Dear Jurors:

Our current research into infrastructurally based design fits loosely into three conceptual categories:

**Sensate Tissues**
**Dynamic Urban Fabrics**
**Self Organizing Landscapes**

Projects that fall under these titles are elucidated within the pages of this digital booklet. These studies aim to demonstrate a range of inquiry into infrastructurally relevant topics, while proposing an integrated method and approach for a specific site during the **Stage 2: Design Development phase** of this competition. By unifying these three isolated studies into a comprehensive approach to new models of “works projects 2.0” we will bring together: the harnessing/transfer of environmental forces within a coherent material tissue; the morphological range and resilience of canopy and shade structure for arid urban environments; and the self assembly and grouping potential for simple and manipulable objects that have a range of uses such as street furniture and park apparatus. This approach seeks out an inventive manifestation of hybridized, performative and robust systems that are intricately stitched into the existing networks and environments of today’s urbanity.

Page 9 describes a working methodology that is based on generative repetition, and Page 10 summarizes the premise for **Stage 2: Design Development**.
SOLAR ENERGY IS COLLECTED DURING THE DAYTIME BY THIN CELL PHOTOVOLTAIC MEMBRANES WHICH ARE ORIENTED TOWARD BEST SOLAR GAIN ANGLES

SLOTS IN FABRIC ARE POSITIONED SO THAT AIR AND LIGHT PASS THROUGH IN OPTIMAL WAYS - CREATING SHADE AND ENHANCING BREEZES

ACOUSTICAL SPHERES REFLECT SOUND FOR PERFORMANCES AND REFLECT THE STREET SCENE BELOW

SOLAR ENERGY IS STORED AND EMANATES AT NIGHT IN THE FORM OF UPLIGHTING

RAIN WATER IS COLLECTED AND FUNNELED INTO A LARGE PLANTER AND CISTERNS
Shown in this context of civic space, the “urban drape” performs multiple roles of sunshade, imageable object, referential icon, bandshell, planter, and energy harnesser/converter. It takes on a radically different presence at night once the energy is re-deployed as a field of charged uplights that create a range of atmosphere and effect.
DYNAMIC URBAN FABRICS

CANOPY MORPHS TO ACCOMMODATE TRAFFIC, DENSIFIES AT CORNERS WHERE PEDESTRIANS WAIT TO CROSS

PHOTOVOLTAIC ARRAYS GATHER ENERGY WHILE CONTRIBUTING TO THE CREATION OF SHADE

SIDEWALK LOGICS GIVE WAY TO PARKING AND STREET LOGICS

EVENT SPACES SUCH AS CIVIC PLAZAS HYBRIDIZE GENERAL ORGANIZATIONAL LOGICS WITH LOCAL FORCES
Longitudinal section showing transitional shifts and environmental behaviors.

Geometry and morphology generative diagrams.

Ecological/urban networks.

Example of intersection - one of many prototypical configurations.

Plan of typ. intersection - showing use response and transition.
Canopy (sunshade/solar, water collection) and groundplane (water, circulation/flows) are stitched together with tensile rods to form a dynamic “Park Space” urban fabric.

View showing canopy in “breathing” mode.

Drawing with embedded euclidean geometries at ground plane and algorithm based patterns at canopy.

View into layered spaces.

Studies of groundplane morphologies.
Formed landscape demonstrating a range of permutations within an urban park setting.

“Chaord” assembly with looser definition of whole.

Units being deployed within a field of potential forces.
Isolated examples of unit assemblies. Uses shown here range from info kiosk, assembly, planter, play sculpture and sunshade.

Plans showing deployment of unit landscape within urban park context.
09 GENERATIVE REPETITION

Seeking to open new territories for locality and specificity, we utilize a process of “generative repetition” - a methodology that focuses on mapping specific existing morphologies, actions, systems, and material conditions, then generating and forecasting new architectural results based upon their findings.
While the studies shown in this booklet deal with generic urban settings, it is our intention for the Stage 2: Design Development phase to focus specifically on downtown Los Angeles’ new industry district. We view the proposed “cleantech” manufacturing corridor proposed by Mayor Villaraigosa as an excellent case study for this integrated approach. Southeast of downtown LA, this ambitiously planned area brings together different modes of circulation (train, bus, car), the developing LA River, and various zoning overlays from housing to industry - all proximate to downtown. This area will be one of the most prominent developments in the country promoting a new “green” economy that emphasizes research, development and industrial manufacturing under the guise of a clean model, and therefore merits the parallel inquiry into new robust infrastructural models that can “speciate” evolving urban tissues. Our project will examine novel ways of synchronizing flows, harnessing natural forces, and demonstrating a prototype based method in which many permutations might arise within a multitude of similar urban circumstances.