University of Colorado
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University of Colorado Design Review Board
And Research Park Design Review Board
Meeting Notes

Date:	Thursday, June 9, 2016
Time:	9:00 a.m. – 1:00 p.m.
Location:	McAllister Building, Sustainability, Energy and Environment Complex (SEEC), 4001 Discovery Drive, S149, University of Colorado Boulder

DRB members present: Don Brandes, Rick Epstein, Victor Olgyay, Michael Winters, Teresa Osborne (ex officio), and Tom Goodhew, Campus Representative

Others in attendance not otherwise noted:
Linda Money, CU Real Estate Services, CU System employee / DRB note taker.

9:00 - 10:00 Study Session – CU-Boulder, Board only

The Board met in a private session prior to convening the public portion of the meeting to schedule various DRB meetings and presentations.

Mr. Brandes, Chair, determined a quorum and called the meeting of the Research Park Design Review Board to order at 10:00 a.m., after which he introduced David Kang, newly hired Vice Chancellor for Infrastructure and Safety for CU-Boulder.

10:00 - 10:15 Temporary Storage for East Campus Greenhouse – CU-Boulder

Presenters: Tom Goodhew, Assistant Director, Facilities Planning
Richelle Reilly, Campus Landscape Architect, Facilities Planning

CU-Boulder Campus Representatives
Present: Jan Becker, Planner, Facilities Planning
Chris Ewing, Vice Chancellor for Planning, Design & Construction
Ida Mae Isaac, Senior Project Coordinator, Facilities Planning
David Kang, Vice Chancellor for Infrastructure and Safety
Amy Kirtland, Architect – Facilities Planner;
Wayne Northcutt, Architect, Facilities Planning
Zack Tucker, Director of Buildings and Infrastructure, College of Arts and Sciences

Description: The greenhouse on the East Campus has requested additional storage to be added to their site in the form of a shed or a seatainer. The MOU in place for the greenhouse requires any changes to the building to conform to the Design Guidelines of the University along with the Covenants, Conditions and Restrictions of the Research Park and are to be reviewed by the Research Park Design Review Board.

Presentation to the Research Park DRB/Discussion:

Before the presentation began, Mr. Goodhew noted that William Haverly was unable to attend the meeting due to a personal emergency and had extended his apologies to the Board.

Ms. Riley explained the use of the greenhouse and conflicts between academic program needs for the College of Arts and Sciences and storage needs for the greenhouse. Due to recent growth in the academic program and a new class beginning with the 2016 fall semester, the space in the greenhouse currently being used both for storage and the academic program will need to be converted into space for the academic program only. Of the short-term storage options available, Facilities Planning prefers to use a seatainer due to its durability and to make it consistent with other storage units already in use on campus.

Other considerations discussed included placement, color, duration of use, renting or purchasing the storage unit, and a master plan for the East Campus. Mr. Tucker indicated that it would be helpful to have the storage unit for a minimum of 25 years. He also noted that the department would be paying for the structure so options were somewhat limited.

The Board and staff discussed the requested length of use and whether or not pursuing options other than temporary storage for this length of time would be appropriate.

Mr. Epstein moved to approve the request for a temporary storage container through the acquisition of a seatainer with the following conditions:

- the allowed use will be no more than five years
- the East Campus master plan will be reviewed
- the master planning of the greenhouse complex will be reviewed
- the proposed color of the seatainer will be reviewed in order to determine if it can be integrated into the existing color scheme of the existing building and/or the greenhouse already on site

The motion unanimously passed.

There being no further business, the public meeting of the Research Park Design Review Board was adjourned at 10:22 a.m.

Mr. Brandes then convened the meeting of the University of Colorado Design Review Board immediately following the adjournment noted above.

10:00 - 10:30 Building Tomorrow Capital Process/Stage Gates – CU-Boulder

Presenters: Chris Ewing, Assistant Vice Chancellor for Planning, Design & Construction
Tom Goodhew, Assistant Director, Facilities Planning

CU-Boulder Campus Representatives
Present: Jan Becker, Planner, Facilities Planning
Ida Mae Isaac, Senior Project Coordinator, Facilities Planning
David Kang, Vice Chancellor for Infrastructure and Safety
Amy Kirtland, Architect – Facilities Planner
Wayne Northcutt, Architect, Facilities Planning
Richelle Reilly, Campus Landscape Architect, Facilities Planning

Description: Over the past year, the Office of Planning, Design and Construction has undergone a significant review of its processes and procedures. A 'stage gate' process is being instituted for all future capital construction projects. As part of this, the concept and schematic design phases of project development will be completed prior to a request for funding to the Board of Regents for construction.

