Clarkson Engineering and Applied Science Educational Complex (CEASEC) Project

Alumni Association Leadership Board Update

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April 5, 2025

Outline

- Clarkson Engineering and Applied Science Educational Complex (CEASEC) Project Status and Next Steps

- Questions and Feedback

CEASEC Project Status and Next Steps

Clarkson will be expanding and renovating its science and engineering facilities over the next few years.

Project Status and Next Steps:

- Clarkson has issued a “request for proposal” (RFP) for conceptual design work.
  - The conceptual design phase will include:
    - Consideration of existing university information and data
    - Stakeholder input (students, alumni, faculty & staff, donors) to assess needs, wants, etc.
    - Deliverables include a schematic design layout and a plan for detailed design including construction phasing and costs
- Detailed design will commence after the approval of the conceptual design.
- Targeted renovation (*e.g.* lecture halls) will be done in parallel with design phases
- Major construction will commence after the approval of the detailed design.

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Project Status

Our Five Shared Priorities will guide the design strategy

STEM is Clarkson's Core

Enrollment and Student Experience

Financial Stability

Work Together with Clear Communications

Solinsky Challenge, Alumni, and Donor Engagement Accelerates Our STEM Mission into the Future

Solinsky Engineering Leadership Challenge

Ken '71 & Grace Solinsky Engineering Leadership Challenge Is the Largest Philanthropic Commitment in Clarkson University History:

A Generous Financial Commitment to Engineering That Challenges Others to Step Forward

Ken '71 and Grace Solinsky have made the largest single targeted financial commitment in Clarkson University's history through the Ken '71 & Grace Solinsky Engineering Leadership Challenge, a landmark financial commitment to advance engineering education at Clarkson University.

The Solinskys' generous financial commitment positions Clarkson to lead the nation in preparing engineering graduates for global challenges and elevating advanced manufacturing, which is central to the engineering profession and critical to the health and security of the American economy. Key components of the agreement are a set of mutually agreed goals. These include a systematic way of credentialing students in fundamental skills that cannot be taught within existing, constrained curricula; and a renewed emphasis on advanced manufacturing technology, artificial intelligence, robotics, product design and project management.

"We are immensely grateful to Ken and Grace for their extraordinary generosity and leadership over the years. Their Solinsky Leadership Challenge gift will usher in a new era of excellence in engineering education that will enable us to grow our engineering enrollments to support the workforce development and innovation necessary for American industry to regain its manufacturing prominence," says Clarkson University President Tony Collins. "As part of their continuing engagement with the University, Ken and Grace are challenging us and asking other stakeholders to match their investment by supporting a portfolio of programs to advance the reputation of the institution, the technical and business acumen and entrepreneurial mindset of our students, and the expansion of our facilities to support state-of-the-art engineering education and advanced manufacturing solutions."

A significant portion of their investment will also go toward the expansion and renovation of the CAMP

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SOLINSKY ENGINEERING LEADERSHIP CHALLENGE

Financial Commitment:

$32M totaling:

- $8M program support
- $24M capital project

Capital funding will be doubled through matching.

"We want the return on our investment to be pride" - Ken

5PDS – Enrollment and Student Experience

Enrollment and Student Experience priorities drive project phasing priorities:

- **Required facilities maintenance, classrooms, instructional laboratories, public spaces**
- **Research laboratories**
- **Office and other space**

Project Goals Include:

- **Enhance the Clarkson experiential learning experience**
- **Integrate science and engineering instructional facilities in a way that is unique among our competitors**
- **Expand core research capability and drive increased research collaboration, research impact, and enhance safety**
- **Upgrade and expand our prototyping spaces and manufacturing labs to significantly enhance hands-on education at Clarkson (Solinsky goal)**
- **Synergy with business and health sciences**

Phase 1 Recommendation:

- **Expansion to the CEASEC west section to create the Solinsky Center**
- **Renovations in the CEASEC east section (Science Center)**

5PDS – Work Together with Clear Communications

The Design Process will include and benefit from stakeholder input:

- **Space utilization**
- **Needs assessment**
- **Smart relocation/colocation ideas**

Stakeholders include undergraduate students, graduate students, faculty, staff, alumni, donors, and board members.

