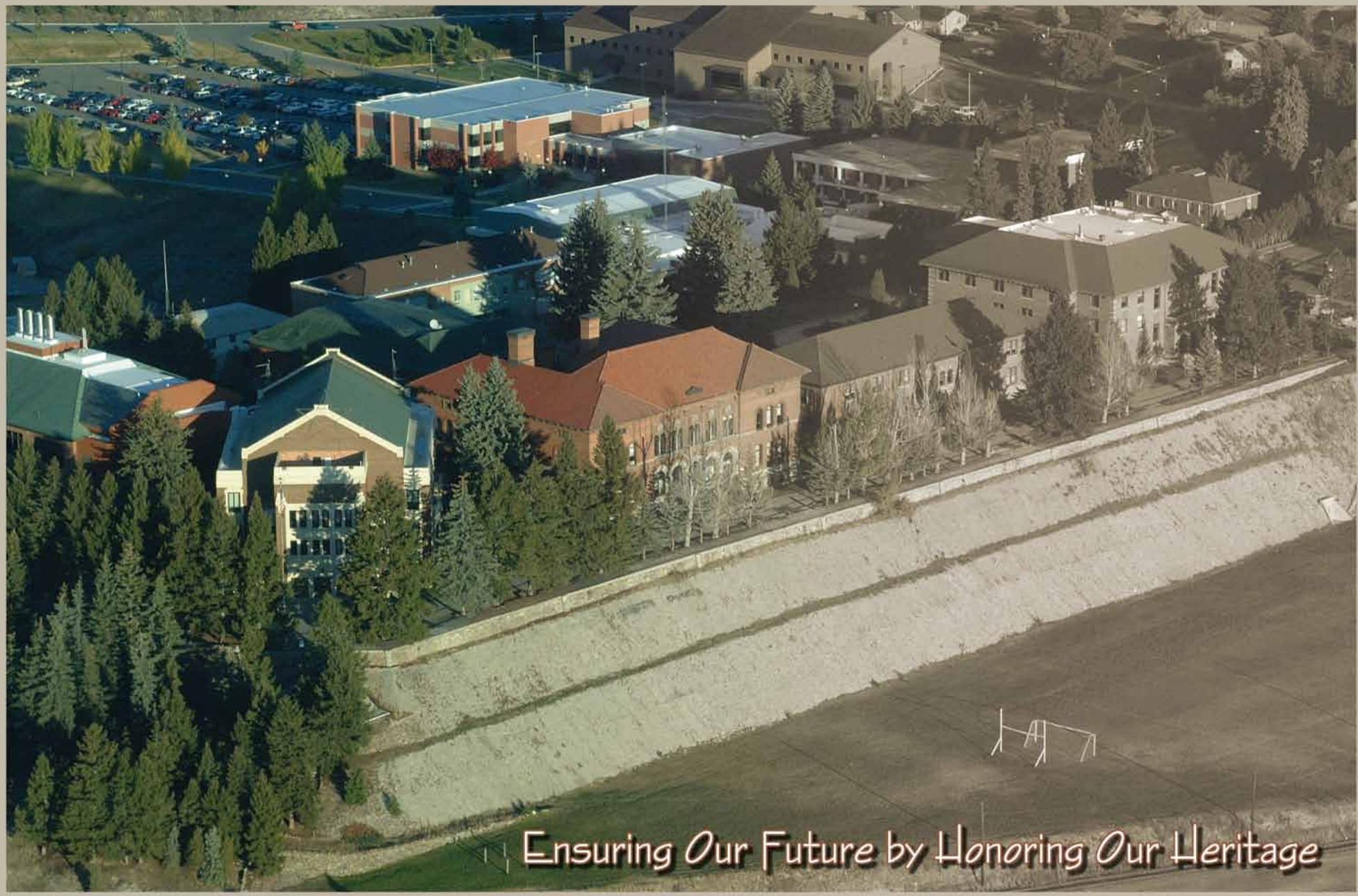
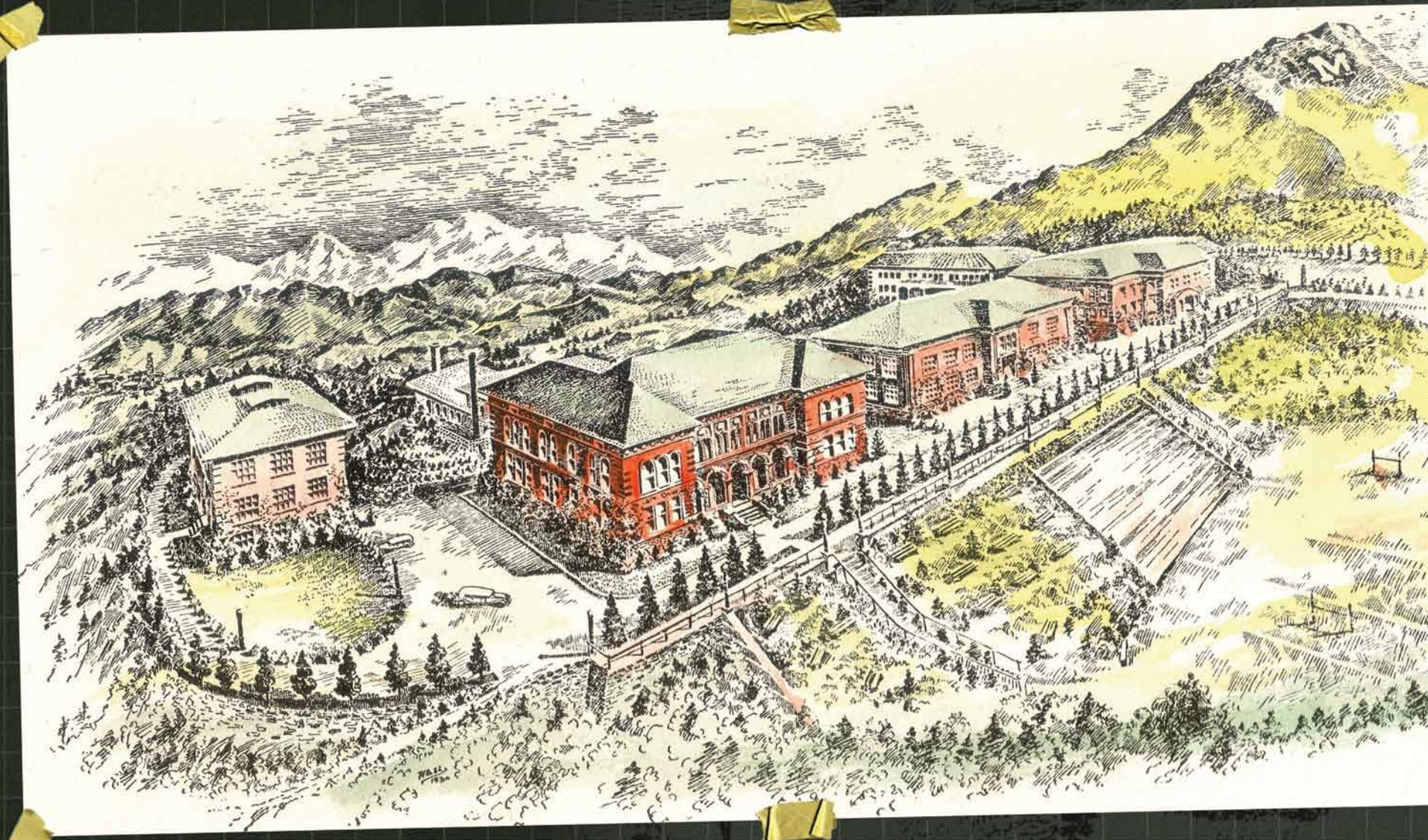
Montana Tech
THE UNIVERSITY OF MONTANA

MASTER PLAN 2010





Vision 2025 Roadmap

Master Planning Committee

On October 27, 2009, the Strategic Planning Committee met to discuss the process by which a Master Planning Committee would be appointed and the process by which a Campus Master Plan would be prepared. The Strategic Planning Committee recommended a sub-committee of the Strategic Planning Committee be formed and augmented with some additional members who have desired expertise. The following agreed to serve on the Master Planning Committee:

Planning Committee:

Frank Gilmore	Chancellor, Chair
Doug Abbott	Vice Chancellor for Academic Affairs/Research (VCAAR)
Jennifer Bickler	President, Associated Students of Montana Tech
Tony Campeau	Director of Enrollment Management
Doug Coe	Dean of the College of Letters, Sciences and Professional Studies
Ed Deal	Director of the Montana Bureau of Mines and Geology
Joe Figueira	Associate VCAAR/Dean of the Graduate School
Butch Gerbrandt	Department Head, General Engineering
Steve Luft	Associate Dean of the College of Technology
Bill Ryan	Department Head, Trades and Technology
Ann St. Clair	Director of the Library
Chip Todd	Professor, Mathematical Sciences
Art Anderson, Richard Pylypuw, Ken Palmer	Physical Facilities*

**Until March 1, 2010 when Art Anderson became Director of Physical Facilities, Rich Pylypuw served in this role and Ken Palmer served as an adviser.*

All members of the Master Planning Committee made substantial contributions to this plan and on behalf of the Campus and the Strategic Planning Committee, the Chair thanks them for this service. Two individuals deserve special acknowledgement for contributing to the graphic and design of this plan. Steve Luft contributed a major part of the design, layout, photographs and maps. Bill Ryan and his students contributed the utility location maps based on location data furnished by PATHFINDER Utility Locating and Consulting Service, LLC. Carmen Nelson, Assistant to the Chancellor, took meeting notes and edited this plan.

Photographs

Steve Luft, Montana Tech Library Archives, Marilyn Patrick and Steve Hinick.

About Montana Tech

The first action to establish an institution of higher education in Butte came in 1889 with the Fiftieth Congress of the United States awarding the State of Montana one hundred thousand acres of land for the establishment and maintenance of a school of mines. The State of Montana still holds in trust for the benefit of Montana Tech fifty-nine thousand six hundred acres of this original grant.

In 1893 the Montana Legislature passed legislation to charter the Montana School of Mines which in 1965 became the Montana College of Mineral Science and Technology and in 1995 the name was changed to Montana Tech of The University of Montana. "Montana Tech" has been the common name throughout our history. In September 1900, Main Hall, the first building on the Montana School of Mines campus, was constructed from warrants issued against the Trust lands.

The original campus was 4.3 acres of donated land. This has now grown to three campuses. The North Campus consists of about 125 acres of which about 60 acres are in use for buildings, parking and recreational fields. The South Campus, originally built to house the Butte Vocational-Technical Center, became a part of Montana Tech in 1994. The South Campus is comprised of approximately 40 acres of which about 25 acres are in use for buildings, parking and outside classroom facilities.

The Highlands Campus is the former Minerals Research Center located in the Industrial Park south of the airport. This campus consists of five buildings and a total of 11.3 acres of land. One building is currently leased and three buildings are currently used by the College of Technology for the Lineman Training Program. This property is currently being prepared for sale and the proceeds will be used to construct a new building for General Engineering projects.

From a beginning of 36 men and 3 women students in 1900, Montana Tech has grown to a student body of approximately 2,700 students in 2010. This Master Plan is predicated upon a goal stated in Vision 2025 of reaching an enrollment of 3,500 by 2025. Accommodation of this increase in students over the next 15 years requires substantial modification of the way the curriculum is scheduled, renovation of some outdated facilities and construction of new facilities.

As this Master Plan is completed, the recently completed Natural Resources Building has just been occupied by the Department of Petroleum Engineering and the Montana Bureau of Mines and Geology. Substantial renovations of the Mining and Geology Building, the Health Sciences Building and the Health, Physical Education and Recreation Building are to be started during the spring of 2010. Funds to renovate and expand the Library are being requested from Montana's 62nd Legislature. Lighting in three buildings has been updated to more energy efficient lighting and both the electrical--including indoor and outdoor lighting--and heating systems in the South Campus building were updated during the summer of 2008. Main Hall will need to be completely renovated and can probably be most effectively utilized as the administrative building to include most administrative, academic support and student support services.

New construction is needed for a Residence Hall to accommodate 100-200 students and a special Residence Hall for the Montana Math and Science Academy to accommodate about 40 students. In addition, the University Relations Center will be built to house campus outreach efforts.

To continue to expand its role as one of the research universities of Montana, the campus has planned two facilities. A metal building adjacent to the Welding Laboratory would serve a number of functions including a shop for construction of student projects, such as the concrete canoe but would primarily serve some of the needs of General Engineering. The 2010 cost is estimated to be about $1 million. The second is a facility for Energy and the Environment Research of about 30,000 square feet. The 2010 cost is estimated to be about $9 million. In the interest of improving the efficiency of operations, the South Campus needs to be consolidated with the North Campus. This requires the construction on the North Campus of a building of about 100,000 square feet, which in 2010 has an estimated cost of about $27 million.

The Master Plan provided here is an appropriate guide for building and maintaining physical facilities to serve a university focused on programs in science, technology, engineering and math, as well as in health related programs. The planning committee recognizes this is a guide, not an absolute road map, to the future.

Master Planning Process

Master Planning for physical facilities at Montana Tech is considered an overall part of the Strategic Planning process. For the Master Plan to be effective, it must support the Strategic Plan of the University and be accepted by the surrounding community and by Montana Tech stakeholders. Following this logic, a meeting of the Strategic Planning Committee was held on October 27, 2009. At this meeting, the Committee recommended a sub-committee of the Strategic Planning Committee and recommended membership from the Strategic Planning Committee, as well as several individuals who have special expertise needed in producing a Master Plan.

Phase 1 was an educational phase to sensitize our neighbors, as well as our campus constituents, alumni and friends to the fact that a new Master Plan was being developed. Special invitations were sent to close neighbors and an announcement was published in the local newspaper to apprise the community of the Master Planning meeting on November 17 and inform them that any interested individuals were invited to attend. Faculty, staff and students were also apprised of this meeting and told that a separate meeting would be held for campus input. About 30 people attended the community meeting. They were shown previous plans and informed of possible ways to expand the campus. One concern expressed was that Montana Tech would just take people's property using eminent domain. The group was assured that we had no intention of using eminent domain to acquire property. This meeting was very positive and our neighbors did not express concerns about our plans included in the final Master Plan.

The second meeting was held to listen to concerns and suggestions from faculty, staff and students. This meeting was held on December 7, 2009. About 35 individuals attended the meeting. A very similar presentation was made. The one concern expressed by e-mail prior to the meeting is that Leonard Field should not be used other than as an athletic field because it was public property that the community could use and that the forested area on the southeast side of campus near the tiers should not be used for anything that disturbed the trees. Other suggestions include using the property north of Bluebird Trail as a mountain bike training course or similar recreational uses until it was needed as building sites.

Phase 2 involved the Master Planning Sub-committee with input from the campus. In a series of meetings, the Subcommittee drafted this plan.

Our Aspirations

Honor our Heritage

Ensure the Future

- Maximize Flexibility
- Provide Facilities

Enhance the Campus

- Provide Accessibility
- Promote Safety
- Preserve Open Space and Recreational Facilities
- Enhance Campus Perimeters
- Improve Transportation, Circulation and Parking

Value Community

Montana Tech at a Glance

Overlooking the city from the shoulder of Big Butte, Montana Tech's North Campus can be seen for miles. Its tree-shaded perimeter encloses both the stately buildings of the institution's past and the modern facilities reflecting its present and its future.

Montana Tech's North and South Campuses are home to twelve academic buildings containing 47 lecture classrooms, 37 computer labs, and 30 other specialty labs. The South Campus facility contains 10 lecture classrooms, 8 computer labs, and 9 specialty labs. These facilities are sufficient to achieve the mission of this institution.

Tech's South Campus, at 25 Basin Creek Road, houses the College of Technology (COT), as well as the Nursing and Network Technology programs. It has nearly 60,000 square feet of classroom and laboratory space and a total of 96,000 square feet overall.

The Minerals Research Center is located in the Butte Industrial Park on South Parkmont Drive and is approximately 1 mile south of the College of Technology. This facility currently consists of five buildings located on 11.3 acres. Two of the buildings are high bay structures of 3,200 sq. ft. each. In addition, there are two single story buildings--a shop and warehouse building of 3,200 sq. ft.--and a Laboratory Building of 6,400 sq. ft.

