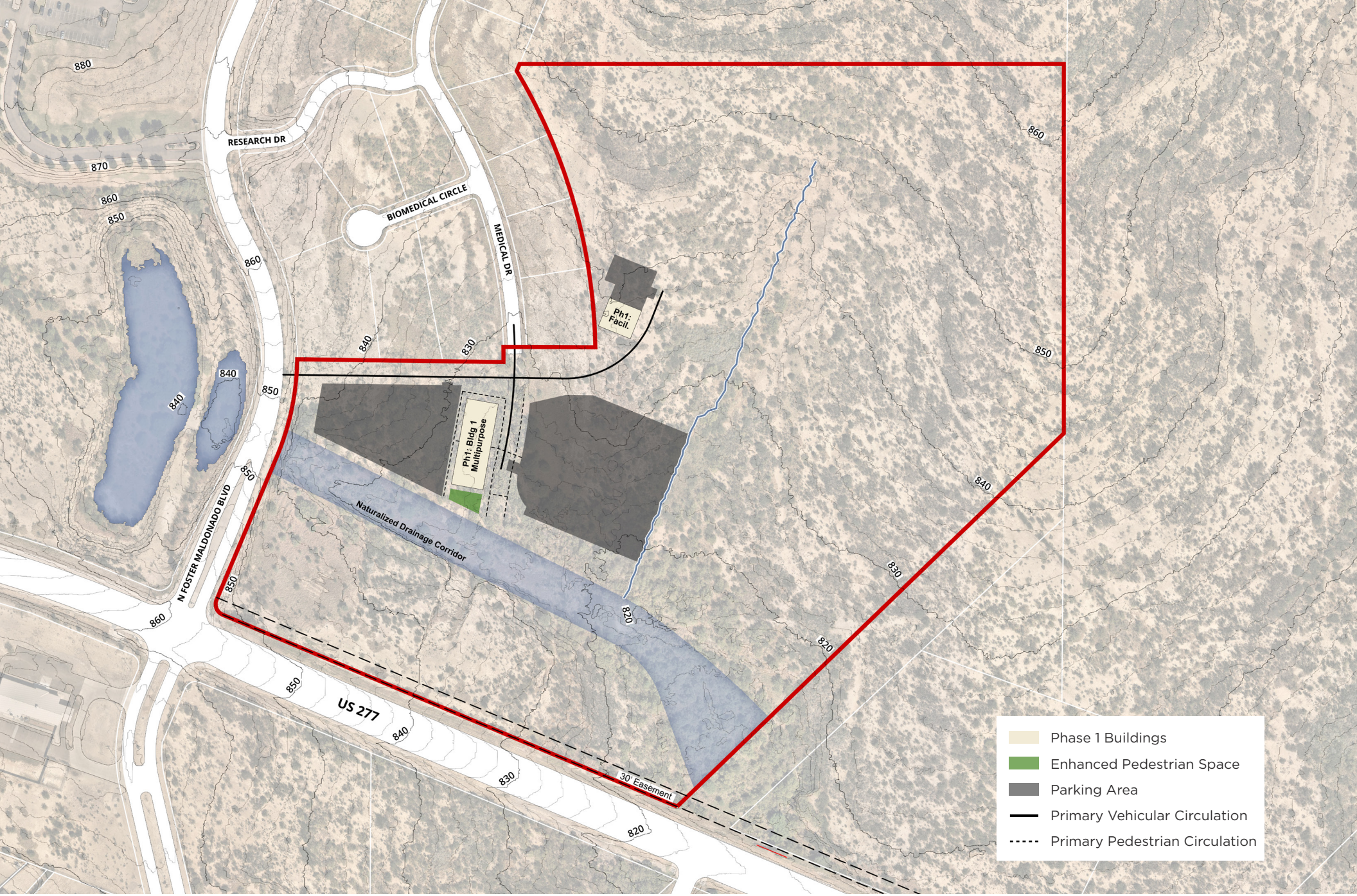
As previously noted, Phase 1 is divided into two sub-phases based on current available funding. Development in Phase 1 will begin near the N. Foster Maldonado Boulevard and Medical Drive entrances. The primary objective of this phase is to establish the initial main academic building for the campus.

Although SRSU's leased spaces at STC will remain open, most instructional activities will transition to Building 1 on the new campus. The remaining STC spaces will primarily support administrative functions and student onboarding services. In addition, the existing SRSU facility on Amy Street will continue to serve both instructional and administrative needs.

Map 12 depicts the building location along with the approximate areas designated for parking, pedestrian spaces and circulation to be constructed during this phase.

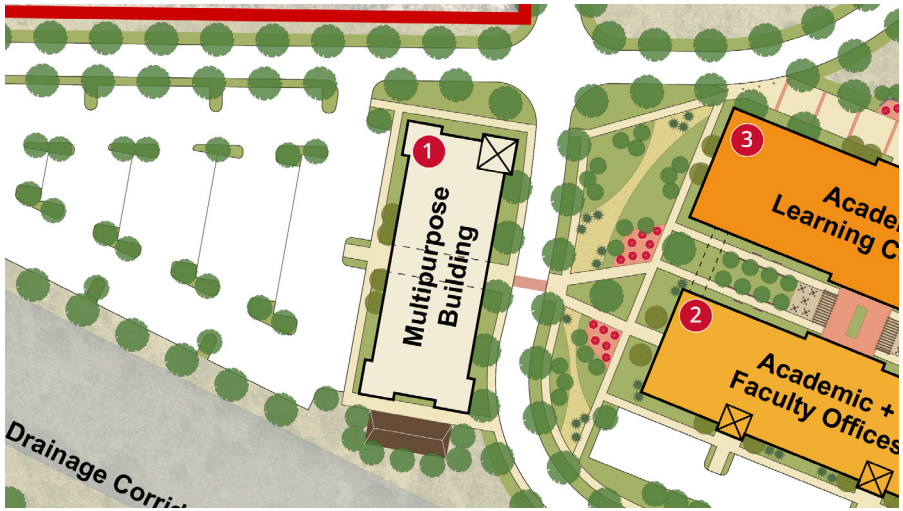
Phase 1 facilities are intended to serve approximately 1,200 to 2,000 students. On-campus offerings in Phase 1 can support up to 1,200 students with additional online enrollment potentially increasing the total to 2,000 students.

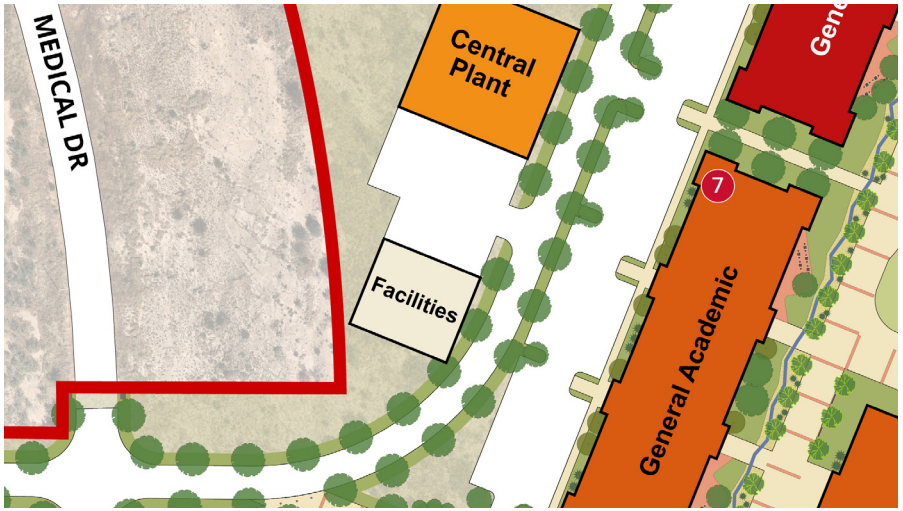
Figure 4. Multipurpose Building Illustration



Map 12. Phase 1 Diagram

Scale: N.T.S.





BUILDING 1 - MULTIPURPOSE BUILDING

This three-story, 40,000 GSF building includes a ground-floor pedestrian breezeway that connects the western parking lot through the building to the loop road and future development. For the first several years, it will serve as the campus's sole academic building, accommodating instructional, administrative and faculty spaces, as well as study areas and vending.

An outdoor gathering area is located on the south side of the building and may include enhanced paving, seating, shade structures, and perimeter plantings. Because this area does not receive shade from the building, providing constructed shade will be essential.

FACILITIES BUILDING

A one-story, 5,000 GSF building will also be constructed as part of Phase 1. This facility will accommodate facilities and maintenance shop spaces, campus mail services, storage, and other support functions that are essential to campus operations but do not have a permanent home during this initial phase of development. A parking area located immediately north of the building will support these uses and is planned to be shared with the Central Plant once it is constructed in a future phase.

NORTHERN CAMPUS ENTRANCES

The two northern campus entrances will be constructed as part of Phase 1. One entrance will provide access from N. Foster Maldonado Boulevard, to the west, while the second will connect to the existing southern terminus of Medical Drive.

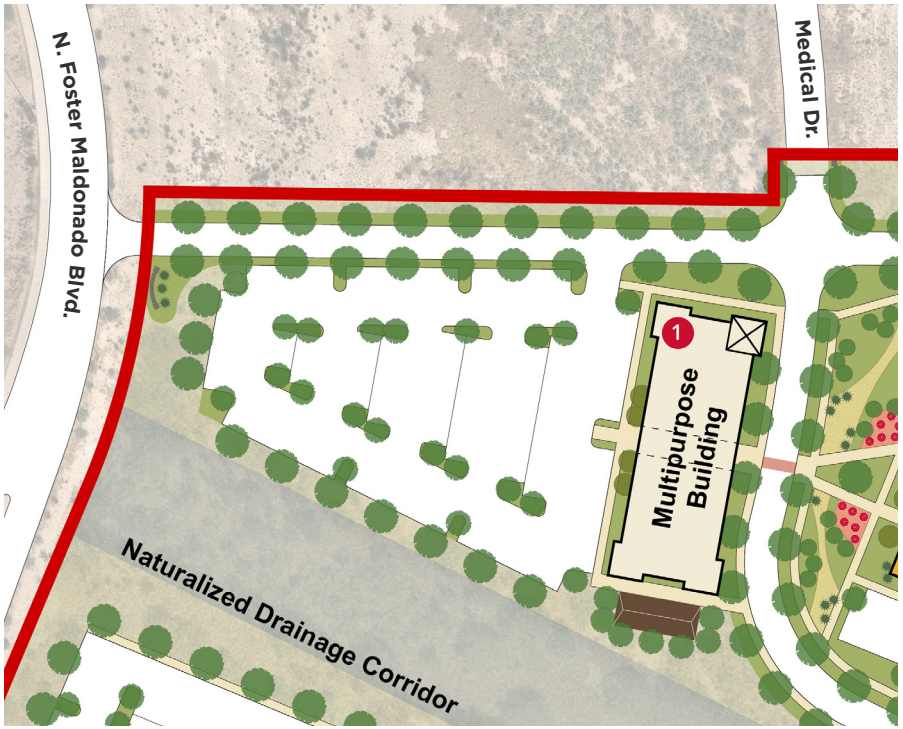
Initial entry signage may be installed using a cost-conscious design; however, the long-term vision for the N. Foster Maldonado Boulevard entrance includes a prominent monument sign with associated landscaping and streetscape elements such as lighting and plantings. Monument materials should complement the architectural character of the campus buildings. Native, drought-tolerant plantings, with accents of color and or strong structural forms such as agave, will help create a memorable arrival experience and introduce visitors to the overall landscape character of the campus.

It is recommended that the monument sign incorporate both vertical elements (such as pillars) and horizontal elements to enhance visibility. The vertical elements would be replicated at the Medical Drive entrance, where space for larger signage is more limited.

Phase 1 roadway improvements will provide access to the initial parking areas (see Map 12 on page 41), with these parking lots serving as turnaround points. In later phases, the southern and eastern legs of the on-campus “T” intersection will be extended and connected to form a complete loop road around the campus.