Internal Conceptual Design

Vision Boards
(with a focus on the expansion site)

Science Center Renovation

Two classrooms were recently renovated:

More renovation planned in in parallel with design phase

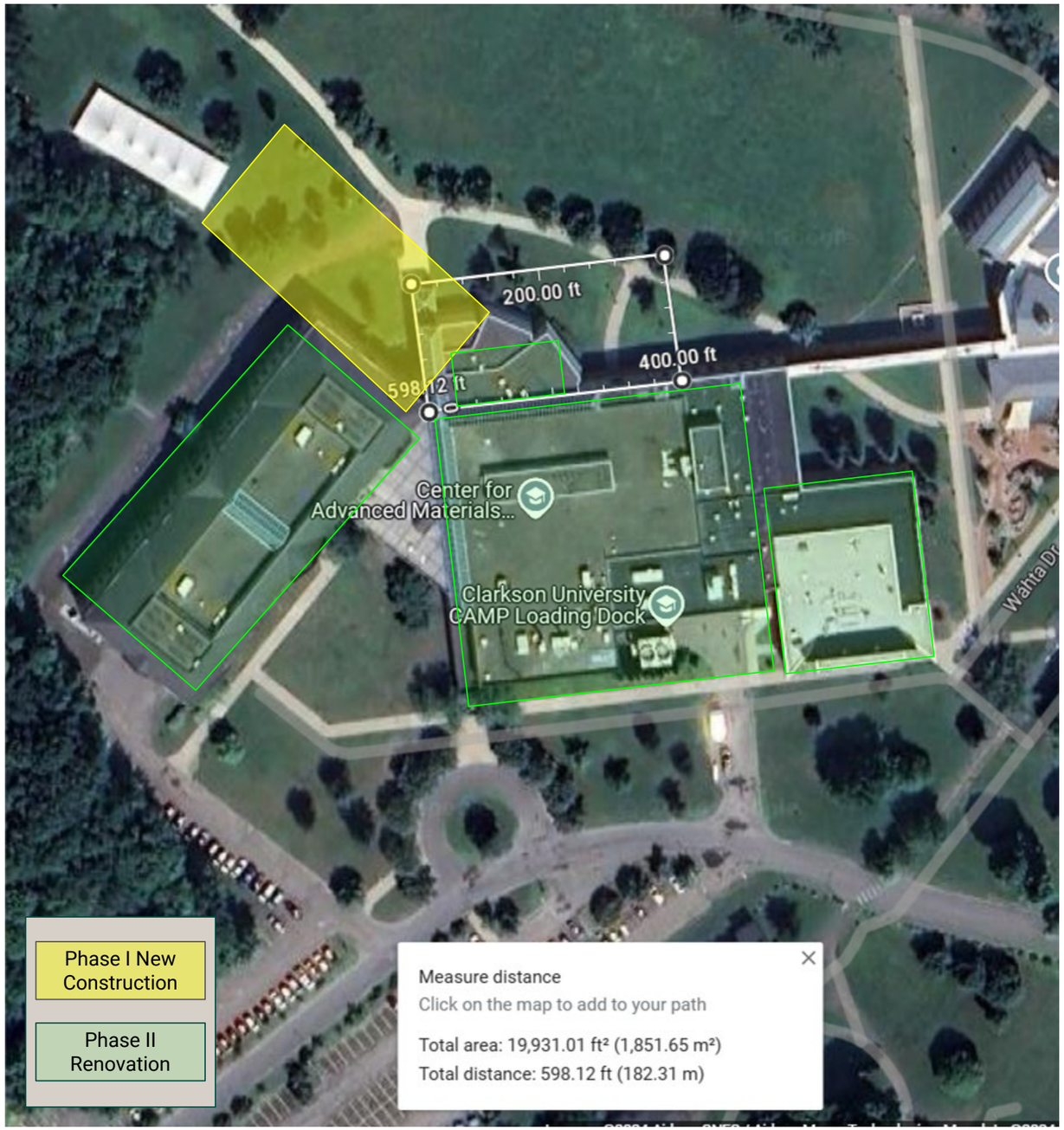
Science Center Classroom Furniture Concept

Current Expansion Recommendation

Phase I: Expand with a 2-story building integrated with the geometry of the existing building.

