

Library Building Committee Design Subcommittee

September 13, 2023, 4:00 pm, on Zoom

Minutes

SLBC Design Subcommittee Members Present: Stephen Dallmus, Jeff Quackenbush, Mary Anne Antonellis, Lauren Stara and Andrea-Bono-Bunker

Guests: Matt Oudens, Porpla Kittisapkajon, Neil Joyce, Roger Hoyt, Penny Jaques, Molly Moss and Becky Torres, Sean Sullivan of Bala. Jack Risser and Justin Brown of Lam.

Review minutes from the September 1, 2023 meeting.

Stephen made a motion to approve the minutes from September 1st, Jeff seconded the motion, and the minutes passed unanimously.

Sean Sullivan from Bala joined the meeting to present the current plans for the HVAC system and controls and lighting controls.

Project Goals

- net zero carbon building
- minimize life cycle costs
- ease of maintenance and use
- mitigate the potential for spread of pathogens
- create a building management system for HVAC with intuitive navigation
- intuitive lighting controls

Ventilation

Energy Recovery Ventilation (ERV) system will provide a minimum of three air exchanges per hour and have a minimum of MERV 13 filters.

ERV provides fresh air and exhaust with filtration for the building including the restrooms and janitor closet and general building exhaust.

Heating and cooling

Variable Refrigerant flow (VRF) heat pump system for heating and cooling. There will be electric cabinet heaters in some spaces – vestibule, restrooms, janitor's closet. IT, electric and water service rooms will have VRFs since they have cooling needs.

The primary heating and cooling will be done by ducted VRF fan coil unit in the ceiling above each space with wall mounted temperature sensor. The sensors will be adjustable in staff spaces and locked in public spaces. The VRFs will also have MERV 13 filters.

Meeting room will have a CO2 sensor.

HVAC controls

The HVAC controls will be a VRF and ERV manufacturer controls. There is one per unit and a system wide control system. The system wide control has alarms for various malfunctions.

The HVAC controls can be controlled remotely with an added software.

Brief discussion about benefits of using the VRF system – it dehumidifies air as it comes into the building.

Discussion about being able to turn off systems during seasons when we would be inclined to open windows.

The ERV uses a small amount of energy and has a fan only setting that can be used when we want air circulation and filtration without heating or cooling.

Bala recommends running the fans when the windows are open if we want the ventilation and filtration by the ERV.

Discussion about the number of operable windows. We would like to have some operable windows in all of the spaces.

Lighting Controls

Each space will have switches that are connected to a central lighting control panel which will be used to program lighting. Remote access is possible. There will be daylight sensors and vacancy sensors.

Andrea mentioned that some libraries have proprietary lighting controls systems from companies that have gone out of business making repair and maintenance of the systems challenging. Discussion about strategies to prevent that kind of problem from happening here.

Currently there is not a plan to have a fire alarm system.

Lauren asked about vacancy sensors and recommended that electrical outlets not have vacancy sensors.

Code requires that we have some switched receptacles. Lauren suggested that if code requires it, the receptacle be a duplex, with one clearly labeled receptacle that always has power. We want to avoid having patrons think they are plugged in when they are not.

Lauren raised questions about the location of the HVAC systems which will be in the ceiling and what the need for filter replacement will be and how the filters will be accessed.

Features such as vacancy sensors and daylight sensors are building code for public buildings. There will be operable switches in each area.

Meeting room lighting – there will be multiple zones to accommodate various uses of the room. We can have preset schemes that can be chosen depending on the use of the room. In some libraries, lighting controls can be built into a podium.

Energy Model

We will have an updated energy model by the beginning of October. We are looking at adding two inches of insulation to the roof and comparing its projected performance to adding more PV on the roof.

All duct work, ERVs and VRFs will be in the ceiling above the small rooms. There will be trench heating in a couple of areas near larger windows.

There will be thirteen zones for the VRF systems. They will all connect to two outdoor condenser units. The low temp rating for the condenser units is minus 22.

Stephen asked if in the energy modeling we could consider added insulation in the walls as well as the ceiling. Matt asked if it is possible to evaluate performance of all rigid insulation compared to a combination of batten and rigid insulation in the energy modeling.

Jeff asked if access to the units in the ceilings is through the ceiling. There will be acoustic ceiling tiles that can be removed. The person servicing the unit will need a step ladder.

Review of developing plans

Plan revisions – an exterior door is acceptable for the electrical room eliminating the need to have access through the storage and freeing up space on the meeting room wall. Discussion of landscape plan in the vicinity of the exterior door pictured.

Andrea is concerned about the exterior door, location of control panel, and electrical panels. The electric panels will stay in the electric room. The control panel could be located in the storage closet.

