Lincoln Eliot School – Design Review Committee Meeting

Design Review Committee Meeting to vote on Site Plan Approval with others in attendance.

Meeting: May 11, 2022 (6:00PM-8:28 PM)
Location: Digital, via Zoom

Attendees

City of Newton:	Joshua Morse	Alejandro Valcarce	Stephanie Gilman
Design Review Committee:	Maria Leo*	Peter Barrer*	Ellen Light*
	Amy MacKrell*	Andrea Kelley	Carol Schein*
	David Gillespie*	Jonathan Kantar*	Thomas Gloria*
	SingNing Kuo*	Robert Hnasko*	Steve Siegel*
	John Mulligan*	Ambrose Donovan*	
School Building Committee:	Councilor Maria Greenberg		
Arrowstreet Architects:	Larry Spang	Tina Soo Hoo	Kate Bubriski
	Daniel Jick		
Hill International:	Vivian Varbedian	Douglas Murray	Mark Krikorian
Others:	Donnalyn Kahn	Joan Belle Isle	Marc Kaufman
	Randall Block		

* Denotes Voting Members

The Lincoln Eliot school project was addressed at 7:01PM.

Lincoln Eliot Updates
Joshua Morse read the draft vote language and reviewed the 5-58 vote and site plan approval process.
Ellen Light noted that the DRC would like to review the documents included in the package.

Tina Soo Hoo of Arrowstreet presented recent updates to the site design plans. (Link to PDF)

Site Wide Accessible Routes were presented and reviewed.

- Red arrows are all accessible routes
- Two ramps on site which are greater than 8% slope and require handrails.

Preliminary site lighting concepts were presented and reviewed. Light designs similar, or comparable to other school projects, were chosen.

- Green = Pathway Lights – Pole Lighting (larger spread, fewer fixtures required)

- Dark Green = Parking Lot Lights – Pole Lighting (to be revised with potential addition of PV carports)
- Blue = Lighted Bollards
- Light blue = Building Mounted fixtures for egress lighting
- Red = Up-lighting for Flagpole
- Purple Lines = Entrances that will be lit
    - Not necessarily strip lighting
    - Recessed lighting, wall sconces, etc. to be studied and explored.

Lighting goals were highlighted.

- Optimize Energy Performance
- LED Fixtures
- Lighting controls
- Dark Sky Compliant
- Meet Lighting Boundaries to prevent light-spill off the property
- Photometrics forthcoming

Building exterior elevations were reviewed.
Study of exterior materials has begun but has not reached a conclusion.

Kate Bubriski of Arrowstreet reviewed Energy and LCCA findings
Three all-electric system options were highlighted and studied.

- #1 – VRF System – Overhead Ventilation
- #2 – Air Cooled Heat Pump Chiller & Electric Boiler – Displacement Ventilation
- #3 – Ground Source Heat Pump – Displacement Ventilation

Qualitative comparison of HVAC options was briefly reviewed.

- Option #2 has 5-year payback outlook compared to Option #1
- Option #3 has 36-year payback outlook compared to Option #1

Water Reuse LCCA was briefly reviewed.
25,000 gallon tank to support water reuse irrigation system cost is roughly $330,197.

- Expected payback outlook is 96 years.

Embodied Carbon LCCA was reviewed

- Baseline embodied carbon – 2,561,512kg CO2e
- Proposed Design – 764,716kg CO2e

*Proposed design represents a 69% reduction.

Low Carbon Design elements being studied and implemented include:

- Brick cladding on new addition
- 20% SCM concrete Mix
- Mineral wool insulation above grade
- Low carbon CMU
- Low carbon drywall
- Exposed ceiling in Library (utilizing less building materials)

Public Questions/Comments
Peter Barrer asked if any of the three HVAC options are consistent with the site plan approval process.
Joshua Morse noted that the basis of the design is VRF however, it does not mean the other two options are off the table.

Peter Barrer noted his preference for Option #2 (Air Cooled Heat Pump Chiller & Electric Boiler), stating air quality, acoustics and maintenance as benefits to utilizing Option #2. Mr. Barrer suggests studying Option #2, rather than the basis for design being VRF's.

