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Agency Statement CA Infrastructure Plan 2017

Sustainable UC Hastings

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2017 FIVE-YEAR INFRASTRUCTURE PLAN

AGENCY CLIMATE ADAPTATION STATEMENTS

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NAME

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In 2015, the Department of Finance edited the climate adaptation statement submitted by UC Hastings College of the Law to the Infrastructure Working Group for inclusion into the 2016 Five-Year Infrastructure Plan. The statement described how the College and its divisions are considering climate change in all of its infrastructure projects.

Please review the edited statement and revise or rewrite the statement to reflect how the College is operationalizing adaptation in its planning and investment decisions. Your edited statement will be published as part of the 2017 Five Year Infrastructure Plan.

Please note: *the revised statement should be approximately the same length as the original, summarizing the College policies and actions that support [Executive Order B-30-15](#).*

HIGHER EDUCATION SECTION – DRAFT 2017

California’s institutions of higher education are leaders in climate and sustainability research, education, and practice.

The Hastings College of the Law is implementing sustainability measures through the consolidation and intensification of multiple environmental initiatives into a comprehensive adaptive management program, Sustainable UC Hastings. This effort includes implementation of campus-wide infrastructure and capital upgrades, integrating life cycle maintenance and renewal planning as an element of all building projects, identification of mission-critical infrastructure points of vulnerability to climate change and opportunities for mitigation and research into adaption & resilience as a Cool Island Lab.

Identify all of the [Executive Order B-30-15](#) (climate mitigation and adaptation) **principles** that have been operationalized into College policies or actions. Note which of these policies or actions have become established within all of the College’s divisions.

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Takes climate change into account in all planning and investment decisions.	The Long Range Campus Plan specifies climate resilience as a significant dimension in all planning.
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Employs full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives.	UC Hastings Purchasing requires that these elements are considered in purchasing rationale.
<input type="checkbox"/> Yes <input type="checkbox"/> No	Develops flexible and adaptive approaches to prepare for uncertain climate impacts.	At the request of community partners UC Hastings is convening Resilience planning at the neighborhood scale.

<input type="checkbox"/> Yes <input type="checkbox"/> No	Designs actions to protect the state's most vulnerable populations.	Our campus adjoins communities which include more veterans, elderly, disabled, immigrant, non-English speaking, formerly incarcerated residents than any other neighborhood in our City.
<input type="checkbox"/> Yes <input type="checkbox"/> No	Prioritizes Natural Infrastructure solutions in infrastructure design and project delivery.	Landscaping that creates complex canopy, captures runoff and improves biodiversity is prioritized.

California's [Safeguarding California Plan](#) outlines the state's climate adaptation strategy and provides policy guidance for state decision makers to reduce impacts and prepare for climate risks. Identify which of the following **climate risks** have been identified as a concern by your Office. Describe the priorities and objectives that are being implemented to combat the effects of each risk due to the changing climate. Also, identify any College developed guidance, policies and/or alternatives distributed to educate/inform/support its divisions to achieve the College's climate goals.

<input type="checkbox"/> Guidance <input type="checkbox"/> Policy <input type="checkbox"/> Alternatives	Sea level rise, coastal erosion, and other coastal hazards <i>(reference: Ocean Protection Council's Sea Level Rise guidance)</i>	Sea level rise has been identified as a significant risk to housing stock on the 50-100 year scale; as we are building 50 year + buildings, we find this significant and include it in plans.
<input type="checkbox"/> Guidance <input type="checkbox"/> Policy <input type="checkbox"/> Alternatives	Extreme heat and local heat islands – both urban and ex-urban <i>(reference: 2013 Preparing California for Extreme Heat: Guidance and Recommendations and Public Health Impacts of Climate Change in California: Community Vulnerability Assessments and Adaptation Strategies).</i>	UC Hastings as an affiliate of the University of California is working within the policy that each campus develop their physical plant with a dedicated research focus – the Living Laboratory framework. UC Hastings' focus, as one of the most urban campuses, is dedicated as a Cool Island Research Center.
<input type="checkbox"/> Guidance <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Alternatives	Flood, storm water runoff and landslides <i>(reference: DWR's Statewide Flood Management Program)</i>	Plans to capture and re-use storm water and irrigation runoff are projected for the 2 nd infrastructure project: campus housing, see attached full Agency Statement.
<input type="checkbox"/> Guidance <input type="checkbox"/> Policy <input type="checkbox"/> Alternatives	Drought and subsidence <i>(reference: California Water Plan – 2013 Update)</i>	Vegetation maintenance will be integrated with runoff management system, scaling up from current deployment of ~ 6,000 asf of sheet-mulched landscape beds.
<input type="checkbox"/> Guidance <input type="checkbox"/> Policy <input type="checkbox"/> Alternatives	Wildfires and forest health decline or emergencies <i>(reference: Cal Fire's Fire and Resource Assessment Program)</i>	Fire management is significant to stability of our water system, dependent on Hetch Hetchy reservoir and watershed.

