

Positioning Downtown Seattle as a Growing Center for Life Sciences & Global Health Research





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Founded in 1988, BERK is an interdisciplinary strategy and analysis firm providing integrated, creative, and analytically rigorous approaches to complex policy and planning decisions. BERK's team of strategic planners, policy and financial analysts, economists, cartographers, information designers, and facilitators work together to bring new ideas, clarity, and robust frameworks to the development of analytically-based and action-oriented plans.

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POSITIONING DOWNTOWN SEATTLE AS A GROWING CENTER FOR LIFE SCIENCES & GLOBAL HEALTH RESEARCH

Strategic Situation Assessment

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INTRODUCTION

Background and Purpose

The Downtown Seattle Association (DSA) and the City of Seattle's Office of Economic Development (OED) are working to help strengthen the Life Sciences and Global Health clusters in the downtown neighborhoods of South Lake Union and the Denny Triangle.

A substantial base of the Puget Sound region's Life Sciences and Global Health organizations and employees are located in South Lake Union and the Denny Triangle. South Lake Union, in particular, is designated as a *Global Health Innovation Partnership Zone (IPZ)* — one of twelve designated IPZs in the state. For a map of the zone, see Attachment A. This designation could be a useful tool in the future, but currently does not come with additional state resources. Overall, these neighborhoods have already benefited from significant private and City investment, and this effort seeks to build upon their success.

The purpose of this Situation Assessment is to identify the current challenges and opportunities for growing and sustaining a vibrant hub of global health and life sciences research in these downtown neighborhoods, so that the City and DSA can develop a policy agenda to make improvements.

Methodology

BERK employed the following methods to solicit input from stakeholders and identify the key issues and opportunities of the South Lake Union and Denny Triangle neighborhoods:

- **Facilitation of a Global Health and Life Sciences Stakeholder Meeting.** As a part of the DSA's larger strategic planning process, BERK facilitated a discussion of the neighborhoods' strengths and challenges with representatives from Global Health, Life Sciences, and real estate stakeholders.
- **Interviews with Stakeholders and Experts.** BERK conducted phone interviews between October and December 2010 with Global Health, Life Sciences, and specialized real estate representatives to discuss the strengths and challenges of the neighborhoods as a center for research facilities. In addition, BERK interviewed policy experts at the City of Seattle to further define and explore challenges identified.
- **Research.** BERK conducted additional research regarding City planning and projects related to the neighborhoods to better describe the current situation and future efforts.

For a list of stakeholders consulted and interview questions, see Attachment B and Attachment C.

SUMMARY OF FINDINGS

Interviews with thirteen stakeholders and the DSA's Strategic Planning meeting uncovered several topics and issues of exploration. They are presented in Exhibit 1, in the following categories:

- **Key Infrastructure Needs:** There are current problems associated with the neighborhoods' electrical power and transportation systems, which affect current tenants and could constrain future growth. These projects are large, high impact investments to infrastructure, and many would be new future efforts
- **Regulatory Issues:** There are building code and zoning changes that would enable greater flexibility to address research facility needs and development.
- **Opportunities for Place-Making:** There is an opportunity to leverage the concentrated presence of Global Health and Life Sciences organizations by featuring their presence in the neighborhood's identity.
- **Other Issues Related to the Quality of Life in the Neighborhoods:** In addition, stakeholders identified neighborhood quality of life issues that can affect Global Health and Life Sciences organizations' ability to recruit and retain top research talent.

Exhibit 1
Summary of Findings

Key Infrastructure Needs

Electrical Power Capacity and Reliability. The reliability of power is currently a problem in South Lake Union. Additional power capacity needs are also anticipated in the next four to eight years.

Transportation Service and Improvements. There is a fundamental need to define the South Lake Union and Denny Triangle neighborhoods as a transportation node, rather than a pass-through area. Components include: transit enhancements, redefining the ORCA Passport boundary, ensuring bicycle and pedestrian mobility, parking availability, and mitigating Mercer Corridor Project effects.

Regulatory Issues

Building Code Restrictions. Current restrictions on hazardous materials severely constrain the development and operation of biotech laboratories above the fourth floor of a building.

Zoning. Through an up-zoning process, the City is currently working with stakeholders to modify zoning to be amenable and flexible to facility needs.

Opportunities for Place-Making

Neighborhood Identity. Signage and way-finding can create a campus-like feel to the neighborhoods and reinforce the sectors' interconnections and collaborations.

Public Expression of Creativity. Activating public spaces through art enhances the identity of the neighborhoods and makes the creativity of science more accessible to the public.

Enhancement of Neighborhood Connections. Connecting the neighborhoods via bicycle and pedestrian routes and strengthening organizational relationships will leverage the neighborhoods' central location.

Other Issues Related to the Quality of Life in the Neighborhoods

Safety. The atypical schedules of Life Science and Global Health researchers make safety a neighborhood priority. No incidences were cited, but proper policing and timely response by the West Precinct should be continued.

Housing. Affordable, family housing near Life Sciences and Global Health organizations is a desirable recruitment and retention asset. The City is on track to deliver its overall target share of affordable housing.

Childcare and Schools. The presence of childcare and schools enhances the family-friendliness of the neighborhoods. Daycares are present, but there is no downtown public school.

Source: BERK, 2010.

