

**BONDED PROJECTS – Montana State University**

For the Long Range Planning Committee record, if the legislature proceeds with a bonded building project bill, Montana State University requests that we be able present the following capital projects to the Long Range Planning Committee for consideration within that legislation.

**1. Gaines Hall - Renovation \$18,000,000**

- Top Priority Major Capital Project on the Regent's LRBP Project Priority List for several Biennia
- 50 Years Old – No prior major renovations = significant adaptive renovation needs
- Significant deferred maintenance one of most deficient buildings on campus
- One of heaviest student-use buildings – students from almost all curricula required to take general chemistry classes
- See attached information

**2. MSU-COT-Great Falls – Addition \$20,750,000**

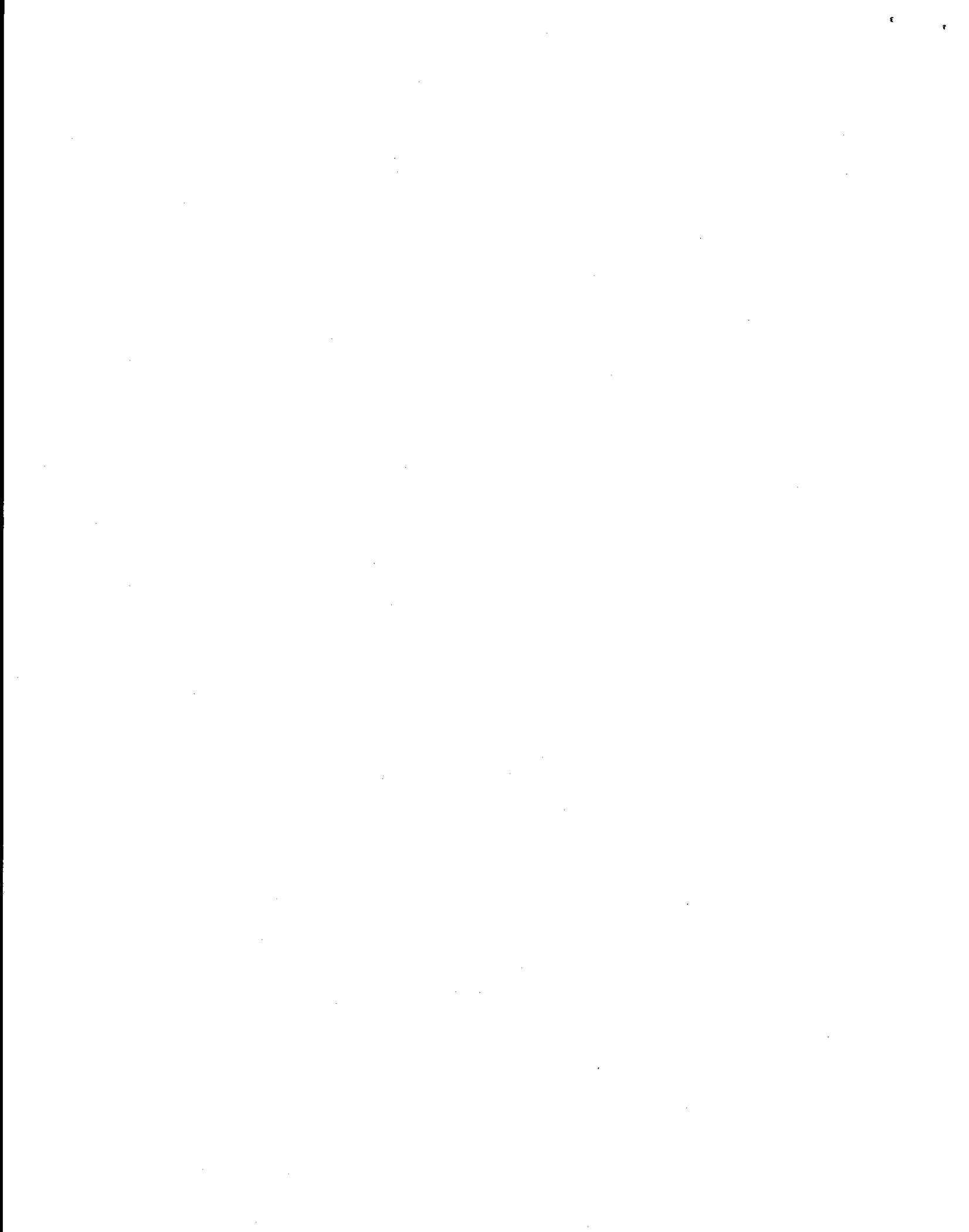
- New Addition to accommodate current and projected enrollment growth; the demand for expanded outreach and customized training activities; and partnership programs to support seamless education opportunities and economic development.
- Project would include library space upgrades, a new, tiered lecture hall, several large-group meeting rooms, expanded information technology support center, and general-use classrooms.
- Address HVAC system deferred maintenance needs.
- Expand accessibility to upper floor with new elevator.