Apartment housing has a total of 60 two- or three-bedroom apartments located approximately one mile from campus. Apartments are leased giving priority to students with dependents. Tenants are responsible for their own electricity/gas service, but all other utilities, including local phone service and data connection to the campus network, are included in their rent. Public-use facilities include a coin operated laundry room and playground.

Apartment Housing

Berkeley Pit

Montana Tech Main Campus (North Campus)

Park St.

Excelsior Ave.

I-15 & I-90

Rocker

Montana St.

Centennial Ave.

Front St.

Butte

Harrison Ave.

I-15 & I-90

Rowe Rd.

I-15 To Helena

Holmes Ave.

Harrison Ave.

I-90 To Bozeman

College of Technology (South Campus)

Basin Creek Rd.

HWY 2 to Whitehall

Minerals Resource Center (MRC) (Highlands Campus)

Distance From Main Campus

Apartment Housing
1.2 miles northeast of main campus

College of Technology
7 miles southeast of main campus

Minerals Research Center
1.1 miles southwest of south campus

Existing Acreage

Montana Tech Main Campus
79.060 Acres

College of Technology
41.030 Acres

Minerals Research Center
11.294 Acres

Apartment Housing
14.857 Acres

Newly Acquired land

Tract 1
45.411 Acres

Tract 2-A
7.874 Acres

Tract 3-A
3.341 Acres

Tract 4
6.716 Acres

Total Acreage = 209.583

Existing = 146.241

Newly Acquired = 63.342

Montana Tech Facilities

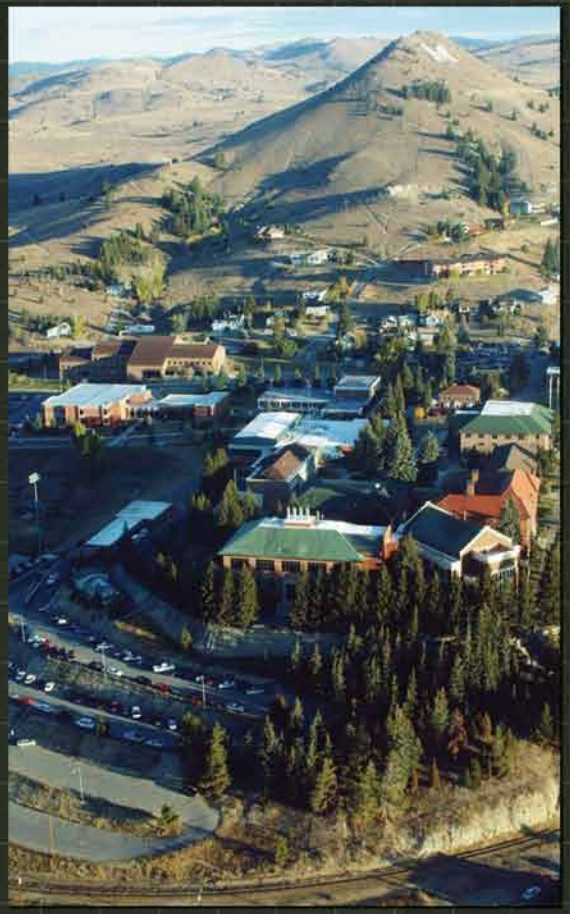
Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

Graphic Scale

Montana Tech • North Campus



Montana Tech's North Campus, at 1300 W. Park Street, consists of the following buildings:

- **Science & Engineering Building**
- **Engineering Hall, Main Hall**
- **Chemistry/Biology Building**
- **Petroleum Building**
- **Mining/Geology Building**
- **Health, Physical Education and Recreation (HPER) Complex**
- **Engineering Lab and Classroom Building.**

Each building has classroom space within. Support facilities for the academic programs include the Library and Auditorium, the Museum Building, and the greenhouse. Auxiliary service facilities include the Residence Halls, the Student Union Building, Mill Building, and off-campus apartments. The Chancellor's Residence, a stately brick home, is also on campus.

In addition to the buildings, Alumni Coliseum has been carved out of the hillside to provide space for football, baseball and other sporting events. The campus also holds four smaller sports fields and outdoor tennis courts.

Montana Tech boasts 30 laboratories for hands-on demonstrations. These labs range from drafting and welding labs to x-ray and robotics labs. So many specialty labs speak well for Montana Tech's hands-on education, especially in engineering. The planned renovation of the Health Sciences Building--formerly the Petroleum Building--will create five new classrooms. Moreover, 27 lecture classrooms have High-Tech Multi-Media (HTMM) equipment, such as a computer, data projector, internet connection, for classroom instruction. Electronic teaching aids are more and more common in today's teaching strategies.

As enrollment continues to grow, the need for larger classrooms continues to grow. Of the 37 lecture classrooms available on the North Campus, ten—one of which is the Auditorium-- can seat 60 or more students. Only one classroom on the South Campus has this capacity. Montana Tech's smaller classrooms are ideal for most of our undergraduate and graduate courses. Additionally, more sections are added as needed in an attempt to maintain historical student-to-faculty ratios. The recent addition of the Natural Resources Building to the campus inventory has increased the availability of larger spaces, but more classrooms that can hold 60 or more students are needed.

LEGEND

1. Science & Engineering Building
2. Engineering Hall
3. Main Hall
4. Mineral Museum Building
5. Chemistry/Biology Building
6. Greenhouse
7. Heating Plant
8. Physical Plant Building
9. Mill Building
10. Petroleum Building
11. Student Union Building
12. HPER Building
13. Library Building
14. Auditorium Building
15. Mining-Geology Building
16. ELC Building
17. Chancellor's Residence
18. Prospector Hall - Student Housing
19. Centennial Hall - Student Housing
23. Alumni Coliseum Grandstand
24. Alumni Coliseum Bleachers
26. Alumni Coliseum Pavilion
27. Alumni Coliseum Playing Field
28. MT Tech Foundation Building
29. MT Tech Day Care-North Bldg
30. MT Tech Day Care-South Bldg
31. MT Tech Day Care Garage
32. Motor Pool Garage/MBMG Shed
33. MT Tech/MBMG Storage Bldg
34. On-Campus Welding/Conc. Lab
35. MT Tech Campus Mall
36. Leonard Field
37. HPER Playing Field
38. South Playing Fields
39. Natural Resource Building

Montana Tech Facilities not on this map:
40. Apartment Housing (Creams)
41. College of Technology
42. Highlands Campus (MRC Complex)

Existing North Campus Facilities

Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

0 100' 200' 250' 500'
Graphic Scale

Montana Tech • South Campus

Existing South Campus Facilities

Montana Tech's College of Technology, a small school that enjoys the luxuries of a beautiful setting, fine instructional faculty, and a warm supporting cast of characters, is located at 25 Basin Creek Road in Butte, Montana.

The College of Technology offers occupational-specific and related instruction to prepare students for employment. The College will continue to meet the immediate and short-term training needs of industry and business within its major service area. The College participates in the process of developing collaborative relationships with other post-secondary institutions to provide better educational opportunities for Montana citizens and to ensure the most effective and responsible use of resources.

To establish a more cohesive campus, the College of Technology will be relocated to new facilities on the North Campus.

LEGEND

Total Acres = 41.67
Fenced Area = 15 Acres
Building SQ.FT. (Gross) = 92,856.56

Adaptive Reuse

Approximately 9000 sq. ft. will be adapted to a new use after the Nursing Department relocates to the Health Sciences Building, formerly the Petroleum Department, on the North Campus. Discussions are currently in progress for the reuse.

