University of Colorado
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University of Colorado Design Review Board
Meeting Notes

Date:	Friday, April 12, 2019
Time:	9:00 a.m. – 4:45 p.m.
Location:	Conference Room E422,Center for Academic Success and Engagement (CASE) Building, CU Boulder Campus

DRB members present: Don Brandes, Sarah Brown, Victor Olgyay, Chris Shears, Mike Winters, Cheri Gerou (ex officio), and Bill Haverly, campus DRB member for the University of Colorado Boulder campus ("CU Boulder").

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

CU Boulder Campus Tours

Prior to convening the public portion of the Design Review Board meeting, the Board toured with staff from the Facilities Department the following projects on the Boulder campus:

- Aerospace Project, East Campus
- Williams Village Housing Project, Williams Village Campus
- 23rd Street Bridge, Main Campus
- CASE Building, Main Campus

1:15 – 1:45 p.m. **Work Session/Lunch – Board Only**

The Board met to briefly to discuss the items on the agenda for this date and then called the public portion of the meeting to order at 1:45 p.m.

1:45 a.m. – 3:15 p.m. **19th Street Pedestrian Bridge – CU Boulder**
Design Development (Action Required)

Architects/Engineers:
Loris and Associates Consulting Engineers/Otak, Inc.
Superior, Colorado
BHA Design, Inc., Landscape Architects, Fort Collins, Colorado
Clanton & Associates, Lighting Design and Engineering, Boulder, Colorado
Icon Engineering, Inc., Centennial, Colorado

Presenter:
Jason Messaros, Landscape Architect, Project Manager, BHA Design, Inc.

CU Boulder Campus Presenters:
Brian Moffitt, Project Manager, Planning, Design & Construction, Facilities Management
Richelle Reilly, Facilities Planner/Landscape Architect, Facilities Planning

Others Present:
Dan Beltzer, P.E., Associate, Loris and Associates Consulting Engineers
David Roederer, LEED AP BD+C, IES, Clanton & Associates
Roger Sherman, BHA Design, Inc.

Other CU Boulder Campus Representatives Present:
Tom Goodhew, Assistant Director and Planning Manager, Facilities Planning
Bill Haverly, Campus Architect and Director of Planning, Design and Construction

Description:
Design Development ("DD") submittal for pedestrian path connecting North of Boulder Creek to Main Campus at 19th Street

A/E Presentation:

Richelle Reilly provided a brief introduction regarding the project after which Jason Messaros presented the DD submittal. Brian Moffitt and Dan Beltzer addressed additional specific site and construction questions. Included was a discussion on lessons learned on the 23rd Street Bridge and how the 19th Street Bridge can be improved.

Constructability lessons learned:

- How rails sections meet and getting them to line up:
  - If rails were not lined up, the rails would amplify the misalignment
- Raise height of rails to 45"
- Have fabricator assemble bridge components, number, and disassemble to ship
- The jointery of all materials, particularly the handrail joints and expansion joints:

- Prior to construction the DRB needs to review a mock-up of the bridge section which shows railing and handrail detail to make certain they line up horizontally and vertically as anticipated:
    - This mock-up should also include expansion joints to verify handrail detail
    - Campus suggested that the first section of the final bridge be built as the mock-up to avoid reproducing something that will later be thrown away

DRB Comments:

Combined Comments for Landscape Architecture, Architecture, and Sustainability:

- Consultants are encouraged to design an eased edge collar over slip-joints to unify detail at handrail

- A deliberate unifying and standardizing of the expansion joints would improve the overall detailing of the rail system

- Consider having longer tangents and accentuate the curves of the railing

- The DRB stongly suggests that a stainless steel hand rail be installed rather than the galvanized metal to provide a more unifying element thoughout the bridge crossing:
    - Stainless steel or aluminum would provide a better quality material, particularly at the joint welds

- Vertical rods (pickets or balusters) on new bridge design that are designed as ¾" could be redesigned as ½" to give the bridge a visual "lightening" and give a greater visibility through the bridge

