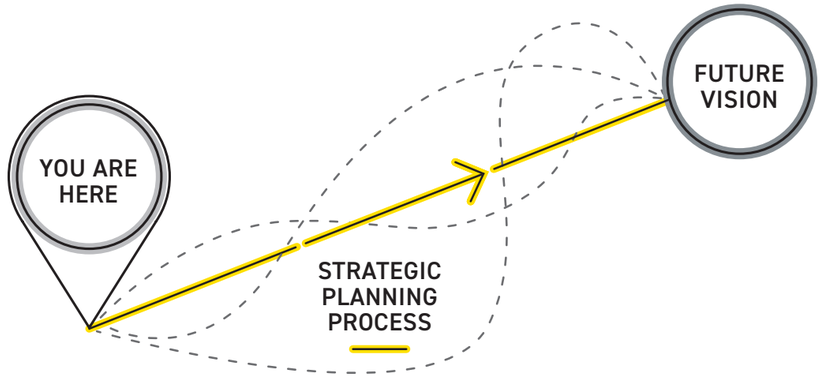
STRATEGIC & CAMPUS PLANNING

Flad

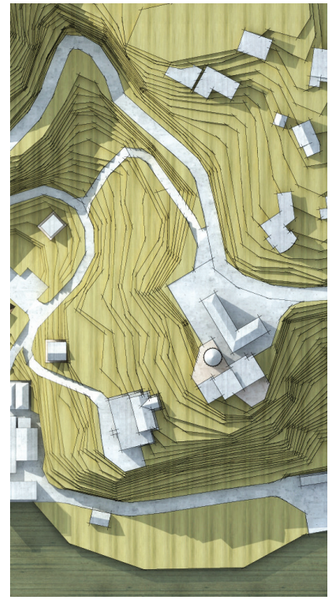


Contents

MEETING COMPLEX CHALLENGES

Owners face a range of challenges in today's dynamic landscape, from managing growth and reducing energy consumption to attracting top talent and keeping pace with new technology and regulations. We recognize the broad interest among our clients in assessing the quality, utilization, and adaptability of their current facility assets to serve them in the near and long term.

Our strategic approach and data-driven solutions are shaped by the core concerns that consistently emerge through our collaboration with clients.



KEY MACRO CHALLENGES >>

STRATEGIC VISION THROUGH INCREMENTAL CHANGES

Combine existing conditions with future aspirations to create a comprehensive plan.

Navigate aging infrastructure, changing demands, and funding dynamics to reach an aspirational and sustainable future.

INFORMED DECISION-MAKING

Provide a consistent, enterprise view for comprehensive real-time analysis across systems, units, and campuses.

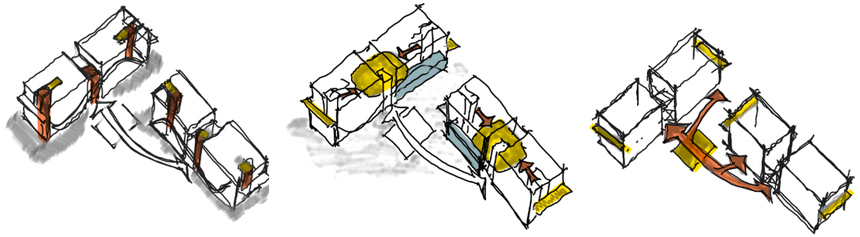
Integrate space, people, technology, cost, and operational data to understand capacity and future changes.

RESOURCE AND WORKFORCE COMPETITION

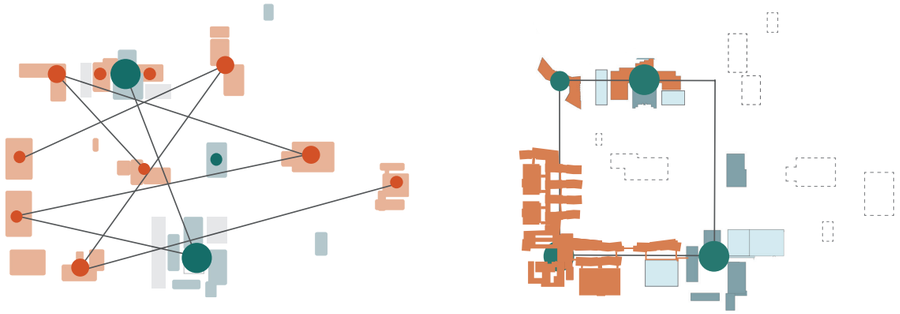
Develop data-rich, visually compelling deliverables that build investment confidence and inspire stakeholders.

Optimize space, staffing, and budget resources to reduce costs, enhance utilization, and create attractive, high-functioning environments that aid in recruiting and retaining top talent.

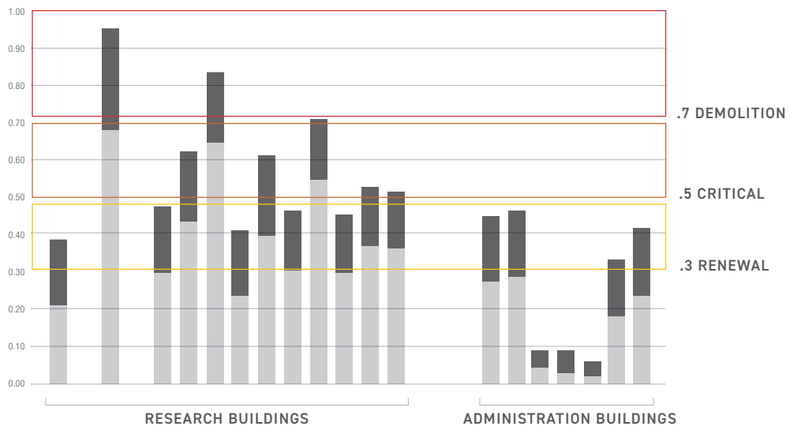
By addressing these key challenges, we empower our clients with insights and strategies to make informed decisions, optimize their resources, and achieve sustainable growth.



Placemaking and Scenario Planning



Long-range Renewal and Replacement Planning



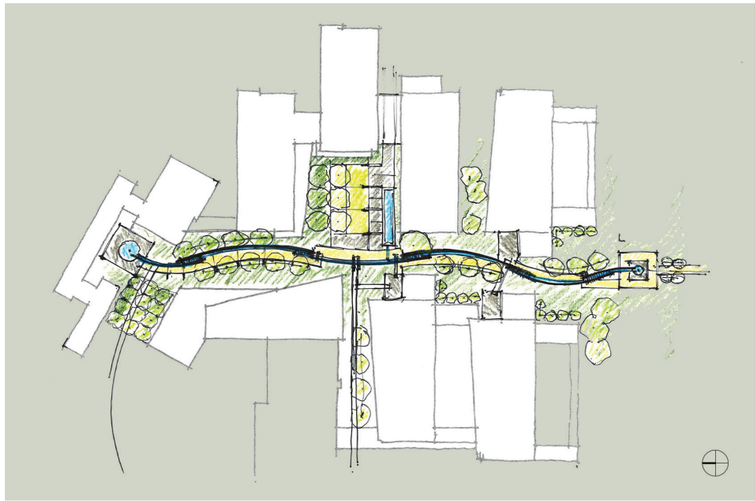
Facility Assessment and Investment Planning