College of Technology
Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo
Montana Tech Building Directory Source:
Montana Tech Physical Facilities

0 75' 150' 300'
Graphic Scale

Academic Vision

The Montana Tech Master Plan is designed to support the Vision 2025 assumptions of student growth and student diversity. Specific assumptions include:

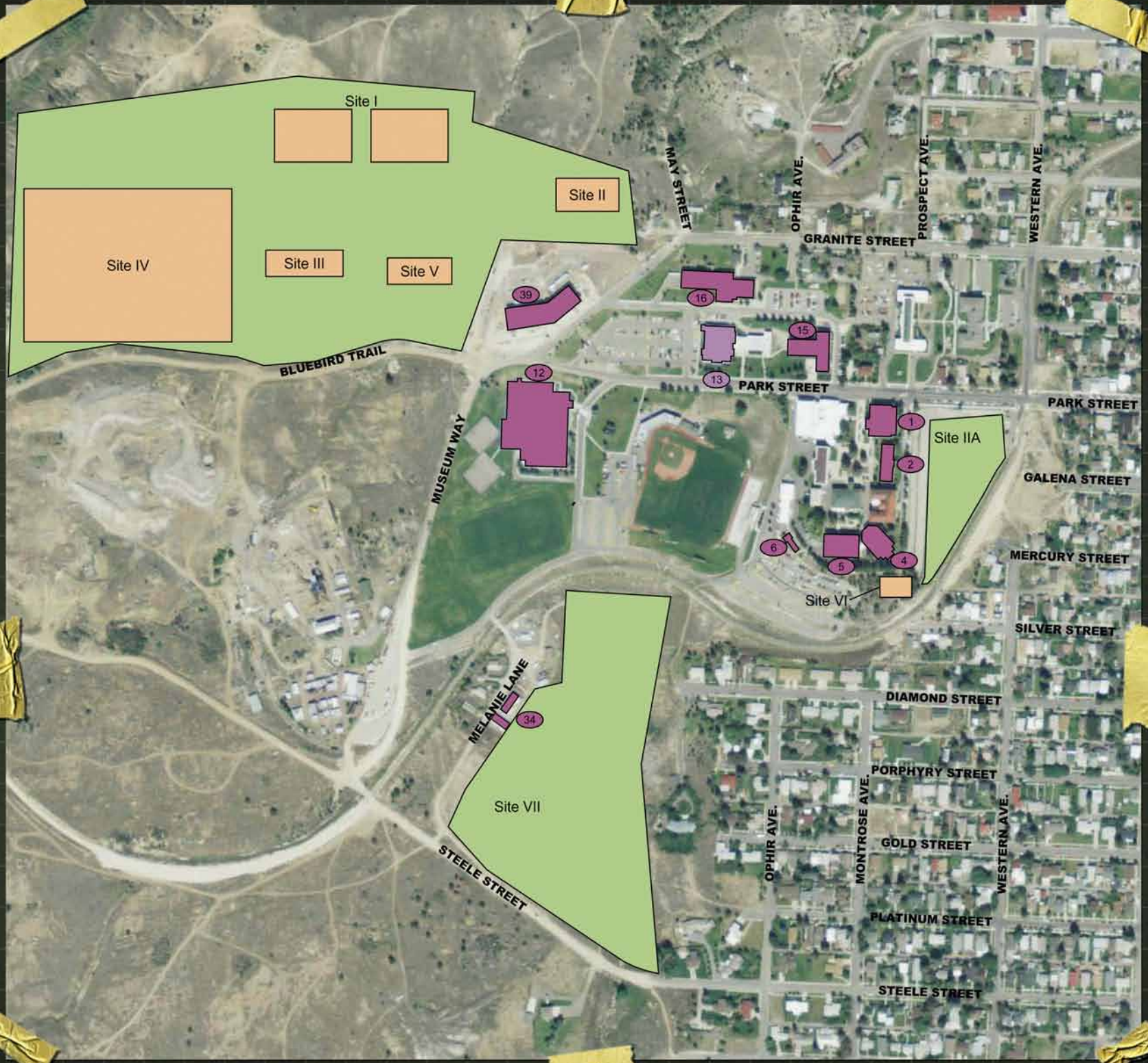
- Student enrollment growth to 3,500 students in 2025, with a 10% Graduate Student mix.
- The College of Technology will grow to 650 students and relocate to the North Campus.
- Montana Academy of Math & Science is initiated.
- Research and Technology transfer grows from $10M to $80M.

CURRENT SITUATION

All of academic programming is currently housed on facilities located on the North or South Campus and is of insufficient size to accommodate the assumed growth in student population. In order to accommodate the expected growth and changing student body, the campus will begin a systematic development of the western side of the North Campus, with adaptive reuses of the historic North Campus buildings. In this development, we will address the challenges and opportunities raised by the projected growth assumed above; enhance designated research space from 23,000 to 50,000 square feet; establish a technology transfer facility; enlarge the Mineral Museum, increasing display space and improving public parking and access; replace the existing campus auditorium to provide a better venue for major campus events and major public events; and provide new academic space for three engineering departments.

RECOMMENDATIONS

- Electric Engineering, General Engineering and Environmental Engineering departments relocate to new facilities on Site I.
- The College of Technology relocated to new facilities on Site IV or Site VII.
- Montana Math & Science Academy Residence Hall located on Site VI.
- Research and Technology Transfer Center located on Site III.
- Mineral Museum relocated to Site V and expanded in scope and size with a new 1,200 seat auditorium.



LEGEND

1- Science & Engineering Building
2- Engineering Hall
4- Mineral Museum Building
5- Chemistry/Biology Building
6- Greenhouse
12- HPER Building
15- Mining-Geology Building
16- ELC Building
34- On-Campus Welding/Conc. Lab
39- Natural Resource Building

Not on this map:
41- College of Technology
42- Highlands Campus (MRC Complex)

Academic and Research Support
13- Library Building

Land Use - Academic and Research

Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

0 100' 200' 250' 500'
Graphic Scale

Student Experience

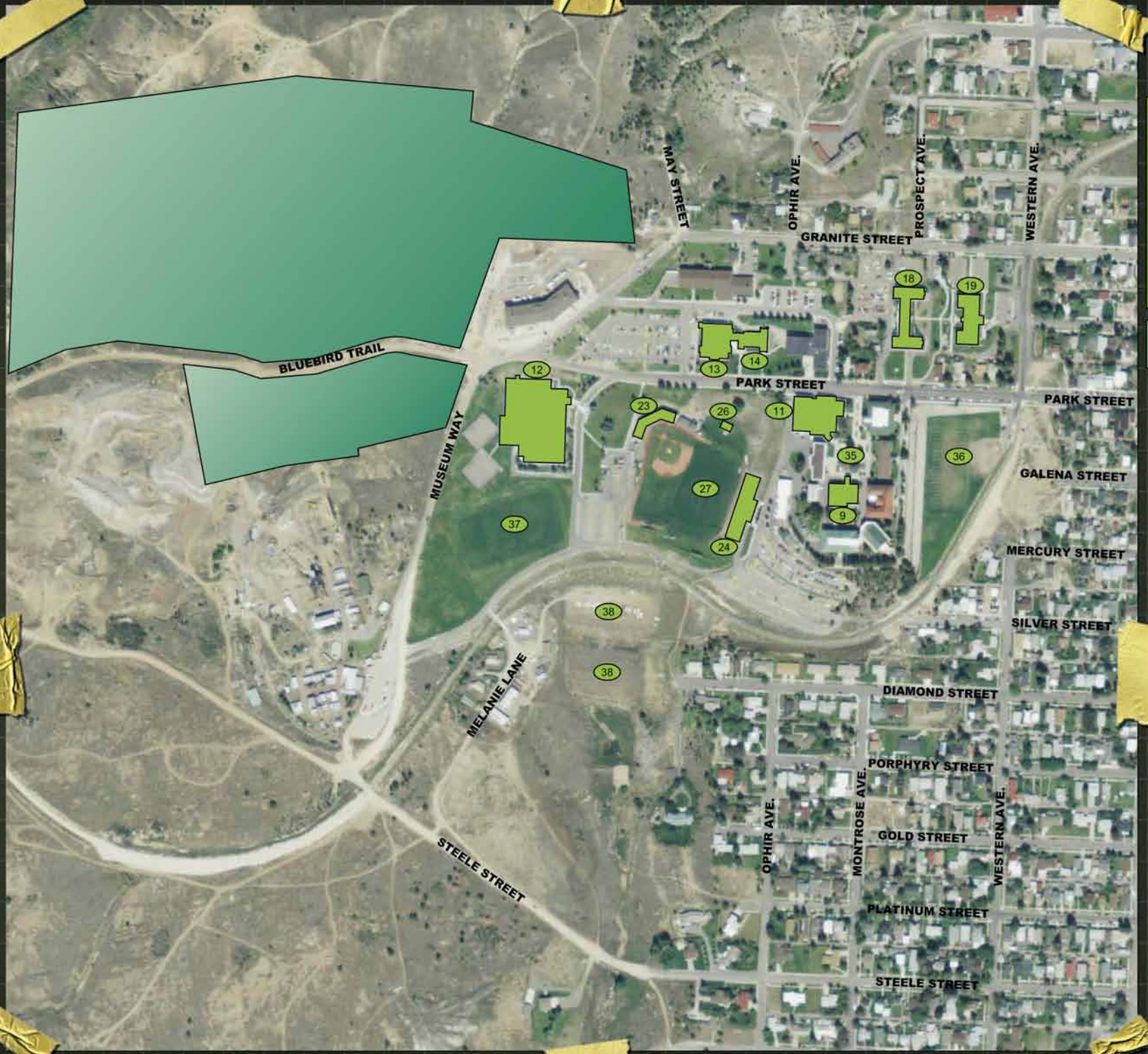
One of the hallmarks of a Montana Tech education is the "student experience." Two integral components of this experience are student life and recreation. Montana Tech students experience a commitment to a balanced-living education. Whether they are student-athletes or participate in private yoga classes, students experience the opportunity to develop their mind and body. Students experience a vibrant and engaged student-life program including intramural athletics, cultural events, and community service activities.