- Contemplate a solution to refine the connection at the base of the vertical supports as they meet the slab to eliminate the grout detail:
    - Perhaps a side-mount of the railing to the side of the slab would be a better detail
    - It would be great to forward a detail of the side-mount detail to the DRB for their understanding

- Contemplate a solution to refine the (seated?) connection--where the handrail connects to the extention post:

- DRB expressed concern that the patterning of the concrete be executed well

DRB Action:

Don Brandes moved for approval of the Design Development submittal for the 19th Street Pedestrian Bridge on the CU Boulder campus based on the following conditions:

- A full mock-up prior to going to construction (party of the construction):
  - A mock-up of materiality, construction details, and all the materials and your thoughts for their use
  - A mock-up showing materiality for the railing and for the pavement details--what is the sandstone and the color differentiation for the crossing

- DRB preference is for a non-galvanized railing, preferably a stainless steel or – a smoother textured railing

- Picket details revised from a ¾" to a ½" to be reflected in the design

- Offset the grade and the bottom of the connection on the north landing out of the concrete pad such that the grouted detail is eliminated:
  - A true side-mounted to the slab detail would be acceptable
  - Detailed as the overhang

- Sleeve collar to be explored for best detailing at railing without detoxifying it, changing colors and the materiality

- Concrete specs (specifically EPD sheets) for the caissons, for the poured-in-place and for the cast-in-place (all of the various specs that will be used on the project) to be incorporated into the submittal with the reasoning why each were chosen for the improvement

- Page 10 as compared to Page 63, please reconcile the graphic of the north landing and what is the planting plan:
  - Please enlarge that area and forward the details to the DRB

- Consistency to the joint of the upper rail too, not just the handrail

- Include some graffiti-guard for some of the walls and portions of the pylons that are accessible

Victor Olgyay seconded the motion which unanimously passed.

3:15 – 4:45 p.m. **Multi-Site Solar Projects – *CU Boulder***
Conceptual Design/Workshop (Action Required/Direction)

Architects:
Hord Coplan Macht, Inc., Denver, Colorado

Presenters:
Jennifer Cordes, AIA, LEEP AP, Principal, CPSO, Hord Coplan Macht

Terry Stone, Associate, Hord Coplan Macht
Carol Fletcher, Project Manager, Hord Coplan Macht

CU Boulder Campus Presenter:
Richelle Reilly, Facilities Planner/Landscape Architect, Facilities Planning

Others Present:
Robyn Bartling, PLA, Principal, Hord Coplan Macht

Other CU Boulder Campus Representatives Present:
Tom Goodhew, Assistant Director and Planning Manager, Facilities Planning
Bill Haverly, Campus Architect and Director of Planning, Design and Construction

Description:
Continuation of Conceptual Design ("CD") and Workshop regarding Lot 560 concerning solar structure to hold PV panels on the Boulder Campus

A/E Presentation:

Jennifer Cordes, Terry Stone, and Carol Fletcher of HCM presented an updated CD submittal package to the DRB for review and discussion. A recap of the background information for the project was provided including an analysis of design options.

Design Options Reviewed:

Option 1:
- Monolithic, long span design over permit lot
- Butterfly fly row over visitor lot to draw attention to visitor area through different form
- No PV structure over southern end of site
- Accentuate end of rows with landscaping islands
- No change in parking, 447 spaces remain
- 1,872 kWh capacity

Option 2:
- Butterfly solution used throughout, visitor and permit parking
- Landscaped islands at end of rows and center islands running east-west along each row with PV panels removed for sunlight penetration
- Aisles between rows parking stalls are currently 4' wide, limiting design
- Bio swale opportunity may exist, will research
- No change in parking, 447 spaces remain
- 873.6 kWh capacity

Option 3:

- Same structure layout as Option 2 but with additional landscaping islands and split structure in center of each row accentuating additional north-south pedestrian path
- Loses 28 parking spaces, 419 spaces remain
- 808 kWh capacity

Option 4 – hybrid (design team preferred option):