Peter Barrer also stated he would like to review options for embodied carbon for the project.

Ellen Light inquired as to when site photometrics will be shared with the committee.
Tina Soo Hoo of Arrowstreet stated that photometrics can be carried out, and will take 2-3 weeks, if the concept plans are close to what may work for the site.
Ms. Light noted that it is hard to understand the site lighting concept without photometrics. Ms. Light added that she would like to see spread, and relationships to the property line.

Ellen Light asked when schematic design cost estimating will be occurring and if detailed elevations are being provided for cost estimating.
Tina Soo Hoo of Arrowstreet noted that the cost estimating process is in progress. Pricing is based off of the draft designs which have more detailed exterior elevation details to base the pricing off and includes some wall sections to understand exterior wall assemblies.

Jonathan Kantar stated he would like to see a more developed energy analysis for the building.

- Insulation systems being used – Would like to see cellulose in-leu-of mineral wool.
- Lighting spread analysis – Photos from a distance to visualize lighting impacts on and off-site.
    - Particularly bollards and pole lighting
- Water – If grey water use cases were studied and what is getting watered.

Tina Soo Hoo of Arrowstreet noted that the water reuse analysis only includes capture of water for the irrigation system for the field.
Jonathan Kanter suggested studying grey and rainwater reuse for irrigation of shrubs and gardens, not grass.

Thomas Gloria requested details of the embodied carbon calculations; What was calculated, and what assumptions were made. Mr. Gloria suggested the reduction of embodied carbon could be greater than 69%.
Tina Soo Hoo of Arrowstreet noted she would provide details and backup for review.
Joshua Morse requested to make sure there are very detailed assumptions included in the analysis.

John Mulligan stated he would like to see a detailed plan of how site lighting will be timed and controlled. Mr. Mulligan suggested emphasizing studies on the Walnut Park/Waban St. entry walkway as it is dimly lit.
Mr. Mulligan also requested Arrowstreet provide 3d renderings of the new gym, especially the north side, to better visualize the suggested designs.
Joshua Morse noted that when you're dealing with a big mass, such as the gymnasium, it limits options for breaking up the massing while being considerate to abutters. Mr. Morse added that light-packs on the walls will remain on later into the evening for site security. The remaining lights will most likely be powered down earlier.

Alejandro Valcarce suggested Arrowstreet provide 3d renderings of the site lighting as well to better visualize the lighting due to topography of the site. Mr. Valcarce added to make sure lights on site do not cause glare to traffic, pedestrians, and neighbors on Jackson Road.
Joshua Morse added that lighting on site may comply, and stay within the bounds of the property, however may still be blinding to neighbors as LED fixtures are very bright.
Alejandro Valcarce added that the Auditorium will be in use on night and weekends, so pathways will be lit up at odd hours on occasion.

Carol Schein expressed concerns of navigating Parks & Rec vehicles up the ramp to the playground for maintenance and repairs. Ms. Schein believes it is a tight fit up the ramp with handrails on either side, and limited space at the top of the ramp will cause vehicles to block the entrance doors and/or ramp.
Ms. Schein suggested utilizing the pathway between the playground and the field for maintenance vehicle playground access.
Tina Soo Hoo of Arrowstreet noted that the pathway between the playground and field has a gentle slope and could be utilized for vehicle access. Ms. Soo Hoo added that the pathway could be widened if necessary.

Carol Schein asked if the tables located on the cafeteria patio are fixed or movable.
Tina Soo Hoo of Arrowstreet noted that patio tables had not been selected yet, however they could be movable to provide vehicular access to the playground area.

Carol Schein inquired about the detailed number of plants in the narrative and unusually high number of perennials being utilized on site. Ms. Schein suggested moving away from perennials and incorporating more trees and shrubs.
Tina Soo Hoo noted that she will relay Ms. Schein's comments to the Landscape Architect.

Carol Schein asked if Parks & Rec has had a chance to review irrigation and plantings.
Joshua Morse noted the lack of a formal review process for Parks & Rec, with the review process generally starting with the Development Review Team. Mr. Morse has asked Luis Perez Demorizi to attend future DRT meetings to represent Parks & Rec.