DETAILED DESCRIPTION OF FINDINGS

Key Infrastructure Needs

Current problems with the neighborhoods' electrical power and transportation systems affect existing tenants and could constrain future growth.

Electrical Power Capacity and Reliability

The majority of stakeholders interviewed cited significant challenges with electrical power in the South Lake Union neighborhood in particular. There are two components to the electricity challenge: reliability and capacity.

Power Reliability. Unlike other areas of downtown, South Lake Union is not on an underground electrical network, but has overhead power distribution. This method of distribution is less reliable than a network approach because power lines are out in the open, and are thus more susceptible to disruptions as a result of weather or accidents. Network systems also have more built in redundancies, which further enhances reliability.

Power reliability is particularly important to life sciences and global health research; a lack of refrigeration or changes in a lab environment can be devastating to research activities. Research facilities in South Lake Union have back-up power generators, which have been employed on multiple occasions.

A related, but less frequently cited problem, are power surges. These spikes have resulted in facility malfunctions, which can affect research activities and result in elevator stoppages.

Current Efforts: A number of South Lake Union stakeholders, including representatives from Vulcan, the University of Washington, Amazon, the Fred Hutchinson Cancer Research Center, and the Bill and Melinda Gates Foundation, among others, have developed a proposal for the development of a South Lake Union spot network in conjunction with Seattle City Light. The spot network configuration would provide a high-reliability power distribution system. Facilities must be "network ready," meaning that they must have vault space and service entrances to receive network service. South Lake Union has buildings that are and are not "network ready."

The proposed spot network project has two implementation phases, the first corresponding with the completion of a new substation (see below). Medium total project cost estimates are \$108.7 million, according to a City of Seattle briefing and presentation to stakeholders conducted on June 15, 2010. The project proposals calls for capital costs and ongoing annual operation and maintenance costs equaling \$175,000 to be recovered by the end of a 25-year bond issue, with bond payments covered by incremental rate increases for medium and large customers. It is estimated that these rates would be 17-22% higher than non-network rates. Stakeholders petitioned the City for this network proposal in a July 2010 letter to Seattle City Light. (See Attachment D).

As a response to these efforts, in August Seattle City Light agreed to invest in power system upgrades as a part of the Mercer Corridor project, which would accommodate network accessibility to the Fred Hutchinson Cancer Research Center and the Gates Foundation. However, as of November, the proposed network project is not in Seattle City Light's six year capital improvement plan and no other action has been taken.

Power Capacity. Given growth and overall system capacity, Seattle City Light, developers, and organizations located in the South Lake Union and Denny Triangle areas acknowledge that more overall power capacity will be needed in the future.

Current Efforts: Seattle City Light has purchased land (the old Greyhound site on Denny Way) for the location of a new power substation, but construction has not begun. Completion of the substation is currently estimated in 2017-2018; some stakeholders have expressed concern that demand may warrant a faster timeline. The substation will be paid for by the Citywide customer base, as the substation will benefit the City's overall power system.

Transportation Service and Improvements

Stakeholders expressed a number of concerns regarding transportation and overall access and mobility to, from, and within the South Lake Union and Denny Triangle neighborhoods. At the core of transportation-related issues is the fundamental need to define the area as a transportation node and as a single functional unit, around which to build a comprehensive multi-modal transportation network.

Historically, these neighborhoods have been perceived as “pass-through” areas. However, with the growth of employment, major businesses, and institutions the area has become a destination, which current transit configurations do not reflect. Dimensions of the transportation issue are described below.

Transit. South Lake Union and Denny Triangle are serviced by King County Metro bus routes and the Seattle Department of Transportation's (SDOT's) Streetcar.

- King County Metro bus routes in the neighborhoods include: #3, #4, #5, #6, #16, #17, #23, #25, #26, #28, #30, #39, #42, #66, #70, #71, #72, #73, #98, and #358.
- The Seattle Streetcar connects downtown with South Lake Union, in a 2.6 mile route with eleven stops. Stops in the South Lake Union and Denny Triangle areas include: Westlake and Denny, Terry and Thomas, Terry and Mercer, Lake Union Park, Fairview and Campus Drive, Westlake and Mercer, and Westlake and 9th Avenue.

For maps of existing transit routes, see Attachment E for the Seattle Streetcar and the King County Metro website.¹

As the number of employees in the area grows, there is increasing demand for more and different transit services. In South Lake Union alone there is an employment population of 20,000, which is expected to grow to a total of 30,000 in the next five years.

Stakeholders expressed the desire for the following changes to transit service in the area:

- More frequent service: During peak commute times, decreased headways are desired;
- Additional East-West transit service: East-West travel in the City is known to be troublesome. The Streetcar provides only North-South Transit. Denny Way is the primary East-West bus route corridor.
- More transit connections and routes within the South Lake Union neighborhood: The majority of main transit routes run along the bordering corridors of Denny Way, Dexter Avenue North, and

¹ See http://metro.kingcounty.gov/tops/bus/psystem_map.html

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Eastlake Avenue East. There are, however, also routes running on Westlake Avenue North, Terry Avenue, and Fairview Avenue North, and Mercer Street.

- Expanded Streetcar connection to the UW: Proposed expansion to the University District would better connect the Life Sciences and Global Health organizations to the UW's main campus.