Phase II: Address renovation of of existing infrastructure

This entire expanded and renovated building will be named the Solinksy Center



First Floor

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Vision Boards

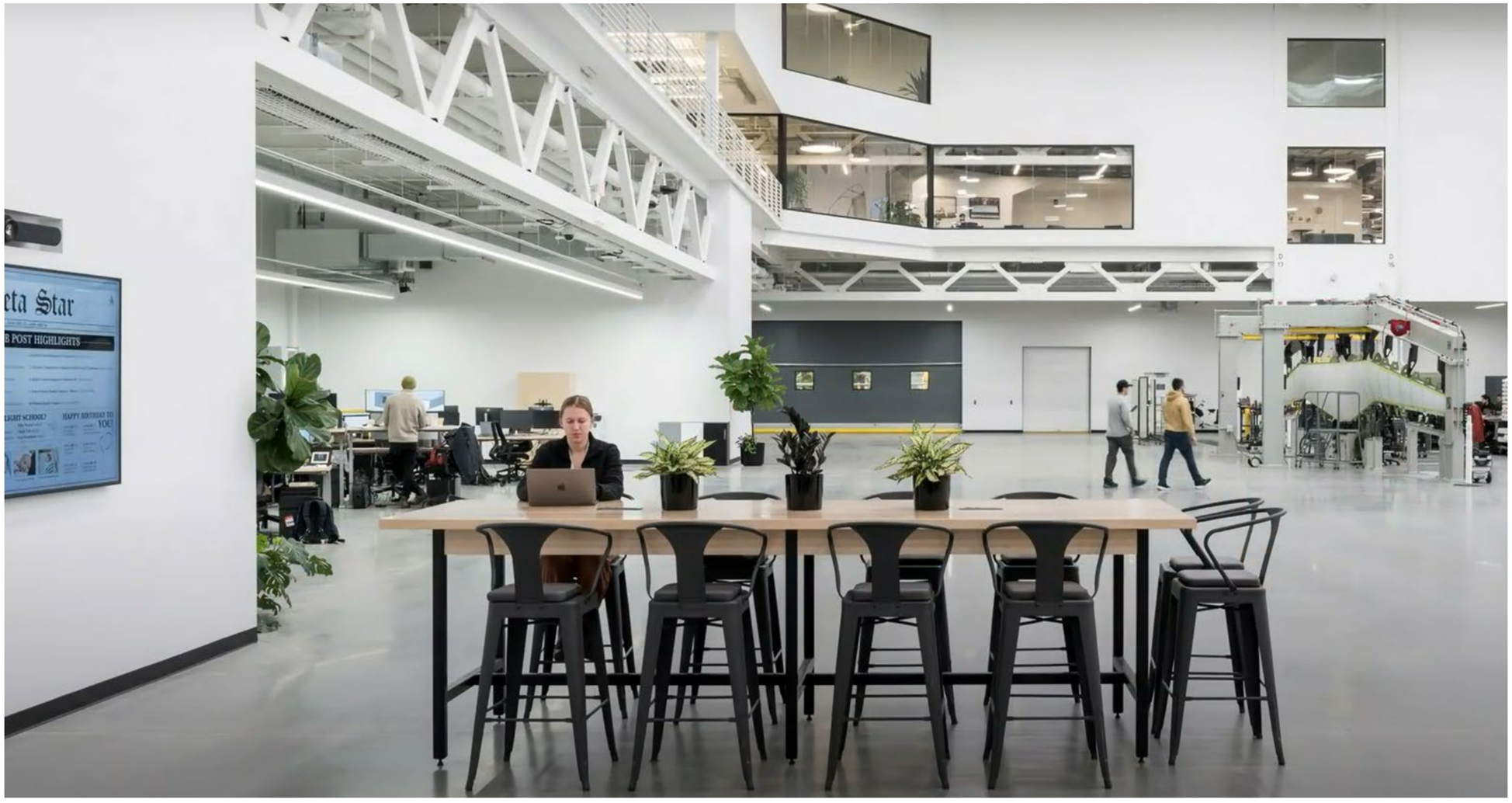
We envision the adoption of a construction approach that is:

- Bright, Open, Modular, Professional, High-tech, Practical, Clarkson!

The following slides are some examples of the proposed “look and feel” using examples from industry, other universities, and Clarkson.