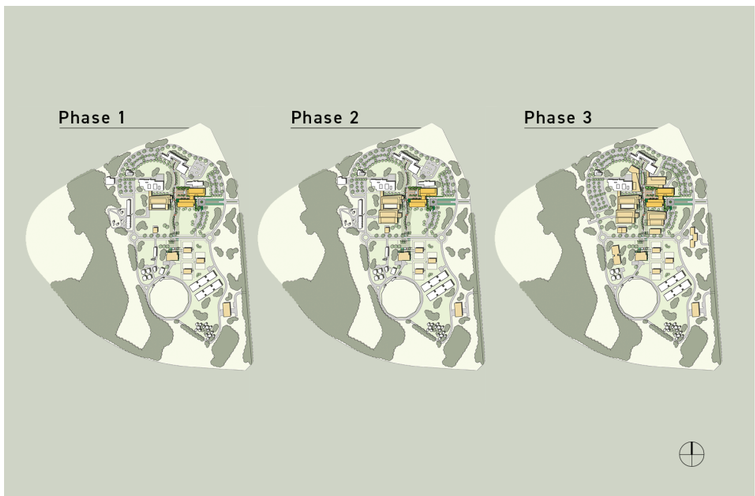
THE VALUE OF STRATEGIC & CAMPUS PLANNING

COMPREHENSIVE PLANNING IS NOT JUST A PRELIMINARY STEP IN THE PROJECT DEVELOPMENT PROCESS—IT IS A STRATEGIC IMPERATIVE.

We understand the importance and value of early-stage, long-range planning to establish clear goals and vision that guide near-term prioritization and expectations. Our multidisciplinary team, comprising strategists, physical planners, design thinkers, and research analysts, creates effective and actionable plans.

DESIRED OUTCOME	>>	HOW FLAD CAN HELP
Optimized functionality and energy efficiency	> >	Evaluate existing conditions to inform investment decisions and highest and best use.
Increased facility utilization	> >	Analyze facility use to optimize space, increase efficiency, and leverage existing assets through capacity, throughput, and workstream mapping.
Cohesive sense of place	> >	Develop a vision to foster culture, community, and collaboration.
Aligned growth strategies	> >	Create a long-term roadmap to inform phased implementation of new construction, additions, renovations, and adaptive reuse.
Climate adaptation	> >	Target carbon reductions, renewable energy, and resilience planning.
Enhanced program convergence	> >	Reveal synergies to meet grand challenges and respond to evolving research trends.
Industry best practice	> >	Provide unbiased insights to ensure safe, compliant, and productive environments.





Phased Implementation Plan

Our deep understanding of desired outcomes enables us to provide tailored solutions that guide strategic planning, enhance facility performance, and support our clients' missions and long-term objectives.

THE FLAD DIFFERENCE

With a legacy spanning over 95 years, Flad has honed a deep and nuanced understanding of our clients' needs. This insight, coupled with our innovative approach, positions us as leaders in strategic and campus planning, effectively addressing internal and external challenges to create enduring solutions.

INSIDE-OUT:

DEEP UNDERSTANDING OF INSTITUTIONAL NEEDS

- Collaboration with Legacy Clients and Trusted Partners // Working with top leaders across industries gives us unique insight into interrelated and converging markets, where shared goals and challenges drive decision-making.

- Tailored Approach // Our client-specific solutions address the complex intersections of cultural, business, and operational objectives, resulting in actionable outcomes that support our clients' evolving needs.

- Dynamic, Data-Driven Decision-Making // Our real-time, living tools accelerate decision-making, problem-solving, consensus-building, and buy-in. With strong facilitation, listening, and process management skills, we guide teams toward impactful, effective results.

OUTSIDE-IN:

EXPERTISE AND PERSPECTIVE ON EXTERNAL CHALLENGES

- Convergence Perspective // Analyzing our clients' needs from multiple angles and leveraging our rich history, we offer a multidimensional approach that allows us to anticipate external challenges, uncover opportunities, and reveal synergies.

- Multidisciplinary Bench Depth // Our diverse team – architects, planners, campus planners, landscape architects, data analysts, and sustainable design specialists – integrates broad skill sets to solve complex, interrelated challenges.

- Advanced Technology and Design Thinking // By using cutting-edge tools and design-thinking methodologies, we respond to evolving needs with precision, supporting clients with forward-thinking strategies and adaptable solutions.

As trusted, strategic partners, we immerse ourselves in our clients' work to facilitate operational success. Our comprehensive approach allows us to craft holistic, actionable plans that drive innovation, resilience, and long-term success.

Flad's holistic approach to strategic and campus planning delivers solutions that are achievable, yet adaptable, preserving flexibility for future options. A successful plan enables the campus and facilities to support both long-term vision and evolving programmatic needs. Flad has partnered with a wide range of clients to develop site strategies, strategic plans, and comprehensive campus plans.

These strategies are designed to:

Support incremental campus growth through flexible and adaptable planning.

Guide the aesthetic development and heritage of a campus to enhance the institution's image and identity.

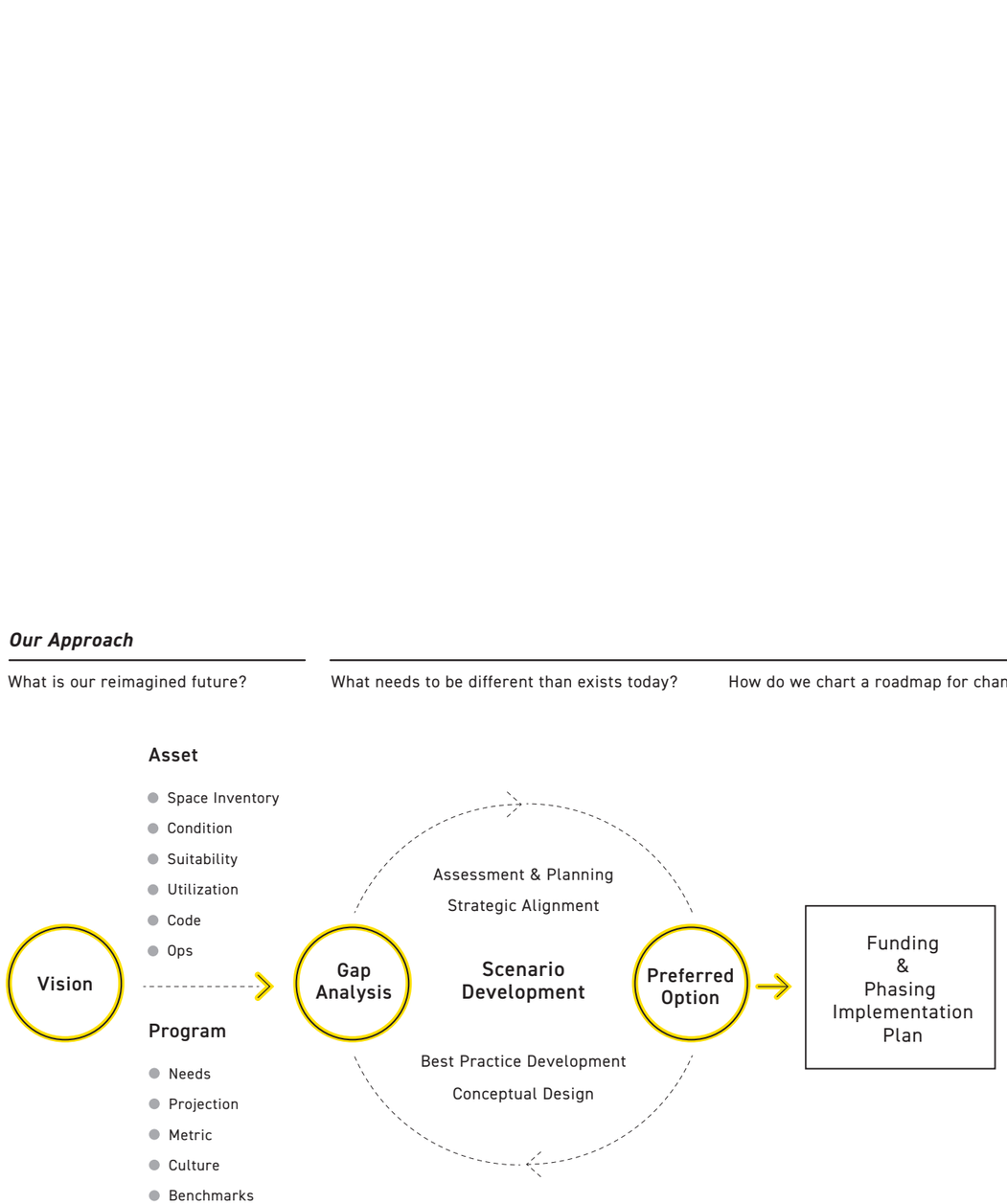
Create, preserve, and augment physical campus assets.