Tina Soo Hoo of Arrowstreet reviewed the preliminary ramp modification study.
Ms. Soo Hoo presented a cross section of the proposed entry walkway and ramp.
Ms. Soo Hoo noted that to eliminate the 8% ramp with handrails, the ramp would need to be extended by 45 feet.
Conceptual options of a sloped walkway in-leu-of ramps with handrails were depicted and reviewed.

- Elongated curved walkway up from pick-up/drop-off node to main entry plaza
- Elongated curved walkway off Jackson Rd. to pick-up/drop-off node.

SingNing Kuo stated her preference for the extended walkway and eliminating handrails.
Ms. Kuo suggested an elongated walkway which hugs the perimeter of the Playground.
Tina Soo Hoo of Arrowstreet noted that if modifications are made, adjustments will be made to the playground and landscaping.
SingNing Kuo requested further study of the accessible ramp at the Auditorium/Cafeteria entrance.
Ms. Kuo suggested incorporating an additional landing or tier which could be utilized as a seating wall and could provide a good focal point for the school.
Tina Soo Hoo of Arrowstreet noted that the ramp will be studied further, and additional options explored.

SingNing Kuo suggested looking at alternative locations to install bike racks as they can be messy. Ms. Kuo suggested incorporating a seating wall at the pick-up/drop-off node so it may be utilized as a gathering area.

Joshua Morse noted that after talks with Newton Public Schools, the programmatic preference was to have a direct route for entry into the school as opposed to a winding walkway.

David Gillespie stated he is comfortable with the 8% ramp and handrails. Mr. Gillespie noted significant discussions to simplify the entry ramps and provide a direct route for entry.
Mr. Gillespie suggested separating the ramp into two 15 ft sections, with an additional or enlarged landing, instead of one long 30 foot section.

Thomas Gloria asked if there are considerations with regards to optimizing solar panel construction within the parking lot.

Joshua Morse noted that there will be solar panels on the roof. Mr. Morse added that pole lighting in the parking lot will need to be removed from the designs once PV options are explored, as lighting will be provided by light packs under the solar canopies.
Mr. Morse noted that the design will follow the designs of the Newton Library parking lot more closely as opposed to other schools.
Mr. Morse stated he would like to task the solar developer with providing 3d renderings to visualize and preserve the aesthetics and minimize the massing from the residential side. Mr. Morse noted that if needed, the team can push solar developers to modify their designs and foundation points.

Thomas Gloria inquired if there are ways to mitigate utilizing crutches to get through transitional technology, particularly radiant heating panels in the classrooms.
Mr. Gloria also stated that the team should be cognizant of not oversizing with new technologies which are more efficient. Mr. Gloria asked for confirmation that food waste and food waste management had been explored and incorporated in the Schematic Design package.
Mr. Gloria stated to be aware of and mitigate things that used to be necessary but are no longer necessary due to advancing the building technologies.

Joshua Morse noted there will be a meeting with GGD in the future to discuss supplemental recovery heat.
Mr. Morse noted that if the building is going to be very efficient and has comprehensive temperature control systems, we want to make sure we are not overengineering our heating systems.
Mr. Morse suggested studying the status-quo of night set-back which would allow for downsizing of supplemental heat and operate at a higher efficiency.

Peter Barrer suggested studying the modeling with and without set-back.

Tina Soo Hoo of Arrowstreet noted that Newton Public Schools and the food services group reviewed and compiled a list of equipment that is and isn't used at other schools and eliminated equipment that is not used.
Ms. Soo Hoo noted that some conversations have taken place with regards to where waste bins will be, how it will be sorted, composting, and how the staff will manage it.
Alejandro Valcarce added that Stephanie Gilman has been working with the DPW and a meting is scheduled to share observations of what they have seen at other schools.

Joshua Morse reviewed the conditions for the 5-58 site plan approval vote.
Discussion ensued and modifications to the wording were made by the group.