Bright, Open, High-Tech, Clarkson

Integrate light manufacturing with hands on learning, instructional, and common spaces



Photos: https://www.youtube.com/watch?v=y8n0A0mUGyY

Open High bay area for SPEED, Engineering Shops and Manufacturing Labs

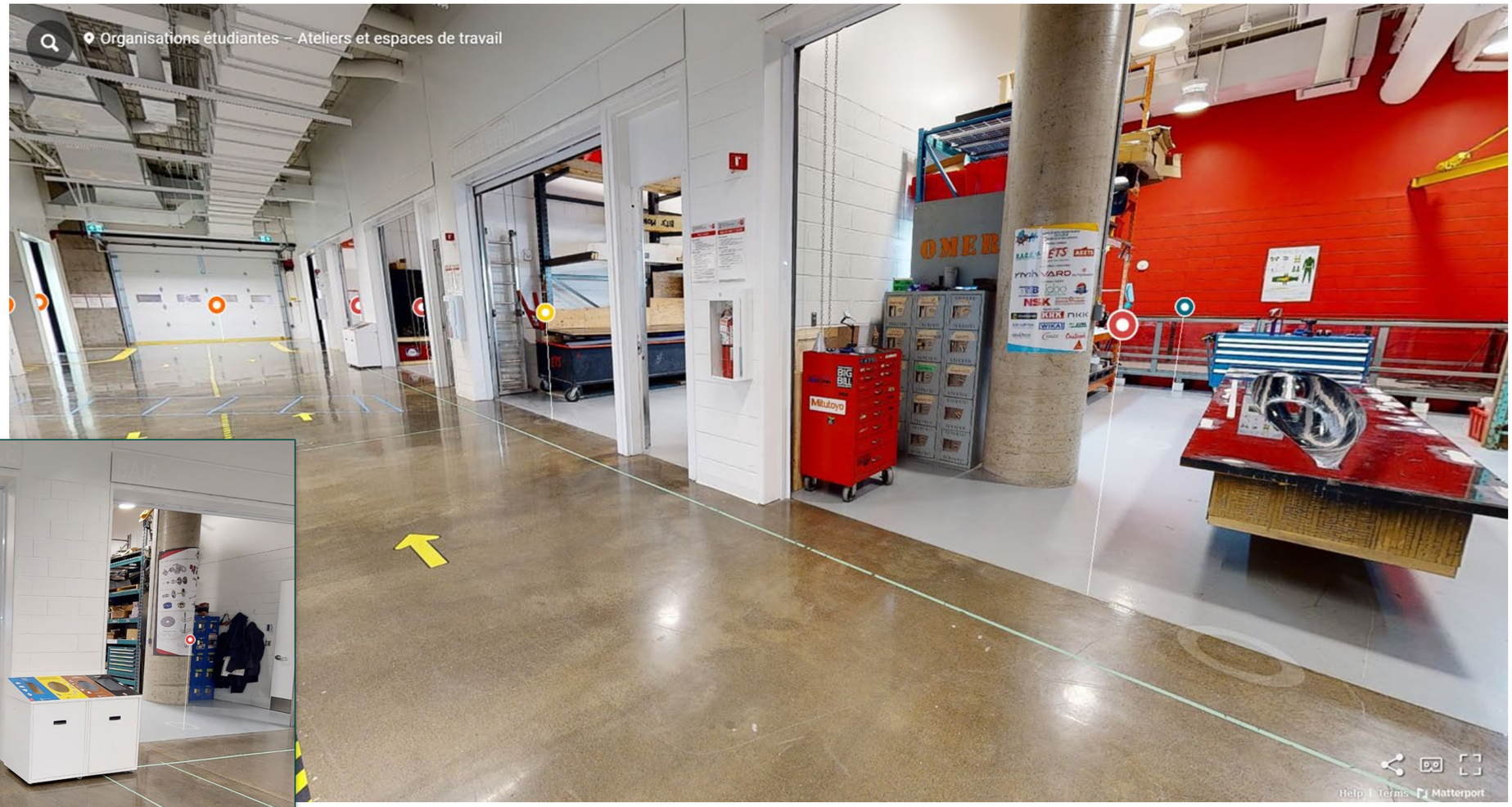
Open and modular light manufacturing spaces with substantial glass areas to the north allowing visibility for walkers on the path and tours