Strengthen critical existing connections and develop future linkages between buildings and public spaces.

Identify sustainable strategies that promote stewardship of physical, financial, and environmental resources.

Our Approach

What is our reimagined future? | What needs to be different than exists today? | How do we chart a roadmap for change?



Scales of planning

GLOBAL NETWORK

- Optimize and diversify sites and real estate portfolio.
- Build regional growth and capacity.
- Strengthen social and climate resiliency.
- Infuse company values and culture across multiple sites.

INTEGRATED CAMPUS

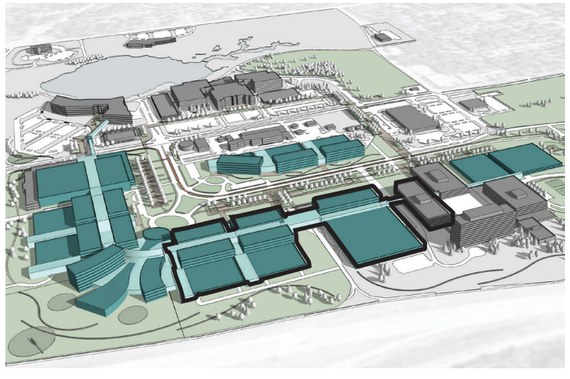
- Assess suitability and highest and best use of facility assets.
- Plan phased expansion strategies tailored for greenfield sites.
- Document implementation plan for near-, mid-, and long-term development.
- Improve the campus experience and sense of place.
- Achieve decarbonization targets.

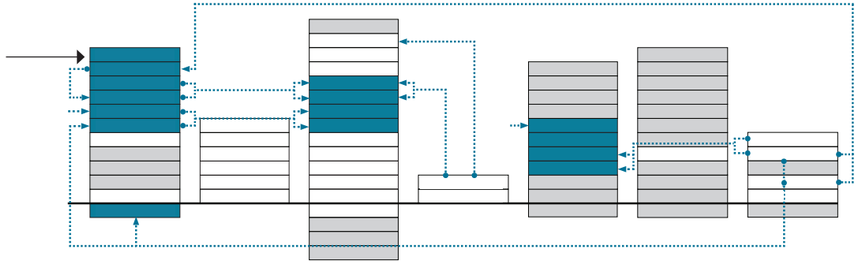
SHARED RESOURCES & CORES

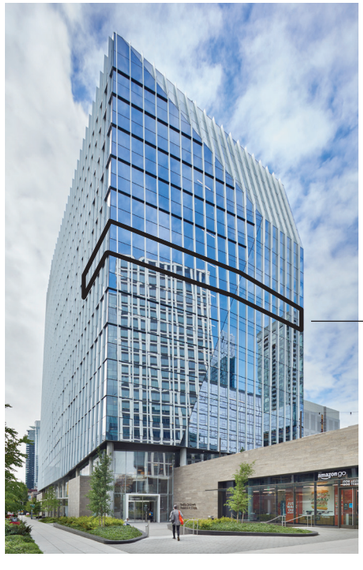
- Measure and improve space utilization.
- Analyze synergies and optimize program sizes to boost efficiency.
- Modernize facilities to increase appeal and relevance for recruitment.
- Reimagine potential reuse to preserve historically or culturally significant spaces.
- Evaluate initial and life-cycle costs to support resource stewardship.

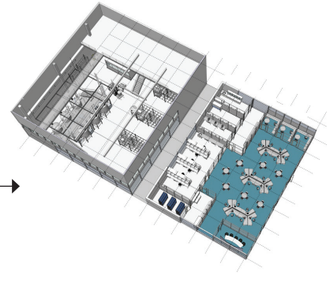
FLEXIBLE MODULE

- Build for flexibility, adaptability, and change over time.
- Implement guidelines and best practices.
- Reapportion space to meet new ways of working and teaming structures.
- Create nodes for interaction and innovation.









Empowering informed decisions
Tools for insight and optimization

Mining & Understanding

SURVEY POLLS

Survey and polling tools gather input or feedback from a representative sample, often through web-based platforms. With their scalability, ease of creation, and clean data output, they offer an efficient way to collect valuable insights rapidly.

ASSESSMENTS

Assessments establish baselines by using consistent frameworks and industry standards to objectively evaluate existing conditions. It is not uncommon to have several assessments, each with a distinct focus, conducted simultaneously. They are especially helpful in gaining common ground before addressing the gap between present and future circumstances.

Convergence & Consensus

DASHBOARDS

Dashboards provide a powerful interface for visualizing, monitoring, and analyzing pertinent metrics. By integrating various datasets, they clarify complex information, illuminate trends in areas like capacity, utilization, and satisfaction. They are commonly used to inform gaps, opportunities, and help justify key decisions and priorities.

Visualization & Messaging

SCENARIO MODELING

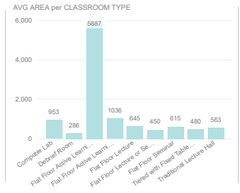
Various modeling tools translate key metrics and emerging opportunities into alternate scenarios to visualize and assess different outcomes. Scenario modeling supports phased planning, images a future reality, generates excitement, and often attracts funding by creating a compelling vision of the future.

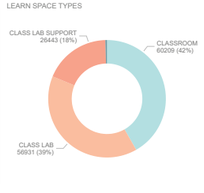
OUTCOMES

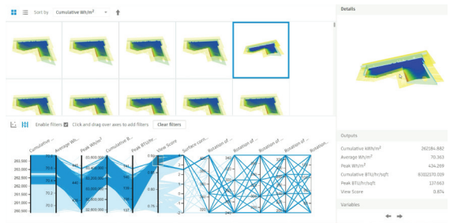
Upon project completion, deliverables can include hard-copy reports, interactive web platforms, and presentation pitch decks. These publication tools and socialization materials aim to provide a unified roadmap, documenting the path forward and generating momentum for next steps.

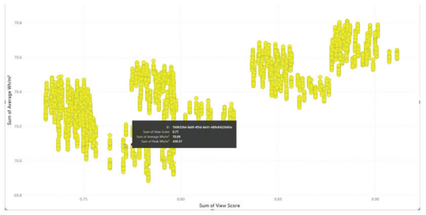
REAL-TIME UPDATES

Beyond initial deliverables, flexible tools and tracking mechanisms remain nimble to new information and ever-changing influences. Real-time adaptations allow for responsive adjustments to evolving data and assumptions, helping maintain relevant, current plans that support agile decision-making.









