

Contact: John Nash

REGISTER OF IOWA STATE UNIVERSITY
CAPITAL IMPROVEMENT BUSINESS TRANSACTIONS

Actions Requested: Recommend the Board approve the proposed:

1. Permission to Proceed with Project Planning for the:
 - **Lloyd Veterinary Medical Center – Large Animal Hospital Ward 3 Expansion** and
 - **NEWRITE Facilities** projects, including the use of the Construction Manager at Risk project delivery method for both projects.

ISU project #1 of 2
Lloyd Large Animal Hospital Ward 3 Expansion

Executive Summary: Iowa State University requests Board approval of Permission to Proceed with Project Planning and the use of the Construction Manager at Risk (CMR) project delivery method to expand the Lloyd Veterinary Medical Center Large Animal Hospital by over 17,000 square feet. The \$11.5 million to \$12 million project budget would be funded by Private Giving and University Funds.

Background: Built in 1976, the Lloyd Veterinary Medical Center (LVMC) Large Animal Hospital would be expanded to increase large animal reproductive services in response to the growing equine community in the state of Iowa. It would enhance professional student and resident training in advanced equine sports medicine and large animal reproductive services.



Iowa State University Lloyd Veterinary Medical Center

The additional 17,000 square feet would also help support growth in a branch of veterinary medicine concerned with veterinary obstetrics, and with the diseases and physiology of animal reproductive systems called “theriogenology.”

The LVMC currently has four certified theriogenologists providing advanced reproductive techniques for horses and cattle. The LVMC also has four equine surgeons, one trained in rehabilitative therapies. Other LVMC staff includes four equine internists, one who is trained in providing alternative therapies in alignment with the rehabilitative services. This project would accommodate these professionals and their important services.

As the result of an initial ISU study, the best approach to this project was identified as a multi-phased project with the following phases:

Phase 1 = equine ICU stalls, reproductive services, feed and bedding storage, shared storage

Phase 2 = In vitro fertilization (IVF) and embryo transfer lab

Phase 3 = rehab area, including sports medicine, physical therapy, exam area, and treadmill

Project Summary			
	Amount	Date	Board Action
Design Professional Selection			
➤ Invision Architecture, Des Moines		Dec. 2022	Approved
Invision Architecture's Agreement			
➤ Preliminary Planning and Schematic Design only	\$40,000	Dec. 2022	*Not Required
Invision Architecture's Amendment #1			
➤ Additional Preliminary Planning and Schematic Design to expand from 7,000 to 17,180 square feet	125,000	Sep. 2023	*Not Required
Permission to Proceed with Project Planning		Feb. 2024	Requested
Use of Construction Manager at Risk		Feb. 2024	Requested

Construction Manager at Risk (CMR) Advantages:

1. CMR shifts time and money risks from ISU to the CMR, making the CMR "at risk."

The CMR is contractually obligated to construct the building to a Guaranteed Maximum Price (GMP) and within an agreed-upon schedule set once the GMP is established. These time and money risks are shifted to the CMR because the CMR is in a better position and is better qualified to manage these project risks than ISU is.

2. CMR saves money by allowing the CMR to provide design and constructability input to ISU and the Design Professional in the earliest stages of the project.

3. CMR saves money through the CMR's additional cost estimating, minimizing change orders.

4. CMR saves time by allowing the CMR's subcontractors to start early, before the project is 100 percent designed, subsequently allowing ISU to take early occupancy of the building.

5. CMR provides ISU with a better quality building by providing design and constructability input to ISU and the Design Professional in the earliest stages of the project.