Current Efforts:

- There are efforts underway maintain and enhance transit services provided by King County Metro and SDOT through private contributions from major employers in the area. This proposal is a response to budget realities at the City and county level and an immediate need to maintain and expand transit in the South Lake Union area. The proposed transit service would include maintaining enhanced afternoon/evening peak bus services on Routes #8 and #70 and expanding peak hour Streetcar service by decreasing headways from 15 to 10 minutes. Private contributions from major employers are currently estimated at \$60,000 a year.
- A planning effort is underway to enhance mobility between the South Lake Union and Queen Anne Uptown neighborhoods. On November 4th, a kick-off open house launched this community effort, sponsored by the South Lake Union Chamber of Commerce, Queen Anne Uptown Alliance, South Lake Union Community Council, and the Queen Anne Chamber of Commerce, to develop a plan to define ways to better connect these neighborhoods and incorporate multimodal options into a comprehensive transportation vision.

ORCA Passport Program. Current zone boundaries for the ORCA Passport Program, an employer commuter benefit program, do not reflect existing neighborhood boundaries. The Passport Program is organized into 15 zones within the ORCA region; the Lake Union and Queen Anne Zone Southern boundary is Denny Way. Employers on the Southside of Denny Way (such as PATH) belong to the Belltown region, which has significantly higher fees, as shown in Exhibit 2.

**Exhibit 2
ORCA Passport Zones and Pricing**

Regional Zone Name	Zone Boundaries	Price Per Card: New	Price Per Card: Renewal
Lake Union & Queen Anne	Mercer St—Queen Anne Ave N—Ship Canal/Lake Union—14 th Ave—Howe St—11 th Ave—Prospect St-14 th Ave—Denny Way—Broad St—Western to Stewart St—Waterfront—Mercer St Zip codes: 98102, 98109, 98121 (west of Western Ave.)	\$264.70 Incentive: \$15 per card	\$355.18
Belltown	Northern boundary (Denny Way), east and south (Stewart St), western boundary (Western Ave) and north and west (Broad St) Zip codes: 98121 (except Lake Union area west of Western Ave.)	\$462.42 Incentive: \$30 per card	\$493.54

Source: King County Metro, BERK 2010.

The price difference reflects higher transit usage in the Belltown region overall. For employers on the South side of Denny Way, however, transit access and usage is more comparable to the Lake Union and Queen Anne zone.

Current Efforts: Commute Seattle and PATH have had an initial discussion regarding the ORCA Passport Program boundary.

Pedestrian and Bicycle Mobility. The importance of pedestrian and bicycle mobility to, from, and within the area was emphasized by some stakeholders, reflecting the commute patterns and lifestyle preferences of current and potential future employees. Specific desired improvements mentioned in interviews included:

- **Safe connection to the Lake.** Mercer Street separates much of the South Lake Union and Denny Triangle neighborhoods from direct access to Lake Union. A safe, unobstructed corridor for pedestrians and cyclists would improve access and connections to this valuable neighborhood asset.
- **Trail linkages.** The Cheshiahud Lake Union Loop was identified by some stakeholders as a great amenity, connecting the neighborhood to open spaces and parks and enhancing accessibility for pedestrians and cyclists. Continued support and improved signage for the trail, particularly in the Eastlake area, was noted as desirable. Support was also voiced for realizing the Lake to Bay Loop, which would connect Lake Union, the Seattle Center, and Elliott Bay.
- **Pedestrian safety.** As employment and pedestrian traffic grow in the area, a few stakeholders expressed concerns regarding pedestrian safety and speed limits of area streets.

Current Efforts: Since 2007, the Seattle Parks Foundation and a number of stakeholders, including the City of Seattle, have been working to integrate the Lake to Bay loop concept into existing transportation planning efforts.

Ongoing construction related to Mercer and SR 99 projects. A number of stakeholders expressed concerns regarding the neighborhood impacts of the Mercer East, West, and SR 99 corridor infrastructure projects. The Mercer East project is scheduled for completion by 2013, and Mercer West construction is scheduled to end in 2014. Pedestrian and bicycle improvements for streets off Mercer are included in the project. Full reconnection with the street grid is anticipated with the completion of the North Corridor and the bored tunnel, currently scheduled for 2016.

Parking. Parking availability was cited as an emerging issue in the area as the neighborhood continues to gain traction as an employment, residential, and lifestyle center. While acknowledging that limited parking availability is a sign of progress in the area, the limited availability does create challenges for some of the research institutions that need to accommodate daily visitors not able to rely on other modes of transportation. Concern was also expressed that parking requirements may need to be reviewed as part of the current up-zoning process.

Regulatory Issues

Hazardous Materials and the Building Code

It was noted that the City of Seattle's Building Code restrictions of hazardous materials on higher level floors severely constrains the development of biotech laboratory facilities above the fourth floor. Given land availability and cost in the South Lake Union and Denny Triangle neighborhoods, vertical expansion of a facility is less cost-prohibitive than horizontal expansion. With the City's existing Building Code, however, the increasingly stringent allowable amounts of hazardous materials as building height increases acts to limit the expansion capacity of lab facilities.