West side with high-bay door allowing access to outside work area and the fire road for heading toward trail system

Individual team work centers could be lockable and controllable leading into common internal work space

Project Space

Dedicated project spaces opening up to common work area allow control and overhead doors allow visibility for safety



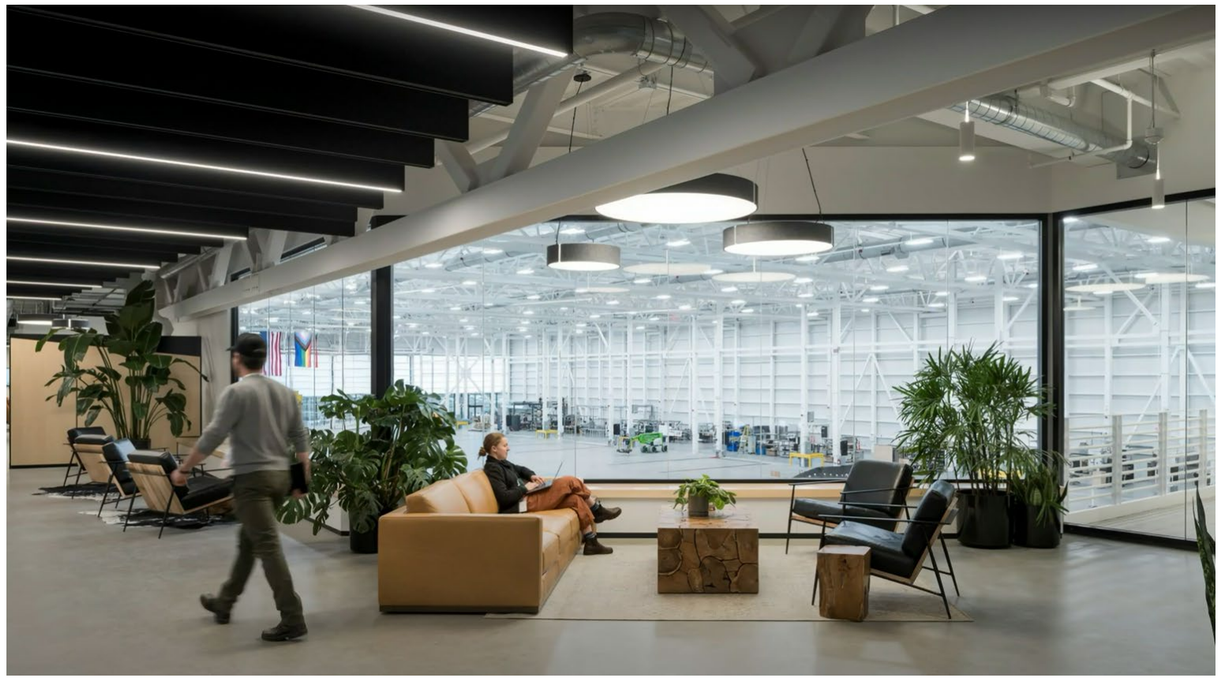
https://my.matterport.com/show/?m=3wb5MeF1Eaz