**3. MSU-Billings-COT - Addition \$17,600,000**

- Renovate ~29,000 sf to enlarge the Process Plant Technology area, upgrade the computer labs, welding Fire Science and instructional classrooms and provide two Auto Tech classrooms.
- Construct a ~32,000 sf addition to provide Health Occupations & Medical Assistance Instructional areas, general lab space for core Biology/Chemistry courses, CADD/CAM & Digital Media Labs, and a multi-use lecture/auditorium room.
- Construct a joint community library in partnership with the City of Billings.

**4. MSU – Agricultural Experiment Stations \$2,600,000**

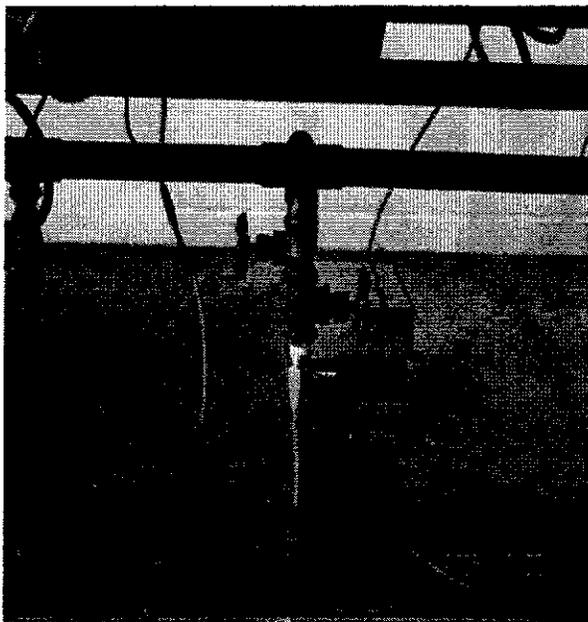
- 11 separate projects at 7 of the various Ag Experiment Station sites across the state
- These modest projects represent badly needed renewed investment in the Ag Experiment enterprise to continue to serve the Ag Industry in Montana
- Projects include a variety of office facilities, labs, animal facilities, shops
- Some = New; Some = Renovation/Maintenance
- See attached information



