building types 12.0
THE ARTS AND SCIENCE CENTER: NASHUA, N.H.

SPACE: THE MAIN SPACES ARE ORGANIZED AROUND AN INTERIOR OUTDOOR GARDEN SPACE, WITH A COFFEE SHOP BECOMING A VITAL LINK BETWEEN THE THEATER AND STUDIOS.

CIRCULATION: CIRCULATION IS IN AND AROUND THE GARDEN COURT WHICH IS LARGE ENOUGH TO ACCOMMODATE SURGE CROWDS COMMON AT THE THEATER.

STRUCTURE: THE STRUCTURE OF THE THEATER IS TYPICAL. THE STUDIOS ARE OF COLUMN AND BEAM TO ALLOW FLEXIBILITY OF THE INTERIOR AND THE USE OF GLASS.
SITE: ORGANIZATION OF THE SITE RECOGNIZES THE THEATER AT THE PRIMARY FUNCTION WITH THE MAIN ENTRANCE EXPOSED TO THE THEATER LOBBY. STUDIOS HAVE BEEN ORIENTED TO RECEIVE NORTH LIGHT.

PUBLIC AND PRIVATE AREAS ARE RANDOMLY ZONED.

STRUCTURE: THE THEATER STRUCTURE IS TYPICAL. THE STUDIOS HAVE EXTERIOR BEARING WALLS TO ALLOW A FLEXIBLE INTERIOR.

THE ART CENTER, TOWNGATE ENG.

SPACE: AN OPEN COURTYARD IS AN ORGANIZING ELEMENT.
Circulation: Public circulation is restricted to the lobby, lounge and auditorium. The circulation is through the courtyards, back stage and to the studios.

Siting: Location of the parking lot in relation to the theater lobby causes an alienation of the public to the courtyard. Studios are oriented to receive light. Service entry is separate from public entry.

Performing Arts Building,
U. of C., Santa Cruz, Calif.

Space: The theater is the organizing element with studios arranged around it. Theater, art and dance have been separated into different buildings within the complex. No interaction is provided for between the public and the studios.
Circulation: The large crowd attending a production is distributed in a lobby that encircles the theater on three sides. The actors use a separate entrance that gives access to backstage and studios.

Siting: Location of the public parking space to the public entrance and the location of the students entrance were important if the separation desired was to be achieved.

Structure: The roof over the auditorium is steel trusses supported by four columns to create the large space. The studios are wood frame.
THE ART STUDIOS WERE ORIENTED TO RECEIVE NORTH LIGHT AND SERVICE WAS SEPARATED FROM BOTH ENTRIES.

SUMMARY:
SPACE: EACH EXAMPLE HAD ITS ORGANIZING ELEMENT. THE ORGANIZING ELEMENT WAS ESSENTIAL IN A BUILDING TYPE OF SUCH DI-
VERSE FUNCTIONS.

STRUCTURE: THE LARGE OPEN SPACE OF THE THEATER WAS ACHIEVED USING STEEL COLUMNS AND TRUSSES. THE STUDIOS WERE ALWAYS FLEXIBLE.

CIRCULATION: THESE EXAMPLES ILLUSTRATE THAT IT IS POSSIBLE FOR THE CIRCULATION TO BECOME MORE THAN A FLOW SPACE. IT CAN BE USED TO EDUCATE THE PUBLIC TO STIMULATE THEIR INTERESTS IN THE ARTS.

SITING: THE LOCATION OF THE PARKING LOTS IN RELATION TO THE THEATER LOBBY IS OF PRIMARY CONCERN. STUDIOS RECEIVE NORTH LIGHT AND SERVICE ENTRIES ARE SEPARATE FROM THE PUBLIC ENTRIES.
schem. design
13.0
SITE:

Indianapolis historically has turned its back on the river. This project gives the city the opportunity to bridge that gap and incorporate the river, visually and functionally, into its fabric.

Working with the principal that the River and the City can be brought together, the Cultural Center and Park can serve as a catalyst for the generation not only as a new Park and Cultural Center, but for a new quality of life in the City as a whole. The Cultural Arts Center will be laid on the strong axis which is set up by the Monument, State Capitol and Market Square. The Center will serve as a termination point of this axis on the river.

PRIORITIES

a. Bring the River and City closer together visually and functionally.

b. Provide a Park that is primarily open landscape defined by the Cultural Arts Center.
SHEET PARKING BUFFER OPEN AUDIENCE AREA
DESIGN ISSUES

PROGRAM:

As a whole, the program is made up of four components. Due to glare from the sun, the axis of the stage and auditorium is set up on a 45° angle. The 45° angle is also suggested by the way the restaurant fronts the White River. Circulation is the main connecting element between each component.

The main issues which are determinates in the design are the vast area provided by the site, the White River, access to the downtown, needed flexibility for the auditorium, site contour, city noise and views.
GRAPHIC COMPOSITION:

- The facility is made up from five components which are bound together by circulation zones.

Stage & Backstage

Auditorium

Administration

Entry/Lobby

Gallery

Restaurant

Stage area, backstage, dressing rooms and all other related areas are combined with administration to form one element.