Montana Tech's student body is changing. Each year, students come to campus with a new set of expectations and the campus must create a flexible and responsive environment to accommodate the needs and desires of the next generation of students. Whether it is technology-based or facilities-based, future plans must consider the total student experience. In beautiful Southwest Montana, students have access to a multitude of outdoor activities.

The University's "First Choice Vision" drives the planning for the campus's athletic programs. In order to accomplish the vision of being the "First Choice" higher education institution of the top student-athletes in Montana and the Pacific Northwest, the campus must plan for athletic facilities that will attract the best-of-the-best.

RECOMMENDATIONS

- Accommodate the changing needs of students through continually meeting with students and involving them in the planning process of the campus.
- Continue in the development of a campus that offers a distinct student experience.
- Develop the recent land acquisition keeping the student experience in mind.
- Utilize space on campus for the development of additional intramural and athletic space.



LEGEND

9- Mill Building
11- Student Union Building
12- HPER Building
13- Library Building
14- Auditorium Building
18- Prospector Hall - Student Housing
19- Centennial Hall - Student Housing
23- Alumni Coliseum Grandstand
24- Alumni Coliseum Bleachers
26- Alumni Coliseum Pavilion
27- Alumni Coliseum Playing Field
35- MT Tech Campus Mall
36- Leonard Field
37- HPER Playing Field
38- South Playing Fields

Potential location for biking/walking paths and additional athletic facilities/fields.

Land Use - Student Life and Recreation

Campus Master Planning

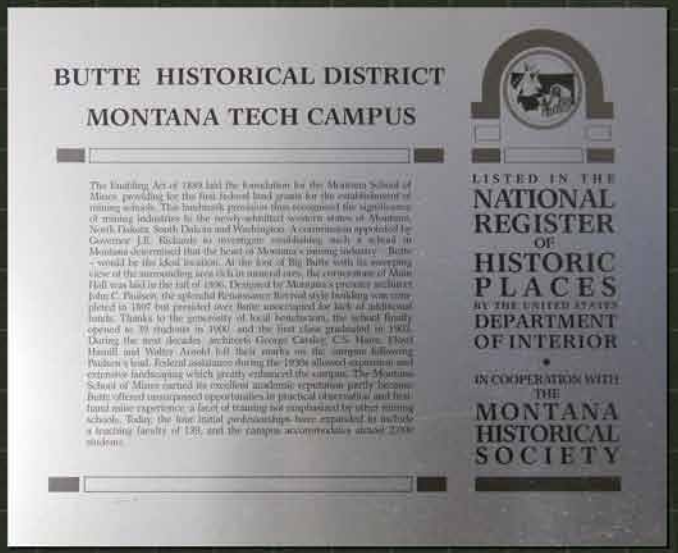
Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

Graphic Scale

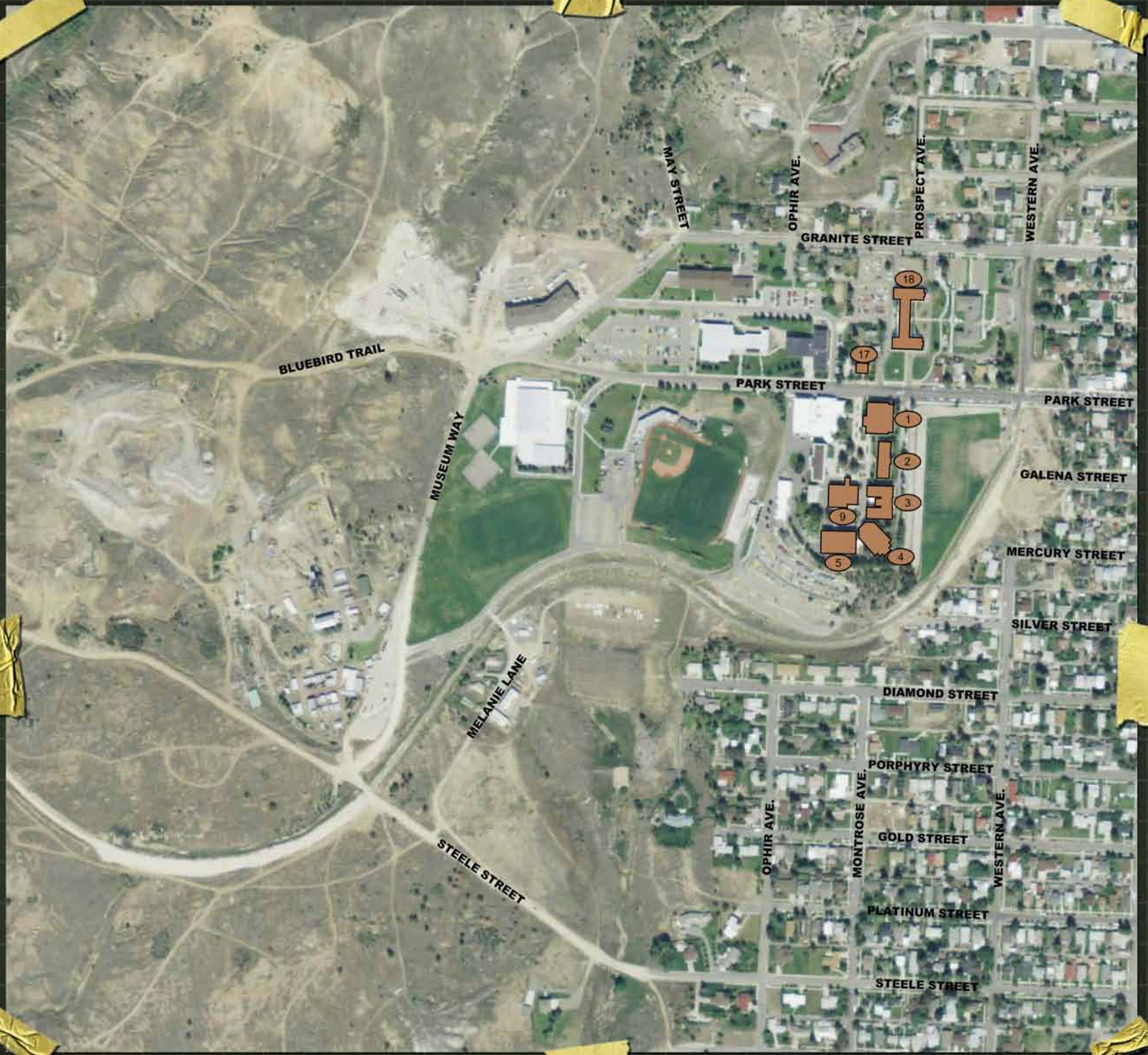
Honoring Our Heritage

The row of historic buildings that overlook Leonard Field provide the initial visual impression of Montana Tech's campus for most visitors. These buildings, constructed from 1896 into the 1930s, were designed with a similar style that still provides a core architectural theme for the campus. The designation of these and other buildings as National Historic Places is a testament to their age, integrity, and significance, both to the campus and the community. Montana Tech recognizes its responsibility to maintain its historic buildings and sites, not only for their historic significance but for current and future uses.