Table 414.2.2 in the City’s 2006 Building Code dictates the quantities of hazardous materials allowed by building floor level. These restrictions are measured as a percentage of the maximum allowable quantity, and are defined by “control area,” which is an area (or multiple areas on the same floor) separated by either a fire barrier or a horizontal assembly. As Exhibit 3, (a representation of table 414.2.2) below indicates, the percentage of the maximum allowable quantity per control area *and* the number of control areas allowed decreases rapidly as the floor level increases. While one floor above grade plane allows for four control areas with 100% of the maximum allowable quantity per control area, four floors above grade plane (the fifth floor) only allows for two control areas with 12.5% of the maximum allowable quantity per control area.

**Exhibit 3
Allowable Hazardous Materials per Control Area by Building Floor**

Floor Level (Above/Below Grade Plane)	% of Maximum Allowable Quantity Per Control Area	# of Control Areas Per Floor
Higher than 9	5%	1
7 to 9	5%	2
6	12.5%	2
5	12.5%	2
4	12.5%	2
3	50%	2
2	75%	3
1	100%	4
-1	75%	3
-2	50%	2
Lower than -2	Not Allowed	Not Allowed

Source: Seattle Building Code, 2006; Berk, 2010

* Although the Building Code has been amended since 2006, this table provides the most current information

There are examples of other code specifications that allow for greater flexibility regarding laboratory space, while maintaining safety precautions. For example, the State of California revised its building code to include a lab-specific occupancy code. A draft of the revised code language can be found in Attachment F.

Current Efforts: No current efforts were identified, but this is an area for further exploration.

Zoning

Interviews with stakeholders stressed the need for code flexibility given the mix of uses and limited supply of land in the area. Stakeholders cited previous successful efforts working with the City to conditionally raise the height limits on buildings to accommodate needed building mechanical equipment.

Current Efforts: The City is in partnership with SLUFAN (The South Lake Union Friends and Neighbors Community Council) to identify strategies for using height and density in the neighborhood to achieve Neighborhood Plan goals ranging from mobility, affordable housing, open space, and other public needs. Using the recently completed Urban Design Framework, the planning process has

identified several zoning change alternatives that are currently being studied as part of the Height and Density EIS. Stakeholders noted that the process has been productive thus far.

Opportunities for Place-Making

Stakeholders expressed interest and enthusiasm in leveraging the unique characteristics of the neighborhood and the organizations there to create a sense of place and identity.

Creating a Campus-Like Feel

The concentration of global health and life sciences organizations is a key asset to the region, City, and neighborhoods. There is an opportunity through signage and way-finding to visually call out the uniquely concentrated presence of these organizations and to develop a neighborhood identity and cohesion. This would reinforce the sectors' interconnections and collaborations by creating more of a campus-like, hub feel to the neighborhoods. Specific examples of ideas to help create a sense of place include: banners that identify global health and life sciences organizations and an interactive science trail or route through the neighborhoods.

Expressing the Creativity of Science in Public Places

Another method of creating a sense of place is by activating public spaces. Some stakeholders identified the intense creativity taking place in the research facilities of the global health and life sciences organizations, but acknowledged that this type of creativity was less accessible to a non-science person or the general public. Efforts to bring this creativity out of the buildings and into public spaces via public art installations and other interactive learning opportunities would further strengthen a sense of place and showcase the sectors.

Enhancing Connections with Other City Assets and Neighborhoods

South Lake Union and Denny Triangle's location, with proximity to Lake Union, downtown, Seattle Center, and other attractions, was cited as a key strength that could be further leveraged. There are opportunities to better physically connect the neighborhoods and foster connections between organizations. Examples include: enhancing physical connectivity to Seattle Center and Elliott Bay through the Lake-to-Bay Loop Trail; forging stronger relationships with arts organizations in the Seattle Center to activate public spaces; and collaborating with the Pacific Science Center to encourage science education opportunities for children, teens, and the public.

Other Issues: Related to the Quality of Life in the Neighborhoods

During the course of stakeholder interviews, a number of quality of life issues were raised. Stakeholders identified that these issues particularly affect the ability to recruit and retain talent at research organizations located in the South Lake Union and Denny Triangle neighborhoods.

Safety

Given the flexible and often atypical schedules of researchers, the importance of public safety in the neighborhoods was emphasized by some stakeholders. No specific incidents were cited, but general concerns regarding the neighborhoods late at night and during the early morning were expressed. The City's neighborhood policing plan, which redraws the geographic deployment of police beats, and the close proximity of the West Precinct at 8th Avenue and Virginia will help enable the Seattle Police Department to respond to any safety issues in a timely fashion.

Housing

The building and preservation of affordable housing has long been identified as a goal for the community and is reflected in both the South Lake Union Neighborhood Plan and the current Urban Design Framework. Interviews with representatives of research institutions also stressed the importance of maintaining affordable, family housing close to their institutions as a comparative advantage in their recruiting efforts to land talented researchers and staff. The advantage of live-work proximity is put into sharper relief in the bio-sciences field due to the unique hours that researchers often work, dependent on the needs of their lab work.

While South Lake Union is on track for delivering its overall target share of affordable housing as specified in the City's housing plan, there remains an open question on whether there is an adequate supply of housing options of interest to the research organizations. Much of the current stock of subsidized affordable housing is directed at specific at-risk populations, with approximately 700 of the 1200 affordable units dedicated to these causes.