PARKING (SEE MAP 12 ON PAGE 41)

Phase 1 includes parking for approximately 415 vehicles. This exceeds the immediate parking demand but is intended to help offset future phases, which will have limited capacity for additional parking. As the campus is fully built out, a significant portion of the eastern parking area will be repurposed for other uses.



NATURALIZED DRAINAGE CHANNEL

As described previously in the Plan, the existing detention basin located west of N. Foster Maldonado Boulevard discharges through the southern portion of the site. To preserve adequate capacity for stormwater conveyance, a naturalized drainage channel kept within a 100-foot-wide corridor is proposed across the property. Some grading and vegetation management will be required within this area; however, no other development should occur within the corridor, with the exception of a future vehicular bridge and stormwater detention basin planned for later phases.

PHASE 1A

INTRODUCTION

Phase 1A adds a second building to the campus to expand academic and faculty space. During this phase, the STC locations will continue to function primarily as administrative and student support spaces. By Phase 1A, a second facility on Amy Street is also expected to be operational. Together, the two Amy Street buildings will provide administrative and student support services, as well as new academic space to support the Nursing program.

Map 13 illustrates the building location, along with the approximate areas of parking, pedestrian space and circulation that would be built or modified during this phase.

Phase 1A can support up to 2,500 students, including approximately 1,500 on-campus students. As in Phase 1, a significant portion of enrollment may continue to be online while on-campus offerings remain limited.

BUILDINGS & FACILITIES

BUILDING 2 - ACADEMIC/FACULTY OFFICE BUILDING

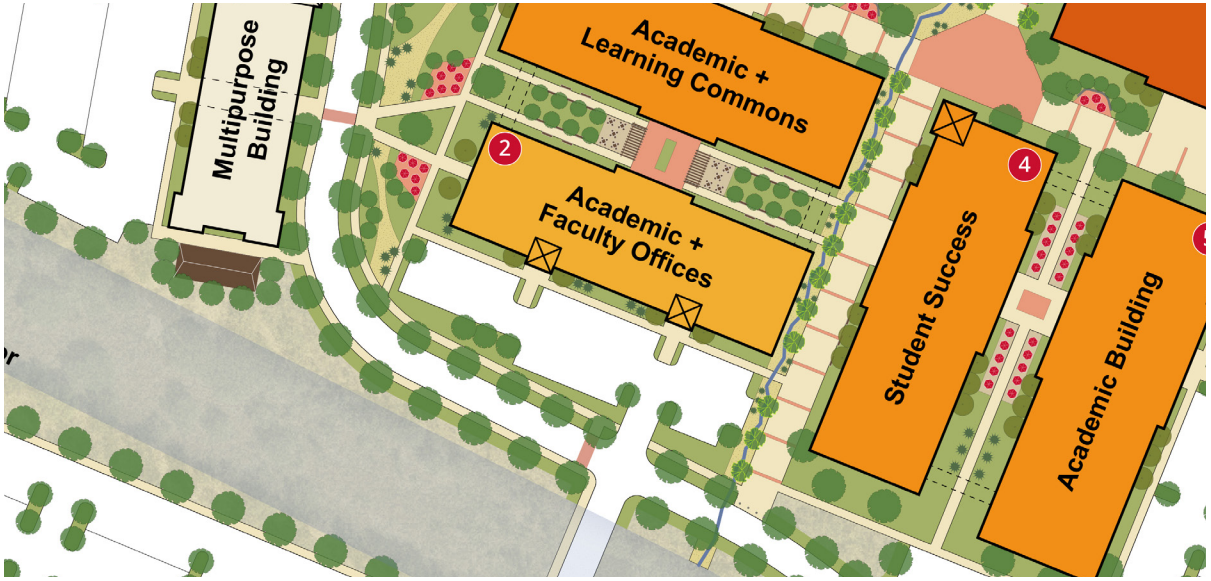
This four-story, 80,000 GSF building will accommodate general instructional spaces, science labs, faculty offices and student support spaces. The building will also include vending services and dedicated study areas.

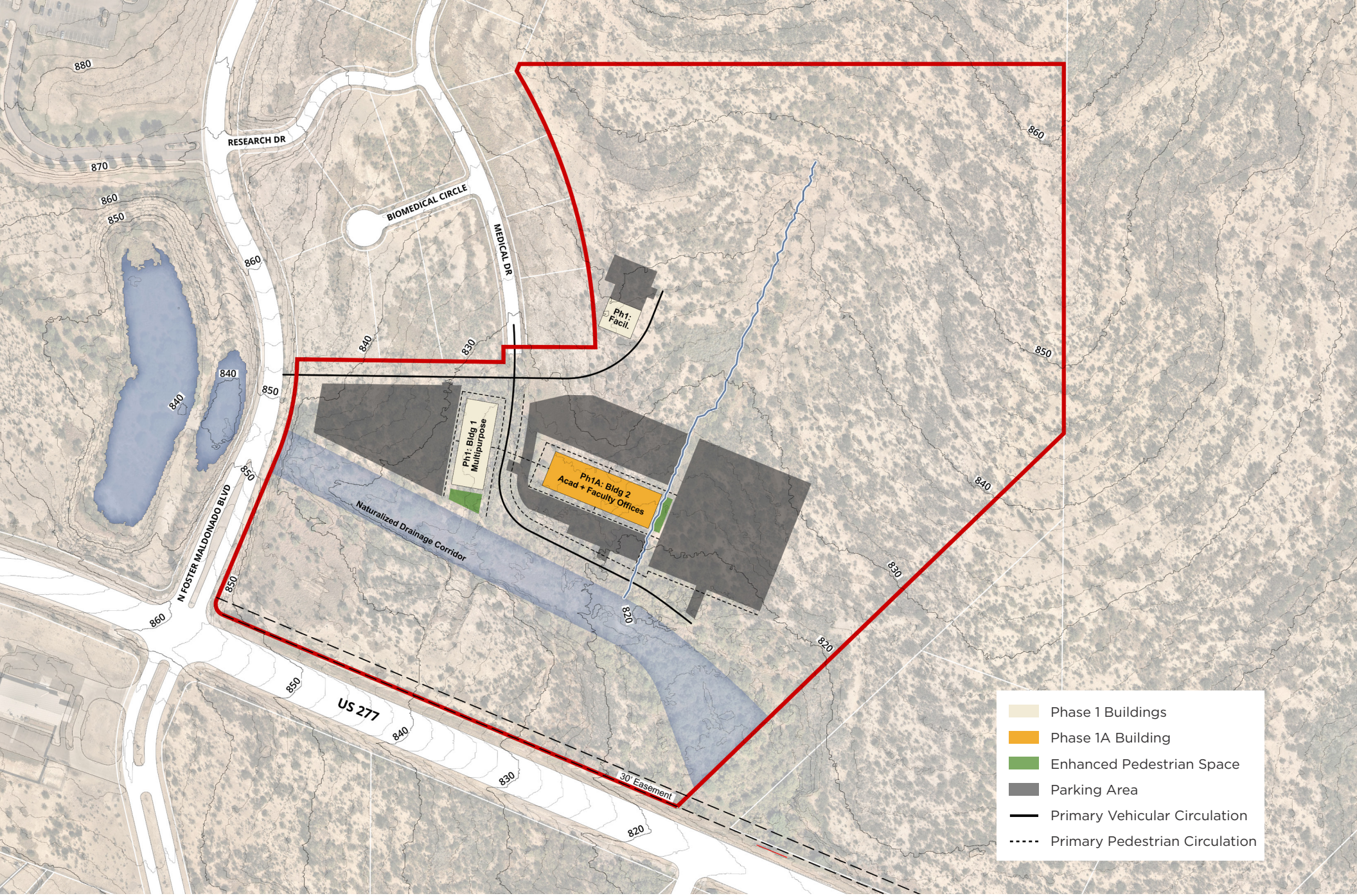
A north–south swale runs along the eastern edge of the building. While this area may temporarily function as a small seating space, it is ultimately intended to become part of a vegetated and stone-lined swale that conveys stormwater through this portion of the campus.

TRANSPORTATION & LANDSCAPE

LOOP ROAD & PARKING (SEE MAP 13)

Building 2 will be constructed within the existing parking lot, resulting in the removal of several parking spaces. To offset this loss, a new parking lot will be developed farther east, increasing total campus parking to approximately 515 spaces. Access to the easternmost lot will be provided by extending the southern leg of the planned loop road.





Map 13. Phase 1A Diagram

Scale: N.T.S.

PHASE 2

INTRODUCTION

Phase 2 significantly expands the developed portion of the campus and is planned to support a doubling of student enrollment. This phase begins to establish a more connected pedestrian core, with most parking shifted toward the campus perimeter. New facilities that enhance the student experience, including a Learning Commons and a Student Success Building, are introduced.

By this phase, SRSU will have vacated the facilities at STC. While the Amy Street buildings will provide general support, all essential services will now be consolidated on the campus.

A Central Plant will also be constructed, and previously built facilities will be converted to connect to this system. Additionally, Phase 2 includes the first major outdoor gathering spaces located between campus buildings.

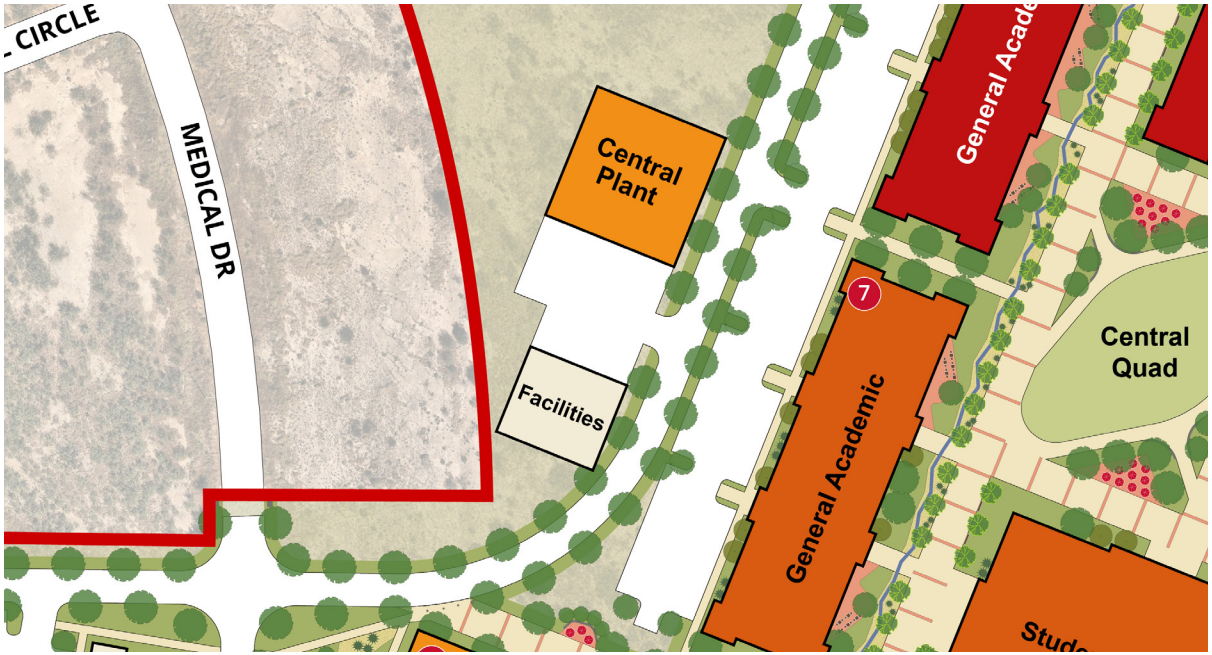
Map 14 illustrates the proposed building locations, as well as the approximate areas of parking, pedestrian spaces, and circulation that would be built or modified during this phase.