RECOMMENDATIONS

- Consult with the Butte Historic Preservation Officer or a qualified historic preservationist whenever buildings within the "Historic District" are being considered for renovation, additions, or demolition.
- Modify historic buildings, structures, and sites listed on the National Register of Historic Places in a manner that respects and maintains the historic character and integrity of the resources. Design changes, adaptations, and additions including signage and lighting in vicinity of historic sites to respect the nature of the facilities.
- Maintain and preserve "contributing buildings" which include any building or property (regardless of age or of current level of maintenance) that positively contributes to the overall quality of the physical environment. Conversely, consider replacing or modifying "noncontributing buildings," which include any building (regardless of age) that does not make a positive contribution to the overall quality of the physical environment.



LEGEND

- 3- Main Hall
  Year Construction began: 1896
- 9- Mill Building
  Year Construction began: 1908
- 2- Engineering Hall
  Year Construction began: 1910
- 5- Chemistry/Biology Building
  Year Construction began: 1921
- 1- Science & Engineering Building
  Year Construction began: 1925
- 18- Prospector Hall
  Year Construction began: 1935
- 17- Chancellor's Residence
  Year Construction began: 1936
- 4- Mineral Museum Building
  Year Construction began: 1940

Historic Preservation
Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo
Montana Tech Building Directory Source:
Montana Tech Physical Facilities

Graphic Scale

Westward Expansion

From an initial site of 4.3 acres, Montana Tech's North Campus has grown to approximately 142 acres, including a recent donation of about 60 undeveloped acres that border the western edge of the campus. Approximately one-third of the 40 acres that comprise the South Campus have been developed. Montana Tech is enviably situated with room for expansion on both campuses. Future growth and land utilization will benefit from immediate planning, particularly for the recently acquired acreage adjacent to the North Campus. Future land acquisition is anticipated to be limited to strategically selected small lots contiguous to the North Campus.

Land Acquisition

NEWLY AQUIRED LAND

Tract 1
45.411 Acres

Tract 2-A
7.874 Acres

Tract 3-A
3.341 Acres

Tract 4
6.716 Acres

Total Newly Acquired Acreage = 63.342

Land Acquisition

Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

Graphic Scale

Gateways and Greenspace

Major entrances and boundaries will be created in recognition of the transition between Montana Tech and its larger communities. Gateway features, building arrangement, landscape treatments, and design guidelines provide a sense of arrival, place and containment. The University is a distinct community, yet not isolated from the city of Butte.

The spaces located around the edges of both campuses are of significant importance because it is here that the first impression to the University community is made. These spaces should be consistently treated and easily recognizable.

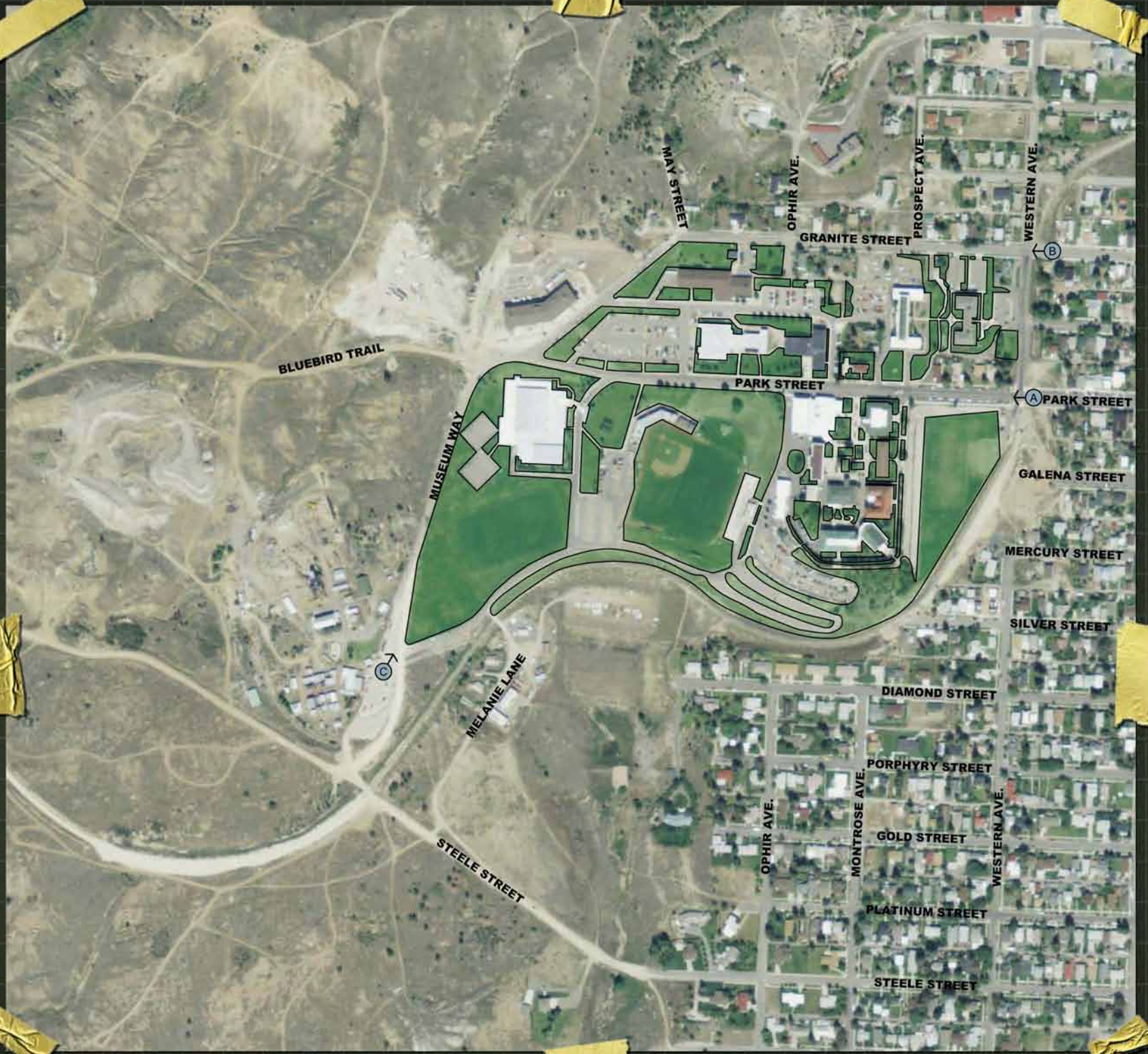
Outdoor spaces include lawns, malls, courtyards, and pedestrian corridors, as well as special natural landscaping which provides visual relief to the built environment. Interconnected outdoor spaces can provide "pathways" for safe and efficient pedestrian movement throughout campus. These spaces are an important element in creating an overall campus community and unifying the architectural styles of campus buildings.

Landscaping is a defining component of gateways and outdoor spaces. Successful landscaping includes ground and understory plantings, colorful seasonal plants, and shrubs of different sizes. It also incorporates appropriate scale and form, with aesthetically pleasing characteristics. Landscaping in relationship to the buildings should extend and enhance architectural forms.

The consistent quality of signature details, artifacts, gateways, and visual connections throughout the campus landscape will strengthen the sense of place that defines Montana Tech. Outdoor spaces are important in providing an atmosphere conducive to academic pursuits. Memorable characteristics of the landscape can have enormous, even lifelong impacts on individuals and can promote the University to prospective students.

RECOMMENDATIONS

- Delineate campus boundaries using consistent landscaping and arches across transportation corridors.
- Create pathways, plazas, open spaces and streets that create an environment conducive to academic pursuits.
- Preserve "Sacred Places" and physical icons such as the archway, Marcus Daly statue and the M.



LEGEND

A Gateways/Campus Entrances

Open Space/Landscaping

A Park Street Entrance

B Granite Street Entrance

C Museum Way Street Entrance

Campus Gateways, Open Space and Landscaping

Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

0 100' 200' 250' 500'
Graphic Scale

Campus Living

The first official on-campus housing for students was provided in 1935, with the completion of Prospector Hall, which still serves as one of the campuses' two residence halls. Enrollment for the fall 2009 semester was 2,694. 477 (18%) of these students were non-residents. Current housing at Montana Tech consisted of:

Prospector Hall (residence hall): 196 beds
Centennial Hall (residence hall): 102 beds
Apartment Housing: 144 beds

Fall 2008 and 2009 residence halls were completely filled and apartment housing was used to accommodate the overflow of students.