Presentation to the Board/Discussion:

Mr. Goodhew and Mr. Ewing explained the history of the Stage Gate Process ("Stage Gate") for CU-Boulder, the proposed use of integrated project dashboards, improved and more consistent process training for planners and project managers, and formalizing how the selection of contract delivery methods are determined were also reviewed. The desired end result of these changes is to more effectively and efficiently plan, design and construct projects.

Mr. Goodhew reviewed the gates (phases) which have been developed for Stage Gate. He indicated that for every project, regardless of whether it is a capital improvement project or not, a new process of meeting with relevant staff early on to create a charter in order to determine goals, identify known constraints, document the project and obtain mutual agreement is also being instituted and that this charter would be reviewed at every gate.

After the Board inquired about whether or not Stage Gate would eliminate last minute requests for capital improvement projects, staff responded that while it hopes this will be the case, there may always be unavoidable last minute requests. It was suggested that an abbreviated Stage Gate be developed in order to handle smaller, quicker projects. The Board also noted that when needed, it can accelerate and combine its own review processes needed in order to accommodate project schedules.

The Board discussed the deliverables identified for gates 2 through 4 and whether or not the deliverables were appropriate for each gate. Mr. Epstein recommended that a preliminary program plan be included earlier on in the process, perhaps at gate 2, and that the draft program plan should be moved to gate 3.

Staff indicated that other stages not directly involved with the Board included review by the capital governance group at each gate, a review to determine pre-occupancy needs, a preliminary review by code officials, formalizing early start up and operations requirements and feedback mechanisms for occupants.

The Board thanked the staff for their presentation. The Board then indicated that it did not wish to delay the approval process for any project for legitimate cause or reason. Therefore, the Board directed staff to address the following issues regarding Stage Gate as presented:

- Integrate the existing Design Review Board Processes and Procedures ("DRB Processes") into Stage Gate ensuring that, while the two processes line up for the stages of pre-design, concept design, schematic design and design development, the review and approval processes also need to be in alignment with each other and Stage Gate should be modified so that it adheres to the existing DRB Processes. It was noted that it would be more beneficial for staff to report to the Board of Regents that the Design Review Board has reviewed and approved each project prior to being submitted for approval by the Regents.

- Integrate into Stage Gate the assignment of campus staff as integral members of the Design Review Board related to capital improvement projects to ensure that a staff representative is meeting with the Board on a regular (daily, weekly, or as required) basis in order to keep the Board informed about the progress for each particular capital improvement project. This will help the Board better understand any issues or urgencies as well as help staff work with the architects and engineers and help with budget and timing constraints. The more the Board can be informed on the status of each project, the more likely there will be fewer concerns to be addressed during Board approval.

- Integrate into Stage Gate compliance from a regulatory standpoint including but not limited to the campus comprehensive plan, FEMA guidelines, or other compliance and/or regulatory requirements in order to avoid potential issues related to these requirements which can both cause unnecessary delays and have a cost implication.

10:30 - 11:15 **CASA/ARL Clean Room – CU-Boulder**

Architects: Architectural Workshop

Presenters: Wayne Northcutt, Architect, Facilities Planning
Richelle Reilly, Campus Landscape Architect, Facilities Planning

CU-Boulder Campus Representatives
Present: Jan Becker, Planner, Facilities Planning
Chris Ewing, Assistant Vice Chancellor for Planning, Design & Construction
Tom Goodhew, Assistant Director, Facilities Planning
Ida Mae Isaac, Senior Project Coordinator, Facilities Planning
David Kang, Vice Chancellor for Infrastructure and Safety
Amy Kirtland, Architect – Facilities Planner
Joe Marshall, Architect – Architectural Workshop

Description: The project is to develop a large Clean Room for assembly of a space probe being sent to Mars by the United Arab Emirates. Presented to the Board as an interior renovation with site modification for access and mechanical equipment, the new proposal is for a building addition near the East Courtyard of the facility. This change in project scope is proving to be more cost and time effective. Requesting SD approval from the Board.

Presentation to the Board/Discussion:

Mr. Northcutt began the presentation by explaining why the CASA/ARL Clean Room project had been changed from a renovation project to a building project. The renovations required for the existing clean room would have been more costly than an addition to the building. Although the scope of the project has changed, the schedule has not. Due to the time frame, staff was requesting that the massing of the project be approved on a basic level with the understanding that surface improvements could be possible in the future. Staff also requested that a member of the Board be assigned to the project to act as a liaison between the staff and the Board.