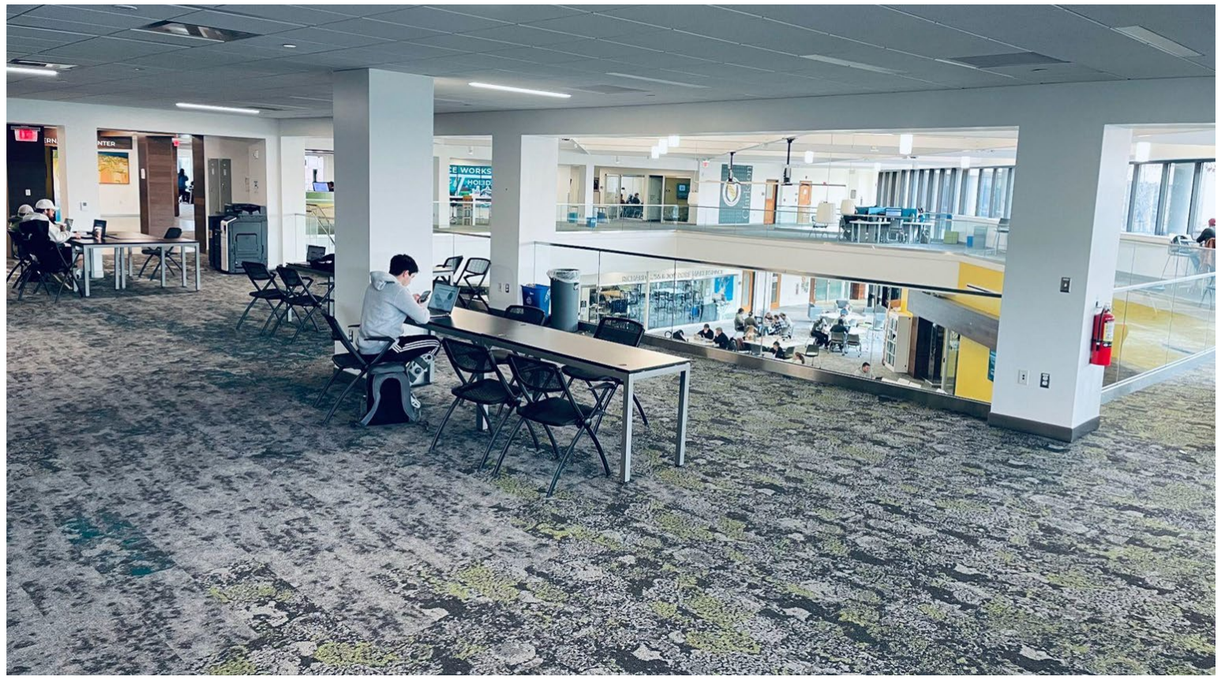
Mezzanine and hallways integrated with shop areas

Filled with collaborative work spaces and common areas similar to the mezzanine area in the Clarkson ERC which allows for collaboration, clean spaces for working and eating, and multiple spaces for meetings

This would also be a great indoor space to allow tours of the SPEED, Machine Shop, and Lab areas without the need for safety glasses or other PPE