1. NWARC - Renovate and Expand Office Building \$900,000  
Replace windows, blinds and carpet. Existing windows are casement-type, and allow air infiltration. Replacement windows proposed to be double-hung type. Repaint hardboard siding and fascia, reset hardboard siding nails. Adjust exterior doors as needed to accommodate building settling. Add office (120 square feet), classroom (2500 square feet), class lab (2500 square feet), and sample storage. Approximately 7000 additional square feet.
2. Red Bluff - New Office Building \$175,000  
The existing office building is decrepit and does not meet building codes or fire code. It also needs a new roof, and the floor is not level due to extensive building settlement. It is heated only by a unit heater. In addition, it is located proximal to the historic Stage Stop. If we divest ourselves of the historic building, we will need to replace the office at the other side of the highway. Proposed new structure to include three offices (360 square feet) one unisex bathroom (50 square feet), and a conference room (1000 square feet), and total approximately 1500 square feet. It could be attached to the new shop building proposed in item #3 above, which would decrease the cost somewhat. The roof of the current office building, while needing repair, is composed of antique shingles. It might be possible that they could be sold, and the money used to help offset the cost of the new office building.
3. WTARC - New Seed Processing Lab \$280,000  
New 2400 square foot (40x60) building to include a drying room, dust collection system, space for scales and equipment. Currently located in office building – should not be connected to office building due to health concerns. This project would also free up half of the machine storage building, which is currently being used for seed processing.
4. NARC - Lab Space \$460,000  
The Soils Lab is currently housed in a Fort Assiniboine building constructed in 1880, and the Agronomy Lab in one from 1908. Neither building is insulated or has plumbing, and both are dilapidated, historically significant, and ill-suited to the station's needs. This project proposes a new building at the proposed site across the road. It would include an Agronomy Lab (2000 sf), Soils Lab (1000 sf), storage at each lab, a seed cleaning plant with dust collection system, seed processing, a drying room, and 1000-bushel storage. 4,000 sf total.
5. NWARC - New Dry Lab/Seed Processing Building \$325,000  
New building to contain two new dust collection systems. Mechanical equipment such as this should remain out of the elements. This facility will be ~3,600 square feet.
6. Post Farm - Replace Residence \$175,000  
The severely deteriorated condition of the existing residence is unacceptable for family living, and should be replaced a new single family residence, a modular unit, or by purchasing an adjacent piece of land that already has a nice house on it (which, in this case, is an option). The replacement house should be suitable for a family of four (approximately 1500 square feet). This estimate assumes the construction of a new residence. A modular purchase would be somewhat less costly, while the land purchase would undoubtedly cost more, but may have added benefits.

7. CARC - Renovate Residence (Old Office Building) \$50,000  
 Since a new office building has been constructed, this building can be renovated back to its original occupancy; that is, a residence suitable to house a family of four or more, or could be renovated into two apartments. Necessary renovations include replacing plumbing and hot water heat, install venting (made necessary by installation of a vapor barrier with the 2004 reroof), replace the southwest exterior steps, and reinforce the floor structure. Rearrange interior walls, reconstruct porches.
8. CARC - Renovate Dairy Barn and Horse Barn \$70,000  
 Re-insulate north wall of dairy barn. Upgrade electrical service. Replace overhead door with insulated type. Replace sliding doors of Horse Barn with insulated overhead type. Upgrade electrical system. Install dust collection system. Add storage space to Horse Barn (if budget allows).
9. NWARC - Office Renovation and Addition \$75,000  
 Renovate the current dry lab space into two offices. Construct addition to contain library and conference room for 22, and additional toilet room space if required by building code due to increased building occupancy by building expansion. Abate asbestos (in the attic). Remove and infill at the overhead door. Approximately 6,000 sf.
10. Red Bluff - New Shop and Fuel Storage \$165,000  
 The existing shop is a structure attached to the historically significant Stage Stop building, is in disrepair, and is not designed to meet our needs. The proposed new shop will be built south of the highway and could include a chemical storage building or area as well as a hydraulic fuel storage area. It would be heated and have basic electrical service, and have a concrete floor. Proposed square footage is 2750, which is broken down into 2400 square feet for the shop, 200 square feet for fuel storage, and 150 square feet for chemical storage.
11. Nutrition Center - Replace West Hay Shed \$25,000  
 The current hay shed is falling apart; the tin is falling off the walls, and the posts are rotting. This project would replace the hay shed with a 30x60 foot (1,800 square foot) structure having three sides and a roof over a pole barn support system. The new shed would be constructed at the same site as the old one in order to make use of the existing concrete slab at this site.
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| 1.  | <u>NWARC - Renovate and Expand Office Building -</u>     | \$900,000   |
| 2.  | <u>Red Bluff - New Office Building -</u>                 | \$175,000   |
| 3.  | <u>WTARC - New Seed Processing Lab -</u>                 | \$280,000   |
| 4.  | <u>NARC - Lab Space -</u>                                | \$460,000   |
| 5.  | <u>NWARC - New Dry Lab/Seed Processing Building -</u>    | \$325,000   |
| 6.  | <u>Post Farm - Replace Residence -</u>                   | \$175,000   |
| 7.  | <u>CARC - Renovate Residence (Old Office Building) -</u> | \$ 50,000   |
| 8.  | <u>CARC - Renovate Dairy Barn and Horse Barn -</u>       | \$ 70,000   |
| 9.  | <u>NWARC - Office Renovation and Addition -</u>          | \$ 75,000   |
| 10. | <u>Red Bluff - New Shop and Fuel Storage -</u>           | \$165,000   |
| 11. | <u>Nutrition Center - Replace West Hay Shed -</u>        | \$ 25,000   |
|     |  | \$2,650,000 |