The restaurant and stage area set up a 45° axis which the building is designed around.
ENTRY & ENCLOSURE:

PARKING

PRELIMINARY DESIGN
GROUND FLOOR

Circulation

Service Below

Parking

Stage

ADM.

Restaurant
During the first and second quarter I analyzed three different schematic design concepts. In the first concept I used a radial design with the stage at its center. The building itself was oriented on the site to align with a strong axis which runs through the heart of Indianapolis. Designing rooms with curved rooms proved to be unacceptable due to cost and furniture placement. Critical issues were brought up during this phase such as flood levels and exterior skin analysis. Parking and circulation still needed much investigation. The program set very difficult guidelines which made designing very limited. 1. The building was set in an urban context but yet had to seem natural. 2. The building had to incorporate the river as a feature of the project. 3. The auditorium had to open up to allow people outside to see and hear from the stage within. The entry into the building occurred behind the fly-tower (which is rein-stated in the final design). The lobby fed into the auditorium on both sides of the fly tower.
In my second schematic design parking and entry were located on the east side of the auditorium which gave access to the seating area only on one side. The west side of the building seemed to be neglected even though I tried to play up the exterior spaces which drew people from the exterior space in the rear of the auditorium down to the river. The river was a boundary which seemed to dictate a limited design from right to left.

Incorporating the river into the project still seemed very superficial. People control into the building also supported this layout. By having all control points on the east side seemed much more practical than duplicating them on both sides.

The basic elements of a theater are the auditorium, fly tower and lobby, each of which is an overwhelming mass that stand out as very separate components. The verticality of the building was an ever present problem which I began to play down with long horizontal bands.
In my third design concept, I explored the idea of locating the parking on the opposite side of the river. This instantly changed the river from a barrier to a integral part of the whole design. By bridging the river, the entrance became an exciting experience which solved a main project goal. With this resolution, one problem became evident. The width of the river at this point is 900'. The shores must be manipulated in such a way as to shorten the distance from parking to the main lobby. The shores of the white river will have to be re-constructed.

Up until this point I had solved several major criteria presented by the program. Such as incorporating the river into the design, playing down the "tallness" of the theater elements, placing the control points in a central area which allowed flow into the lower and upper auditorium from both sides! This design actually defied almost every aspect of conventional theater circulation but yet it worked perfectly! And still allowed for the rear operable wall which provided exterior seating.
PATTERNS & RHYTHMS:
REAR OPERABLE WALL DETAIL STUDY
final design
15.0
My final design was a marriage of my design solutions. It integrated the river, parking, entry, exterior dining and lobby into a major component of the building.

The symmetry of the building makes circulation much more recognizable from the exterior as well as from the interior.

Vertical circulation did not need major emphasis or a central place in the interior space. Therefore, I moved it to the outer parameter of the floor plan, which is read as vertical circulation as one approaches the building, for warning the person where to locate stairs.

Stair towers are enlarged to be more readable and give the building the connotation of being anchored into the edge of the river bank.

The horizontal bands balance the verticality of the building.
The building is meant to be a free-standing piece of sculpture in a rolling gentle setting, full of grass and trees. The structure is designed to be successful either as a theater for live space productions or as an auditorium for speeches and symposiums. The problems of acoustics, and of sight lines from seating to stage are critical in both kinds of functions, and the building should be seen as a simple, direct powerful solution to both problems. The exterior follows directly from the spaces inside.

In the section the auditorium is shown to have about twice the rise in its seating from stage to rear as normal auditorium seating provides. The rise between rows is 4" near the stage increasing to 12" at the rear near the operable doors. The balcony above and its accompanying side balconies, are even more sharply sloped, as the section shows. The rear balconies, plus the strong slope of the seating has reversed what is often the high end of the theater; the stage end with its space for flying sets.

The scalloped interior ceiling and rhythmic stepped pattern of the sidewalls are architectural responses to acoustical needs. Sounds emanated from the stage are properly resonated...
and mixed through these shapes, and through the material of the surfaces themselves. The principal interior material is poured-in-place concrete, board-formed and left untreated after removal of forms. Carpeting on the floor and fabric on the seats help battle the crowd sounds, and a system of drapes can be adjusted to provide greater or less sound absorption near the stage. The vertical aisle partitions between the concrete piers are oak, and the scalloped auditorium ceiling is larchwood boards three inches thick. Larchwood wood was picked because of its density, therefore giving better acoustical performance. The exterior roof soffit is of cedar to achieve a sculptural look at a relatively low cost.

The seating pattern is continental with no center aisle and each row is far enough apart for easy circulation between them.

On the exterior the major exposed material is again poured-in-place concrete, along with the exposed cedar over the roof soffits, and the dark glass between stair ramps. The easy stairs are simply expressed as nearly horizontal concrete bands on the exterior, with glass between them, and
Each ribbon terminates in the stair tower into which they empty.

The roof is supported on a series of hollow walls with concrete piers which surround the auditorium; these also carry hot and cold air. The roof is framed out of steel, with special girders spanning between piers, then standard bar joists, metal deck, and built-up roofing.

The orchestra pit is equipped with a hydraulic lift; if needed the platform can be raised to stage level to provide extra stage space. Service is provided at a level below the first level. A generous corridor is provided from two docks which services both the theater and the restaurant by freight elevator.