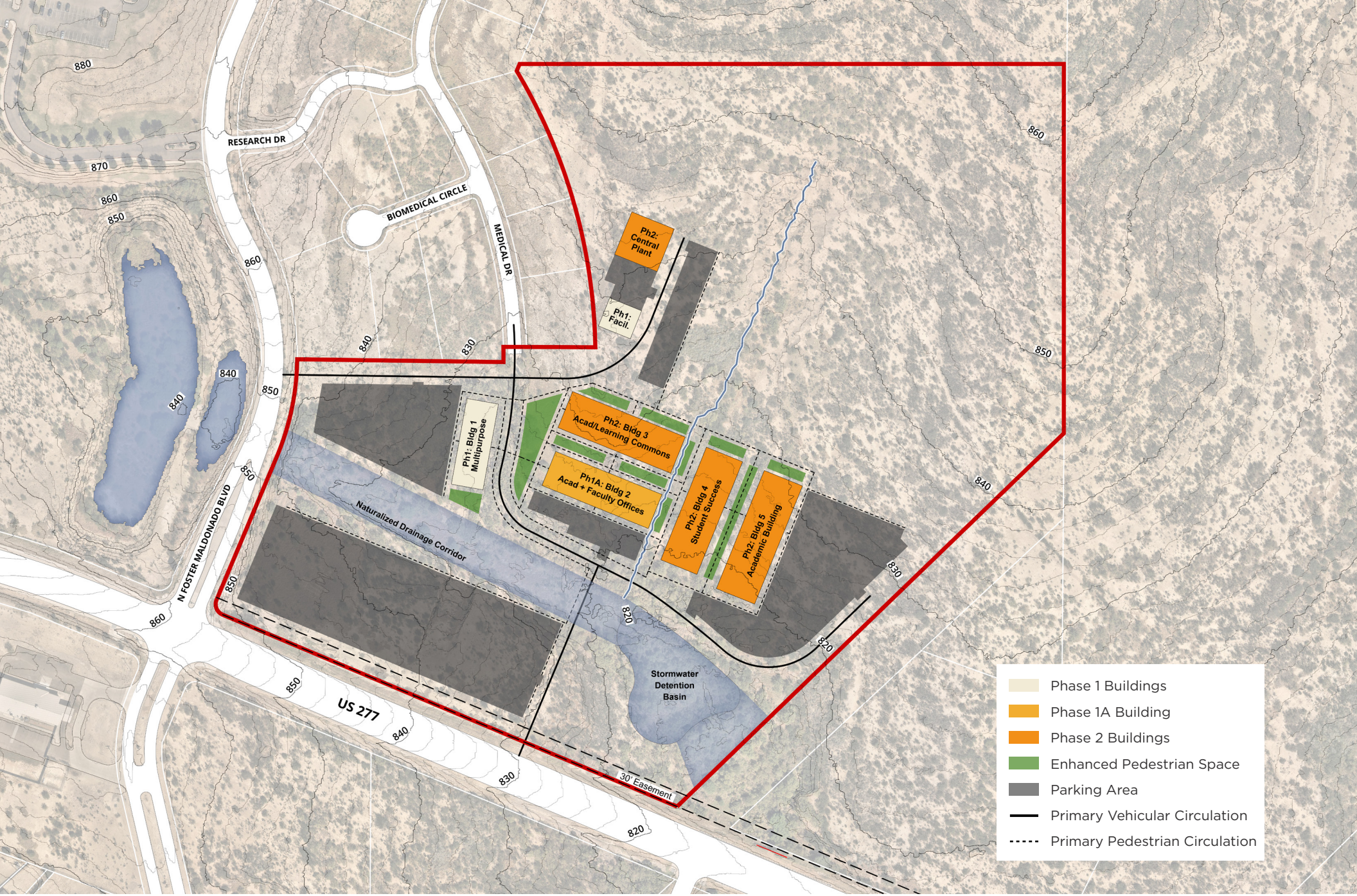
Phase 2 is intended support up to 5,000 students, with approximately 3,000 students on campus and 2,000 enrolled online.

BUILDINGS & FACILITIES

CENTRAL PLANT

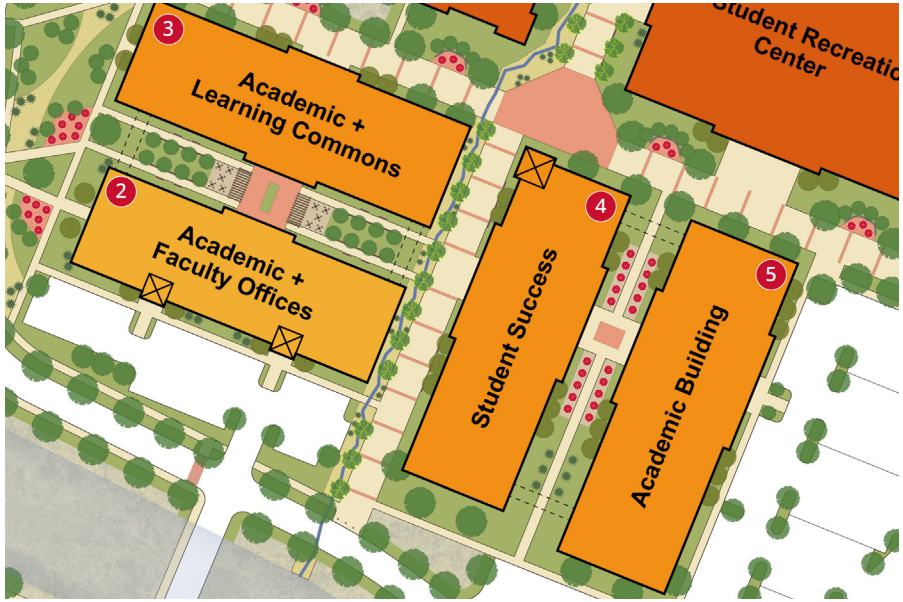
A one-story, 10,000 GSF Central Plant will be located adjacent to the loop road, near the Medical Drive entrance where existing water and sanitary sewer utilities are available. This plant will function as the heart of utility infrastructure on campus. An area for staff parking, outdoor storage, cooling towers, etc. is available around the facility. Buildings developed prior to the Central Plant will be converted to connect to the facility while all future buildings should tie into the Central Plant and piping network at the time of construction.





Map 14. Phase 2 Diagram

Scale: N.T.S.



Note: The four buildings shown above may incorporate elevated pedestrian connections to improve circulation between buildings and enhance enclosure within the interior courtyards.

BUILDING 3 - ACADEMIC/LEARNING COMMONS

Building 3 is a three-story, 80,000 GSF multipurpose facility that includes a library, instructional spaces, faculty offices and student study areas. The building sits between a pedestrian mall and an outdoor gathering space to the south.

BUILDING 4 - STUDENT SUCCESS BUILDING

The four-story, 90,000 GSF Student Success Building will house onboarding and student support services, including a small Welcome Center, and College Administration. It will also provide instructional spaces, student lounges, the primary campus food service and informal gathering areas. A shaded courtyard will be located between Buildings 4 and 5.

BUILDING 5 - ACADEMIC BUILDING

Building 5 is a three-story, 75,000 GSF academic facility with instructional spaces, study areas, flexible lecture rooms and faculty offices. Although a specific academic focus has not yet been determined, the building is sized to accommodate simulation spaces and skills laboratories.

Figure 5. Academic + Learning Commons Building and Pedestrian Mall Illustration

US 277 ENTRANCE

The US 277 entrance along the southern property line will be constructed during Phase 2. This entrance will provide access from the highway to the core of campus by crossing the drainage channel and connecting to the loop road. Monument entry signage, along with lighting and landscaping, will be installed on both sides of the entrance to improve visibility from US 277. The final access configuration (e.g., full access or right-in/right-out) will be determined through coordination and permitting with TxDOT.

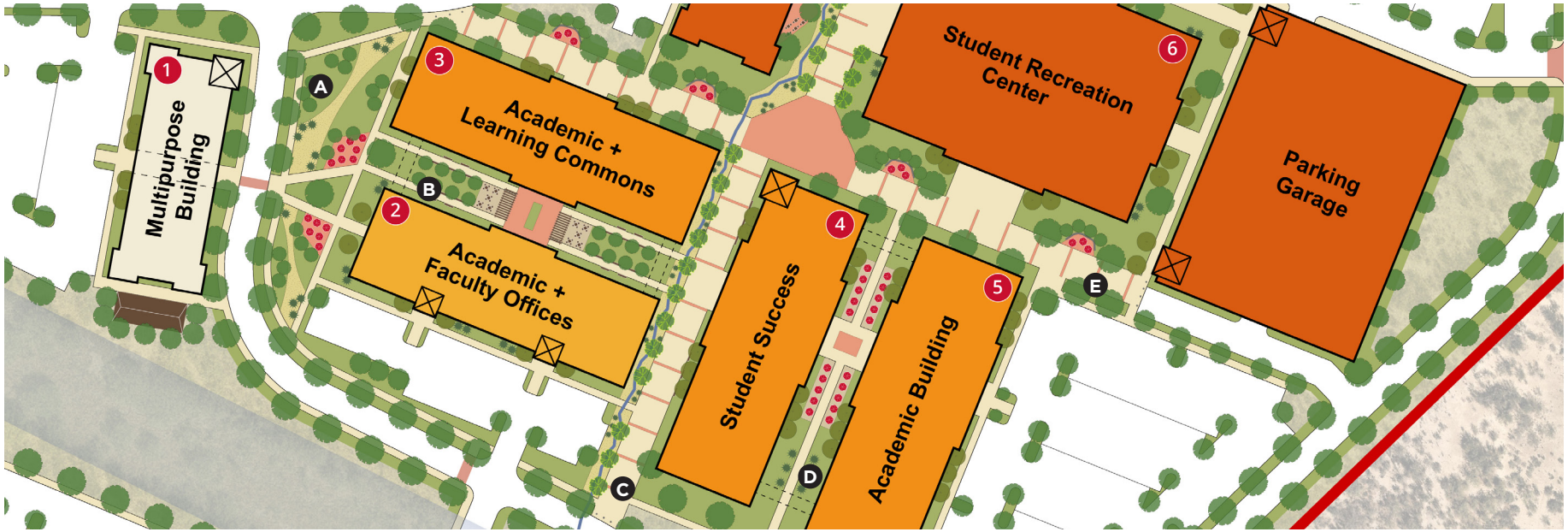
LOOP ROAD & PARKING (SEE MAP 14 ON PAGE 47)

Parking will be expanded to approximately 860 spaces during this phase, including a large new lot along the US 277 frontage. All parking constructed in this phase will remain in place through full campus buildout.

The east and south legs of the loop road will be extended to provide access to new parking areas near the campus core.

STORMWATER DETENTION POND

A stormwater detention pond will be constructed in the southeastern corner of the property during Phase 2 to offset the impervious coverage created on the site. The final pond size will be determined by the total impervious area developed by Phase 4. At full buildout, this Plan shows approximately 57% of the site as impervious surface. Based on this coverage, approximately 2.2–2.3 acre-feet of detention volume will be required, which corresponds to a detention pond of roughly 1.1–1.15 acres with an average depth of 2 feet. While the pond will be sized to accommodate a 100-year event through the site, it will not be persistently wet.



PEDESTRIAN MALLS & OUTDOOR SPACES

The Phase 2 pedestrian mall and outdoor space network creates a series of connected areas for gathering, dining and outdoor study. Pedestrian malls are 26-feet wide and have removable bollards to accommodate emergency vehicle access.

Enhanced planting areas around campus will likely incorporate native trees, shrubs and groundcovers set within non-vegetated surfaces such as boulders, gravel or decomposed granite to maintain aesthetics while minimizing water use.

A Entry Garden: Located along the loop road, this space features enhanced plantings and two seating areas with brick pavers and tables with umbrellas. It serves as a key connector between Building 1 and the campus core.

B Learning Commons Courtyard: Adjacent to the Learning Commons, this shaded courtyard includes enhanced plantings, bistro seating, two pergolas, and bench seating along sidewalks, providing shaded outdoor space for study and collaboration.

C Southern Pedestrian Mall: This segment forms the southern end of the primary north–south pedestrian spine on campus. The natural drainage swale will be conveyed through a decorative channel along the west edge of the mall.

D Dining Courtyard: This courtyard provides enhanced landscaping and shaded tables for outdoor dining and gathering. Because adjacent buildings will not shade the space at all times, tables with umbrellas are recommended for user comfort.

E East-West Pedestrian Mall: This mall may be constructed in Phase 2 or deferred to Phase 3 to provide connectivity to the parking garage. During Phase 2, this area could alternatively function as the temporary northern terminus of the loop road, if desired.

