

Computational Research & Theory Facility



ERNEST ORLANDO LAWRENCE
BERKELEY NATIONAL LABORATORY

Presentation to the Regents
of the University of California

May 13, 2008

Computational Research & Theory

- 126,300 gross square foot facility
- 32,000 square foot High Performance Computing floor
- 300 offices for NERSC, Computational Research Division and CSE
- 7.5MW of electrical power expandable to 17MW
- Total Project Budget: \$112,900,000
- Construction Phase: late summer 2008 – May 2011
- Construction Manager/General Contractor Delivery Method

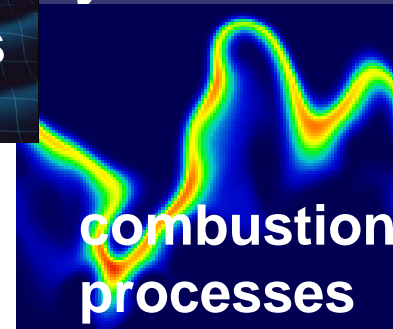
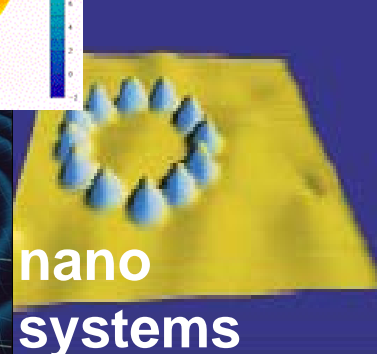
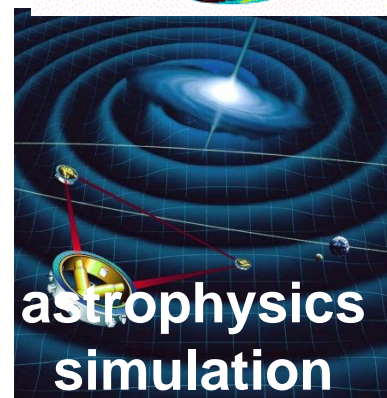
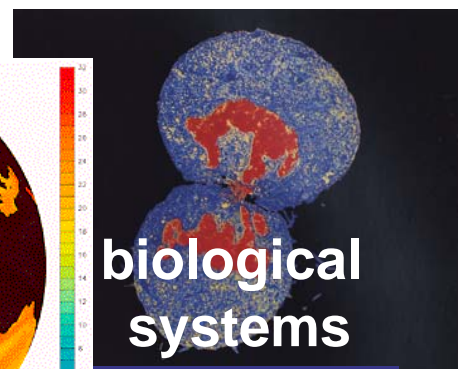
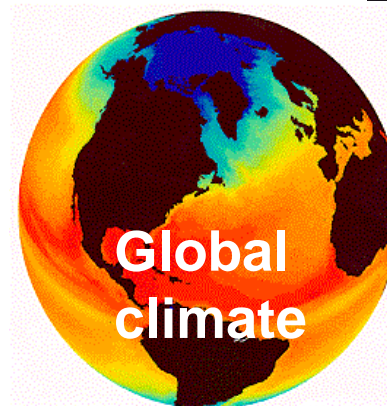
Sustainability

- **34 LEED Points** (plus 14 possibles) – **Silver Rating with a goal of meeting LEED Gold**
- **Sustainable Features**
 - Utilizes Bay Area Climate for cooling over 90% of the year
 - At build out, reduced energy consumption by 62% compared to traditional cooling systems:
 - Saves 45,300,000 KWH per year
 - Equivalent to electricity for 4,700 homes
 - Equivalent to 82,000 barrels of oil saved or 6,400 cars off the road
 - Equivalent to 35,000 tons of CO₂ savings
 - Zero additional storm runoff into the EBMUD system by using BMPs
 - Over a 20% reduction in domestic water use
 - Rough-in for PV on roof