Current Efforts: The City of Seattle is using all of its tools to deliver affordable housing units in South Lake Union. Beyond the Seattle Housing Levy, the multi-family property tax exemption, incentive zoning, and transfer of development rights have been used in the area. Conversations with the Seattle Office of Housing also suggested that South Lake Union would be a prime area for employer-assisted housing programs given the concentration of large employers. Employer assisted housing programs would allow employers to provide down payment or rental assistance to employees as part of a recruitment or retention program.

Presence of Daycares and a School

A few stakeholders noted that a greater presence of daycares and a school in the downtown area would make the neighborhoods more family-friendly and family-oriented. It was noted that, in the past, there was a shortage of daycares in the area, and with Amazon's increasing presence in the neighborhood demand may again exceed the supply of childcare services.

ATTACHMENTS

Attachment A: South Lake Union: Global Health Innovation Partnership Zone Map

Attachment B: List of Stakeholders Consulted

Attachment C: Stakeholder Interview Questions

Attachment D: July 2010 Spot Network Proposal Letter

Attachment E: Seattle Streetcar Map

Attachment F: State of California Draft Revised Occupancy Code

**Attachment A:
South Lake Union: Global Health Innovation Partnership Zone Map**



Attachment B: List of Stakeholders Consulted

BERK consulted with stakeholders via a Global Health and Life Sciences Strategic Planning Meeting on October 28, 2010 and via interviews conducted in October and November 2010.

Global Health and Life Sciences Strategic Planning Meeting

Lisa Cohen, Director, Washington Global Health Alliance

Jim Gore, Vice President, Pacific Northwest Diabetes Research Institute²

Scott Rusch, Vice President of Facilities and Operations, Fred Hutchinson Cancer Research Center

James Hendricks, President, Seattle Children's Hospital

Dean Wagner, Senior Manager of Financial and Strategic Services, Group Health Research Institute

Tim McBride, Executive Director of Lab Services and Operations, Alexander Real Estate

John Slattery, Vice Dean of Research and Graduate Education, University of Washington

Lisa Verohovek, Community Relations Manager, The Gates Foundation

Interviews

Life Sciences and Global Health

Jim Gore, Vice President, Pacific Northwest Diabetes Research Institute

Randy Hassler, Vice President of Operations and Finance, Seattle Biomedical Research Institute

Doug Palm, Director of Global Facilities, PATH

Chris Rivera, President, Washington Biotechnology and Biomedical Association

Martin Simonetti, CEO, VLST

Eric Walker, Vice President of Corporate Services, PATH

Real Estate

Sharon Eschbach Coleman, Director of Real Estate, Vulcan Real Estate

Hamilton Hazlehurst, Real Estate Development Manager, Vulcan Real Estate

Roy Mann, Coldwell Banker Real Estate

Tim McBride, Executive Director of Lab Services and Operations, Alexander Real Estate

Policy

Roque Deherrera, Business Services Manager, City of Seattle Office of Economic Development

Ben Noble, Director of Central Staff, Seattle City Council

Laura Hewitt Walker, Policy and Program Development, City of Seattle Office of Housing

² Note: Jim Gore is now Chief Operating Officer, Puget Sound Blood Center Research Institute

Attachment C: Stakeholder Interview Questions

Introduction

The Downtown Seattle Association (DSA) has been working together with Seattle's Office of Economic Development (OED) to help strengthen the Life Sciences and Global Health clusters in downtown, specifically in the neighborhoods of South Lake Union and the Denny Triangle Downtown. As a part of this effort, BERK has been asked to interview stakeholders and develop a strategic assessment to identify areas of improvement to enhance Downtown Seattle's competitiveness and position as a vibrant center for Life Sciences and Global Health research.

Thank you for your participation.

Questions

1. When siting a research facility, what three to five factors are most important?
2. What are the advantages of locating downtown in the South Lake Union and Denny Triangle Downtown neighborhoods?
 - *If you are located there already, what are the differentiating factors of the area?*
3. What are current constraints or problems with: (a) having a research facility in this area? (b) locating a research facility in this area? (c) expanding a research facility in this are?
4. What else can be done to foster downtown as a center for Global Health and Life Sciences research? (services, public policy, wayfinding, etc.)

Attachment D: July 2010 Spot Network Proposal Letters

Sent: Friday, July 23, 2010 2:07 PM
To: Jorge Carrasco
From: Hamilton Hazlehurst [HamiltonH@vulcan.com]
cc: Mike McGinn; Daryl Smith; Ethan Raup; Kelly Enright; Phil West; Michael Clark
Subject: South Lake Union Electrical Spot Network-Customer Letter of Commitment

Dear Mr. Carrasco,

Attached please find a letter of commitment jointly signed by future customers of the South Lake Union spot network. Under separate cover we understand that the Bill & Melinda Gates Foundation has sent Seattle City Light a similar letter.

With these commitments in hand we urge your support in moving forward the request to the Mayor and City Council for approval of the capital funding necessary for the design and construction of the network project to proceed. We also ask that you provide approval of the change orders needed to include network infrastructure in the Mercer East project.

Thank you for your consideration of this important initiative.