CASE STUDIES

A NEW BENCHMARK
BIOMED REALTY

DESIGN FOR DECARBONIZATION
UNIVERSITY OF CALIFORNIA, BERKELEY

INTEGRATED PLANNING TO OPTIMIZE SPACE
UNIVERSITY OF WISCONSIN // COLLEGE OF AGRICULTURE AND LIFE SCIENCES

AN EXTENDED INVESTMENT
SARASOTA MEMORIAL HEALTH CARE SYSTEM

STRATEGIC GROWTH FOR GLOBAL IMPACT
IDAHO NATIONAL LABORATORY

EFFICIENCY AND WELL-BEING
TAKEDA PHARMACEUTICALS

ADAPTIVE REUSE AND INNOVATION DISTRICT
UNIVERSITY OF CALIFORNIA, LOS ANGELES

A NEW BENCHMARK

BIOMED REALTY //
GATEWAY OF PACIFIC MASTER PLAN

West Coast
22-acres, 1.8 million square feet

Challenge

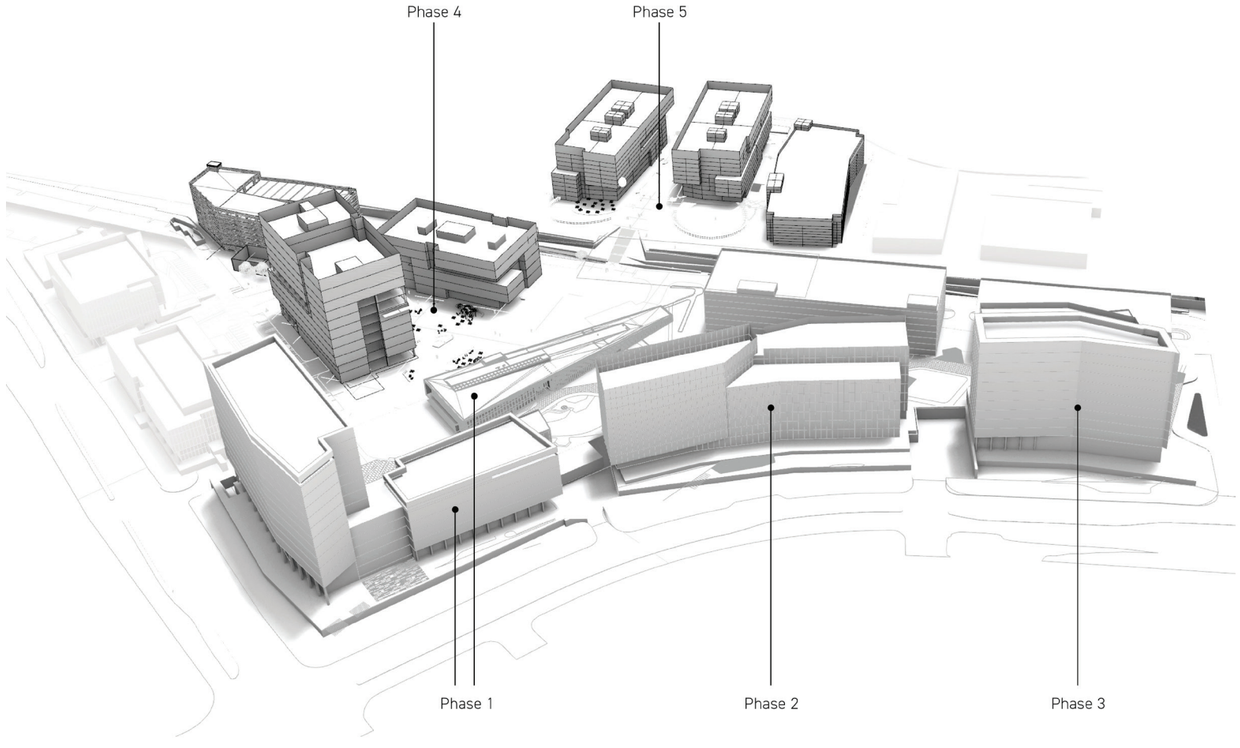
Transforming a 22-acre site between San Francisco and Silicon Valley into a premier biotechnology campus required a visionary master plan. The challenge was to create a development that announces the future of biotechnology innovation and supports the collaborative needs of life science tenants. The location's high visibility and emerging urbanization demanded a design that would serve as a bold gateway to this globally recognized biotechnology hub.

Solution

The master plan reimagines the site as a dynamic campus, organizing elegant laboratory towers along the perimeter while dedicating the interior to pedestrian-centered greenspaces free of roadways. The five-phase development includes a building for centralized amenities, creating a cohesive, connected neighborhood. Parking is strategically placed below grade and in structures that contribute as design elements, maintaining an expansive, park-like landscape. This plan transformed the site into a vibrant, community-focused environment, rather than a secluded laboratory complex.

Impact

The master plan enabled the campus to grow into one of the world's largest life-science developments, with over 1.8 million square feet of research space. The innovative design maximizes tenant flexibility, allowing companies to fully dedicate their leased spaces to research functions. The campus now stands as a signature gateway to the biotechnology hub, enhancing the region's reputation and supporting the industry's growth with a thoughtfully planned environment that prioritizes collaboration and community.



DESIGN FOR DECARBONIZATION

UNIVERSITY OF CALIFORNIA, BERKELEY //
BERKELEY'S CLEAN ENERGY CAMPUS

Berkeley, California
1200-acre campus

Challenge

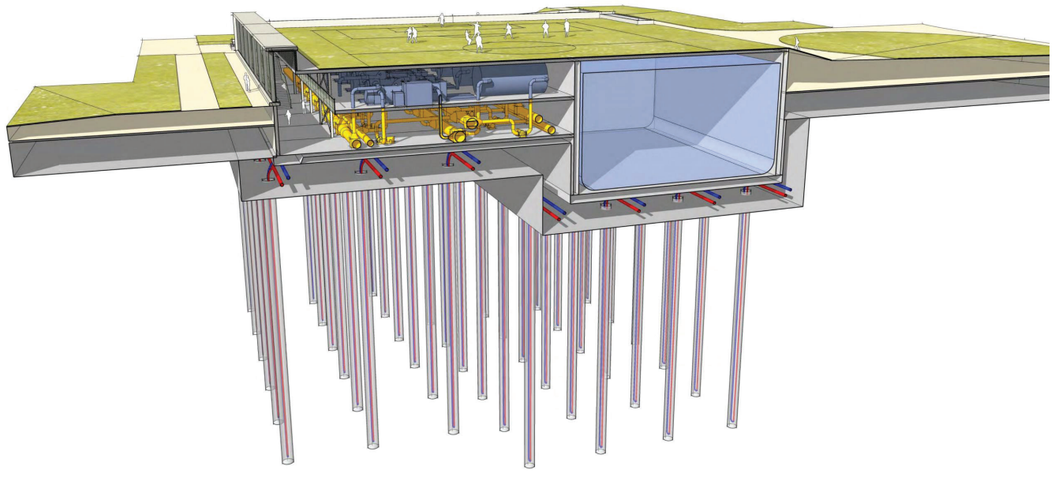
UC Berkeley's commitment to decarbonizing its campus by 2045 required a transformative master plan. The challenge was to create a 100 percent electrified and renewable energy microgrid while preserving the campus's open spaces, enhancing campus connections, and accommodating future capital projects. This ambitious initiative needed to align with California's carbon reduction goals, requiring a solution that decarbonizes over 12 million square feet of space and integrates with the campus's broader sustainability and accessibility objectives.