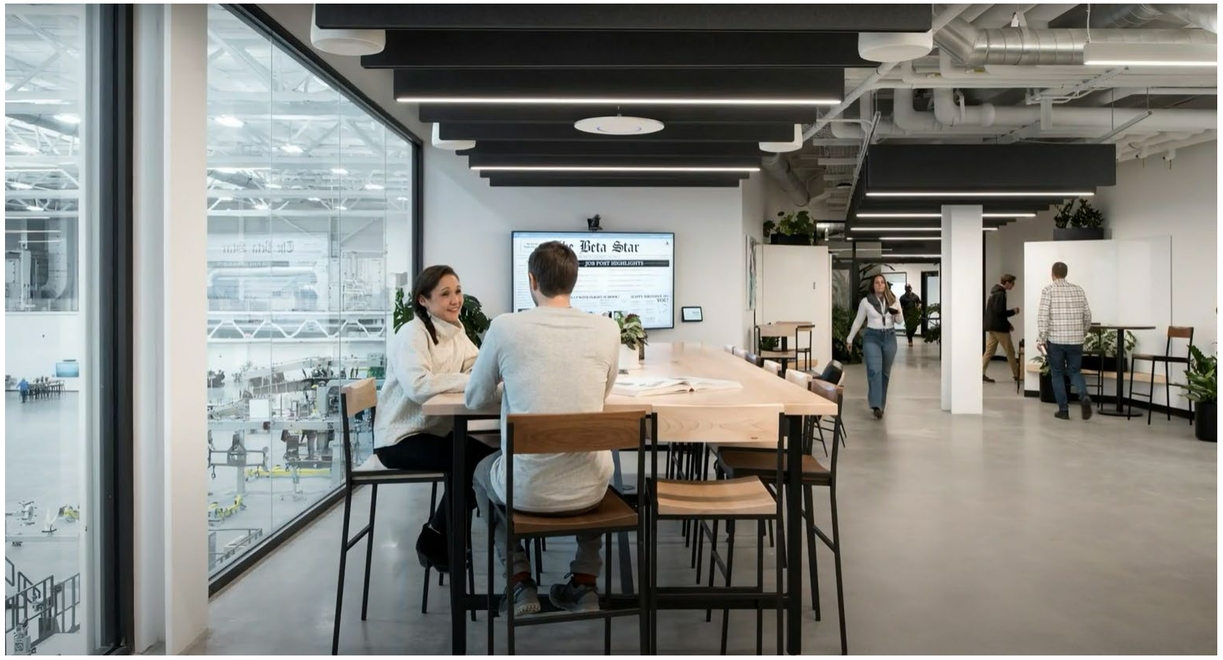
Space to highlight Clarkson innovation





Breakout rooms and common spaces

Collaborative work spaces and common spaces integrated while maintaining clean and professional atmosphere.



Modular Laboratory Approach

Lab space could have power and utility drops coming down from the ceiling to allow modularity and the ability to relatively easily reconfigure over the coming decades as needs may change.

Lab exhaust hoods could be placed to allow for direct venting through the roof.

Modern Classrooms

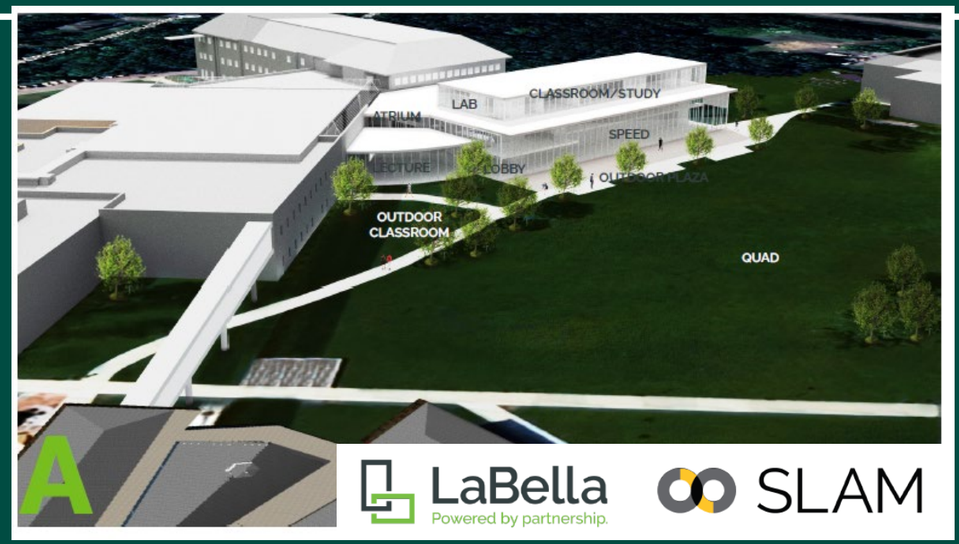
Some co-located near labs to facilitate modern teaching approaches

State of the Art Conference Center and Lecture Areas

Allows in-person and virtual hosting of meetings and multiple guest speakers

Breaking News: A/E/C Firm Proposals

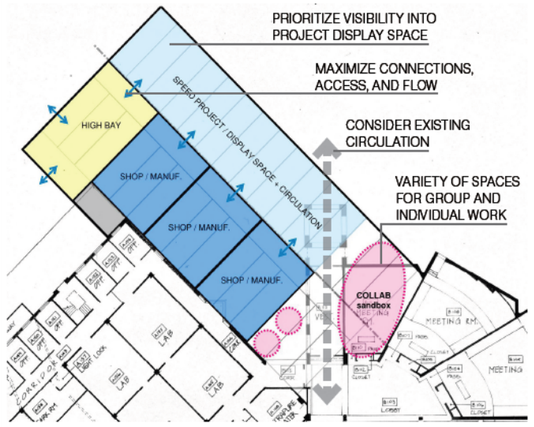
Proposals were due on 3 April!
Positive response!!



CONCEPT DEVELOPMENT

3 | PLACE PROGRAM

The anticipated programs fit well into the earlier-established structural and spatial module. On the first floor, the high bay and shops/ manufacturing spaces can each remain uninterrupted by the structural system, maximizing clear space and MEP systems integration with their functions. The design team suggests locating these spaces adjacent to the existing building, allowing the project work and display space to be on full display to the campus at large. As previously noted, the laboratory spaces on the upper level can be allocated and sized per program needs.