Hamilton Hazlehurst
Vulcan, Inc
Real Estate Development Manager

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July 23, 2010

Jorge Carrasco
Superintendent
Seattle City Light
City of Seattle
P.O. Box 34023
Seattle, WA 98124-4023

RE: South Lake Union Electrical Spot Network

Dear Mr. Carrasco,

In response to the letter from Kelly Enright, Seattle City Light's Customer Care Director, dated July 6, 2010, we the undersigned property owners and customers in buildings in the proposed North Downtown (NODO) Spot Network area hereby offer our preliminary commitments to seek electrical service from the Network when it becomes available. These commitments come with the following understanding:

- Spot Network service will generally have the features and benefits described to participants in the June 15, 2010 meeting, and as summarized in the July 6 letter and attached power point presentation.
- Costs are expected to fall within the range of construction cost estimates indicated within the power point with a medium total project cost anticipated to equal \$108.7M.
- Total spot network capital costs and on-going annual operation and maintenance costs totaling \$175K will be recovered by the end of a 25 year bond issue through Medium and Large Customer payment of incremental costs above overhead radial service that would have been provided at the time the network service becomes available. Spot network rates will be equal to or less than network rates in the downtown area at the time of network service delivery.
- Network service will be available in 2 phases, the first coming in 4 to 5 years in conjunction with completion of the new NODO substation.
- The spot network will require change orders to the Mercer East project which will enable network connections to both Fred Hutchinson Cancer Research Center and the Bill & Melinda Gates Foundation.

With our commitment to future spot network service in the NODO area, we respectfully request that Seattle City Light move forward with a request to the Mayor and City Council for approval of the capital funding of the design and construction of the network project. We also ask that approval be given to the Mercer East project change orders needed for timely integration of the network infrastructure.

Thank you for your support of the spot network which will provide the reliable electrical service that is vital to the success of our respective businesses.

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Sincerely,

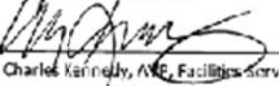
Fred Hutchinson Cancer Research Center & Seattle Cancer Care Alliance

By: 
Scott Raach, V.P. Construction & Operations


Amazon Corporate LLC

By: 
John Schoettler, Vice President

University of Washington

By: 
Charles Kennedy, A/E, Facilities Services

Group Health Cooperative

By: 
William D. Buggs, Executive Director Administrative Services Division

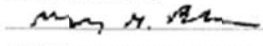
Vulcan Inc.

By: 
Ada M. Henning, Vice President

Alexandria Real Estate

By: 
Timothy McOrino, LEED, AP, AVP Lab Services & Operations

The Blume Company

By: 
Gregory E. Blume, Chief Operating & Financial Officer

ZymoGenetics

By: 
Damon Harney, Senior VP, Human Resources & Corporate Services

cc: Mayor Mike McGinn
Deputy Mayor Darryl Smith
Ethan Raup, Director of Policy and External Affairs
Council Member Bruce Harrell

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Superintendent Jorge Carrasco
Seattle City Light
700 5th Avenue, Suite 3200, P.O. Box 34023
Seattle, WA 98124-4023

Dear Superintendent Carrasco,

As follow up to our previous letter, and in response to the letter from Kelly Enright, Seattle City Light's Customer Care Director, dated July 6, 2010, we send this to provide a written expression our intention to participate in the Spot Network, in the event of its realization. The Bill & Melinda Gates Foundation is excited about the work Seattle City Light has undertaken with respect to this project and looks forward to utilizing, once available, a reliable network power system on our new campus. As you have described, it is our understanding that the Spot Network service will include the - features and benefits described to participants in the June 15, 2010 meeting, which were also summarized in the July 6 letter with attached power point presentation.

We appreciate Seattle City Light's visionary leadership in bringing network power not only to the foundation's own campus, but also to the remarkable confluence of biotech research institutions in this area for whom clean, reliable power is a critical concern. We support your commitment to continued development of the network's design and construction, and look forward to a timely integration of the network infrastructure.

Thank you for your support of the Spot Network.

Sincerely,



Martha Choe

Chief Administrative Officer

cc. Kelly Enright, Seattle City Light

Attachment E: Seattle Streetcar Map



Attachment F: State of California Draft Revised Occupancy Code

[Source: Tim McBride, Alexandria Real Estate]

Chapter 2 Definitions

202 Laboratory. A room, building or area where the use and storage of chemicals are related to testing, analysis, teaching, research or developmental activities.

SECTION 443

GROUP L Laboratories

443.1 General. Laboratories may be constructed as Group B or Group L Occupancy. Group L Occupancies having quantities of regulated hazardous materials not in excess of the maximum allowable quantities listed in Tables 443.1(1) and 443.1(2) and not classified as Group B Occupancy shall comply with this section.

443.2 Definitions

[B] LABORATORY SUITE. A laboratory space within which the aggregate quantities of hazardous materials stored and used shall not exceed the quantities set forth in Tables 443.3.1.

[F] LIQUID TIGHT FLOOR. A non-permeable barrier capable of containing hazardous material liquids without degradation.

[B] TENANT. Occupant of a building, or portion thereof, that is owned or controlled by another.

443.3 Requirements for Group L Laboratories

443.3.1 Multiple Hazards. When a hazardous material has multiple hazards, all hazards shall be addressed and controlled in accordance with the provisions of this code.

443.3.1.1 An individual laboratory suite shall not serve more than a single tenant unless the suite is owned or controlled by the same responsible party.