ANALYSIS

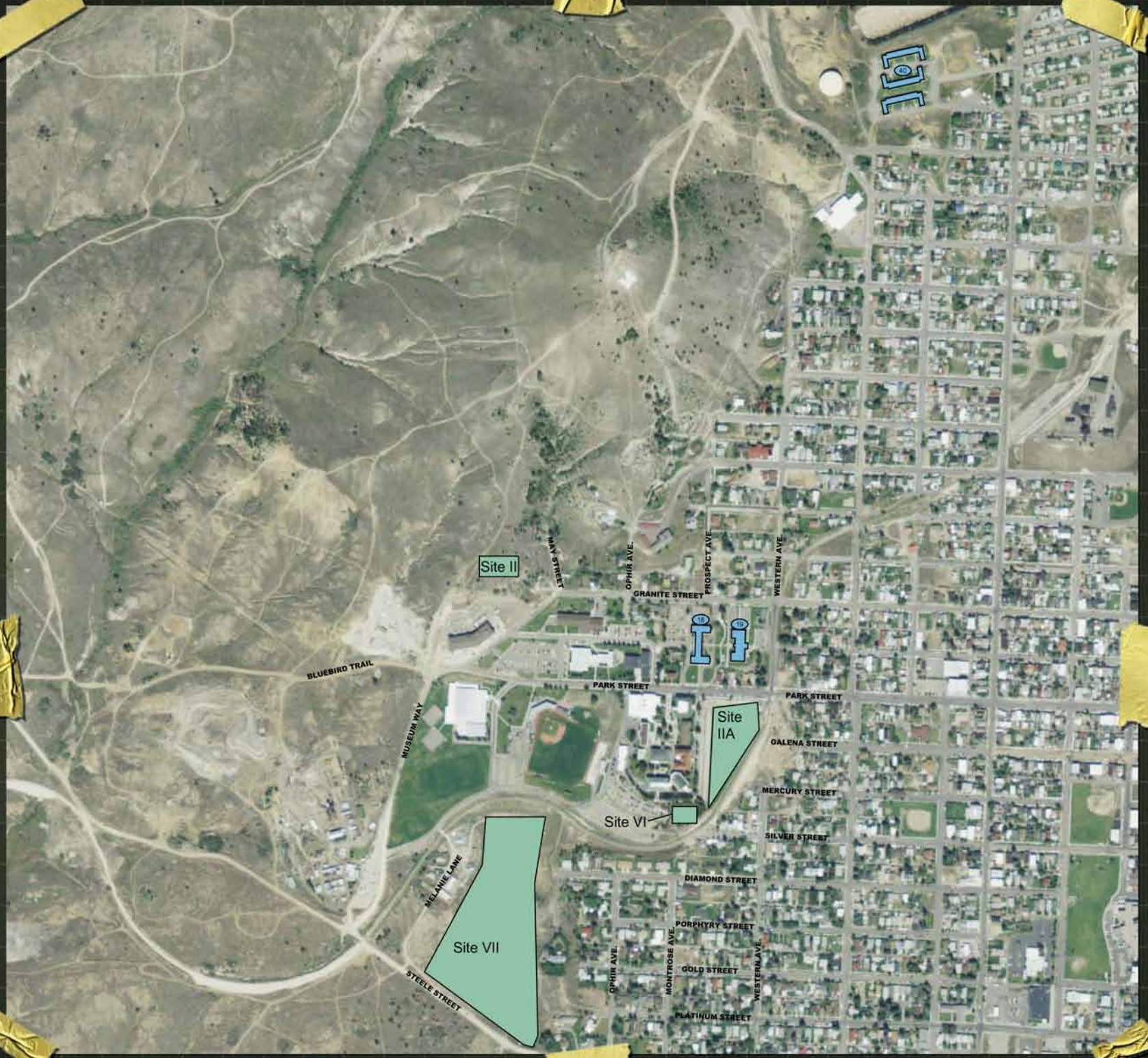
The following assumptions were made in estimating the future housing needs of Montana Tech students:

- It would take approximately 10 years to obtain the approval, acquire the necessary funding, and complete the construction for any new residence hall.
- In 10 years (2020), Montana Tech would have a headcount enrollment of 3,231. (This 3% rate of growth is in accord with the Vision 2025 estimate of an enrollment of 3,500 students.)
- Of these 3,231 students, 1,292 or 40% would be non-resident. This assumption is also in accord with the Vision 2025 estimate and reflects the history of declining high school graduates and the need to attract a greater proportion of non-resident students.

These assumptions and the current enrollment data indicate an estimated 88 additional beds are required.

RECOMMENDATIONS

- One 100-bed residence hall should be constructed by 2020 to accommodate the increased student population.
- The residence halls should be located near one another to address logistical concerns and foster socialization and community.
- In order of preference several potential sites have been identified where these residence halls might be built:
  - *Site VII, to the south of the railroad tracks, which provides level building sites and better access to required infrastructure;*
  - *Site II in Tract 1 to the north of the Natural Resources Building;*
  - *Site IIA, on Leonard Field; or*
  - *Site VI is a residence hall for 40 junior and/or senior high students attending the Montana Math & Science Academy. The preferred site for this residence hall is to the south of the Museum building and to the east of the tiered parking.*



LEGEND

18- Prospector Hall
19- Centennial Hall
40- Apartment Housing (Creams)

Proposed Locations for Additional Housing
- Site VII
- Site II
- Site IIA
- Site VI - Montana Math and Science Academy

Campus Housing

Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

Graphic Scale

Pedestrians and Parking

A projected student population of 3,500 by year 2025 will bring challenges to traffic circulation and parking. Moving the College of Technology to a campus location will also have a large impact on the current traffic and parking infrastructure. Parking for the existing student, staff, and faculty is already stretched to the limit, illustrated by the following:

NORTH CAMPUS

Spaces requiring a decal – 726

These include:
- *A Lots (Faculty and Staff) - 57*
- *B Lots (General) - 480*
- *D Lot (Dormitory) - 189*

Special Parking Spaces:
- *Handicapped - 26*
- *Visitor - 45*
- *20-Minute Visitor - 7*
- *VC/VIP/Reserved - 7*