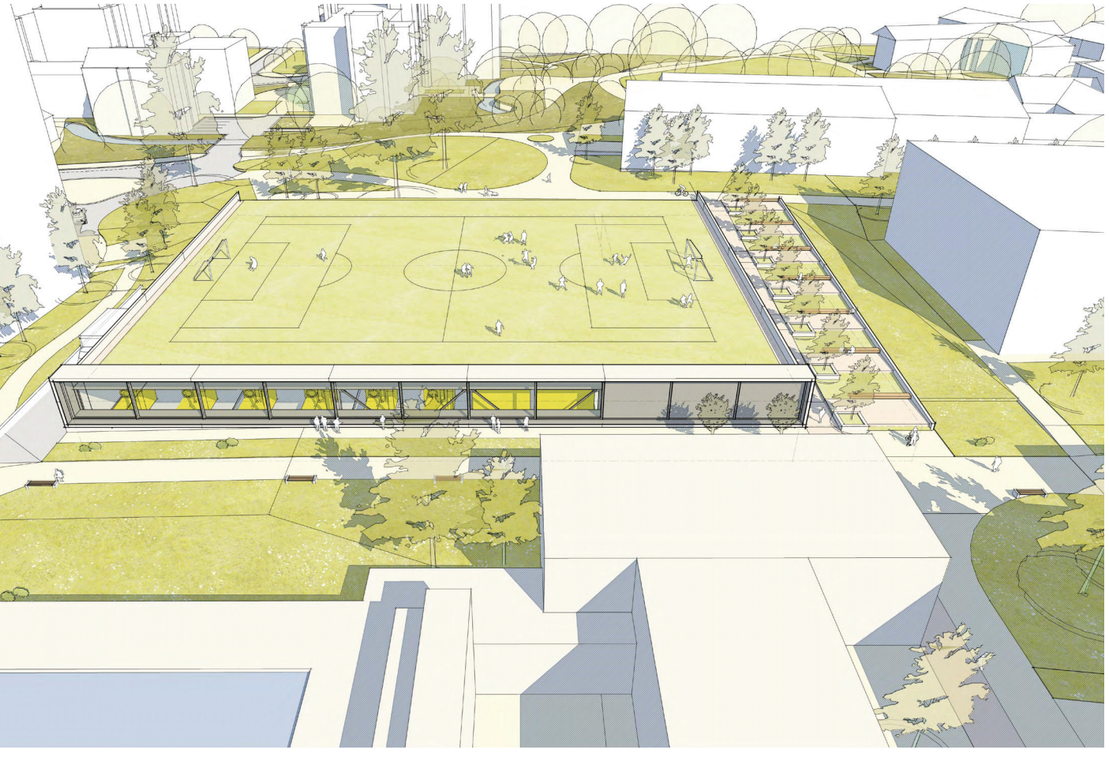
Solution

Flad, in collaboration with Affiliated Engineers, Inc., developed a master plan that integrates physical planning with the university's goals. The centerpiece, the Electrified Heating and Cooling Plant, is located below grade in the campus core, preserving sightlines and student recreational space. The design includes an underground Thermal Energy Storage system that conditions campus buildings and incorporates Distributed Energy Resources like solar PV systems, battery storage, and geothermal heat exchange, with the strategic use of fuel cells for resiliency.

Impact

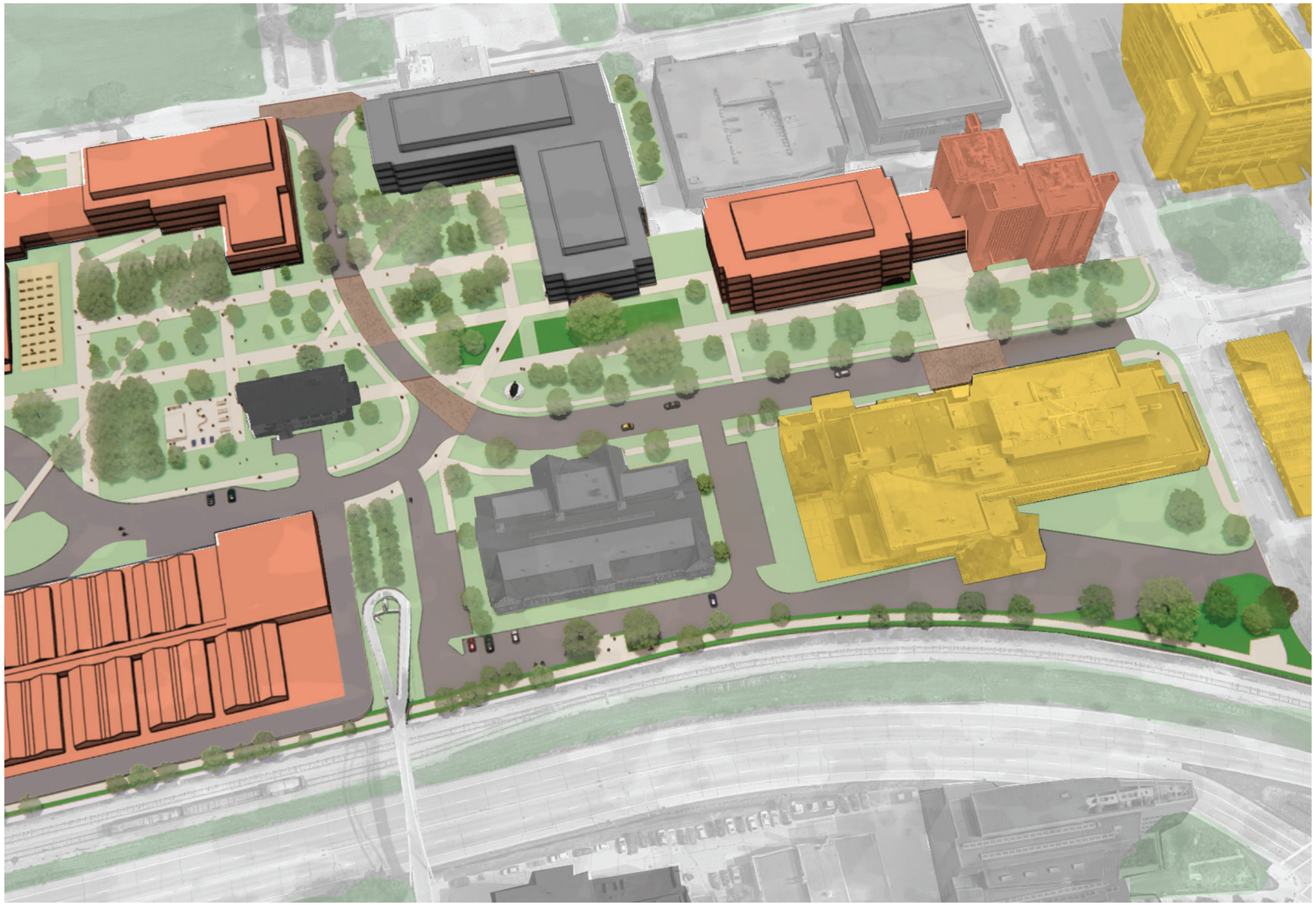
The plan accelerates UC Berkeley's path to full decarbonization, reducing carbon emissions below the California Cap-and-Trade threshold by 2028. By converting over 100 campus buildings to clean energy and creating a Living Laboratory, the initiative positions UC Berkeley as a leader in sustainable campus design. The integrated approach not only supports state policy goals but also enhances campus connectivity, preserves open space, and provides resilient, clean energy solutions that will serve as a model for other institutions worldwide.





