Berkeley Lab is working with the Department of Energy to demolish legacy buildings with identified seismic safety issues. Related to these demolitions is a program to construct three replacement general-purpose research laboratory/office buildings in order to maintain Facilities mission readiness commitments. The first of these replacement buildings is the ~40,000 square foot General Purpose Laboratory-1 (GPL-1).

As its name implies, the GPL-1 facility is designed for flexibility. The modern research spaces are intended to accommodate the wet laboratory needs of any research program at Berkeley Lab. For decades to come, these new spaces will be assigned and re-assigned to respond nimbly to evolving science and mission requirements.

Berkeley Lab broke ground for the GPL-1 in September 2011 on the former site of a vacated World War II-era building determined to be unsafe for occupancy due to particularly serious structural seismic safety issues. Sustainability has been considered both in the design of the new building, and in the creation of the site for it — the demolition debris was recycled wherever possible, and, the existing Lab utility infrastructure will be adapted to serve the new building.

The GPL-1 Building has been designed to use 40 percent less energy than American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 90.1, the national standard for energy-efficient buildings, would allow. An application for LEED Gold certification will be submitted.

General Purpose Laboratory – 1 (Building 33)

A General Purpose Lab Facility Full of Green Features

- Siting of the GPL-1 Building, on a re-use site, adjacent to a shuttle bus stop and within easy walking distance of other research facilities and the Lab Commons with its dining, banking, and meeting facilities
- Solar water heating, daylighting, high R-value insulation, a “cool roof,” energy efficient lighting
- A modern HVAC (space heating and cooling) and lighting control system that can automatically adjust to occupancy conditions, and includes a “fan wall” design element so overall energy savings can also be achieved when windows are open
- A “Dashboard” function that will display current and trending energy use data to interested occupants
- A Low-water use design throughout the facility and landscape
- Use of renewable materials, and use of 100 percent recycled steel for the building’s girders
- Recycling of construction waste