<input type="checkbox"/> Guidance <input type="checkbox"/> Policy <input type="checkbox"/> Alternatives	<p>Extreme weather: hurricanes, wind, snow, high winds, dry lightning, etc. <i>(reference: Cal OES' 2013 State Hazard Mitigation Plan)</i></p>	<p>High winds potentially generated from building projects are mitigated under the Long Range Campus Plan Environmental Impact report, 2016.</p>
<input type="checkbox"/> Guidance <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Alternatives	<p>Natural resource degradation: water supply and quality, biodiversity, salinity and quantity, desertification, and ecosystem disruption. <i>(reference: California Statewide Wildlife Action Plan)</i></p>	<p>Greening strategy is optimized for endemic species of plants, animals, insects and birds.</p>
<input type="checkbox"/> Guidance <input checked="" type="checkbox"/> Policy <input type="checkbox"/> Alternatives	<p>Policies and actions that address public health issues and protect the <u>most vulnerable populations</u> to the health impacts resulting from climate change. <i>(reference: CDPH's Climate Change and Health Equity Program)</i></p>	<p>As a Cool Island Research Lab and through Environmental Justice training programs and local hiring and infill housing development UC Hastings policy is to increase benefit to adjoining communities (with high percentages of vulnerable people).</p>
<input checked="" type="checkbox"/> Guidance <input type="checkbox"/> Policy <input type="checkbox"/> Alternatives	<p>Identifying major climate risks/exposures using state guidance or resources <i>(i.e., CalAdapt or Caltrans' 2014 District 1 Vulnerability Assessment and Pilot Project Report).</i></p>	<p>CalEnviroscreen 3.0 is also an important resource.</p>



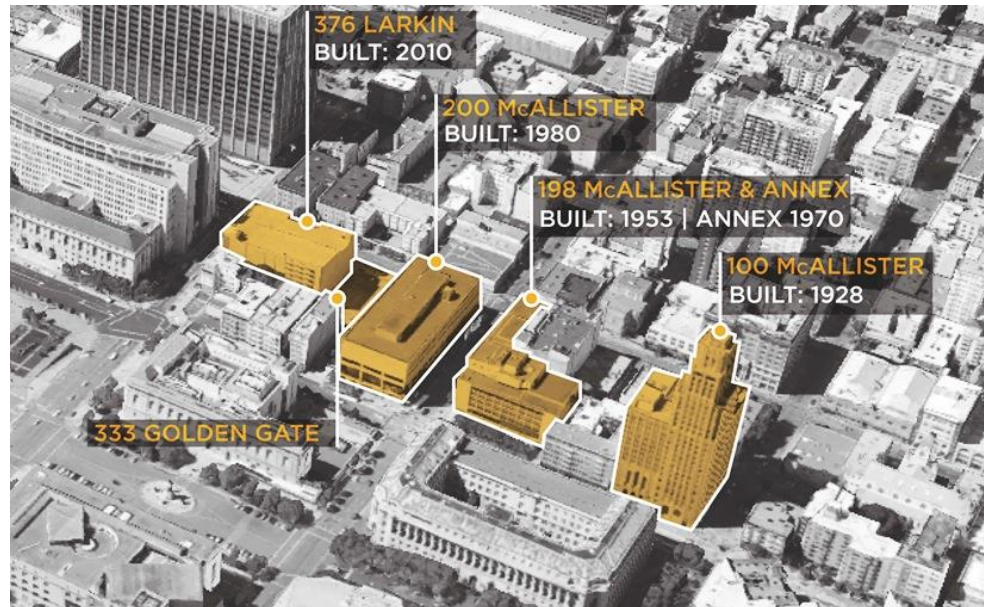
Agency Statement:
Climate Adaptation in the 2017 DRAFT
California Five-Year Infrastructure Plan
October 2016

Summary

UC Hastings College of the Law is implementing Executive Order B-30-15¹ through the consolidation and intensification of multiple environmental initiatives into a comprehensive adaptive management and engagement program, **Sustainable UC Hastings**, which aims to both reduce campus contributions to climate change and adapt to its effects.

