

Architecture Studio: 2nd Year Spring '08

Spring 2008, CMU, Arch #48-205, M/W/F 1:30-4:20
Class Website: www.andrew.cmu.edu/course/48-205

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Off. Hr: M/F 12:00-1:00pm & by appt. in MM202

(3/12/08)

PROJECT 1 - FIRE TOWER

MINDSET: Building on our investigation of composition, concept, and spatial experience last semester, we will undertake a more intensive exploration of the role that materials and assembly methods can play in creating a small piece of architecture. We will focus on the scale of the human body encountering the physical presence of building materials. We seek to explore how to elevate ordinary construction to poetic expression, how real materials, structure, enclosure, joinery, craft, and building techniques can lead to significant architecture. A key focus of the studio is on the joining of architectural elements, especially of concrete masonry and other materials.

PROJECT: Your charge is to design a Fire Tower, featuring masonry construction, adjacent to the South Side Works. The tower is to function both as a poetic landmark for the community, and as a functional fire training tower for the fire department. Part of the charge is to conceptualize and invent the precise program, function, and use of the tower in terms of identity, fire training, possible use in community events, historic or symbolic meanings, as well as its relationship to the South Side works, to the adjacent industrial parks, to the historic South Side, including the former J&L steel works on the site, or to the Monongahela river and greater Pittsburgh.

PROGRAM: You are charged with inventing the exact program brief for the Fire Tower according to the criteria listed above, and creating a building with the following constraints:

- it must fit within a 24'x24' footprint, except for small cantilevers above
- it can be no more than 75' tall to its tallest point
- it must contain multiple interior levels, though not necessarily "full" levels
- one interior stairwell must connect each level with the other. At a minimum, firemen must be able to drag their hoses up this stairwell.
- at least one "room" and one part of the stairwell must be fully enclosed, for possible use as a "burn room" and "smoke stair" for fire training.
- for pedagogical, symbolic, contextual, and funding purposes the tower construction must "feature masonry" (i.e. much of the building should be made of masonry, particularly concrete block). Emphasis should be placed on the joinery of masonry units to each other, and to other materials.
- it must contain at least one wall-opening, and one roof-top access-point for a fire ladder truck to approach and train firemen to enter the building.
- as a result, the tower must be sited and contain hard-scape paving such that a long ladder truck can approach, maneuver, and leave the site.

PROCESS: A primary goal of the studio is to foster a robust design process, including enriching your work through: 1) extensive research; 2) iterative techniques; and 3) working simultaneously at several scales, from corner detail to site plan. As part of this effort, all students will design a masonry "block system" concurrently with this project. This "block system," which may become part of the masonry fire tower, will be designed with both analog and digital techniques, and will be fabricated at a large scale using the school's CNC router in the new digital fabrication lab. In addition, the studio will work closely with the M&A course to do materials research, and to integrate a masonry charette and masonry-related field trips into the design process.

DELIVERABLES: This is a short project, with many phases, requiring you to work quickly and effectively, and to commit to early ideas in order to resolve your design from the level of site plan, to the masonry block details. The final presentation requirements will be determined at mid-review, but will include large scale details and your "block system" design. Those dealing extensively with concrete block will be entered into an NCMA competition.



THE SITE: The site is a prominent site just east of the current South Side Works development in Pittsburgh, along the Mon River, at the bridgehead to the Hot Metal Bridge. The cleared and ready-to-build construction site is bounded by Hot Metal St. to the north, S. Water St. (and the bike trail and river) to the east, the existing parking lot for the UPMC Sport Medicine complex to the south, and a heavily used, sunken freight rail track to the west. It is serviced by bus 59U.

You may place your Fire Tower anywhere on this site, though for safety and access reasons, you must be able to drive a “Ladder Truck” up to it on all sides, so it must be setback from all sidewalks, train tracks, and parking lots. All site plans should show in light graphics the turning radius of a truck.

Although your project is to design a Fire Tower, your proposal should engage the entire site. Do not create a tower in isolation: demonstrate how your tower engages the site, how the site can be shaped to embrace the tower, making it part of a larger urban and cultural fabric.