PHASE 3

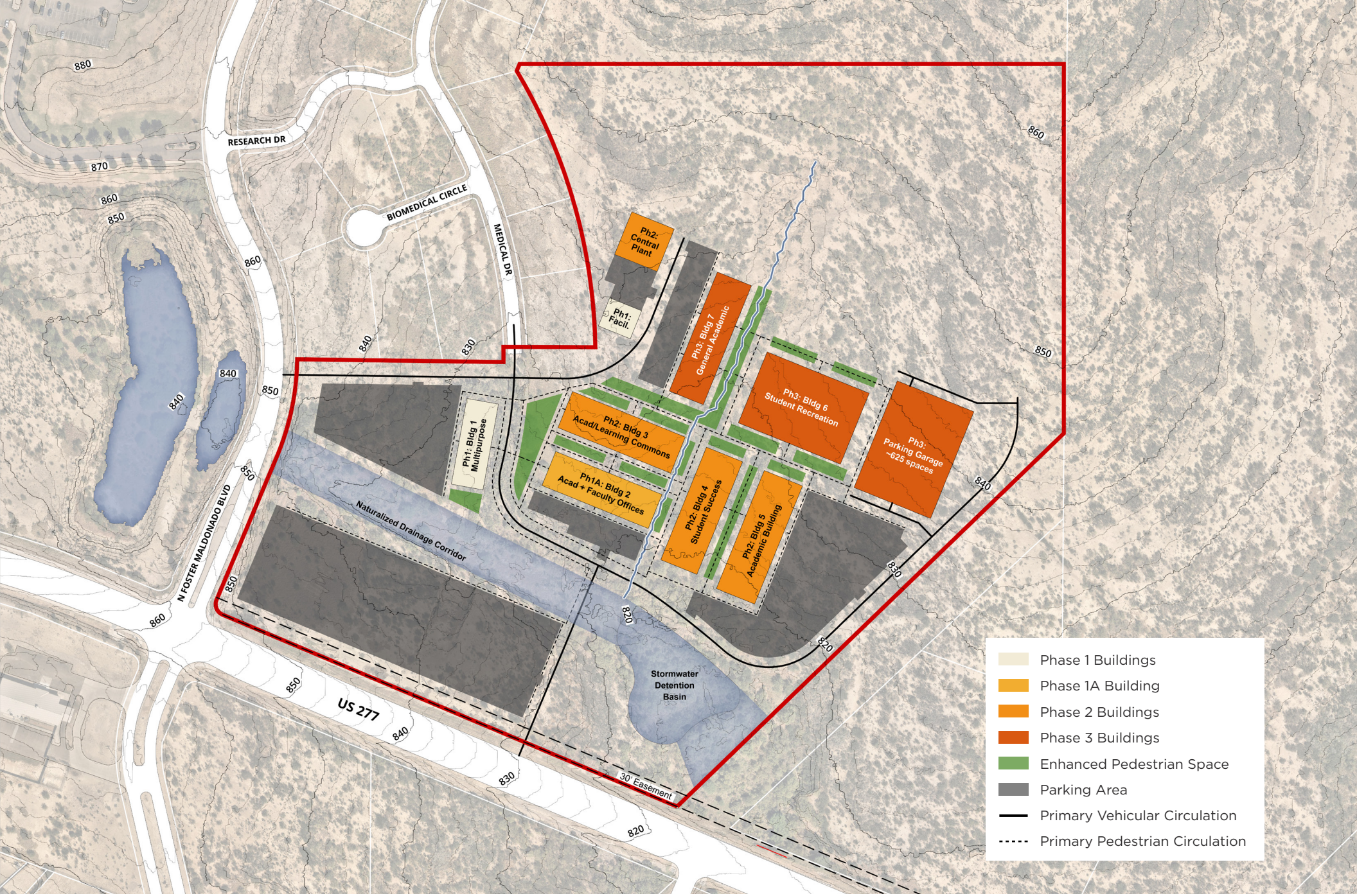
INTRODUCTION

Phase 3 continues development toward the northeast, expanding academic space and adding a Student Recreation Center to support student health, well-being and engagement while further diversifying the on-campus experience.

A centrally located parking garage will be constructed to provide consolidated parking as enrollment increases. This phase accommodates growth to 7,500 students, including approximately 4,500 on-campus students.

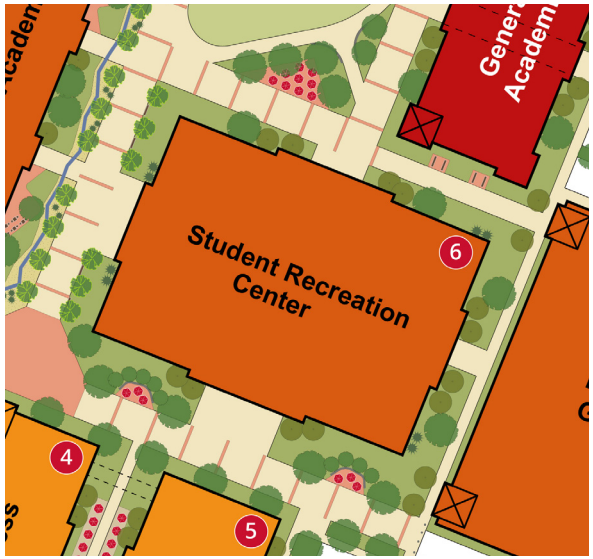
Map 15 illustrates the proposed building locations, along with the approximate areas of parking, pedestrian space, and circulation that would be constructed during this phase.

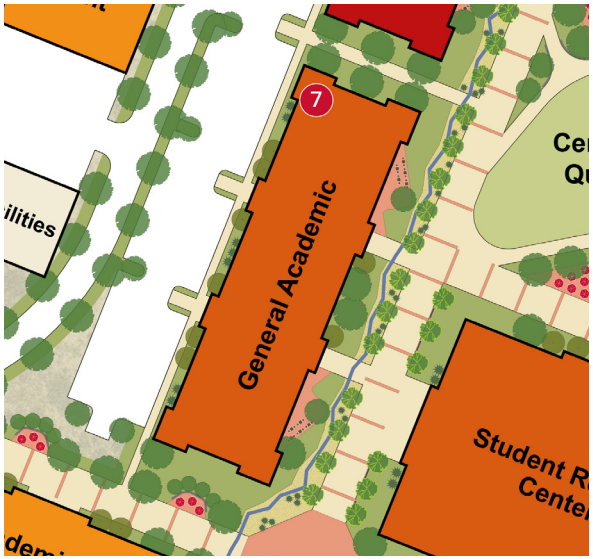
Figure 6. Student Recreation Center and Pedestrian Mall Illustration



Map 15. Phase 3 Diagram

Scale: N.T.S.





BUILDING 6 - STUDENT RECREATION CENTER

The Student Recreation Center is a one-story, 40,000 GSF recreation facility designed to support student health, wellness and campus life. The building will include a gymnasium, fitness equipment areas, wellness space and group fitness areas.

Centrally located within the campus, the Student Recreation Center is intended to serve as a primary non-academic student hub. The facility will provide informal gathering opportunities, encourage physical activity, and contribute to student engagement and retention by enhancing the overall on-campus experience.

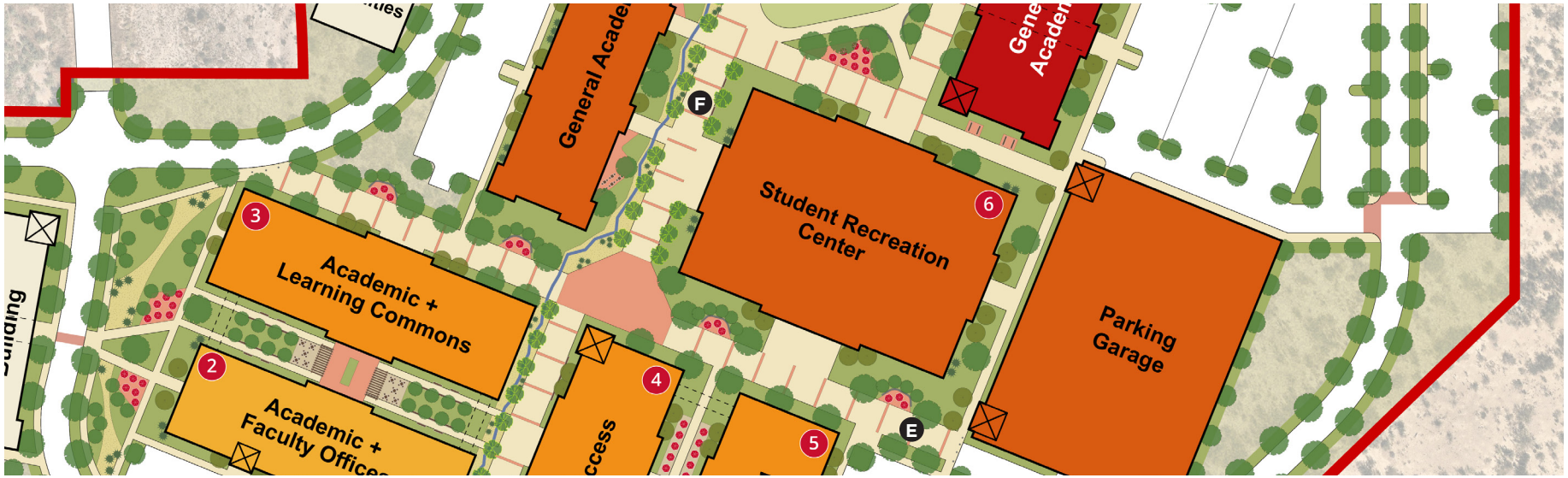
BUILDING 7 - GENERAL ACADEMIC BUILDING

This four-story Academic Building encompasses approximately 90,000 GSF and provides space for general instruction, student study areas and faculty offices. Based on the site topography, this building may be designed with a first floor entry to the south and second floor entry to the north.

Two plaza areas are located along the east side of the building and feature seating, enhanced paving, and plantings. These plaza spaces overlook the enhanced swale and adjacent pedestrian mall, creating inviting outdoor areas that support collaboration and informal gathering.

PARKING GARAGE

The parking garage is a four-story structure that provides parking on four levels plus the roof, accommodating approximately 620 to 625 parking spaces. The garage includes one two-way access point at both the north and south ends of the building. Its central location at the terminus of the east–west pedestrian mall supports efficient circulation and provides convenient access for faculty, staff and students.



LOOP ROAD & PARKING (SEE MAP 15 ON PAGE 53)

Parking will be expanded to approximately 1,480 spaces during this phase, with all additional parking provided within the garage.

The southern leg of the loop road will be extended to provide access to both the north and south entrances of the parking garage.

PEDESTRIAN MALLS & OUTDOOR SPACES

Phase 3 pedestrian mall and outdoor space improvements focus on the expansion of two primary pedestrian malls and associated seating areas.

E East-West Pedestrian Mall: If not constructed during Phase 2, the east–west pedestrian mall will be completed in Phase 3. Four small plazas are located along the north side of the mall and provide shaded seating and informal gathering spaces. The plaza at the intersection of the east–west and north–south pedestrian malls offers an opportunity for campus branding or decorative paving treatments. This area must remain unobstructed to maintain access for emergency vehicles.

F North Pedestrian Mall: The north pedestrian mall continues the 26-foot-wide paved corridor and supports pedestrian circulation through the campus core. Enhanced paving treatments, such as patterned paver bands at regular intervals, may be incorporated throughout the pedestrian malls as long as all paving materials are appropriately rated to accommodate emergency vehicle access.