443.3.2 Requirement for Report. The enforcing agency may require a technical opinion and report to identify and develop methods of protection from the hazards presented by the hazardous materials. A qualified person, firm, or corporation, approved by the enforcing agency, shall prepare the opinion and report, and shall be provided without charge to the enforcing agency. The opinion and report may include, but is not limited to, the preparation of a hazardous material management plan (HMMP); chemical analysis; recommendations for methods of isolation, separation, containment or protection of hazardous materials or processes, including appropriate engineering controls to be applied; the extent of changes in the hazardous behavior to be anticipated under conditions of exposure to fire or from hazard control procedures; and the limitations or conditions of use necessary to achieve and maintain control of the hazardous materials or operations. The report shall be entered into the files of the code enforcement agencies. Proprietary and trade secret information shall be protected under the laws of the state or jurisdiction having authority.

443.3.3 Laboratory Suite. A laboratory suite shall not exceed 10,000 square feet (929m²) and shall be separated by not less than a one-hour fire-resistance-rated fire barrier. A laboratory suite may include multiple laboratories, offices, storage and equipment rooms and similar support functions.

443.3.4 Emergency Power. An emergency power system shall be provided in accordance with Chapter 27 and the California Electrical Code, Article 700.

443.2.4.1 Required systems. Emergency power shall be provided for electrically operated equipment and connected control circuits for the following systems:

1. Mechanical ventilation systems. See section 443.4.6..
2. Emergency alarm and monitoring systems.
3. Temperature control systems required to prevent unsafe process excursions or chemical reactions..
4. Electrically operated systems required elsewhere in this code.

443.2.5 ConstructionBuildings containing Group L Occupancies shall be of Type IA, Type IB or Type IIA, IIIA, IV and VA construction. (Note: Amend Table 503 for Type IA , I B and IIA, IIIA, IV and VA to correlate with Group H-4. Type IIB, IIIB, and VB are Not Permitted.)

(Note: Move to Chapter 34 as a requirement)_ Existing buildings of four stories or less when equipped with an approved fire sprinkler system in accordance with Section 903.2.16.

443.2.6 Liquid Tight Floor. All portions of the laboratory suite where hazardous materials may be present shall be provided with a liquid tight floor. . Where the floor is designed to provide spill control or secondary containment the floor shall be designed in accordance with CFC 2704.2..

443.2.7 Emergency Response. An area for emergency response equipment and supplies shall be provided on each floor.The area shall be a minimum of 50 square feet (4.6 m2).

443.3 Hazardous Materials

443.3.1 Percentage of maximum allowable quantities. The percentage of the maximum allowable quantity of hazardous materials per laboratory suite permitted for each story level within a building shall be in accordance with Table 443.3.1.

TABLE 443.3.1: HAZARDOUS MATERIALS QUANTITY PER LABORATORY SUITE

STORY		PERCENTAGE OF THE MAXIMUM ALLOWBALE QUANTITY PER LABORATORY SUITE ^a
Above grade plane	7 and above	50
	4, 5 and 6	75
	1, 2 and 3	100
Below grade plan	1	100
	2	75
	3 and below	0

Percentages shall be of the maximum allowable quantity per laboratory suite shown in Tables 307.1(1) and 307.1(2). Allowable hazardous material increases for buildings equipped throughout with an automatic sprinkler system shall not be applicable to Group L Occupancies.

Modify 307.1(1) and CFC 2703.1.1(1) footnote d as follows:

Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler systems in accordance with Section 903.3.1.1. Where note e also applies, the increase for both notes shall be applied accumulatively. This footnote shall not be applicable to Group L Occupancies.

Modify 307.1(2) and CFC 2703.1.1(2) footnote e as follows:

Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler systems in accordance with Section 903.3.1.1. Where note e also applies, the increase for both notes shall be applied accumulatively. This footnote shall not be applicable to Group L Occupancies.

443.4 Ventilation

443.4.1 Compatibility. Mechanical exhaust ducts when combined shall not create a physical hazard or react to degrade the duct material. The building official may require a technical report in accordance with Section 443.3.2.

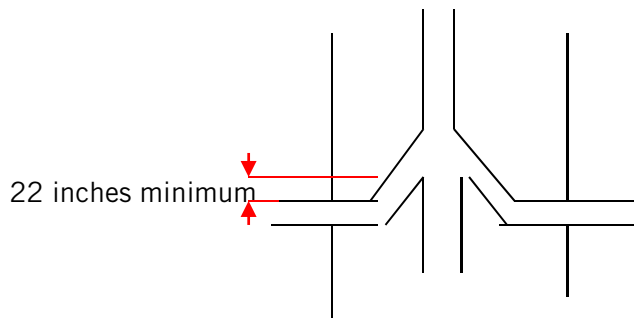
443.4.2 Fire and Smoke Dampers. Fire or smoke dampers shall not be permitted in product conveying and other mechanical exhaust duct systems used to maintain a safe laboratory environment. When the exhaust duct penetrates the laboratory suite fire barrier the exhaust duct shall be located within a shaft constructed in accordance with Section 707.

443.4.3 Duct Materials: Product conveying and other mechanical exhaust duct systems used to maintain a safe laboratory environment shall be constructed in accordance with Chapter 6 of the California Mechanical Code,

443.4.4 Laboratory Suite Exhaust. Laboratory suite exhaust air shall not be recirculated and shall be independently ducted to a point outside the building or a roof top structure.