The coordinated effort of Sustainable UC Hastings includes:

- Monitoring mission-critical infrastructure points of vulnerability to climate change and opportunities for mitigation
- Ongoing assessment of campus contributions to climate change and strategies to mitigate adverse impacts
- Implementation of campus-wide infrastructure and capital upgrades, integrating life cycle maintenance and renewal planning as an element of all building projects
- Communication of campus-wide benchmarks, objectives and results through internal departments, neighborhood, regional and other networks including educational and professional forums
- Structured commitment to ongoing modeling, monitoring and iteration in adaptive management system
- Significant support for cultural initiatives aimed at adapting behaviors and customs towards sustainability within and surrounding campus



Adaptive Management of Climate Impacts at UC Hastings

UC Hastings has been an anchor institution at various locations in the Civic Center, mid-Market and southern Tenderloin neighborhoods since 1879. With close proximity to municipal, state and federal offices and court facilities, UC Hastings faculty, students and alumni have deeply influenced public policy and civic life for generations. This legacy includes hallmark scholarship on water rights and usage, land use and environmental programs and innovations in law related to intellectual property and information technology. These areas complement the College's core commitment to public interest and public service.

Today the College's groundbreaking clinical programs represent a major intellectual and institutional investment in experiential learning. Clinics that serve the legal needs of immigrants, non-profit organizations, the elderly and tenants attract an intensely public service-oriented student population who go on to practice law in public interest and public service fields at a higher rate than any other law school.

However, the campus' physical infrastructure does not adequately reflect its vanguard pedagogy and talent. As the only stand-alone college of law within the UC system, the College has been nimble and frugal in conserving building budgets and maintenance resources. Through a comprehensive research and planning process, the Long Range Campus Plan, the College finds that within the next decade three-fifths of campus properties, must be replaced or upgraded. ²



As the building program commences conditions in and around the College render it ripe for institutionalizing a deeper culture of sustainability and resilience in response to climate change.³

UC Hastings' campus is situated on the densely urban San Francisco peninsula in a maritime Mediterranean climate zone which is characteristically adapted for summer-drought / winter-rain cycles, temperatures with a low seasonal but high daily variability, both mitigated by fog which is deeply dependent upon robust ocean currents. Access to plentiful, high-quality drinking water and availability of hydroelectric power is dependent upon the montane climate of the southern Sierra Mountains surrounding Hetch Hetchy Reservoir. Macroclimate factors and extreme weather place both regions at high risk for extreme desertification, droughts, fires and floods. On the 30–year scale the built environment and dependent populations may suffer interruptions in public transit, access to fresh water and food from the Central Valley. Longer term, on the 50 to 100-year scale, intensifications of these as well as compromised housing stock due to sea level rise are predicted. The recent four-year drought substantiates the view that these changes are already in effect.

Specific mission-critical vulnerabilities to current College infrastructure based upon predicted climate changes are identified as:

- Our dense, urban neighborhood is at high risk of extreme heat events and poor air quality which can exacerbate pulmonary and heart disease and provoke heat stroke in vulnerable populations⁴
- Old wooden windows in the 29-story, 252-unit high-rise student housing facility known as McAllister Tower could fail due to wind conditions associated with extreme storms potentially displacing all resident students into the highly impacted Bay Area housing market
- HVAC & electrical failure in the academic building at 198 McAllister could displace 83% of all teaching functions
- Green space required for health and social interaction may not be viable with extended drought
- Food and fresh water insecurity may exponentially increase all costs of health-required amenities and campus operations overall
- Commutes to campus could be impacted if public transit is compromised due to drought or floods
- Sea-level rise of 1 -2 meters by 2050 would put pressure on scarce housing stock as shoreline development would be abandoned

Additionally, due to synergies in climate-related impacts the uncertainty is intensified and compounds complexity in managing all campus infrastructure. Therefore responsive risk management is predicated upon a holistic, adaptive



management approach. **Sustainable UC Hastings** consolidates and builds upon existing efforts both within UC Hastings and in the wider community.