PHASE 4

INTRODUCTION

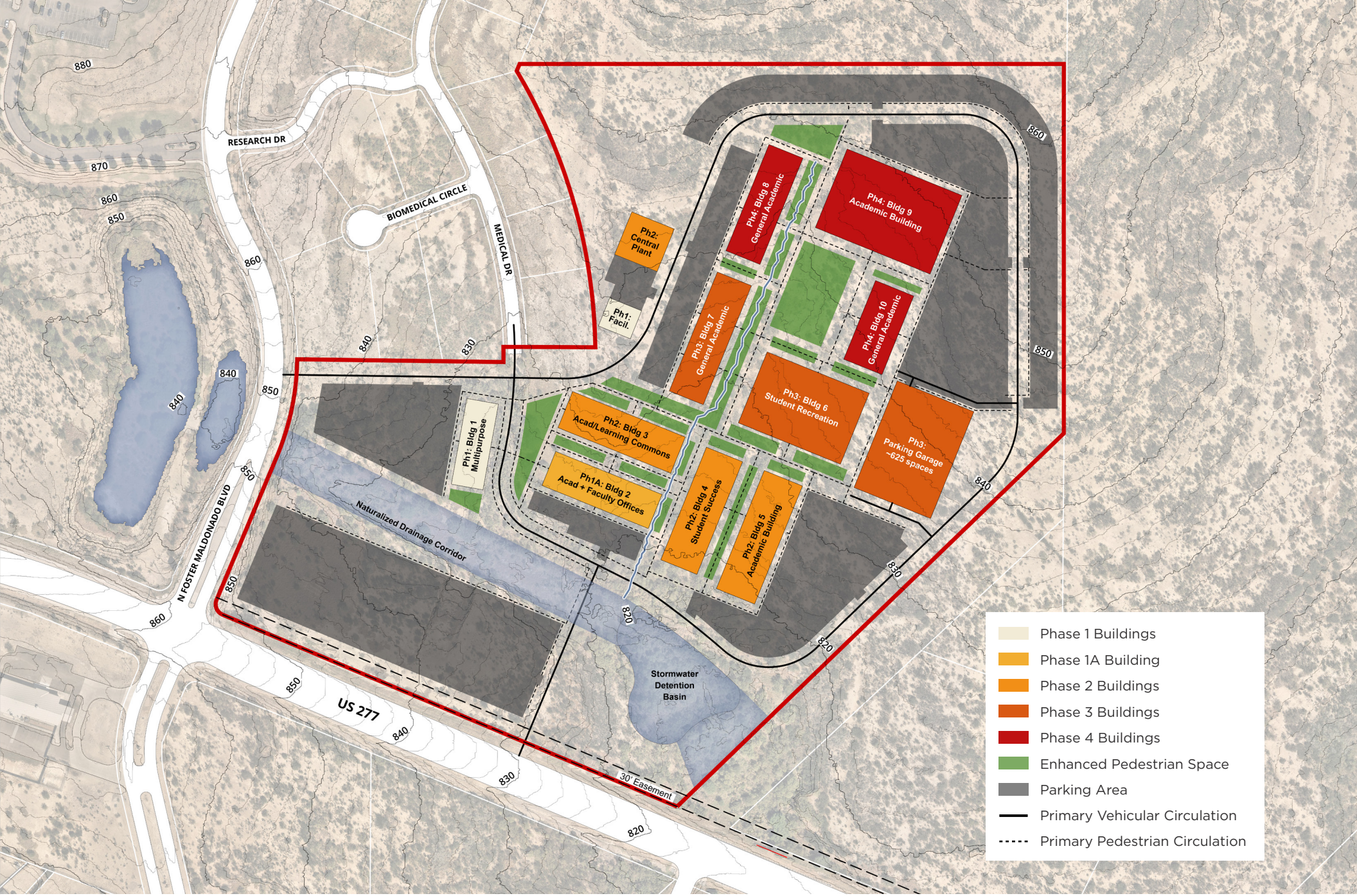
Phase 4 represents the final buildout of the campus and focuses on development of the northern portion of the site. This phase includes additional academic facilities, the completion of the pedestrian mall network, and full buildout of the Central Quad, establishing a cohesive and fully connected campus core.

At full buildout, parking is consolidated along the outer edges of the campus to prioritize pedestrian movement within the academic core. A complete loop road provides continuous two-way circulation around the campus and connects all major parking areas, academic buildings and service access points.

Map 16 illustrates the proposed building locations, along with the approximate areas of parking, pedestrian space and circulation that would be constructed during Phase 4.

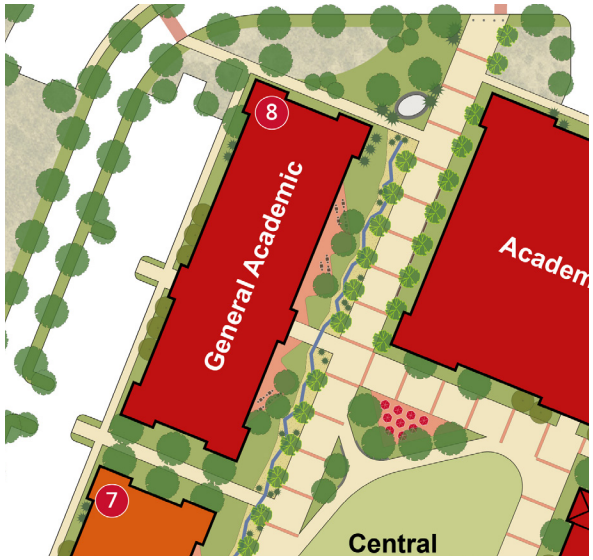
Phase 4 represents full campus buildout with enrollment up to 10,000 students. Of this total, approximately 6,000 students are anticipated to be on campus, with the remaining enrollment supported through online instruction.

Figure 7. Pedestrian Mall and Drainage Swale Illustration



Map 16. Phase 4 Diagram

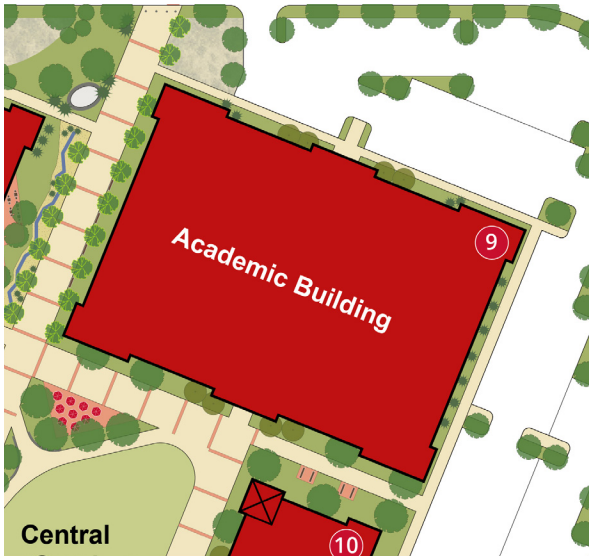
Scale: N.T.S.



BUILDING 8 - GENERAL ACADEMIC BUILDING

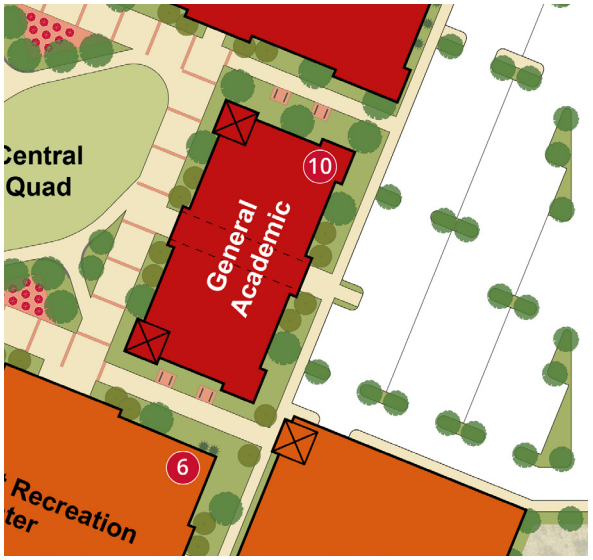
This Academic Building is a three-story facility totaling 60,000 GSF. It will provide space for general instruction, student support areas and faculty offices. Due to site topography, the building may step down along the slope.

Similar to Building 7, this facility includes a plaza along the eastern edge of the building that features enhanced paving and seating areas. This outdoor space will offer prominent views of the adjacent pedestrian mall and the nearby Central Quad.



BUILDING 9 - ACADEMIC BUILDING

This Academic Building is a two-story facility totaling 100,000 GSF. While the building is not program-specific, it is designed to accommodate a wide range of academic functions, including flexible open-bay areas, skills and laboratory spaces, shops, general instructional classrooms and faculty offices.
The size and layout of the building provide adaptability to support evolving academic needs and programs.



BUILDING 10 - GENERAL ACADEMIC BUILDING

This Academic Building is a three-story, 50,000 GSF facility. The building will include general instructional spaces, student study areas and faculty offices designed to support a range of academic programs and learning styles.

The building includes a ground-floor pedestrian breezeway that provides direct, visible connections between the adjacent parking lot and the Central Quad.

LOOP ROAD & PARKING (SEE MAP 15 ON PAGE 53)

Campus parking will be expanded to approximately 2,080 spaces during this phase. If additional long-term parking is needed, the area north of the Central Plant may be reconfigured to accommodate a second parking garage.

The loop road will be completed in Phase 4, providing continuous two-way circulation around the perimeter of the campus core.

PEDESTRIAN MALLS & OUTDOOR SPACES

G Central Quad: The Central Quad is located immediately north of the Student Recreation Center and is framed by surrounding academic buildings, positioning it as a primary outdoor focal point for the campus. The quad includes a large central open lawn designed to support flexible recreational use, informal gatherings, student programming and campus events. This area is the only location on campus where irrigated turf grass is recommended, allowing it to accommodate a variety of activities.

Seating areas with tables and umbrellas anchor the north and south edges of the central green and provide comfortable spaces for studying, socializing and informal meetings. Sidewalks with adjacent seatwalls extend through the Central Quad, providing pedestrian connectivity while offering additional opportunities for passive seating and gathering. Together, these elements create a versatile outdoor space that supports daily student use as well as larger, organized campus activities.

H North Pedestrian Mall Completion: The north pedestrian mall will be extended to its terminus at the northern edge of the loop road. A vertical sculptural element will be located near this northern endpoint to serve as a focal feature. The 26-foot-wide pedestrian mall also continues around the Central Quad, improving pedestrian connectivity while maintaining access for emergency vehicles.

Figure 8. Central Quad Illustration

UTILITY CONSIDERATIONS

As SRSU progresses into Master Plan implementation, it will be important to consider both the near-term and long-term implications of site and utility design decisions to ensure that near-term decisions do not inhibit long-term plans. Following are some initial utility considerations SRSU should keep in mind.

MECHANICAL & PLUMBING

HVAC

In developing a master plan report for HVAC implementation, critical considerations must be given to the phased development of the system. Initially, the focus will be on installing standalone air-cooled chillers to efficiently serve the first set of buildings with chilled water. This approach ensures a targeted and scalable cooling solution for the initial structures. However, as the site expands and additional buildings are erected, a strategic shift toward a centralized chilled water plant becomes necessary. This transition involves careful planning of the plant's location and the establishment of an interconnected piping network spanning the entire campus. This comprehensive approach facilitates the integration of existing buildings into the centralized HVAC system.

WATER

A new 12-inch water line will be extended to the campus site, ensuring a reliable water supply. In addition, a separate 8-inch water line will be extended from the west along Medical Drive to serve the Central Plant. A utility-owned meter within a utility easement will measure water usage efficiently. The water main needs to be sized to provide adequate flow for the domestic water and fire suppression needs. A flow and pressure test will be needed to determine if there is reliable flow and pressure.

NATURAL GAS

A 5-psi natural gas line will be extended to the site for versatile energy needs. A 5-psi medium pressure line will keep the size of piping smaller, saving on overall cost and ensuring there is enough supply and pressure for future expansion. A utility-owned meter and regulator in a utility easement will control gas delivery supply and pressure.

SANITARY SEWER

Coordination with the city's existing lift station for sanitary sewer management is an essential aspect of the campus infrastructure plan. This approach indicates a shared responsibility and collaboration between the campus and the city for effective and environmentally responsible sewage disposal. Elevation changes on the site allow for suitable flow for gravity sewer systems. Although sewage grinder pumps or lift stations may be required at various locations, depending on the elevation.

ELECTRICAL

It is recommended that the electrical service distribution be provided, owned and maintained by RGEC throughout the campus rather than the campus owning and maintaining distribution within the property. It is simpler for the campus's maintenance department to coordinate with RGEC on maintaining the lines rather than the campus taking full responsibility for the power distribution. Transmission level voltage training and qualifications are thus left to RGEC representatives, where it is standard operating conditions.