INTEGRATED PLANNING TO OPTIMIZE SPACE

UNIVERSITY OF WISCONSIN //
COLLEGE OF AGRICULTURE AND LIFE SCIENCES
FACILITIES MASTER PLAN



Madison, Wisconsin
1.1 million square feet

Challenge

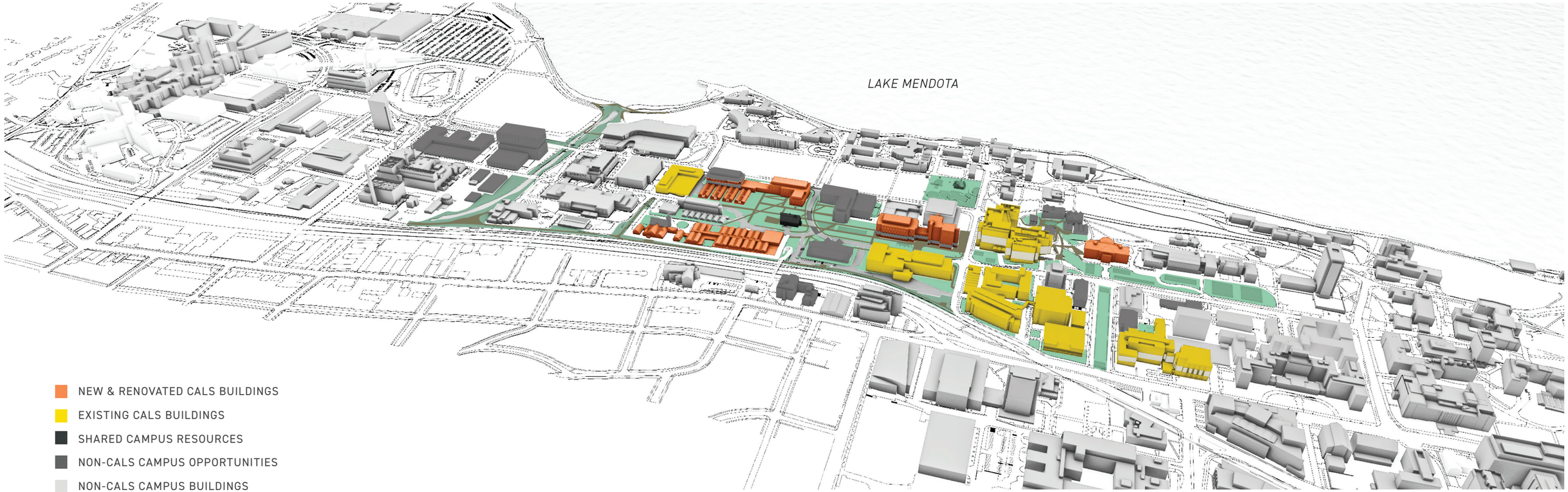
The University of Wisconsin-Madison's College of Agricultural & Life Sciences (CALS) sought to evaluate 1.1 million square feet across 30 facilities to meet evolving demands for research, teaching, and outreach across a wide spectrum of biological sciences. With facilities spanning over 130 years, the College faced the need for a master plan to assess adaptive reuse, new construction, and optimal space utilization to support program growth and the long-term advancement of its mission.

Solution

Flad conducted a comprehensive space needs assessment and analysis of CALS facilities, examining each building's physical condition, functionality, and institutional value. Using defined space typologies, we assessed every facility, creating a quality index to guide the College in rightsizing current and future space requirements. Our phased recommendations offer a flexible roadmap, aligning facilities with strategic priorities and optimizing both existing resources and opportunities for growth.

Impact

This master plan positions CALS to reduce square footage overall while planning for enrollment growth by enhancing space utilization, efficiency, and strategic alignment. The phased implementation plan provides adaptability as funding arises, while the quality insights inform day-to-day operations, near-term facility upgrades, and management of space allocation. Ultimately, the plan strengthens the College's identity and equips it to support the next generation of leaders in the agricultural and life sciences.



SCALABLE GROWTH

SARASOTA MEMORIAL HEALTH CARE SYSTEM //
SARASOTA MEMORIAL HOSPITAL-VENICE
CAMPUS MASTER PLAN

Venice, Florida
65 acres

Challenge

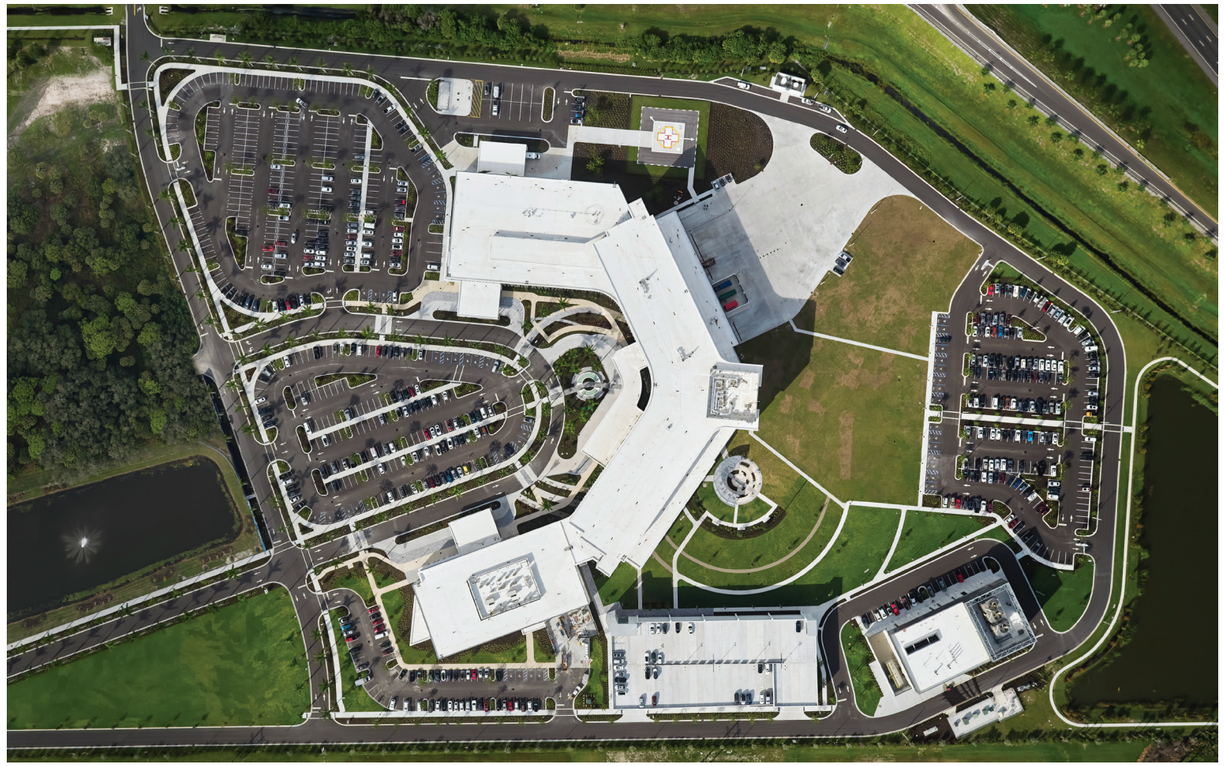
Sarasota Memorial Health Care System (SMH) sought to strategically expand access to advanced medical services in South Sarasota County. This led to planning a greenfield hospital to address the growing community's demand for high-quality care close to home. The project required a comprehensive approach, including rezoning, engaging the community, and designing a facility that could serve immediate needs while anticipating long-term growth and maintaining resilience during severe weather events.

Solution

Flad collaborated with SMHCS to develop a strategic roadmap for right-sized clinical services, resulting in a 452,000-square-foot hospital and connected medical office complex. The master plan accommodates phased expansion of 1.5 million square feet, including additional patient towers, medical office space, and research facilities. The design prioritizes scalable services, such as the ED and surgery, while integrating storm-resilient features and passive design to safeguard operations.