6. CMR provides ISU with an expert who specializes in this building type and type of construction.

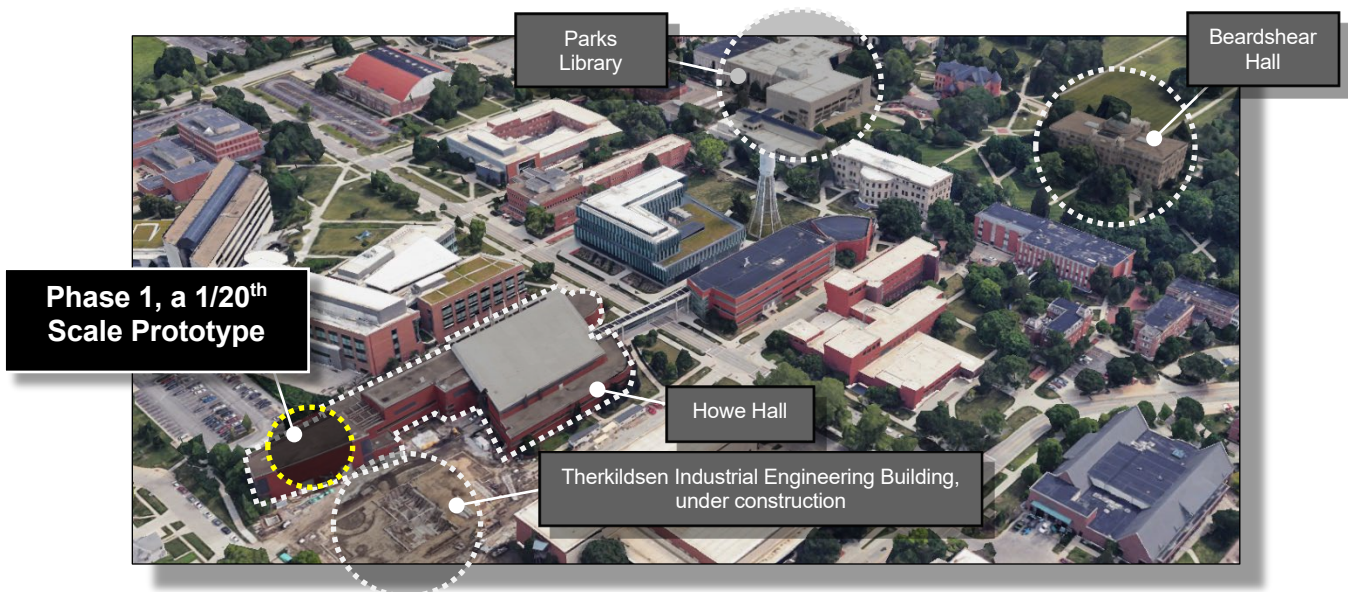
ISU project #2 of 2
NEWRITE Facilities

Executive Summary: Iowa State University requests Board approval of the proposed Permission to Proceed with Project Planning and use of the Construction Manager at Risk (CMR) project delivery method to build the NEWRITE facilities, two facilities to study the impact of non-synoptic wind (NSW) such as tornadoes, derechos and other severe yet short-term downbursts of wind.

The \$83 million to \$94 million project budget would be funded by National Science Foundation (NSF) grants.

Background: NEWRITE stands for the “National Testing Facility for Enhancing Wind Resiliency for Infrastructure in Tornado-Downburst-Gust Front Events.”

The first facility, Phase 1, would be a prototype, approximately 1/20th the size of the second facility, built inside the west end of ISU’s Howe Hall. The second facility, Phase 2, would be a full-scale building large enough to test structures bigger than a single family home at a yet-to-be-determined site. The Phase 2 facility could be up to approximately 500 feet long.



Iowa State University, east side of campus

Both facilities would be designed to simulate high-velocity NSW wind hazards which are currently not available at other existing tornado/downburst simulators. By accurately reproducing damaging NSW hazards upon structures and infrastructure, robust building designs and sophisticated structures can be effectively tested and assessed.

Both facilities would provide extensive educational and outreach opportunities, attracting and retaining a diverse pool of undergraduate, graduate and postdoctoral students. They would also have the potential to attract researchers from around the world to engage with students, faculty and staff involved with NSW hazard research.

Both facilities would generate additional revenue for ISU as new national testing facilities for research and industry, attracting federal, state and industry-funded projects.

Project Summary

	Date	Board Action
Permission to Proceed with Project Planning	Feb. 2024	Requested
Use of Construction Manager at Risk	Feb. 2024	Requested

The National Science Foundation (NSF) has already funded \$14 million. Of that \$14 million, approximately \$6 million would be allocated to all of Phase 1’s design and construction, and only Phase 2’s design. The remaining \$8 million would be earmarked for ISU research, protocol development and facility criteria development for Phase 1 and Phase 2 facilities.

Specifically, Phase 1 would include formal selection of a Design Professional, design and construction of an approximately 1/20th scale prototype in Howe Hall’s west end. Phase 1 would also include the Design Professional’s site recommendation, and Schematic Design through shovel-ready Construction Documents services for Phase 2. In addition, Phase 1 would include formal selection of a CMR, the CMR’s pre-construction services, the CMR’s estimated Guaranteed Maximum Price and the CMR’s preliminary schedule for construction. All of this would be submitted to the NSF in support of the grant application for Phase 2, \$69 million to \$80 million, near the conclusion or after completion of Phase 1.

Upon successfully acquiring the NSF grant for Phase 2, Phase 2 would proceed. It would include all remaining Design Professional services (primarily Phase 2 Construction Administration services), the CMR’s finalized Guaranteed Maximum Price, the CMR’s finalized schedule for construction, and the CMR’s construction of Phase 2.

Proposed National Science Foundation Funding

Phase 1, 1/20th Scale Prototype Facility

\$2 million = design and construction of a 1/20th prototype model inside the west end of Howe Hall

\$4 million = Schematic Design through Construction Documents for Phase 2, \$69 to \$80 million

\$6 million = Phase 1 subtotal

\$8 million = ISU research and protocol development (no building design or construction)

\$14 million = Phase 1 Total (already funded to ISU by the NSF)

Phase 2, Full-Scale Facility

\$69 million - \$80 million = Phase 2’s Construction Administration, the CMR’s Guaranteed Maximum Price and finalized schedule and construction

\$69 million - \$80 million = Phase 2 Total

Phases 1 and 2 Facilities

\$14 million = Phase 1

\$69 million - \$80 million = Phase 2

\$83 million - \$94 million = Phases 1 and 2 Total

Concurrently, an ISU research team led by Iowa State University researchers and partners from across the country would develop a digital event simulation model to inform the design of the Phase 1 and 2 facilities.

Construction Manager at Risk (CMR) Advantages:

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2. CMR saves money by allowing the CMR to provide design and constructability input to ISU and the Design Professional in the earliest stages of the project.
3. CMR saves money through the CMR’s additional cost estimating, minimizing change orders.
4. CMR saves time by allowing the CMR’s subcontractors to start early, before the project is 100 percent designed, subsequently allowing ISU to take early occupancy of the building and to meet the NSF time constraints on funding. Phase 1 has a four year time allocation.
5. CMR provides ISU with a better quality building by providing design and constructability input to ISU and the Design Professional in the earliest stages of the project.
6. CMR provides ISU with an expert who specializes in unconventional building types with highly sophisticated structures. Building systems, such as fire detection, fire suppression, HVAC, plumbing and electrical may also be unconventional and highly sophisticated.