STORMWATER

GENERAL DRAINAGE

Runoff from the site is conveyed as overland flow toward a naturalized drainage corridor that exits the site at the southeast corner beneath US 277.

Storm drain inlets and underground pipes can be installed beneath permanent parking lots constructed during each phase. Additional storm drain inlets and underground piping will be placed along roadways, near buildings and at low points throughout the campus to capture stormwater runoff.

The site topography allows for the preservation of the swale in the northeastern portion of the property, to which runoff can be directed, while preserving existing drainage patterns in the west-east drainage corridor. The site layout also supports multiple smaller storm drain systems, with discharge points distributed along the swale and the drainage corridor. This approach enables the use of smaller pipe diameters and helps maintain existing flow conditions.

An in-line detention pond can be incorporated in the southeastern corner of the site, upstream of where the drainage corridor exits, to mitigate potential downstream impacts from increased runoff from campus development.

GREEN INFRASTRUCTURE

Green infrastructure includes a variety of stormwater management practices, such as vegetative filter strips, rain gardens and permeable pavements, which essentially aim to filter and/or absorb stormwater where it falls. Green infrastructure has a variety of benefits, largely grouped into three categories: economic, community and environmental.

- **Economic Benefits:** Green infrastructure helps to lower system maintenance, reduce stormwater treatment costs and conserve energy.
- **Community Benefits:** Through placemaking, the general aesthetics of the site are improved, creating natural areas for improved physical and mental health. Low impact improvements help promote a connection to nature as students, staff and visitors traverse the campus.
- **Environmental Benefits:** The design and implementation of green infrastructure improves air and water quality, as well as maintains and protects natural habitats. Erosion control and sediment capture are also key environmental benefits.

As SRSU develops detailed design plans, it is recommended to integrate green infrastructure elements, as appropriate, to help capture, filter and potentially use stormwater on site.

CONSERVATION CONSIDERATIONS

As SRSU develops detailed utility plans for the campus, it is recommended that a variety of resource conservation techniques be evaluated. Based on the site's climate, terrain and orientation, there could be viable opportunities to incorporate rainwater harvesting, condensate recovery and photovoltaic systems. Further details about each of the above-mentioned strategies are included in the Appendix.

Pedestrian Mall and Drainage Swale Illustration

APPENDIX
UTILITY MASTER PLAN

EXISTING UTILITIES

MECHANICAL & PLUMBING

HVAC

Currently, there are no existing heating, ventilation, and air conditioning (HVAC) utilities or infrastructure in place at the site. All HVAC related infrastructure will be developed in phases as required for the buildout of the campus. Refer to the proposed utilities section of the report for related utilities and infrastructure that will be needed.

NATURAL GAS

The natural gas main on the south side of the project site serves as a crucial energy source for the area. This infrastructure ensures a reliable and convenient supply of natural gas, supporting various needs of the campus.

DOMESTIC WATER

Two 12-inch water mains, located parallel to US 277 and N. Foster Maldonado, play a vital role in the water supply infrastructure. These mains serve as a key conduit for providing clean and potable water to the campus, contributing to the overall well-being and functionality of the campus. An additional 8-inch water line runs parallel to Medical Drive to the north of the site.

SANITARY SEWER

An existing sanitary sewer main runs through the project site and can serve as the primary solution for wastewater management for the proposed development. Given its location within the site, the main provides a practical connection point for future campus facilities. This approach is more appropriate than relying on septic systems and supports the scale of the planned campus development. These utility features collectively contribute to the overall functionality and sustainability of the project site, ensuring that essential services are readily available for both current and future developments.

ELECTRICAL

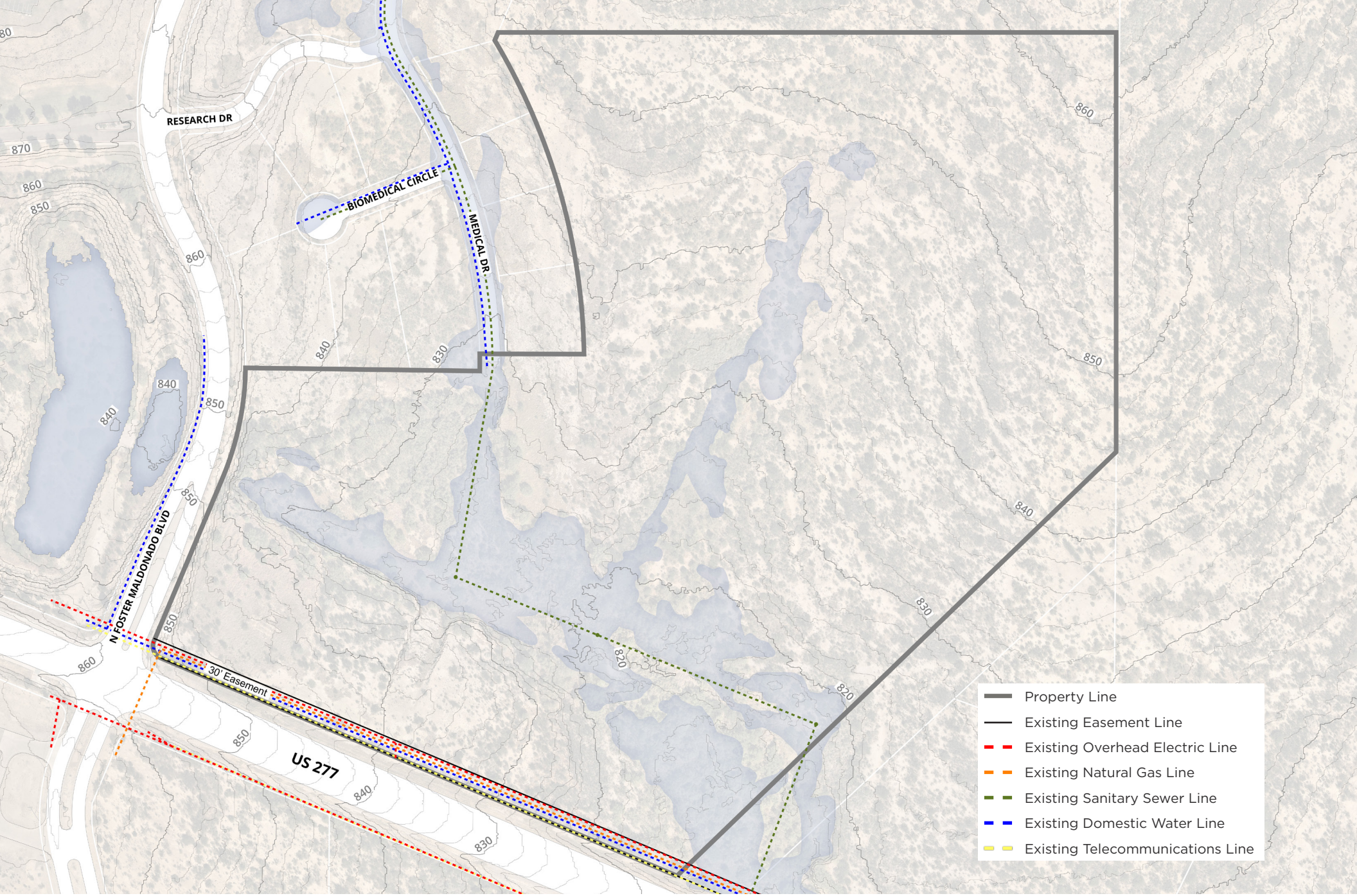
There are no existing electrical utilities within the property. The planning team confirmed with Rio Grande Electric Cooperative (RGEC) that they own the nearest overhead electrical lines that are located south of the property. While the property survey did not show any electric utilities west of the property, there are streetlights along N. Foster Maldonado Boulevard and Medical Drive. It is thus assumed that electric utilities are available in these areas. This will need to be verified with RGEC.

STORMWATER

The new SRSU campus is approximately 43 acres and is located in Eagle Pass, Texas, northeast of the intersection of N. Foster Maldonado Boulevard and US 277. The site is currently undeveloped and zoned as a Neighborhood Business District. It receives off-site drainage from both the north and west, including a detention basin to the west. Stormwater conveys overland runoff to a drainage corridor, draining from west to east, which exits the site at the southeast property corner toward a culvert beneath US 277. Based on site topography, a natural swale extends from the northeast portion of the site toward the drainage corridor. The property survey identifies a “drainage way” generally extending from the end of Medical Drive to the same culvert under US 277 just beyond the property’s southeast corner.

There are no floodplains or floodways on or near the project site. One outfall from a storm drain line originating from Medical Drive to the north is located on the property and has the potential for connectivity in the future.

While there was no stormwater line shown on the property survey along Medical Drive, storm inlets and the outfall pipe were located during the site visit.



Map 17. Existing Utilities Map

Scale: N.T.S.

UTILITY CONSIDERATIONS

As SRSU progresses into Master Plan implementation, it will be important to consider both the near-term and long-term implications of site and utility design decisions to ensure that near-term decisions do not inhibit long-term plans. Following are some initial utility considerations SRSU should keep in mind.

MECHANICAL & PLUMBING

HVAC

In developing a master plan report for HVAC implementation, critical considerations must be given to the phased development of the system. Initially, the focus will be on installing standalone air-cooled chillers to efficiently serve the first set of buildings with chilled water. This approach ensures a targeted and scalable cooling solution for the initial structures. However, as the site expands and additional buildings are erected, a strategic shift toward a centralized chilled water plant becomes necessary. This transition involves careful planning of the plant's location and the establishment of an interconnected piping network spanning the entire campus. This comprehensive approach facilitates the integration of existing buildings into the centralized HVAC system.

WATER

A new 12-inch water line will be extended to the campus site, ensuring a reliable water supply. In addition, a separate 8-inch water line will be extended from the west along Medical Drive to serve the Central Plant. A utility-owned meter within a utility easement will measure water usage efficiently. The water main needs to be sized to provide adequate flow for the domestic water and fire suppression needs. A flow and pressure test will be needed to determine if there is reliable flow and pressure.

NATURAL GAS

A 5-psi natural gas line will be extended to the site for versatile energy needs. A 5-psi medium pressure line will keep the size of piping smaller, saving on overall cost and ensuring there is enough supply and pressure for future expansion. A utility-owned meter and regulator in a utility easement will control gas delivery supply and pressure.

SANITARY SEWER

Coordination with the city's existing lift station for sanitary sewer management is an essential aspect of the campus infrastructure plan. This approach indicates a shared responsibility and collaboration between the campus and the city for effective and environmentally responsible sewage disposal. Elevation changes on the site allow for suitable flow for gravity sewer systems. Although sewage grinder pumps or lift stations may be required at various locations, depending on the elevation.

ELECTRICAL

It is recommended that the electrical service distribution be provided, owned and maintained by RGEC throughout the campus rather than the campus owning and maintaining distribution within the property. It is simpler for the campus's maintenance department to coordinate with RGEC on maintaining the lines rather than the campus taking full responsibility for the power distribution. Transmission level voltage training and qualifications are thus left to RGEC representatives, where it is standard operating conditions.

STORMWATER

GENERAL DRAINAGE

Runoff from the site is conveyed as overland flow toward a naturalized drainage corridor that exits the site at the southeast corner beneath US 277.

Storm drain inlets and underground pipes can be installed beneath permanent parking lots constructed during each phase. Additional storm drain inlets and underground piping will be placed along roadways, near buildings and at low points throughout the campus to capture stormwater runoff.

The site topography allows for the preservation of the swale in the northeastern portion of the property, to which runoff can be directed, while preserving existing drainage patterns in the west-east drainage corridor. The site layout also supports multiple smaller storm drain systems, with discharge points distributed along the swale and the drainage corridor. This approach enables the use of smaller pipe diameters and helps maintain existing flow conditions.

An in-line detention pond can be incorporated in the southeastern corner of the site, upstream of where the drainage corridor exits, to mitigate potential downstream impacts from increased runoff from campus development.