Ongoing efforts include:

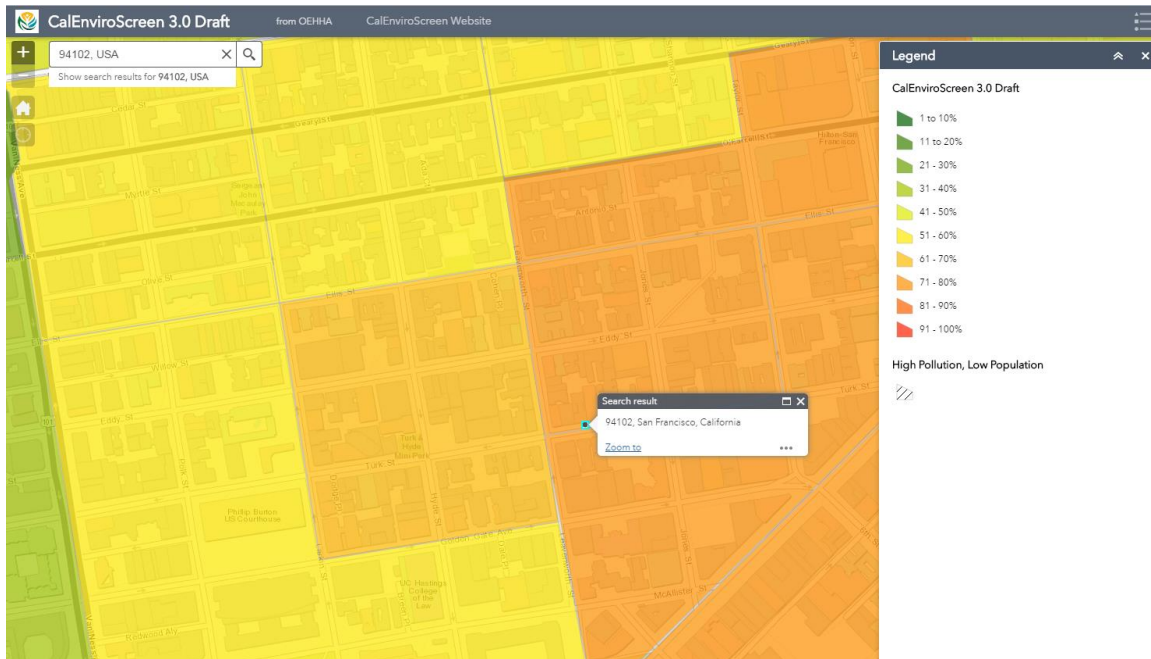
- **Environmental Law Concentration and Clinic:** through rigorous academics and real-world work experience, students address the legal and public policy issues affecting the future of our planet
- **West-Northwest Journal of Environmental Law and Policy:** the first regional environmental law journal covering California and the Pacific Northwest; semi-annual issues and annual symposium to stimulate and disseminate climate change scholarship⁵
- **The Demonstration Gardens:** community-based education in environmental stewardship & green livelihood training, since 2009, is deepening Environmental Justice focus through service learning and more collaboration with CBOs, the City & County of San Francisco and state court system.⁶
- **UC Hastings Facilities efficiencies, water conservation and waste reduction:** with consumption trending -5 to -15% each year since 2002, specifications were completed in 2016 for new construction that will more than double efficiencies already achieved, for the first of three increasingly complex projects; Replacement Academic Building at 333 Golden Gate Ave, New Campus Housing at 198 McAllister St, Rehabilitation of UC Hastings Tower at 100 McAllister.
- **The McAllister Streetscape Improvement Project:** (completed 2015) greening and pedestrian safety improvements conducted in partnership with the SF County Transportation Authority at a cost of \$2.4 million⁷ continued maintenance.
- **Campus Housing- Graduate Village:** (planned for 2022 – 2025) will reduce travel demand and housing market pressure by density infill of 1,000 to 1200 units while amplifying opportunities to innovate for water conservation and green space. ⁸
- **Cool Island Research Lab:** Collaboration initiated with climatologists, data scientists and health researchers to study and address heat island effects endemic in our urban microclimate.
- **Environmental Impact Report:** The Long Range Campus Plan program EIR was certified in July 2016 further codifying UC Hastings' aggressive responses to climate change.

