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## **Factors to consider for life science building conversions - by Thomas Jensen**

April 12, 2019 - Appraisal & Consulting

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As the global biotech industry continues to mature and grow, the levels of demand for lab space in metros like Boston have far out-stripped the available supply for some time now. This is true especially in key life science clusters like Kendall Sq. in Cambridge. The resulting effects on local space market fundamentals continue to play out through the greater metro area.

Life science corporations favor vibrant, amenity-rich neighborhoods with proximity to university resources as well as synergies that come with being proximate to similar companies, potential partners, and suppliers. Given the dearth of life science laboratory inventory in the established neighborhoods, tenants have been seeking lab space in the metro's more emerging life science clusters, like the Seaport, Waltham and Watertown. Landlords are responding to this ever-growing demand by constructing new lab space as well as converting traditional office and industrial space.

When considering existing real-estate for lab conversion, there are many factors to consider. The two most critical issues are:

1. Sufficient clear heights. Shell buildings considered suitable for potential lab conversions must typically have 14 to 15-foot interior clear heights. These additional areas are needed to provide additional HVAC and power systems to service exhaust vents.
2. Additional floor load requirements. Laboratory floors must be able to support 125 to 150 pounds per s/f for lab as opposed to 80 to 100 pounds for office.

Looking at costs, the core and shell retrofit expenses range from \$125 to \$150 per s/f with another \$125 to \$150 for specific tenant improvements over shell. The rental suites typically consist of 40% to 60% laboratory with the remaining space being traditional office area.

There are several other factors to keep in mind when considering converting offices into labs as

well. First, laboratories require a redundancy of power and critical systems, support space for chemical storage, and PH neutralization systems. Many lab areas feature specialty suites such as vivarium's, and BL-1 and BL-2 chambers. Although the amount of office space per worker is declining, life science requires 350 to 550 s/f per employee compared to an average of 175 to 200 s/f for more traditional office workers. Depending on floor plates and the size of the building, this could limit a space's ability to attract tenants of a certain size.

Moreover, laboratories typically require 100% outside air at a rate of 1.5 cubic feet per minute (CFM) compared to more traditional office at a recommended ventilation rate is 20 CFM. The "minutes per air change" is a design value chosen for the type of space in buildings. Therefore, laboratory uses have substantially greater HVAC demand than office users. These systems are often housed in a rooftop mechanical penthouse with air vents.

It is worth citing a few notable urban and suburban buildings in the Greater Boston area which have been successfully converted – at least partially - to life science laboratories. Urban building examples include: 451 D St. in South Boston, 80 Guest St. in Brighton, and 645 Summer St. in South Boston. In the suburbs, 60 Sylvan Rd. in Waltham is being considered for conversion from office to lab. In the near future, Boston Properties is planning to retrofit 33 Hayden Ave. in Lexington, which was recently leased entirely to Dicerna Pharmaceuticals, and 200 West St. in Waltham into life science laboratories.

Although location is still key for life science users, the basic building criteria of interior clear height and floor load capacity are crucial factors in determining a building's life science retrofit suitability. Given the frenetic levels of lab demand in Greater Boston, expect landlords to continue to entertain these conversion projects where applicable.

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