React : Regrowth : Resilience

Premise: Forests of the mountain-western US, and those that inhabit those forests, have been at the forefront of the broad, long-term impacts of human-caused climate change, but can also be the very local and immediate impacts, creating very complicated social, economic and, particularly environmental situations. As perception changed over the last century of how best to sustain healthy forest ecologies, traditional logging operations changed or were eliminated, while fire suppression policy also contributed to excessive growth in the forest, both adversely affecting the mountain communities that grew up around those activities. As climate has changed, rainfall in the western forests is decreasing and temperatures are rising, leading to not only long-term changes in the eco-system, but adding fuel to the forests, making them ripe for more frequent wildfires, both naturally-caused and human-caused. These fires require a system that can rapidly react, to save both forest and human life. At the same time, both the human communities and the forest habitats that surround them need near-term regrowth in sustainable ways, while also striving toward greater long-term environmental and economic resilience, in facing an uncertain future.

Project: The project will be the design of a regional center for both wildland firefighting response and firefighting education, with a tandem role of studying forest ecologies and economies under disruptive climate change, making way for both to be more resilient and sustainable in the western mountain forests. The project’s core program will support wildland fire-trucks and crews, as well as “heli-tack” and “smoke-jumper” operations, with an associated flightline program. There will be space for indoor housing for staff during fire season, and outdoor space for “hot-shot” crews to camp during fire incidents with associated food and bathing facilities. In parallel will be a wildlands firefighting education center, with facilities for research into forest fire-risk. In the “off-season,” the facility will switch over to act as a forest ecology climate-change research station, with facilities then accommodating visiting staff, faculty and students from regional academic programs. The site will be chosen from one of the many “brown-field” former logging facilities in the foothills of the Cascades, with the goal of restoring it from the damage of historic logging operations. A broader goal will be to offer new impetus and hope for economic revitalization and new cultural opportunities for mountain communities, in support of living in a more renewable way with the forests, and transforming unsustainable resource extraction approaches.

Process: In Winter term, we will begin by looking both at the environmental ecology of flora and fauna of the forests of the central Cascades, and transformation of that ecology due to climate-change. In tandem with that, we will explore the history and impact of forest fires in this region, from historic perspective of indigenous people up through present views, and impacts on the economic ecology of human communities within the forests. We will follow this with a deep exploration of the specific site, and the forest and community that surround it, and refine the base program to best address and support the long-term resilience of both the communities and forests. From that, we will develop conceptual, paradigmatic expressions that capture each student’s intentions for the project, in conjunction with the first pass at the holistically sustainable design of the campus of program elements, with siting, massing and environmental strategies of the buildings, hardscape and landscape. We will conclude the first term with the development of the schematic design for site, forms, spaces, construction and systems, in response to external and internal forces of people, place and program, that also captures each student’s unique conceptual statement. Throughout this term and next, we will be using the AIA-COTE Framework for Design Excellence as a structure for the process of research, design and representation.

In Spring term, we will begin by adjusting the designs based on final feedback from the first term. For the rest of the term, we will have a series of topical “workshops” to further develop specific, technical aspects of the designs. The goal will be to iteratively refine and enrich the depth and detail of the first term’s design, toward a comprehensive, holistically integrated solution that incorporates a full spectrum of overall ecological response at site and building scale, with significant detail to construction, structure, circulation, building systems, and with consideration of key building code and feasibility aspects. Final documentation will include models, digital renderings, structural and systems diagrams, partial construction sections and details, as well as code, cost and fully developed and diagrammed response narrative, that includes assessment under the AIA-COTE Framework for Design Excellence.