Impact

The new hospital strengthens access to advanced care, meeting the growing community's needs while positioning SMHCS for future expansion. Its resilient design has already been tested, maintaining full operations through two recent major hurricanes, providing uninterrupted care when the community needed it most. By combining scalable growth strategies with thoughtful planning, the hospital enhances the quality of life in South Sarasota County, offering a trusted source of care and a framework for ongoing innovation and development.



STRATEGIC GROWTH FOR GLOBAL IMPACT

IDAHO NATIONAL LABORATORY //
CAMPUS MASTER PLAN

Idaho Falls, ID
890 square miles

Challenge

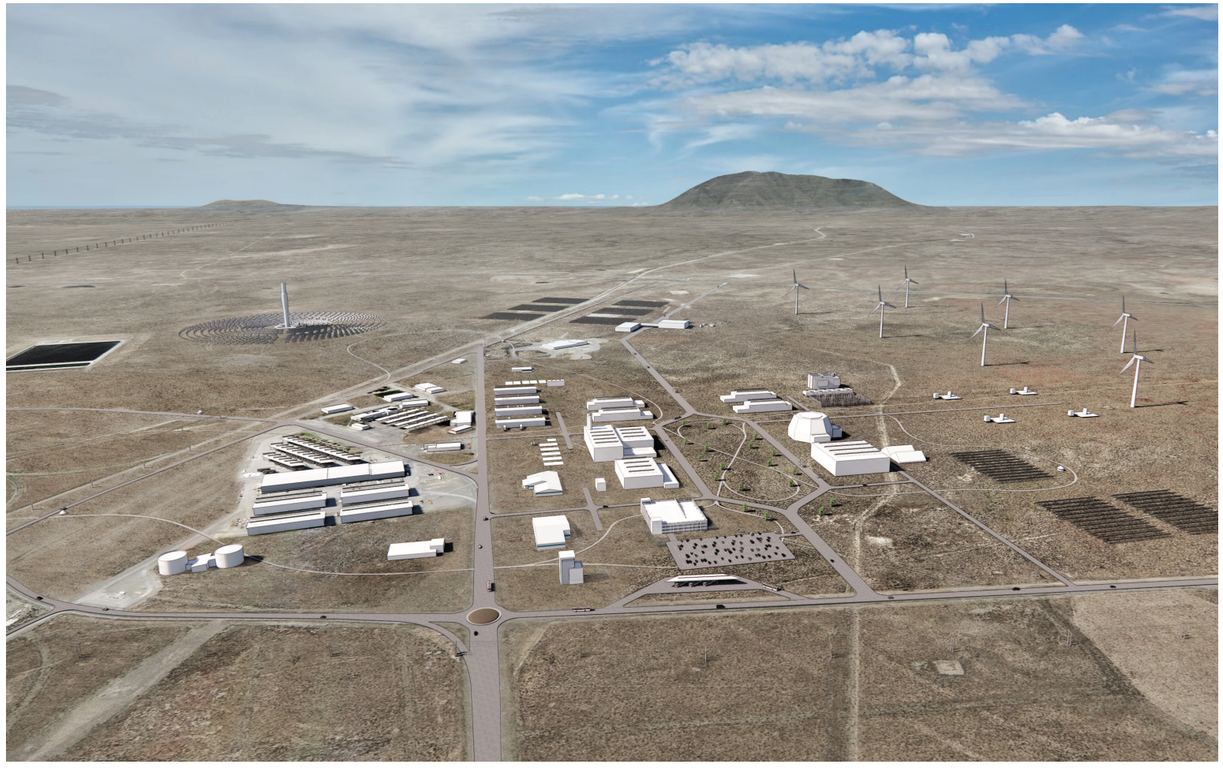
Idaho National Laboratory (INL) faces mounting competition from other Department of Energy (DOE) National Laboratory sites for top scientific talent and research funding. To stay competitive, INL identified the need to upgrade its campuses and research complexes to world-class standards, aligning with both the DOE's mission and INL's strategic vision. This master plan requires a flexible, yet comprehensive, approach to achieve facility aesthetics, functionality, and research capabilities that will support long-term growth.

Solution

Flad's campus master plan outlines a multiyear roadmap to close capability gaps across INL's primary campuses: Research and Education Campus (REC), the Advanced Test Reactor Complex (ATR), the Materials and Fuels Complex (MFC), the Central Facilities Area (CFA), Special Manufacturing Capability (SMC), and portions of the Idaho Nuclear Technologies & Engineering Center (INTEC). By establishing clear links between INL's research goals and infrastructure needs, the plan prioritizes strategic upgrades and implements standards for aesthetics, functionality, and safety. An annual review process keeps the plan adaptable, allowing INL to balance current needs with future growth while remaining competitive in the DOE research landscape.

Impact

The campus master plan positions INL as a premier research institution, attracting top talent and bolstering its reputation in scientific research. By advancing world-class facility standards across its campuses, INL enhances its research capabilities and effectively aligns its infrastructure with evolving mission objectives. This strategic planning approach has already supported the successful execution of new facilities and sets the stage for continued advancements, benefiting INL and the broader scientific community.



EFFICIENCY AND WELL-BEING

TAKEDA PHARMACEUTICALS //
GEORGIA MANUFACTURING FACILITY

Southeast
160 acres, 1.1 million square feet

Challenge

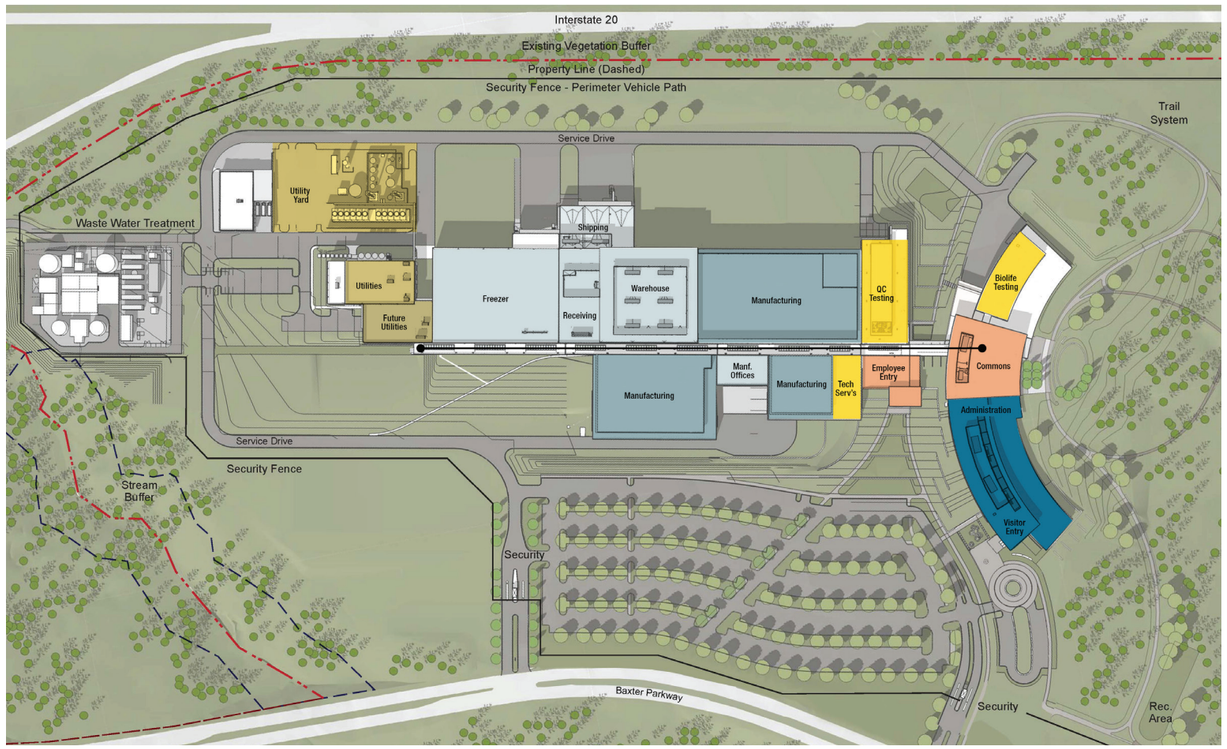
Designing a 1.1 million-square-foot biotech manufacturing campus to produce plasma-based therapies required balancing complex technical needs with a focus on employee well-being. The facility had to meet stringent regulatory standards for the FDA, European Union, and other international bodies, while providing seamless workflows for manufacturing, storage, and distribution. Additionally, the campus needed to foster collaboration and offer flexibility for future growth.