- Same basic structure layout as Option 1 but with split butterfly row allowing for large central island with pay station, trash receptacle, ash urn, some landscaping
- Anticipates greatest pedestrian circulation toward the west
- Landscaped islands at ends of each row with western end accentuated for improved pedestrian experience
- Addition of bike racks on north end and west side
- Loses 4 parking spaces, 443 spaces remain
- 1,750 kWh capacity

DRB Comments:

The Board congratulated the design team for a good updated CD submittal. DRB requested prescriptive prototype and framework for the design team to follow for a Schematic Design submittal including this same level of analysis and detail for all four proposed locations identified as potential installations:

- lot 560
- lot 574, 576 & bus lot
- lot 548
- lot 556

A. Site & Landscape Architecture:

- Consider adding softscape on the ground where sunlight falls through structural design

- Explore breaks in butterfly structure over visitor parking regarding water collection

B. Architecture:

- Analyze saw-tooth PV design for lot 560:
    - The intent is to maximize the quantity of PV generation at the more visually remote northern lots to allow more future design flexibility at the two more prominate lots, 548 and 556
    - It would appear that the full 2.7 MW can be achieved at these lots to the north
    - Utilize the butterfly configuration in Option 4 for the Visitor Parking area
    - Utilize the open daylit drive and pedestrian zone illustrated in Option 4
    - Add in the central Daylit Pedestrian path to the north building entry
    - Structural span between columns can use the existing parking layout.
    - Explore covering all aisles for maximum PV coverage
    - Investigate extending PV to cover current drive aisle along eastern edge of the lot adjacent to existing Quonset huts

- Explore adding the openings and color concepts shown previously as an opportunity to define the drive aisle locations
- Daylight and drainage can occur at the sawtooth
- Study the shading effect of the sawtooth for PV layout
- Include PV generation capacity

C. Energy and Sustainability:

- Evaluate maximum capacity for all four lots in conjunction with possibilities for pedestrian and driver improvements and placemaking while developing additional solar options for each of the remaining three lots

DRB Action:

Don Brandes moved for approval of the Conceptual Design submittal regarding the multi-site solar panels on the CU Boulder campus with the comments noted above and below. This motion is not for a specific design but rather is for the approval of the "program and framework" outlined in this submittal. The format, extent of detail, and illustratives provided for Lot 560 should be followed for Lots 574, 576, and the Bus Lot; Lot 548; and Lot 556.

Generally, the four lots should all follow the same level of analysis allowing the DRB to evaluate the four lots in combination one to the other.

1 – Site Context and Analyis

- Explore physical and natural site conditions, connections, relationships, sun angles, utilities, parking, future building sites, etc.
- Evaluate and summarize the potential development opportunities and constraints for each Parking Lot.

2 – Structural Improvements

- Given the site context and analysis, what PV/Parking Structures seem appropriate.
- Investigation and formulation of vision of the PV structure
- Illustrate and detail what seems appropriate for each site.

3 – Site and Landscape Architecture Improvements

- Explore the site, landscape, lighting, fixtures, furnishings that reinforce and strengthen and support the Parking Structure.
- Illustrate what level of site improvements should be considered.
- Evaluate on-site and off-site improvements that may be necessary.

4 – Weighted Options

- Evaluate the most desirable parking lot options for each site.
- Evaluate the pros and cons associated with the four (4) parking lots and how each was weighted; what does each option look like in terms of PV.

- Develop a matrix that helps determine why one parking lot configuraton is preferable in context with another. In essense, what is the best combination of parking lot improvements for the four parking areas.

5 – Recommendations:

- Working closely with University staff what are the highest and best use recommendations for the four parking lots.

The Schematic Design submittal needs to be comprehensive and inclusive of all four (4) parking lots. It was suggested that the Schematic Design submittal and the review process would be best accomplished in an extended Workshop Session.

Sarah Brown seconded the motion which unanimously passed.

Upon the conclusion of the public meeting of the Design Review Board, no additional matters were discussed. There being no further business, the public meeting of the Design Review Board was adjourned at 4:45 p.m.