Staff noted that the requested budget for spending authority to be presented to the Regents is for an amount no greater than $9 million and includes a budget of $8 million in project costs and $1 million for contingency funds. However, the grant funds available from the grantor will be no more than $8 million. The source of funding for contingencies has not yet been determined.

Construction is scheduled to begin on July 7, 2016, and must be finished by December 31, 2016. The engineering design for the precast panels needs to be submitted to the contractor by June 10; shop drawings will be completed by June 22 and must be approved by staff by June 29; the precast panels need to be placed and set by August 8.

Some renovations will be made to the existing Clean Room but will not be as extensive as had previously been proposed. As a result of the addition to the building, two Clean Rooms will ultimately be available which will better meet the future needs of the academic programs in the building.

The Board discussed the materiality, massing, and mechanical equipment and placement. They also discussed potential landscaping plans; surface finishing and articulation for screening effects; the need to potentially reduce the visual scale of the building; the mechanical issues of the building including concerns regarding vibrations, the Clean Room, building security and how these issues could provide massing opportunities; how view lines and angles could be explored in order to create more definition and articulation in the expression; and the potential of eventually recapturing parking spaces along the west side of 38th Street for landscaping purposes.

Staff indicated that they would discuss varying the massing in the area where the mechanical equipment is located on the roof. Staff also indicated that the question regarding the parking spaces may ultimately be addressed through a master plan for the East Campus.

The Board inquired about the limitations of the budget and the impact these limitations may make on the ability to act on DRB recommendations. Concern was expressed that the project not be done in such a way that it becomes a precedent or represents the program or the building in a poor quality.

The Board encouraged staff, to the extent possible, to build contingencies into the schedule in order to allow an appropriate amount of time to properly review everything associated with the construction of the building and reduce potential mistakes which could be created by rushing the schedule.

After briefly discussing the project amongst the Board members, Mr. Brandes moved to table approval of the schematic design submission to 8:00 a.m. on Tuesday, June 21, when the Board will reconvene in a conference call in order to review an updated schematic design submittal for consideration of approval. This tabling will allow Mr. Epstein, Mr. Olgyay and Mr. Brandes to work with staff over the next two weeks in order to accomplish the following:

- Further define the structural and foundation systems in terms of establishing whether there is any funding available to skin or clad the exterior of the building in a different material other than concrete and to determine what other options might be available which would enhance the building from an elevation perspective regarding the vertical heights of the walls, parapets, skin, etc.;

- Study the materiality of the whole project in order to determine what alternatives are available, i.e., exposed, colored or stained concrete; stucco; areas of brick; etc., and prepare appropriate elevations indicating options for the materiality, skin and/or cladding and the vertical heights as indicated in this motion, if at all possible, based on the budgetary limitations as noted above; and

- Prepare a Site and Landscape Plan that incorporates drainage, addressing the wetlands to the west of the building, and includes other site improvements as needed, and an appropriate project budget assigned to the site improvements for the project.

Mr. Brandes noted that the tabling of this matter will provide staff the benefit of input from the Board in order to prepare a more complete schematic design package for review and approval on June 21. The motion unanimously passed.

Although the Board felt that the building should not permanently remain in a standard gray precast concrete finish, Mr. Brandes indicated a reticence to continue Board involvement if there are no realistic opportunities for the Board to make any improvements to the proposed structure, materiality and/or finish, massing/elevation, or landscaping. As such, the Board also directed staff to work with the contractor in order to determine by June 21 whether or not there was any flexibility in the construction budget so the parameters of the involvement by the Board can be determined, specifically regarding the matters noted in the motion listed above, and to determine whether or not a brick ledge can be added to the foundation.

Additionally, Mr. Epstein suggested that, in order to create a small window of time to allow for further exploration, the engineering submittals to the contractor could be done as they have been proposed but with the addition of a brick ledge and that during the approval process for the shop drawings, if desired, options for the matters noted in the motion above could be included, with a clear understanding that they would be options the inclusion of which would be decided at

a later date. The costs of such options could then be determined separately from the basic building proposal.