1. The Design Team should continue to take an integrated design approach to the building's design through its mechanical systems, envelope, floor to floor heights, ceiling heights and the height and extent of glass and glazing, methods of sun control, day lighting, electrical lighting, and sound control all to promote efficient performance of the building and reduce its overall energy consumption, consistent with both its purpose and context. This process should include life cycle cost analysis in the vetting of building systems.

2. The design team should continue to strive to meet, or exceed, our sustainability goals. This should include further study and evaluation of geothermal, on-site PV, and other methods of driving down our energy use intensity, as Newton strives to reduce its carbon footprint and pushes towards net zero buildings. The building will be heated and cooled using no fossil fuels on site. The building design and specifications should be developed in a practical manner that facilitates conversion to higher efficiency systems coupled with LCCA to drive our energy intensity down to achieve net zero.

3. The design team should continue to investigate site conditions to refine storm water management design options.

4. The design team should develop a site photometric plan to confirm adequacy of exterior lighting, and 3-D modeling to ensure that direct glare sources are appropriately cut off in response to the significant grade changes

5. All facades of the proposed building addition should be refined to address concerns over massing and buffering of the building from the abutting properties.

6. An image board of existing materials of the surrounding structures should be developed to inform the selection of exterior building components that will result in a contextually appropriate solution.

7. The traffic study and recommendations should be completed and presented to the DRC to ensure that the plans work well with the site distribution and pedestrian and bicycle safety, as well as the blue zone(s). The City should continue to explore options for off-site parking, satellite blue zones, and pedestrian and bike routes to account for the use of 191 Pearl street as future swing school space.

8. The design team should continue to study and refine the site accessibility features and access elements to simplify and optimize wherever possible, with a focus on the reduction of ramps in number and or length.

9. Maintenance vehicular access should be accommodated via the pathway leading from the parking lot to the basketball courts.

The Design review Committee votes to approve the site plan, building floor plans, and architectural schematics as submitted to the Design Review Committee and dated May 11th, 2022, with the conditions identified above. It is understood that the Public Buildings Department and Arrowstreet will continue to work with the Design Review Committee on the completion of the schematic design phase, and all future design phases.

Ellen Light asked when the group will see the schematic cost estimate
Joshua Morse stated that it will be shared with the group in roughly 6 weeks.

Ellen Light made a motion to approve the conditions outlined for 5-58 site plan approval.

Jonathan Kantar asked if an energy analysis has been completed.
Kate Bubriski noted that energy modeling had been done for all the systems proposed to provide backup for the LCCA.

Jonathan Kantar asked if it is totally comprehensive and factors in the demand load for the building.
Mr. Kantar expressed that he hopes the group is not putting out a budget cost estimate based on assumptions that we may not want to do noting that it may give people the wrong impression and may not be the building we want.
Joshua Morse noted that if we want to reduce radiant supplemental heat, it will drive down the cost on HVAC. The money saved may be better spent somewhere else.
Mr. Morse added that for the cost estimate, a basis of design is picked which gives a good ballpark estimate.

Ellen Light suggested tasking the cost estimator with incorporating add/alternate options on the cost estimate.
Joshua Morse noted that it is included in the LCCA and could be included in the cost estimate as well.
Ellen Light added that including it on the cost estimate could provide clarification that options are still available.

Joshua Morse noted that the cost estimate process is an iterative process which provides opportunities to save money and remove items that were not asked for.
Kate Bubriski added that the modeling done for LCCA does not include additional ECM's, noting that the point of diminishing returns, performance, the windows, etc. will occur at the end of Schematic Design or the beginning of Design Development.

David Gillespie seconded Ellen Lights motion to approve the conditions outlined for 5-58 site plan approval. No oppositions or abstentions, the item passed unanimously.

Discussion of Lincoln Eliot concluded at 8:28PM.

Meeting recording can be found on the project website at:
http://lincolneliot-necp-projects.com/meeting-recordings/

The next Lincoln-Eliot Design Review Committee Meeting is scheduled for June 15th, 2022 at 6:00PM via Zoom.

These notes will become part of the project record as written

To the best of my knowledge, these notes are a fair representation of the items discussed at the meeting.
Additional items or corrections should be brought to the attention of the writer.
Submitted by: Mark Krikorian