GREEN INFRASTRUCTURE

Green infrastructure includes a variety of stormwater management practices, such as vegetative filter strips, rain gardens and permeable pavements, which essentially aim to filter and/or absorb stormwater where it falls. Green infrastructure has a variety of benefits, largely grouped into three categories: economic, community and environmental.

- **Economic Benefits:** Green infrastructure helps to lower system maintenance, reduce stormwater treatment costs and conserve energy.
- **Community Benefits:** Through placemaking, the general aesthetics of the site are improved, creating natural areas for improved physical and mental health. Low impact improvements help promote a connection to nature as students, staff and visitors traverse the campus.
- **Environmental Benefits:** The design and implementation of green infrastructure improves air and water quality, as well as maintains and protects natural habitats. Erosion control and sediment capture are also key environmental benefits.

As SRSU develops detailed design plans, it is recommended to integrate green infrastructure elements, as appropriate, to help capture, filter and potentially use stormwater on site.

CONSERVATION CONSIDERATIONS

As SRSU develops detailed utility plans for the campus, it is recommended that a variety of resource conservation techniques be evaluated. Based on the site's climate, terrain and orientation, there could be viable opportunities to incorporate rainwater harvesting, condensate recovery and photovoltaic systems.

RAINWATER HARVESTING AND CONDENSATE RECOVERY

The average yearly rainfall rate in Eagle Pass, Texas, is approximately 22 inches. The SRSU Eagle Pass Campus will have approximately 275,000 square feet of roof area to collect rainwater from. Assuming a runoff coefficient of 0.75 and a collection efficiency of 80%, approximately 2.5 million gallons of rainwater can be harvested per year. Incorporating a rainwater collection system could help to reduce potable water use on campus.

The collected rainwater would be routed to a central storage cistern, where it would be stored until needed for various campus applications. Non-potable water fixtures such as water closets and urinals, as well as the irrigation system, are among the primary potential recipients of this stored rainwater. There is also potential for the harvested rainwater to supplement water needs for HVAC systems.

Condensate drains from the HVAC systems could also be directed toward the rainwater collection lines to enhance overall water harvesting. This process, known as condensate recovery, involves capturing the water formed during the air conditioning process when warm air encounters the cold evaporator coil. Redirecting HVAC condensate to rainwater collection lines allows for a more efficient utilization of water resources.

In response to potential drought conditions, the cistern would be equipped with a potable water backup line, ensuring a reliable water source during periods of insufficient rainfall. Additionally, a manual potable water bypass connection would offer a flexible solution in times of drought.

Facilitating the distribution of rainwater would be a pump system designed to draw water from the cistern. Before reaching its designated endpoints, the rainwater should undergo filtration and UV treatment to eliminate large particles, bacteria and algae. This step is crucial in preserving the integrity of the piping system and preventing unwanted odors.

Rainwater harvesting represents a pragmatic approach to sustainable water management. By harnessing local rainfall and implementing backup solutions, the university could enhance water efficiency for various campus needs, contributing to both environmental responsibility and operational resilience.

RENEWABLE AND ELECTRICAL ENERGY REDUCTION OPPORTUNITIES

The demand load estimated in Figure 10 on page 76 assumes that the electrical utility service must be able to serve the full demand and design utilizing energy efficient mechanical, electrical and plumbing (MEP) system design. Additional renewable on-site generation and energy reduction efforts are encouraged when funding and resources can be dedicated to them.

For this specific campus location, Photovoltaic (PV) systems are the most opportune renewable on-site generation source. Generally, PV systems appropriate for this scale of demand loads cost about $80,000 for an approximately 250kW ground-mounted array of panels covering an acre (43,560 square feet) of space. The mounting could be open space, flat roof space or covered parking structures (an elevated mounting structure for parking would be an additional cost) adjacent to the building load that it is intended to serve. The electrical generation capacity of the PV array should not exceed the associated building load to maximize the effectiveness of available funding. Oversizing the PV array will depend on reverse metering agreements with RGEC and will extend the return on investment (ROI) duration.

The sizing for PV generation on campus will be constrained by the space available to dedicate to PV panels and associated equipment, the size of the load to be served (kW), and funding available for PV array construction.

It should be noted that PV panels and inverters have life expectancies of 20-to-30 years. Depending on negotiated utility rates, the ROI is anticipated to be in the range of 8 to 10 years. At the conclusion of the system's life, replacement of the panels and inverters should be anticipated.

MECHANICAL & PLUMBING

PHASES 1 AND 1A BUILDINGS

In Phases 1 and 1A the implementation of the HVAC system will rely on a chilled water system served by standalone air-cooled chillers. The selection of air-cooled chillers for the initial buildings provides a flexible and efficient cooling solution. The technical considerations for this phase are described below.

CHILLED WATER SYSTEM DESIGN

- Installation of air-cooled chillers with the capacity to meet the immediate cooling requirements of Phase 1/1A buildings.
- Incorporation of a closed-loop chilled water system to circulate chilled water between the chillers and the building air handling units (AHUs).
- Proper sizing and selection of chilled water pumps and AHUs to ensure optimal system performance.

PIPING DESIGN FOR FUTURE INTEGRATION

- Adoption of a modular and scalable approach in designing the chilled water piping system within Phase 1/1A buildings.
- Inclusion of strategically located connection points or headers in the piping layout, facilitating seamless integration with the central chilled water plant in subsequent phases.
- Utilization of standardized fittings and valve configurations to simplify future modifications and connections.

DEVELOPMENT OF THE CENTRAL PLANT AND PIPING NETWORK

The phased implementation of the Central Plant depends on schedule of buildout and on both demand and capacity assessments. Initially, standalone air-cooled chillers will be deployed to meet the immediate cooling needs of the first buildings. The decision to integrate the central chilled water plant comes at a juncture where the campus demand justifies the transition from decentralized to centralized cooling. This determination relies on factors such as building occupancy, load calculations and energy efficiency goals.

The addition of campus piping follows a logical sequence, synchronized with the construction of the Central Plant. The piping network is strategically laid out to connect existing structures following the allocated easements. This phased approach minimizes disruptions to ongoing operations while optimizing the overall performance of the HVAC system.

CHILLED WATER SUPPLY/RETURN AND HOT WATER

Chilled water supply and return lines, along with hot water supply and return lines, are proposed to be routed through a utility corridor to serve the campus from the Central Plant. This distribution approach will provide a centralized and efficient means of delivering heating and cooling to the various buildings on site. System routing, pipe sizing and associated appurtenances will need to be coordinated with campus phasing and building demand to ensure long-term functionality, maintainability and flexibility for future expansion.

CAPACITY

Capacity considerations involve a detailed analysis of current and future cooling requirements. This assessment dictates the size and specifications of the Central Plant equipment to ensure it aligns with the anticipated load. As the campus grows and evolves, periodic evaluations and potential adjustments to the Central Plant's capacity may be necessary to accommodate changing demands. The technical considerations for phasing the Central Plant are driven by demand, efficiency and adaptability to future growth.

The approximate cooling capacity required for the buildout of the campus is shown in Figure 9.

Figure 9. Approximate Cooling Capacity (in Tons) Required for the Buildout

PHASE	BLDG. #	NAME	GROSS SQUARE FEET (GSF)	APPROX. CHILLED WATER CAPACITY (TONS)	CUMULATIVE TONNAGE
1	1	Multipurpose Building	40,000	133	133
		Facilities Support Building	5,000	17	150
1A	2	Academic/Faculty Office Building	80,000	267	417
2		Central Plant	10,000	33	450
	3	Academic/Learning Commons	80,000	267	717
	4	Student Success Building	90,000	300	1,017
	5	Academic Building	75,000	250	1,267
3	6	Student Recreation Center	40,000	133	1,400
	7	General Academic Building	90,000	300	1,700
		Parking Garage*	181,000	0	1,700
4	8	General Academic Building	60,000	200	1,900
	9	Academic Building	100,000	333	2,233
	10	General Academic Building	50,000	167	2,400
		Conditioned Space Total	**720,000**	**2,400 tons**	

** Not conditioned*

PLUMBING UTILITY COORDINATION

NATURAL GAS

A 5-psi natural gas line will extend into the site, following the designated route within a proposed utility corridor. This placement ensures efficient distribution to various buildings. At each building, individual regulators will be installed to reduce the gas pressure, adjusting it to a range of 0.5-1.0 psi based on the specific gas demand of each structure.

Based on available data, it appears that an existing natural gas line is only available along US 277. If an additional line with sufficient capacity is identified closer to Building 1, this connection should be explored.

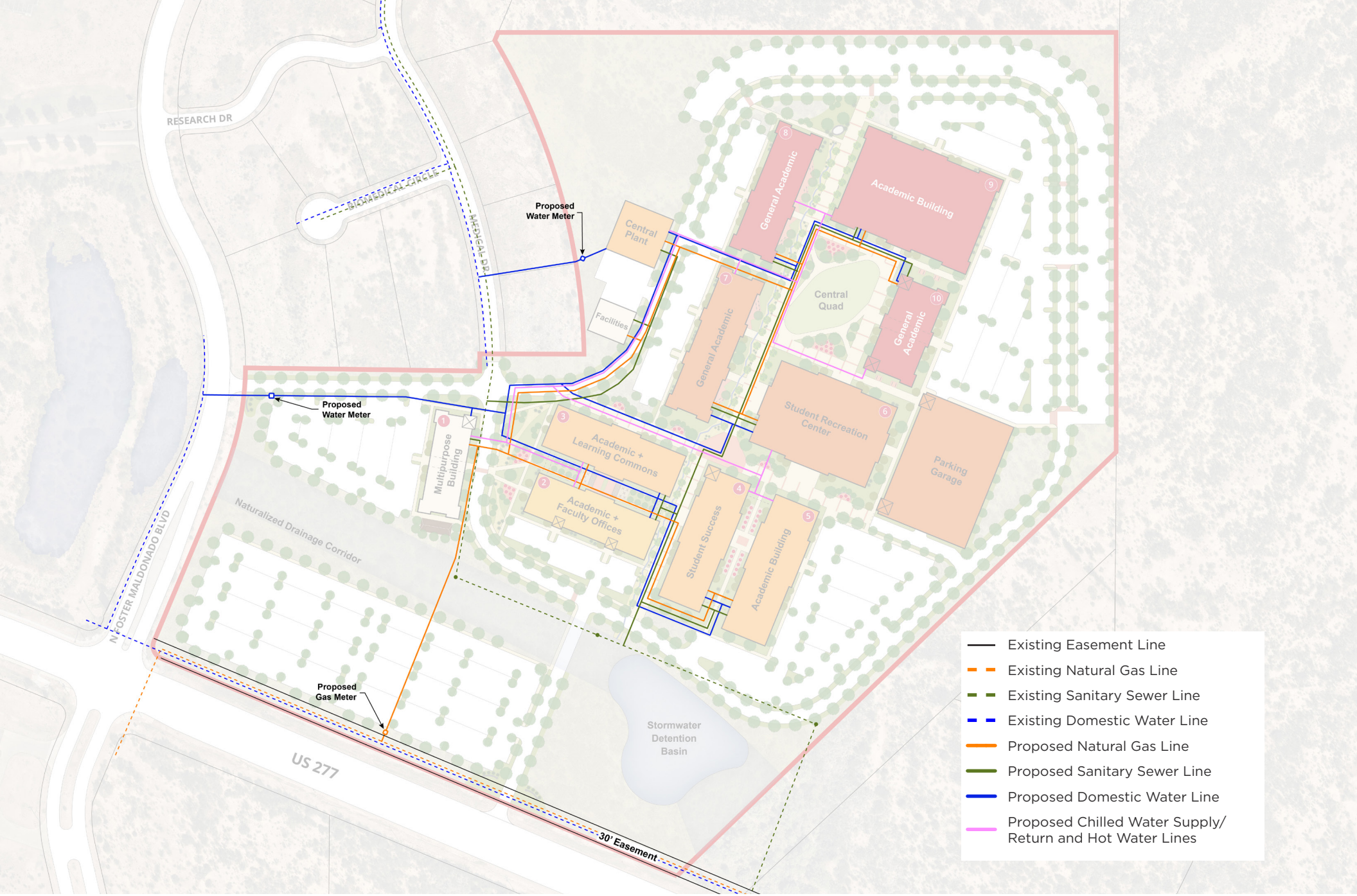
WATER

The proposed 8- to 12-inch water main, routed through the utility corridor, is a critical component of the water supply infrastructure. To guarantee ample pressure for all buildings, the recommended minimum pressure at the service entrance is a minimum of 60 psi. This ensures that each structure within the site receives a consistent and reliable water supply, meeting the demands of the campus.