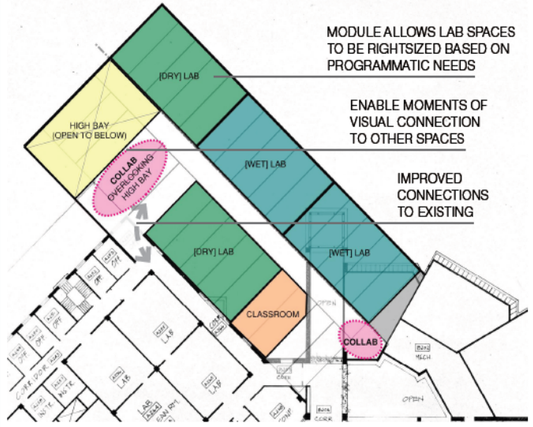


FIRST FLOOR | PROGRAM BLOCKING

e spaces can be interspersed
pace (open, enclosed, etc) and
ypes that enable and facilitate
be individual or group.

4 | ADAPT FOR SYNERGIES

With the large programmatic brush strokes established, the fine tuning can begin to better leverage spatial adjacencies, circulation, and improved function. As an example, a collaboration/work space can be established on the upper level adjacent to the high bay space, evoking the feeling and presence highlighted in numerous images in the RFP. This also allows for a secondary circulation connection to the existing building, improving access to addition while allowing for second path of egress and therefore likely eliminating need to construct an egress stair within the addition.

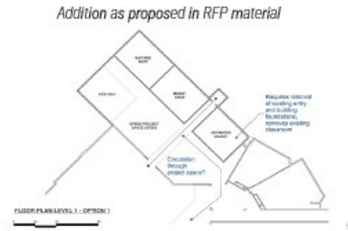


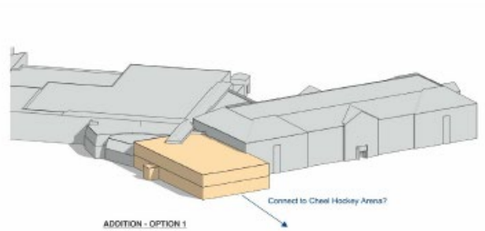
SECOND FLOOR | PROGRAM BLOCKING

As the complex-wide program comes into focus via the programming process, there is great potential in finding synergies between the existing building and the addition – the conceptual design can be driven with this potential in mind.

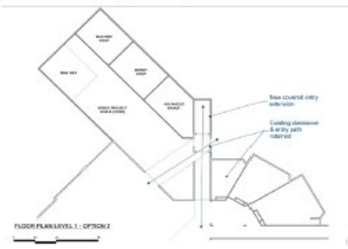
ASHLEY MCGRAW ARCHITECTS

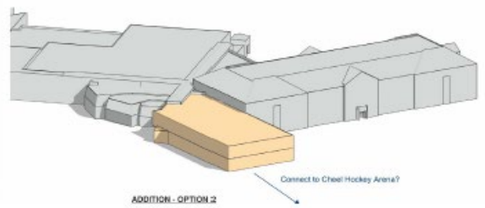
Addition as proposed in RFP material



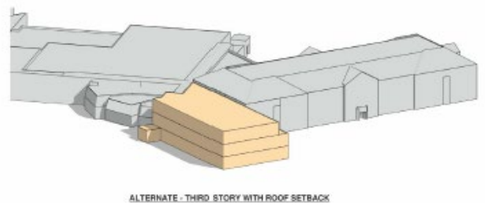


Alternate proposed option





Third story option with setback to avoid existing roof conflicts



Stantec

Thank You!

Questions and Feedback

5PDS – Financial Stability

Recommending a Smart Location/Co-Location Design Strategy to:

- **Reduce construction and O&M costs though:**
  - **HVAC synergy**
  - **Back-up power consolidation**
  - **Biosafety Level labs, export control labs - consolidation options**
  - **Shared chemical storage**
  - **Other efficiencies,TBD**
- **Use cost efficient construction approaches**
- **Create excitement and opportunity for additional corporate sponsorship and private philanthropy**
- **Deliver a facility that enables our faculty to deliver the highest impact education and is part of a “knock-your-socks-off” Clarkson campus tour!**