11:15 - 12:00 **Boulder Creek Bridge Replacement Pre-Design**

Architects: Loris and Associates Consulting Engineers, Louisville, Colorado

Presenters: Amy Kirtland, Architect – Facilities Planner;
Richelle Reilly, Campus Landscape Architect, Facilities Planning

Others Presents: Peter Loris, P.E., Loris and Associates Consulting Engineers
Dan Beltzer, P.E., Loris and Associates Consulting Engineers
Brian Moffitt, Project Manager, Planning, Design & Construction, Facilities Management

CU-Boulder Campus Representatives Present: Jan Becker, Planner, Facilities Planning
Chris Ewing, Assistant Vice Chancellor for Planning, Design & Construction
Tom Goodhew, Assistant Director, Facilities Planning
Ida Mae Isaac, Senior Project Coordinator, Facilities Planning
David Kang, Vice Chancellor for Infrastructure and Safety
Wayne Northcutt, Architect, Facilities Planning

Description: The Boulder campus has received FEMA funding for the design of two bridges across Boulder Creek, connecting the main campus with the North of Boulder Creek area. In addition to the bridge construction, the project will include the development of pathways associated with the connection of the two parts of campus and mitigation of flood impacts. This is an introduction of the project to the Board.

Presentation to the Board/Discussion:

Ms. Kirtland began the presentation by introducing the representatives from Loris and Associates and Mr. Moffitt from Facilities Management. She then provided a brief history of the bridges proposed for reconstruction. After the 2013 floods, the University applied for and received approval for a hazard mitigation grant from the Federal Emergency Management Agency ("FEMA") and the Colorado Office of Emergency Management ("COEM") for the purpose of removing and replacing two foot bridges which cross Boulder Creek to the north side of the CU-Boulder campus so they could be built above the 100-year floodplain.

The staff is in Phase I of the grant which is to be completed by October 2016 and which includes the completion of a schematic design, a technical feasibility study, a construction cost estimate and an environmental and historic preservation study. The budget for Phase I is $200,000 of which FEMA will pay 75% and the University will pay 25%.

If Phase I is completed and approved by FEMA, staff can move into Phase II of the grant which is the construction phase of the project with a budget of $3.6 million and which is scheduled for completion by March 2018. Upon completion of Phase II, a request to revise the floodplain map in the construction areas will be submitted to FEMA.

Ms. Kirtland noted that the University has retained the services of Loris and Associates Consulting Engineers for civil and structural engineering, MIG for landscaping, and ICON Engineering for flood and hydraulics.

Ms. Kirtland then reviewed a number of aerial photos of the subject area showing various pathways including the creek path, current pedestrian paths, and options for the proposed pedestrian pathways and proposed bridge locations. She briefly elaborated on the use, history of the pathways, benefits and concerns of each pathway location and bridge location, the proposed construction projects and related challenges, the status of the required studies and project cost estimates. The Board and staff briefly discussed the options presented.

Mr. Brandes explained that the intent of this meeting is pre-design. As such, the Board members will share their thoughts, expectations, concerns or issues regarding the project which should be taken into consideration for the next level of Board review. The three submittal steps following pre-design are concept design, schematic design, and design development.

He then elaborated on his thoughts and concerns regarding the project which included:

- Environmental Audit – Mr. Brandes indicated that the Board will want to evaluate the consultants' environmental suitability of the site. The environmental synthesis (slope, vegetation, historical features, drainage, visual, etc.) needs to be thoughtfully documented to determine future bridge and pathway alternatives by the Loris team and their landscape architectural consultant. This analysis and evaluation will be of key interest to the Board.

- Pathways, Linkages and Connectivity – While staff and the consultant team have started to address these issues, it will be important to further estimate, project and evaluate the pedestrian needs for the Boulder Creek Corridor (City), the future development areas north of Boulder Creek (North Boulder Creek Future Land Use) and the CU-Boulder campus. In addition, it will be important to accommodate a broad variety of pedestrian movement patterns (origin/destination) and the variety of user profiles (students, visitors, ADA, bicyclists, joggers, etc.), and the use of the pathways throughout the season.

- Hydrological Data – The implications of the hydrological and flood analysis being prepared by ICON needs to be integrated into the study. The horizontal and vertical cross-sections of the proposed floodplain and floodway need to be carefully evaluated to determine ideal crossings, abutments and the implications to channel cut/fill remediation/restoration.

- Crossings – The crossing locations and their design character/purpose need to be defined and illustrated. There should be a discussion for each crossing that clearly articulates how it may be an iconic gateway that is a landmark for citizens and students alike, or perhaps a more utilitarian crossing placed to transport large volumes of pedestrian traffic. The consultant team needs to suggest and

characterize each proposed crossing and describe their purpose, intent and character.

- Budget and Compliance – The level of effort to achieve Schematic Design review and approval should clearly demonstrate a high level of planning and design resolution, detailed construction cost analysis, and conformance for compliance and regulatory approvals.