Total parking spaces on the North Campus - 811

SOUTH CAMPUS

Spaces requiring a decal – 316

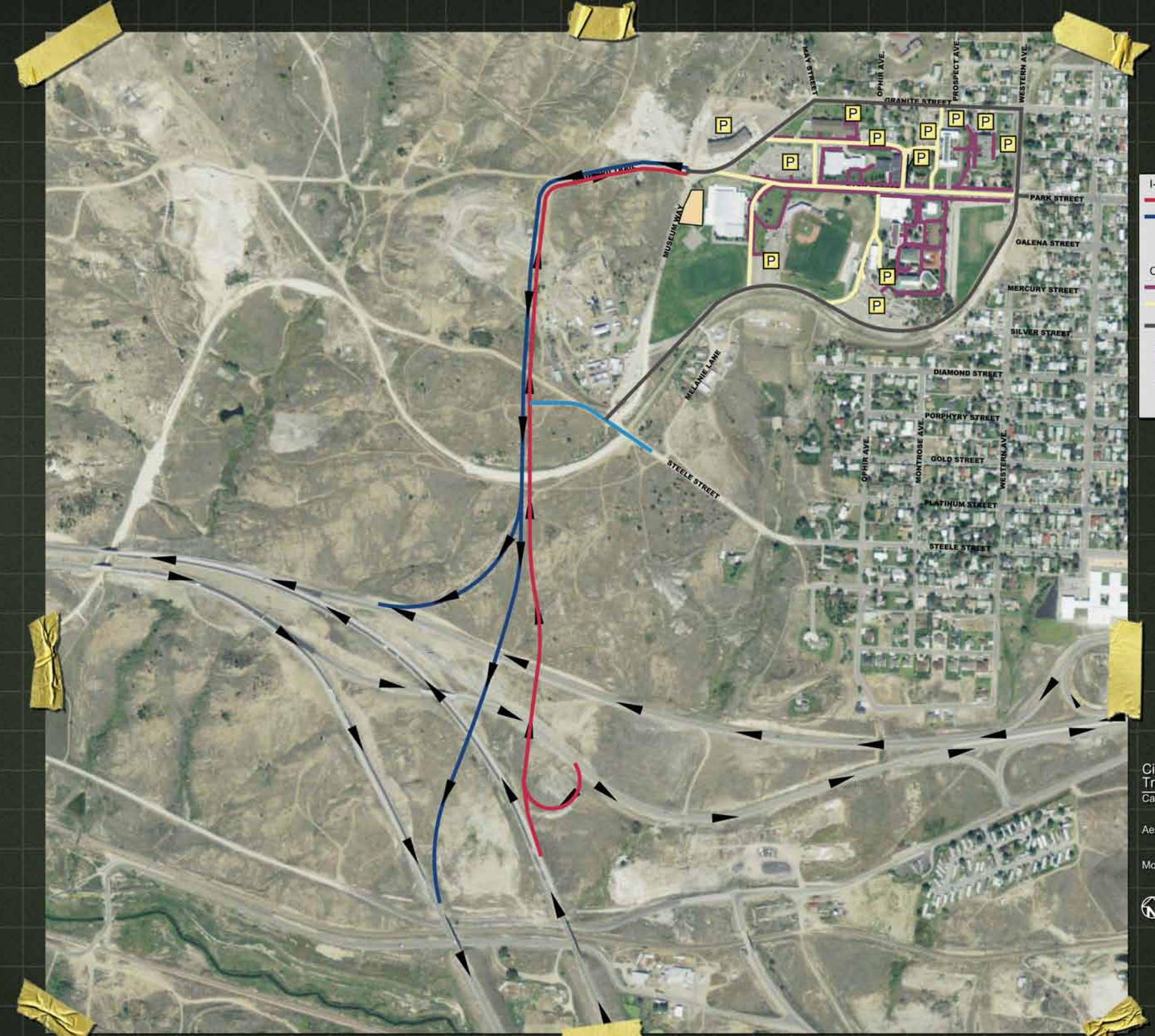
These include:
- *A Lot (Faculty and Staff) - 46*
- *B Lot (General) – 259*

Special Parking Spaces:
- *Handicapped - 11*

Total parking spaces on the South Campus - 316

RECOMMENDATIONS

- A new campus access road connecting with Interstate I-15/I-90.
- A new loop road around the perimeter of the campus.
- Additional parking spaces for both dormitory residents and commuters. Two parking spaces for every three parking permits issued will accommodate the demand.
- Lighted walkways and crosswalks to guarantee safety and fluidity of pedestrian, wheelchair, and bicycle movement.



LEGEND

I-15&I90 West Connection
- Inbound to Tech
- Outbound From Tech

Campus Circulation
- Walking
- Vehicle
- Proposed Bypass Loop
- P Parking Lots
- Proposed Parking Lot

Circulation, Transportation and Parking

Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

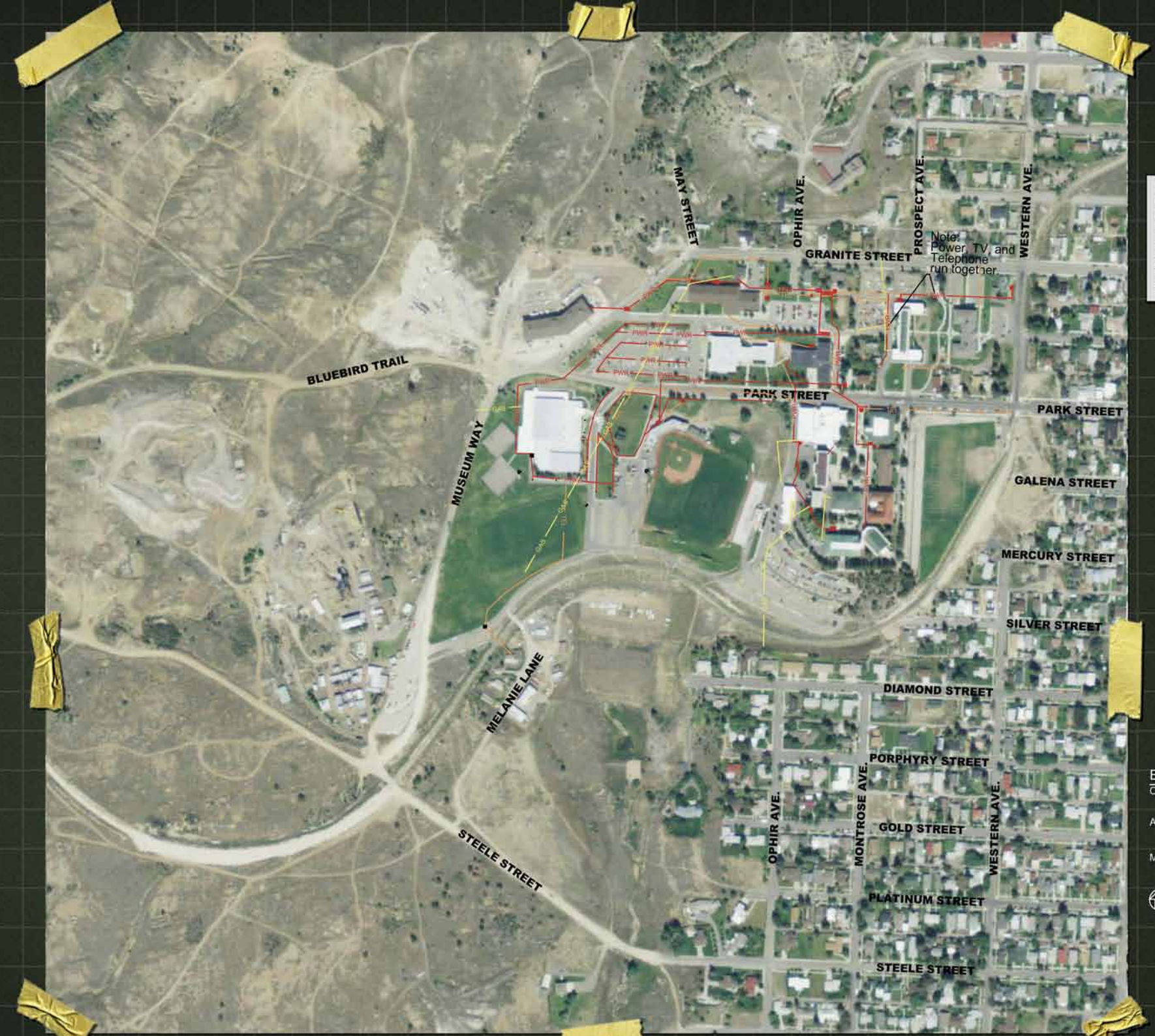
Graphic Scale

Utility Expansion

The Montana Tech Strategic Plan envisions 3,500 students at the North Campus by year 2025. This 75% increase in student population calls for a parallel growth of campus infrastructure, including heating, water, sanitary sewer, gas and electric power, alternative power and communications lines.

RECOMMENDATIONS

- An additional (fourth) steam generator for heating, along with the appropriate steam pipes serving new buildings. Alternately, the existing boilers could be replaced with more efficient units.
- A new sanitary sewer trunk line connecting the expanding southwest corner of campus to existing lines in Steele Street or following the proposed Interstate I-15/I-90 connector.
- A new sanitary sewer trunk line circumnavigating the Mining Museum to serve the new West Campus facilities.
- A 75% increase in communications lines and facilities.
- A 50% increase in water supply, requiring upsizing of existing lines and/or installation of new lines.
- Expansion of renewable and sustainable energy usage, including geothermal and solar power.
- Upgrade of facilities to comply with the Americans with Disabilities Act to include access to all classrooms, laboratories, and offices on campus.



LEGEND

- MTech Telephone
- MTech Power
- MTech Gas
- Power Service Box
- Power Service Box
- Service Box
- Street Lights
- Power Pole

Existing Campus Infrastructure

Campus Master Planning

Aerial Photo Source:
http://nris.mt.gov/nsdi/orthophotos/
2009 Photo

Montana Tech Building Directory Source:
Montana Tech Physical Facilities

Graphic Scale

NATURAL RESOURCES BUILDING

Montana Tech • 2010