Solution

Flad's design strategically organizes cGMP manufacturing units, laboratories, warehouse, and freezer storage along a two-level spine. This layout supports efficient flows of personnel, materials, samples, and waste, minimizing operational conflicts and ensuring easy access to both raw materials and finished goods. A central commons prioritizing employee well-being features a cafeteria with sweeping landscape views, as well as gym and training rooms. The administrative wing – designed with a raised, under-floor air distribution system – maximizes comfort in a sustainable, transparent environment. Natural light and views integrated throughout foster a sense of openness and boost productivity.

Impact

The campus sets a new standard in biotech manufacturing, enabling efficient production of critical therapies while promoting a healthy, collaborative work environment. The design's flexibility supports future expansion, ensuring the facility can evolve with industry needs. The thoughtful integration of natural light and strategic placement of key facilities enhances both operational efficiency and employee satisfaction, contributing to the overall success of the campus.



ADAPTIVE REUSE AND INNOVATION DISTRICT

UNIVERSITY OF CALIFORNIA, LOS ANGELES //
UCLA RESEARCH PARK MASTER PLAN

Images courtesy of UCLA

Los Angeles, California
700,000 square feet

Challenge

Transforming the former Westside Pavilion shopping mall into a 700,000-square-foot research park requires a strategic approach of adaptive reuse. The site must transition from a commercial space into a cutting-edge research facility that will bring together diverse stakeholders—academic researchers, corporate partners, startups, and government agencies. Careful planning is required to accommodate future growth while establishing the park as a hub for scientific and technological innovation.

Solution

Flad's plan strategically repurposes the mall's two buildings and pedestrian bridge, integrating spaces for the California Institute for Immunology and Immunotherapy and the UCLA Center for Quantum Science and Engineering. The layout emphasizes collaboration and innovation, incorporating projections for future expansion. The design aligns with UCLA's goals for sustainable development and deepening connections with the broader Los Angeles community.

Impact

Upon completion, the UCLA Research Park will serve as a premier nexus for discovery, uniting breakthroughs in biosciences, quantum science, and emerging technologies. This innovative space will address complex global challenges, while extending the university's resources and institutional expertise. It will also deepen the campus connections to Los Angeles' diverse and dynamic communities and meet the growing demand for top-tier higher education across the city and region.

National planning experience

CANADA

University of Alberta
University of Saskatchewan
University of Toronto

NORTHWEST

Adaptive Biotechnologies
Biomedex
Fred Hutchinson Cancer Center
University of Washington
Seattle Children's Research Institute
Washington State University

WEST

Allergan
Alza Pharmaceuticals
Bayer Berkeley
Biogen
BioMed Realty
Calico Life Sciences
The California Maritime Academy
California State University
California State University, Fullerton
Chiron Corporation
Colorado State University
FibroGen
Genentech / Roche
Idaho National Laboratory
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
PCCD Merritt College
San Francisco State University
Stanford Health Care
University of California
University of California, Los Angeles
University of Idaho
Western University of Health Sciences

SOUTHWEST & MEXICO

Baylor College of Medicine
Instituto Tecnológico de Monterrey
Los Alamos National Laboratory
Sandia National Laboratories
Santa Fe College
Texaco
Texas A&M University
Texas Biomedical Research Institute
University of Arizona
University of Mississippi Medical Center
University of Missouri
University of Texas Southwestern Medical Center
Whirlpool

MIDWEST

Battelle Memorial Institute
Catalent
Cleveland Clinic
Department of Homeland Security
General Motors
Genesis Health System
Illumina
Indiana University
Iowa State University
Mayo Clinic
Medical College of Wisconsin
Northwestern University
The Ohio State University
Purdue University
SSM Health
University of Chicago
University of Illinois at Chicago
University of Nebraska
University of Northern Iowa
University of Wisconsin
University of Wisconsin School of Medicine

EAST

Bayer
Boehringer Ingelheim
Brookhaven National Laboratory
City University of New York
Columbia University Medical Center
Johns Hopkins University
New York University
Penn State Health
Polytechnic Institute of NYU
Regeneron
Rutgers University
State University of New York
SUNY Binghamton
SUNY Stony Brook
Tufts University
University of Connecticut
University of Maryland
US Army Medical Research Insititute
Virginia Polytechnic Institute and State University

SOUTHEAST

AdventHealth
Andrx Pharmaceuticals
Auburn University
Bausch & Lomb
Duke University
Eisai
Emory University
Florida State University
Georgia Institute of Technology
Johns Hopkins All Children's Hospital
Lakewood Ranch Research and Health Park
Lee Health
Moffitt Cancer Center
North Carolina State University
Novartis
Oak Ridge National Laboratory
Sarasota Memorial Health Care System
St. Petersburg College
Syngenta
Takeda Pharmaceuticals
UF Health
University of Florida
University of Georgia
University of Kentucky
University of North Carolina
Wake Forest University
Wake Forest Baptist Medical Center

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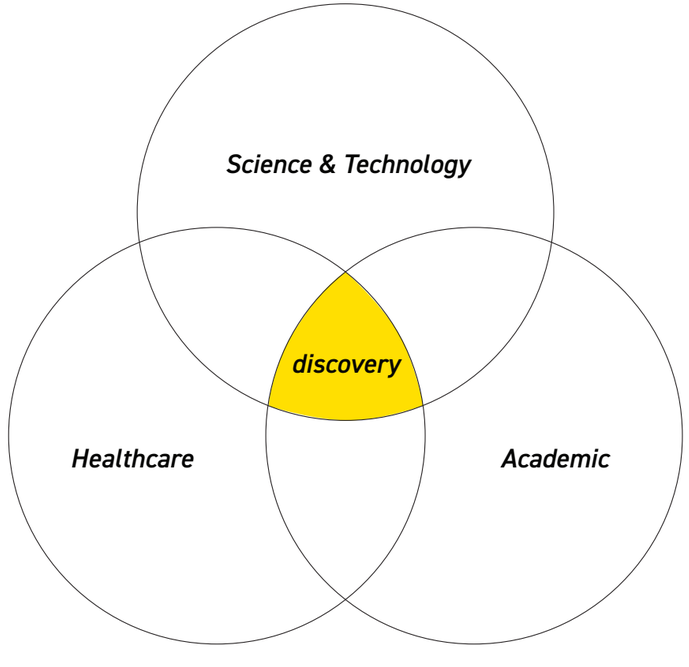

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