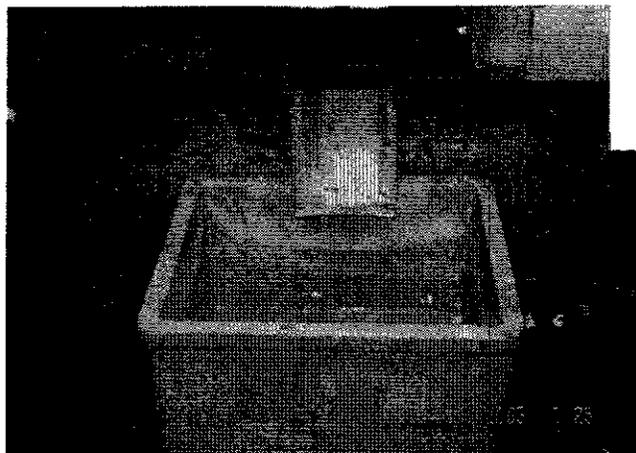
# Gaines Hall Deferred Maintenance & Renovation



Typical antique classroom lab countertop utilities

Gaines Hall is an 81,000 square foot, four-story building built in the early 1960's for the Chemistry Department. It includes teaching labs, research labs, offices, registrar-controlled classrooms and a variety of support spaces. While several small upgrade projects have been executed in limited areas of the building over its almost 50 years of use, the building's teaching spaces, laboratories and infrastructure systems are either obsolete or have served beyond their expected useful life cycles.

*The deferred maintenance in Gaines Hall is equal to 1/3 of the replacement cost of the building, making it one of the most deficient buildings on campus.*



Open drain at lab countertops

The Gaines Hall Renovation as envisioned will enhance the education of chemistry and biochemistry students and increase the emphasis on scientific interdisciplinary student learning by eliminating significant accumulated deferred maintenance problems, addressing building system/code deficiencies and by adapting teaching environments to accommodate modern technology and teaching methods. The laboratories, classrooms, and informal spaces for student/faculty interaction will take advantage of proven state-of-the-art technology to provide global access to information, data resources, and expertise to involve students in the methods and process of inquiry. The renovated facility will support the goal of providing the knowledge, technical skills, and experience needed by MSU undergraduate and graduate students to excel.



Typical classroom lab: cabinets date from 1922 and were relocated from Traphagen Hall when Gaines was built. Fume hood does not meet standards, and countertops are very worn. Computer stands are makeshift, at the wrong height and inconvenient.

***This project will allow the building to  
function effectively to meet the needs  
of modern academic programs  
demanded by today's students.***

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# D eferred Maintenance and Safety Concerns to be Addressed:

The Gaines Hall Deferred Maintenance/Renovation project will essentially renovate the entire existing facility and will continue to house teaching and support functions for Organic Chemistry, Inorganic Chemistry, Physical Chemistry, Biochemistry, Analytical Chemistry, and General Chemistry. In addition to modernizing the teaching environments, deferred maintenance and safety concerns to be addressed include:

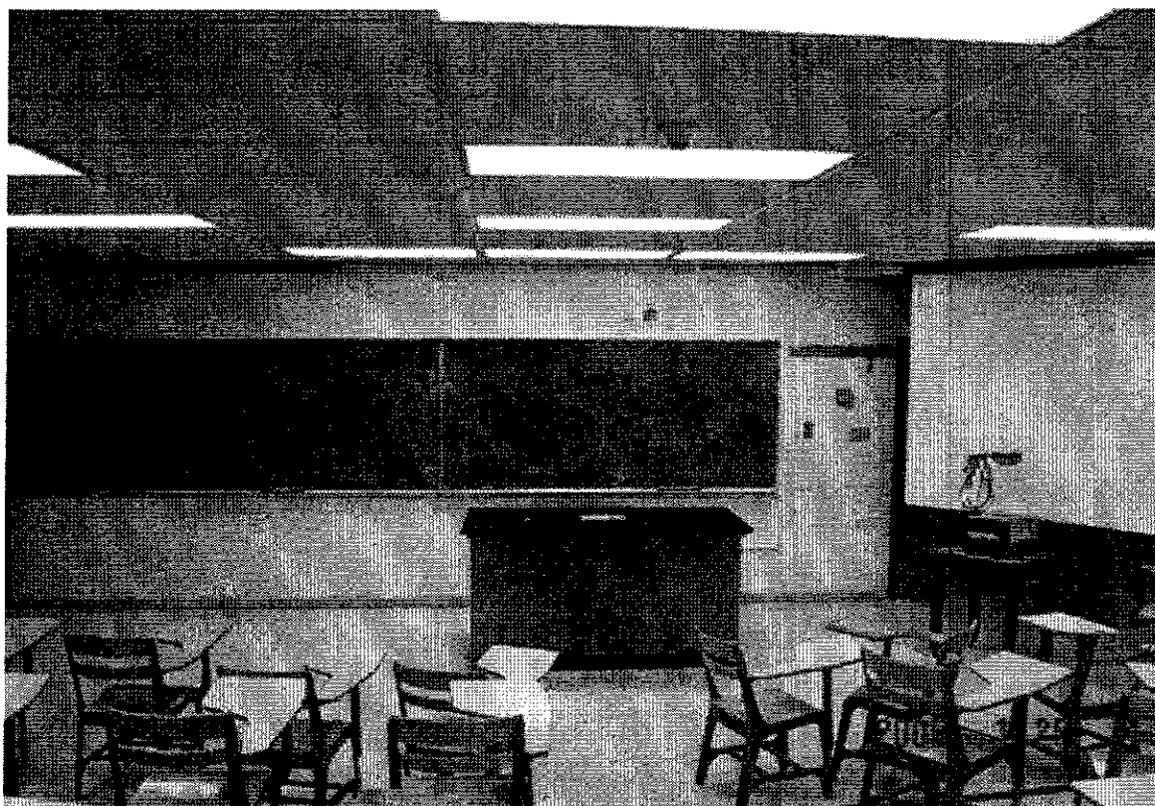
- The building structural system is inadequately designed for Bozeman's seismic conditions.
- Mechanical systems are outdated, require frequent maintenance, and do not meet current code requirements for ventilation, exhaust, etc.
- The building envelope is not insulated and the windows are single-pane, causing considerable energy inefficiency, widely varying internal environments and occupant discomfort.
- The laboratories are outdated, worn, and poorly organized for current teaching requirements. Some of the laboratory cabinets are over 80 years old, having been salvaged from Traphagen Hall, which was constructed in 1922!
- Electrical systems do not adequately serve the needs of the building due to the tremendous increases in equipment over the years and the universal need for more computers.
- The lecture hall (the largest on campus >300 seats) is very worn, has poor sight lines, poor acoustics, inadequate lighting, and worn seating, and needs to have the audio and video upgraded. This lecture space is used by many departments in addition to Chemistry and does not function well for anyone. ADA accessibility is limited and ventilation/cooling is inadequate for such a large student capacity.
- Building plumbing is significantly deteriorated, from fixtures and faucets to acid waste lines and the main waste line in the building.

Asbestos-containing materials still exist throughout the building and need to be abated.

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# C hemistry is a Core Requirement

Students from almost all curricula at MSU-Bozeman are required to take general chemistry classes and the faculty hopes to expose enough students to the challenges and rewards of chemistry to entice them to further pursue the sciences as a course of study and a career. The Gaines Hall Deferred Maintenance/Renovation Project is intended to create state-of-the-art teaching laboratories for MSU's students and to take advantage of the successful, national caliber teaching and research faculty that MSU has to offer.



Typical lecture-style classroom, still using blackboards and transparency projector. Classrooms do not support modern teaching technology such as knowledge delivery via computer and true image projection.

*For further information, please contact via e-mail:*

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