SANITARY SEWER

The sewer system is advised to follow the utility corridor route, consolidating into a main pipe that extends south toward the existing sanitary sewer system. This integrated sewer design promotes efficiency in wastewater management and minimizes environmental impact. Depending on elevation changes across the site, additional lift stations may be required to facilitate the smooth flow of sewage to the main collection point.

These detailed plans for natural gas, water, and sanitary sewer systems underscore a comprehensive and forward-thinking approach to utility design, ensuring the long-term functionality and resilience of the site's infrastructure.



Map 18. Utility Master Plan - Mechanical & Plumbing

Scale: N.T.S.

ELECTRICAL

POWER DISTRIBUTION BUILDOUT

PROPOSED LAYOUT

The proposed electrical layout is for RGEC to provide power from overhead lines located in the public right-of way (ROW) along the US 277. RGEC service will then enter campus at two locations to provide redundancy. One connection is located along US 277 and the other is west of the Central Plant. The west connection will need to be verified and coordinated with RGEC to determine its capacity and constraints. If this connection is verified, providing electric for the first building from this connection could be considered. This would require a revised routing of the electric lines shown on Map 19. As illustrated on Map 19, the west connection would also require an easement through the property located between SRSU's western property line near the Central Plant and Medical Drive.

Once in the property, power will be distributed through medium-voltage underground lines, switchgears and transformers throughout the campus. Each building will have a pad-mounted transformer to step-down the medium voltage to low voltage, 480V or 208V. RGEC will own and maintain the distribution system throughout campus, with each building served with a transformer. Appropriately located switchgear and associated infrastructure, implemented in later phases, will provide redundancy and help maintain service continuity during outages or maintenance. A minimum of two RGEC entrances into campus allows flexibility to alter service directions in response to failures or maintenance. Routing through campus will require RGEC easement agreements. Aligning the routing with other utilities will allow for combined, joint use easement agreements minimizing the amount of dedicated clear space.

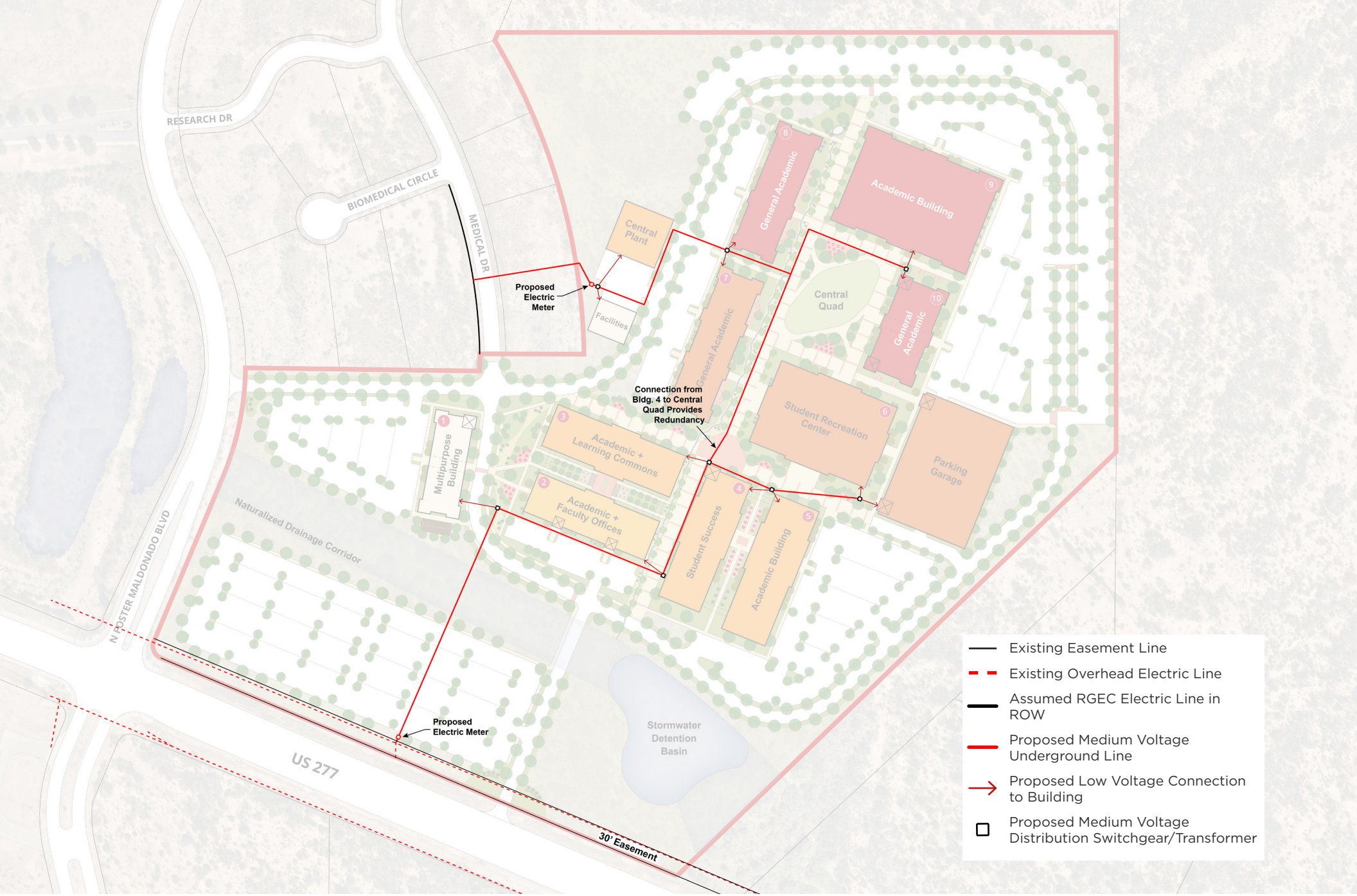
Phasing of the electrical service buildout on campus should follow the campus phasing.

EXPECTED ELECTRICAL SERVICE LOADS

The expected loads for each building were estimated based on square footage and building type according to NEC article 220. Pedestrian and street lighting circuits are expected to be routed from buildings near them. The estimated loads for each building are listed in Figure 10.

Figure 10. Expected Electrical Service Loads

BLDG. #	NAME	EXPECTED LOAD (KVA)
1	Multipurpose Building	800
	Facilities Support Building	100
2	Academic/Faculty Office Building	1,500
	Central Plant	400
3	Academic/Learning Commons	1,500
4	Student Success Building	1,700
5	Academic Building	1,500
6	Student Recreation Center	1,100
7	General Academic Building	1,700
	Parking Garage	1,200
8	General Academic Building	1,200
9	Academic Building	1,900
10	General Academic Building	1,000
	Total	15,600



Map 19. Utility Master Plan - Electrical

Scale: N.T.S.

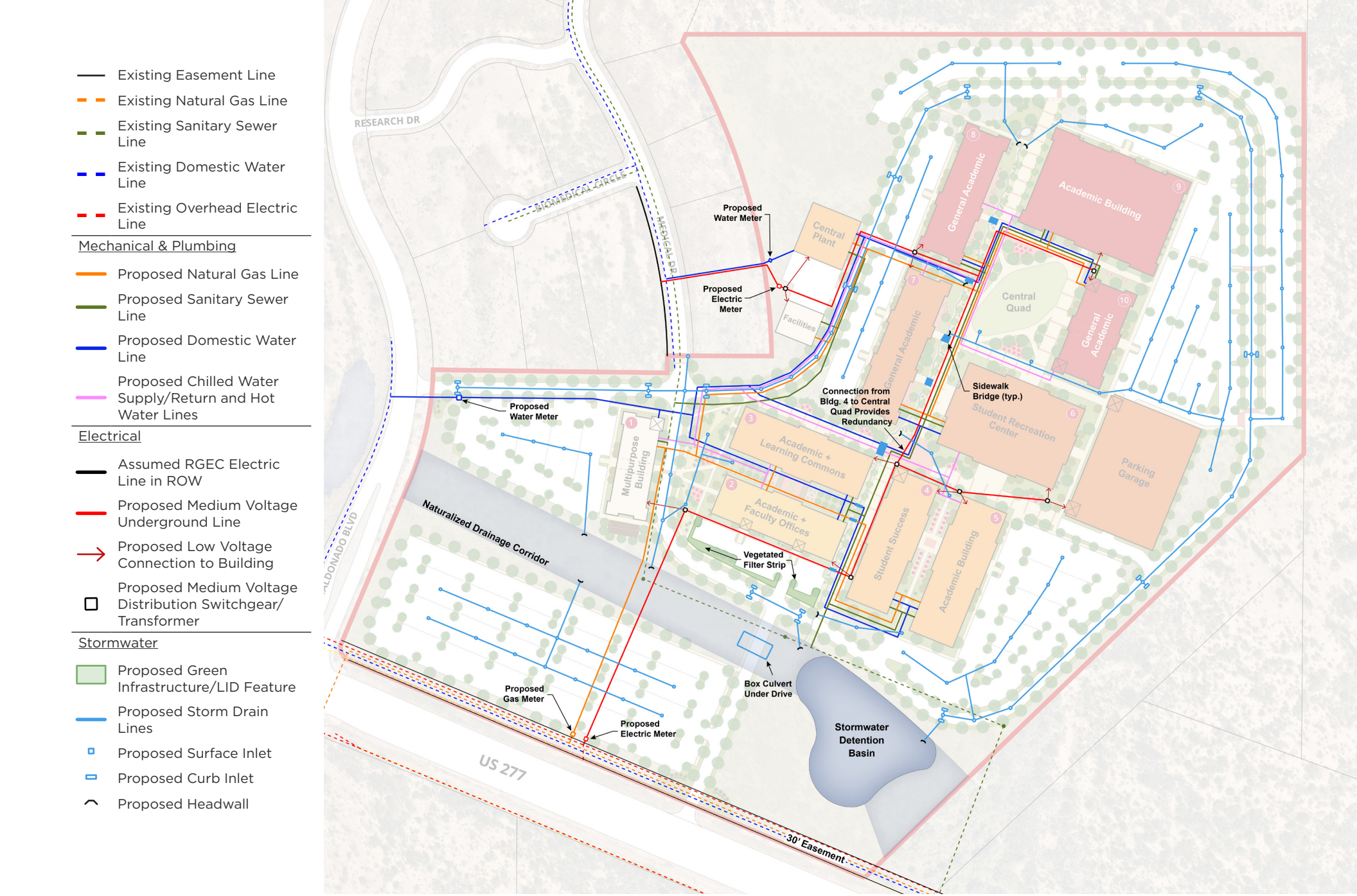
STORMWATER

The primary drainage system will consist of surface inlets, curb inlets and storm sewer laterals that convey site runoff to the swale and drainage corridor. The system will connect to the existing storm drain outfall at Medical Drive and will accommodate flows that previously discharged to the site. In-line detention will be used to mitigate increased runoff resulting from campus development. The final size of the detention pond will be determined by the total impervious area developed by Phase 4. At full buildout, this Plan shows approximately 57% of the site as impervious surface. Based on this coverage, approximately 2.2–2.3 acre-feet of detention volume will be required, which corresponds to a detention pond of roughly 1.1–1.15 acres with an average depth of 2 feet. While the pond will be sized to accommodate a 100-year event through the site, it will not be persistently wet.

Box culverts will be installed where roadways cross the drainage corridor to maintain safe passage during heavy rainfall events. The proposed site plan also includes several sidewalks that cross the drainage swale. Pedestrian bridges are proposed at these crossings as a low-impact solution that promotes connectivity while preserving the natural environment.

Map 20. Utility Master Plan - Stormwater

Scale: N.T.S.



Map 21. Utility Master Plan - All Utilities

Scale: N.T.S.

This page intentionally left blank


SR
SUL ROSS
THE FRONTIER UNIVERSITY of Texas
A member of The Texas State University System