Exceptions:

1. Exhaust ducts serving a single laboratory suite.
2. Exhaust ducts serving separate laboratory suites on the same story may be connected to a common duct within a fire rated vertical shaft when the sub-ducts extended vertically upward at least 22 inches.



3. Exhaust ducts serving separate laboratory suites on the basement through the 4th story may be connected to a common duct within a fire rated vertical shaft when the sub-ducts extended vertically upward at least 22 inches.
4. Exhaust ducts serving separate laboratory suites on the 5th story and above may be connected to a common duct that does not exceed 100 vertical feet within a fire rated vertical shaft when the sub-ducts extended vertically upward at least 22 inches. Ducts serving the 5th story and above shall be a separate from the duct serving the 4th story and below, but may be within the same fire rated shaft.
5. Exhaust ducts shall not penetrate the 2-hour fire barrier required by Section 443.6.5.

443.4.5 Ventilation Rates. Mechanical exhaust ventilation system shall provide a minimum ventilation rate not less than 1 cubic feet per minute per square foot [0.00508 m³/(s·m²)] of floor area, or 6 air exchanges per hour, whichever is greater. Systems shall operate continuously at the designed ventilation rate..

443.4.6 Mechanical Ventilation Systems on Emergency Power. When operating on emergency power, the ventilation rate may be reduced to a level sufficient to maintain a differential pressure negative to the surrounding area.

443.6 Means Of Egress

443.6.1 Access to Exits. Every portion of a laboratory suite containing hazardous materials and having a floor area of 500 square feet or more shall have access to not less than two exits or exit-access doorways in accordance with Section 1015.2. When two or more means of egress are required one means of egress may be through intervening spaces in accordance with Section 1014.2.

Modify the following tables:

Table 1004.1.1 – Add a line for “Laboratory” with sub-headings as follows:

Laboratory	
Group L laboratories	See Section 443.XXX
Other Non-Teaching laboratories	100 net

Section 443.XXX – Maximum Floor Area Allowances Per Occupant

443.XXX.1 Teaching Laboratories: Teaching laboratories shall have a maximum floor area allowance per occupant of 50 sq.ft, net.

443.XXX.2 Non-Teaching Laboratories

443.XXX.2.1: Laboratories shall have a maximum floor area allowance per occupant of 100 sq.ft, net.

443.XXX.2.2: Laboratory suites shall have a maximum floor area allowance per occupant of 200 sq.ft, gross.

Table 1015.1 - Add “L” to Occupancy column and 5 to Maximum Occupant Load column.

OCCUPANCY	MAXIMUM OCCUPANT LOAD
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A,B,E ^a ,F,M,U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29
L	Refer to Section 443.6.1

^a Day care maximum occupant load is 10

Table 1016.1 – Modify Exit Access Travel Distance in SFM Table 1016.1 for Group L Occupancy from 100 to 300 (feet) with footnote c.

Note: Leave current alone.

Table 803.5 – Insert L-Occupancy into row with B,E,M,R-1, R-4 for Interior Wall and Ceiling Finish requirements.

443.6.2 Travel Distance Within L Occupancy. Travel distance within an individual laboratory suite shall not exceed 150 feet.. To be relocated to 1016.4

Note: Table 1016.1 Change to 300. ”.

443.6.3 Door Swing. All exit and exit-access doors serving areas containing hazardous materials shall swing in the direction of exit travel, regardless of the occupant load served.

Note: Add to 1008.1.2 second paragraph “Group H or L Occupancy”.

443.6.4 Panic Hardware. Exit and exit access doors from areas containing hazardous materials shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware.

Note: Add to 1009.1.9 2nd paragraph reference to 443.6.4 for Group “L” occupancy.

Modify 1008.1.8.6 Delayed Egress Locks to exclude L Occupancies along with Group A, E and H occupancies.

443.6.5 Buildings More Than 4 Stories. Any floor above the 4th story containing more than one laboratory suite shall be separated by a fire barrier having a fire resistance rating of not less than two hours. Fire barriers shall be continuous from exterior wall to exterior wall.

443.6.5.1 The 2-hour fire barrier shall divide the floor so that the laboratory suite area on each side of the 2-hour fire barrier is not less than 30 percent of the total area for the L Occupancy on the floor.

443.6.5.2 At least one exit shall be provided to serve the floor on each side of the 2 hr fire barrier and shall comply with the provisions of Chapter 10

443.6.6 Corridors. Corridors shall comply with Section 1017 and shall have opening protectives in accordance with Table 715.4, Table 715.5 and Table 715.5.3 (Note Revise Table 1017.1 Page 317 to include “L” along with Group H-4 such that corridor is required when the occupant load served greater than 30.).

443.7. Automatic Fire Protection Systems. See Section 903.2.16.

443.8 Fire Alarm System. See Section 907.2.28.

443.9 Occupancy Category. L-Occupancies shall be included in Occupancy Category II when determining structural requirements in accordance with Table 1604A.5.

Also modify Table 1604A.5 Category III last bullet item as follows:

Buildings and other structures not included in Occupancy Category IV containing ~~sufficient quantities of toxic or explosive substances to be dangerous to the public if released~~ materials as defined by Section 307 where the quantity of the material exceeds the maximum allowable quantities of Table 307.1(2).

443.10 Existing Group L (Formerly H8) Occupancies, Additional Alterations or Repairs. See Section 3414.