The Science



Computational Research Division





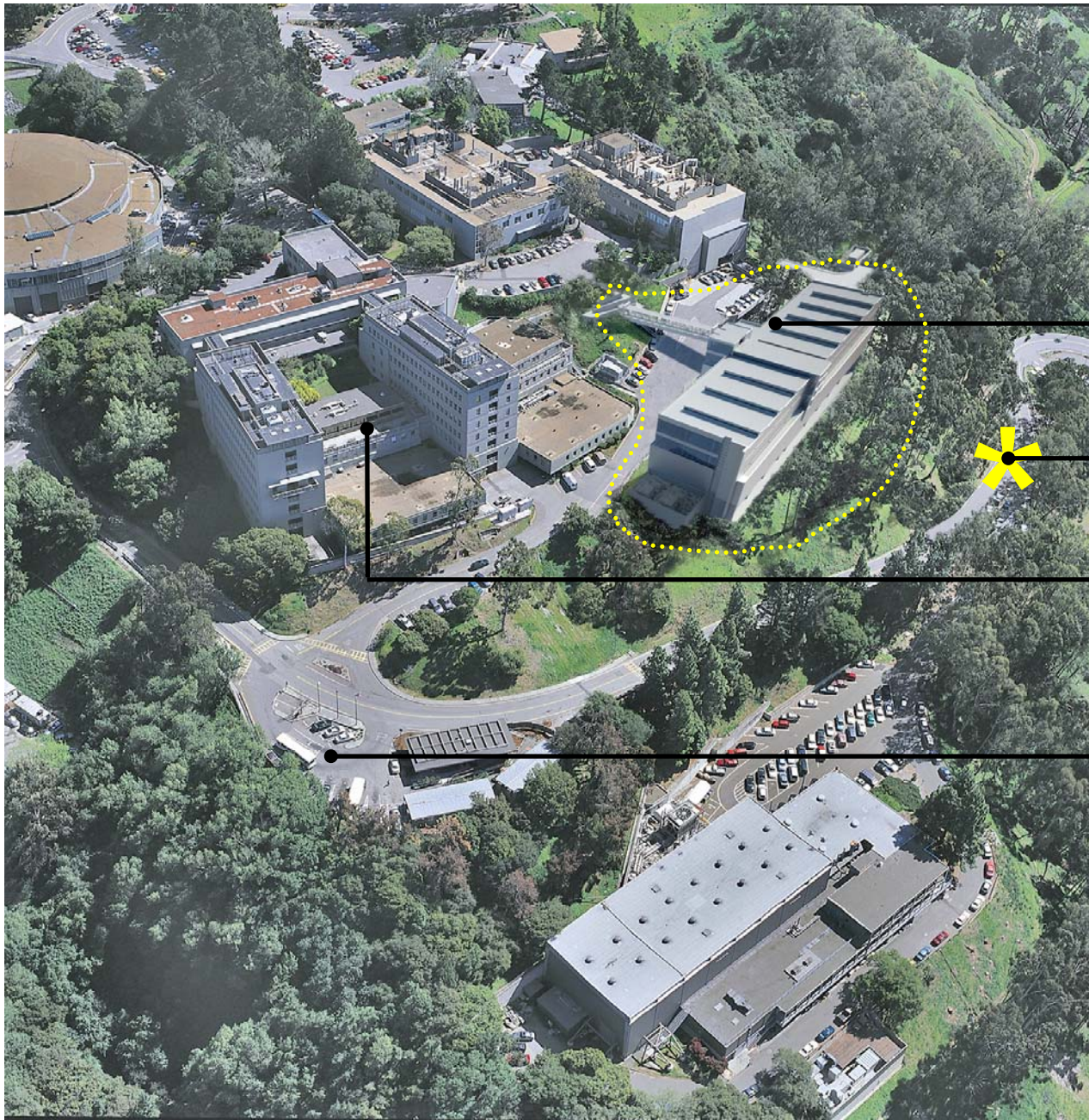


Lawrence Hall
of Science

Computational
Research &
Theory

Helios

UC Berkeley
Memorial Stadium



Computational
Research &
Theory

Main Gate

Administration &
Computing
Sciences

Shuttle Stop



3rd Floor - Offices



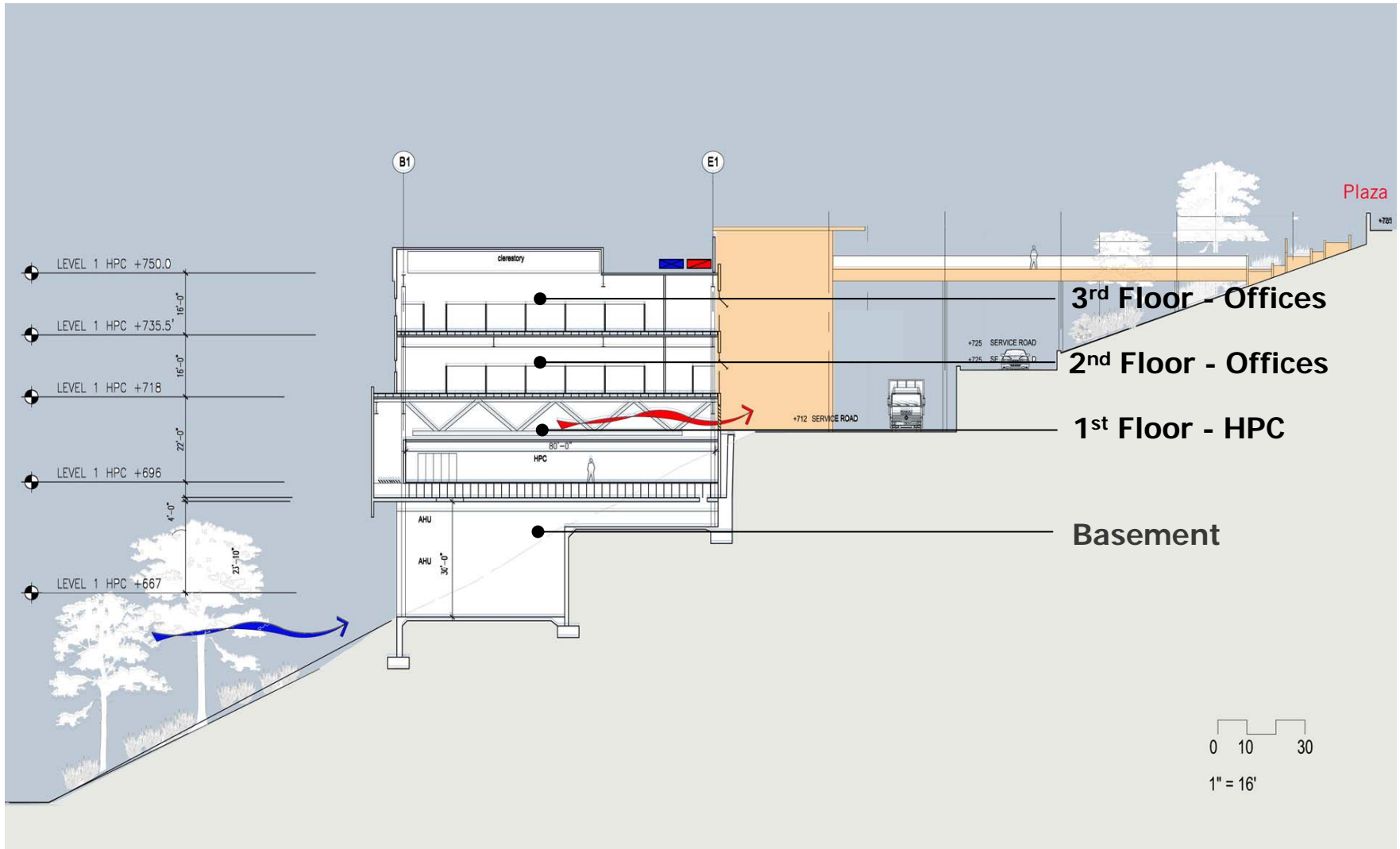
2nd Floor - Offices



1st Floor - High Performance Computing



Basement











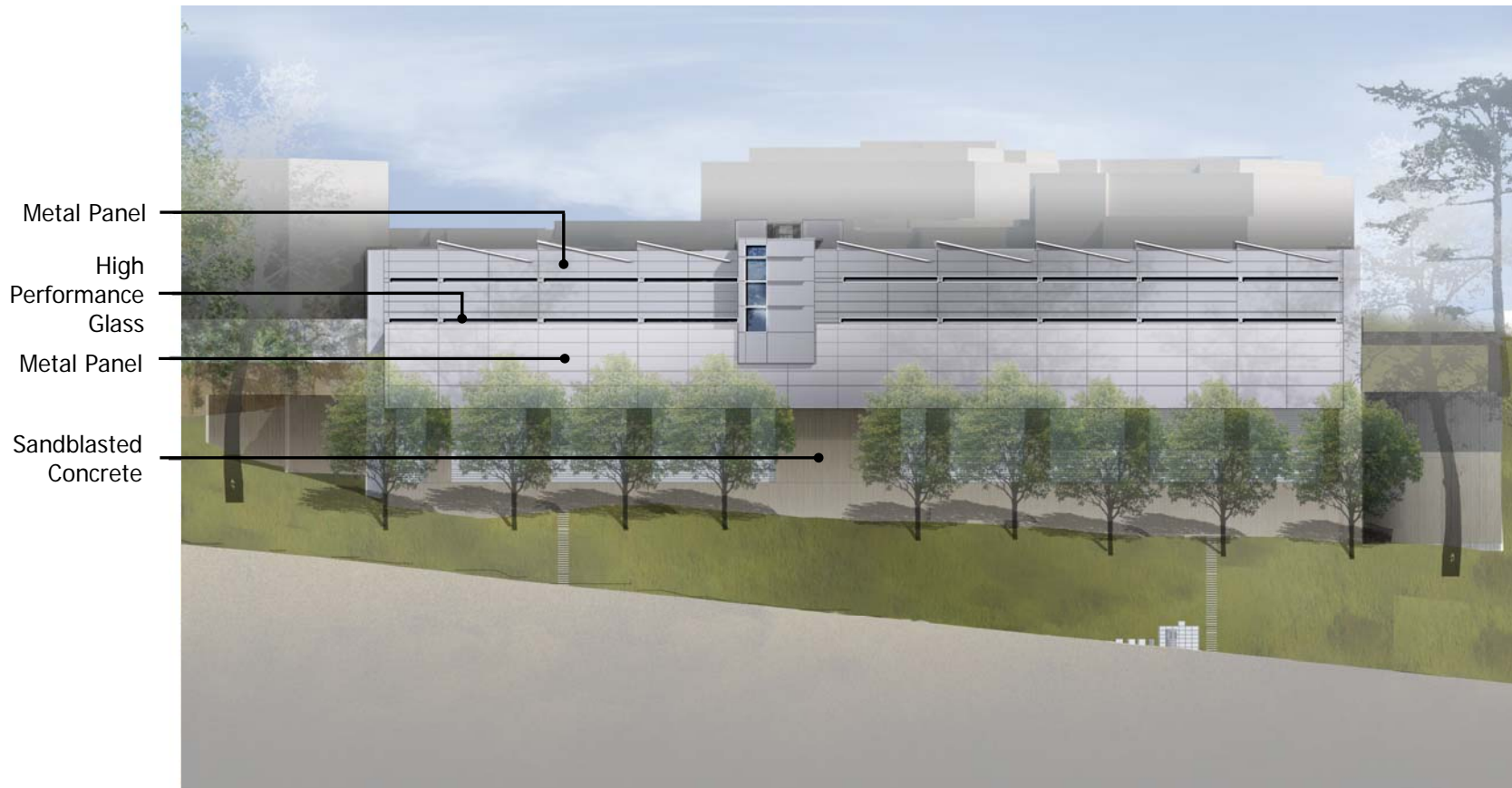
Molecular Foundry



Guest House



User Support Building



Augmentation Request

Additional debt service is accommodated by \$10M operating budget increase over five years

Energy efficient design lowers annual energy costs by \$1.7M or 62%

Life cycle cost savings is \$63M

Payback is less than 10 years

Environmental Review

- Project is within scope and consistent with Berkeley Lab's 1987 and 2006 LRDP
- Focused Environmental Impact Report prepared
- Completed 56 day Public Review
 - Notice published in three local newspapers
 - Notice mailed to 485 regulatory agencies, organizations and the public
- Presented project to the City of Berkeley Planning Commission
- Met six times with City of Berkeley Planning Department. Lowered the building height by 34 ft in response to their concerns.
- Received and responded to 18 comment letters during public review – no further potentially significant impacts identified
- Responses to comments included in the final environmental document

Discussion



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