Mr. Brandes encouraged the consultant to prepare a detailed evaluation of natural and physical opportunities and constraints that informed them on preparing various alternative concepts that achieve the development program, goals, objectives and budget.

Mr. Epstein indicated that he felt this was an exciting project and that this presentation was a great introduction to the project. He indicated that according to the new DRB Processes, one of the goals of the pre-design meeting is to establish what some of the criteria for Board review will be. He noted that while some of the items he would be mentioning may have briefly been discussed or alluded to earlier, he wanted to ensure that the criteria were explicit for the benefit of all concerned. He felt that the following should be taken into consideration:

- City Connectivity – For example, it will be important to address the nature of the connection to the Goss/Grove neighborhood – how do the residents really get to the university from the neighborhoods to the north; what would their desired pathway to the campus and to the north of their neighborhood really be, etc. The same questions may need to be answered for other neighborhoods connecting to the campus across Boulder Creek.

- North Boulder Creek Master Plan ("Master Plan") – This project will have a major effect on the Master Plan. For the next Board meeting, the explicit effects related to this will need to be determined and should include what the impacts will be, how will they affect the Master Plan, and how the various pieces of the project (i.e., the crossings, bridges, landings, environmental impacts, the program plans for carts vs. pedestrians/stairs, the desired experiences, the different conditions during use such as summer vs. winter, geographical difficulties of a north-facing slope location, etc.) will be translated into the Master Plan.

- Bridges – The criteria regarding the bridges themselves may be related to other criteria previously noted, but in detail, when the specifics regarding the bridges are being developed, the following should be considered for each bridge:
    - What kind of crossing is it and what will it be used for?
    - What is the story behind the bridge?
    - Will it be an iconic bridge and, if so, why and how will it be iconic?
    - Will it be a gateway and, if so, what is the nature of the gateway?
    - What are the other gateways on campus?
    - How does it relate to the other gateways, is it part of a system?
    - What are the precedents regarding the design of the bridge?
    - Are there any internal (local on Boulder Creek) precedents or are there any regional or national precedents that should be considered?
    - Should the bridges be identical, should they not be identical, and why?
    - Should one bridge be expressive, tied to the future, be more historic, etc.?

- Is there a hierarchy between the two bridges and, if so, why?
- What is the distance being traveled?
- What is the materiality of the bridge?
- As the bridges relate to the budget, should one bridge be cheaper in design so the other bridge can be more exciting or more interesting/iconic because that particular location and crossing has been identified by the Master Plan as an area for a focal point?
- What width should the bridges be, should they include any step outs at the center, is the purpose simply for movement or will they provide stops, should the width of both bridges be the same or should they be different in order to accommodate different uses? How to make the bridge "a place."

Mr. Olgyay agreed with the comments noted above. He indicated that he has confidence in the staff and the consultants in that they will determine the best ways of laying the paths and landscaping, in dealing with the technical issues, etc., but he added that in terms of what is provided to the Board, precedence regarding the bridges should be taken into consideration. The nature of a bridge is inherently symbolic and carries a meaning beyond its actual structure. In addition to the other considerations mentioned earlier, he suggested that staff also think about what the bridges will be for this place.

Mr. Winters inquired about the project budget and confirmed that the construction budget for both bridges is $3 million. He agreed with the previous comments and noted that the precedence study will be very informative for the Board. He also noted that the pathways are equally as important as the bridges in terms of the desired experiences, connecting them to the Master Plan component, how they also affect the Master Plan, etc.

The Board briefly discussed with staff the hydraulics, floodplain, and elevation issues, including the inherent difficulties and challenges related to how the landings may be different due to changes in the floodplain and how these difficulties may increase the cost of the project. It was noted that the existing bridge that will be replaced is approximately 60' long, whereas the proposed bridges could be between 75' to 100' long. Due to the required elevation, there may be places where the Boulder Creek path will need to travel underneath the new bridges. It was also confirmed that the intent of the new bridges is that they will be usable during a flood event and that neither are intended to be a break-away bridge. As such, they will have to be built above the floodplain or will have to reduce the floodplain. The location of the existing 100-year floodplain requirement was also discussed.

Mr. Brandes confirmed that Ms. Reilly will be the designated Board liaison on this project.

There being no further business, the public meeting was adjourned at 1:10 p.m.

After adjourning the meeting and taking a break for lunch, the Board took a tour of the newly completely Sustainability, Energy and Environment Complex along with several representatives from Facilities Management.