Andrea is concerned about work flow and the exterior door to the electrical room will be inconvenient for staff. Mary Anne is willing to deal with the minor inconvenience in the interest of allowing more gallery space in the meeting room.

For code compliance the electrical room door must be a 180, out swinging door.

Discussion about locating the electrical and HVAC control panel in the staff room instead of storage.

Discussion about back-up power and the generator. Code requires a hook-up for a mobile generator. This will be the method for providing emergency power. We can consider adding a permanent generator as an add on option. Lauren mentioned the benefit of a generator in another town that had a four-day power outage. There was discussion about companies that provide roll-up generators. This conversation can continue after we get the DD pricing. Perhaps we can carry it through to bidding as an add/alternate. The electrical room needs to be larger to accommodate a permanent generator. Dominik will check with their electrical consultant to determine the amount of space needed to accommodate a permanent generator.

Neil mentioned that the control panels for electrical and HVAC will not be accessible to users of the meeting room off hours if located in the staff office.

Justin Brown and Jack Risser from Lam joined the meeting to discuss lighting options for the project.

Broad stroke lighting design avoids the use of hanging fixtures. It focuses on an architectural lighting solution instead of hanging hardware solution.

Indirect continuous linear cove uplight fixture along the center wall that reflects off the ceiling.

Task lighting for shelves and seating areas will include linear, cantilever fixture over the wall shelving and small, discrete track lighting on the ceiling to provide direct lighting for shelving in the center of the rooms.

LED lighting that uses very little energy.

The lighting should work for each of the ceiling systems under consideration.

They are still looking at the types of fixtures for the project. The goals are to provide adequate lighting while avoiding glare.

They showed an image of the exterior of the building with a beautiful lantern effect.

Lauren and Andrea shared that in other libraries, the staff is having trouble seeing the lower shelves in some areas.

Lam will use photometric data to determine how much light is on each area. The data will be used to position fixtures to ensure appropriate lighting for the spaces. The track lighting allows for some flexibility as the fixtures can be adjusted.

Discussion about ceiling height (16 feet) being a concern for accessing/adjusting fixtures.

Stephen asked about windows pictured above the shelving. The views pictured in the slides are views we have not seen before and there are clearstory windows over some shelving.

Mary Anne asked about availability of replacement bulbs and how often they would need to be replaced.

Lam explained that this is architectural lighting with integrated LED technology. It is not serviced in the way older technology is serviced. The base output is 50,000 hours to 70 percent of the original output. All fixtures have a five-year warranty. Maintenance will be minimal.

The lights running along the book cases are at 7 feet above the finished floor and they stick out about a foot off the wall.

Matt asked about emergency lighting. Lam and Bala will coordinate emergency lighting using battery backup. The track heads cannot be used because they can be removed. Emergency lighting will be designed according to code.

Lam needs to know the emergency egress requirements before designing emergency lighting outside of the building.

Discussion about lighting concerns at other projects and strategies to ensure we have appropriate lighting.

Plan revisions

Circulation desk will include a book return slot. Self-checkout to the right of the circ desk. A printer counter and a book cart behind the desk. Three high shelves behind the desk and inside the staff room.

Andrea is concerned about the visual proximity between the computer stations and the staff sit/stand desk. There is a glass wall between them but we will continue to study it.

The water service room and janitor's closet have been combined. We are still waiting to confirm the exact size needed. This might allow more space for storage off the staff workroom.

Library of Things

The wall across from the entrance, to the left of the circ desk, has space for Library of Things (LOT) to the right, browsing to the left. A line of life jackets up high – the ceiling is nine feet.

Lauren suggested that the top two shelves on the browsing and LOT area could be cabinets to provide storage.

Discussion about best strategies to display life vests and what to do if the life jackets come back wet. Mary Anne is not concerned about wet life jackets. They dry quickly and it is not a big issue.

Mary Anne and Dominik have a meeting later in the week to go over fine details.

Meeting room windows

The windows about the door and on west corner have been eliminated.

The landscape architect and OEA will be visiting next week to look at the site now that the building has been staked out. We will need to make plans for wetland remediation at the site.

Discussion about the data needed from the well installation. Neil and Dominik are planning to sort out the well details.

Question about square footage of the roof. 4,992. Question about roof area over the teen room and staff work room and has extending the walls of these areas to the roof line been considered? It has and OEA has decided that it is better to have lower roofs for these areas.

Jeff asked to see the elevations that showed the clear story windows on the west side of the children's room. They are considering adding clearstory windows on the west wall of the adult room too.

The public forum will be September 26th at SES.

Plans are in the works to have an NOI ready to submit to Con Com by the beginning or middle of October.

Next design subcommittee meeting is noon on September 27th.

Respectfully submitted,

Mary Anne Antonellis