Sustainable UC Hastings has convened a community-of-practice for knowledge sharing to address the risks outlined above and meet the challenges inherent in Governor Brown's executive orders. This team, comprised of staff, faculty,



students and community partners is helping to model and inform systems development and decision-making in areas such as waste stream management, water and energy conservation. This model will play a significant role in campus renewal over the next decade, leveraging technological advances and lower-trending operating costs.

The Sustainable UC Hastings community-of-practice is working together to determine strategies, scope and methods. Systemic tools include development of data gathering methods and a GIS (geographic information system or geodatabase) to process and communicate information.



Cal EnviroScreen 3.0 shows that residents of the south Tenderloin neighborhood of San Francisco are assessed at higher risk from environmental stresses such as poor air quality and extreme heat in 2016 than in 2015. <http://oehha.ca.gov/calenviroscreen/general-info/calenviroscreen-30-draft-indicator-and-results-maps>

Practical outcomes and deliverables of this adaptive management approach will include:

- Increased access to environmental data through ongoing mapping, assessment, monitoring and iteration
- Continued “right-sizing” of campus facilities for changing population and to optimize campus assets with other public higher education institutional partners such as UCSF, UC Davis, among others
- Enhanced “cool-island” effects from increased carbon capture, respect for resources and living canopy densification



- More nimble deployments in technology
- Elevation of understanding and investment in sustainable development to yield higher returns over the life cycles of campus buildings and in the community

Sustainable UC Hastings has participated in or coordinated additional regional efforts on the 2016-17 horizon:

- Civic Center Sustainable Utilities District Plan 2015, SFPUC⁹
- Civic Center Public Realm Plan 2015 – 2019, SF Planning Department
- San Francisco Green Festival, Nov 2015
- TLConnect Health, Jobs and Lively community Fair, August 2016, host
- Community forums & workshops in partnership with SF Public Library, Department of Recreation & Parks, Trust for Public Land, San Francisco Public Utilities Commission, Tenderloin Neighborhood Development Corporation, Twitter and others to promote adaptive climate management

After the first year of consolidation of environmental initiatives under the Sustainable UC Hastings umbrella UC Hastings is poised to further leverage its legacy, intellectual capital and trajectory as an institution of social justice to meet the challenges of a changing climate. The College's commitment is demonstrated through investment in specifications for infrastructure that will meet or exceed the emissions reduction and efficiency targets mandated by Governor Brown's executive orders. Through community-based adaptive management our campus culture will be restructured upon principles of sustainability and resilience. Our built campus will be renewed as an emblem of environmental justice.



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- ¹ Governor Brown's Executive Order available from:
<https://www.gov.ca.gov/news.php?id=18938#targets#targets#targets%20for%20climate%20change%20adaptation>
- ² Long Range Campus Plan 3.0 available from:
<http://www.uchastings.edu/about/leadership/strategic-plan/lrcp/master-planning-archive/index.php>
- ³ Downtown/Civic Center Climate & Health Resiliency Assessment available from:
<http://www.sfclimatehealth.org/neighborhoods/downtowncivic-center/>
- ⁴ Classification of the air quality in the neighborhood has extended into higher percentiles (higher risk) Cal EnviroScreen3.0 available from:
<http://oehha.ca.gov/calenviroscreen/general-info/calenviroscreen-30-draft-indicator-and-results-maps>
- ⁵ West-Northwest Journals available from:
<http://journals.uchastings.edu/journals/websites/west-northwest/index.php>
- ⁶ Demonstration Gardens @UC Hastings available from:
<http://demonstration-gardens.org>
- ⁷ McAllister Streetscape Greening 2015 available from:
http://www.uchastings.edu/about/leadership/strategic-plan/lrcp/resources/McAllisterStreet_Hastings-Streetscape_PropAA_proposal.pdf#McAllister%20Streetscape%20Greening%202015
- ⁸ UC Hastings Housing plans: <http://uchastings.edu/about/leadership/strategic-plan/lrcp/resources/housing-statement-to-land-use-2-29-2016-f.pdf#Sustainable%20Housing>
- ⁹ Civic Center Sustainable Utilities District Plan 2015 available from:
<http://www.sfwater.org/index.aspx?page=739#Civic%20Center%20Sustainable%20Utilities%20District%20Plan>