

ELDERLY HOUSING, ORPHANAGE, AND COMMUNITY CENTER

by

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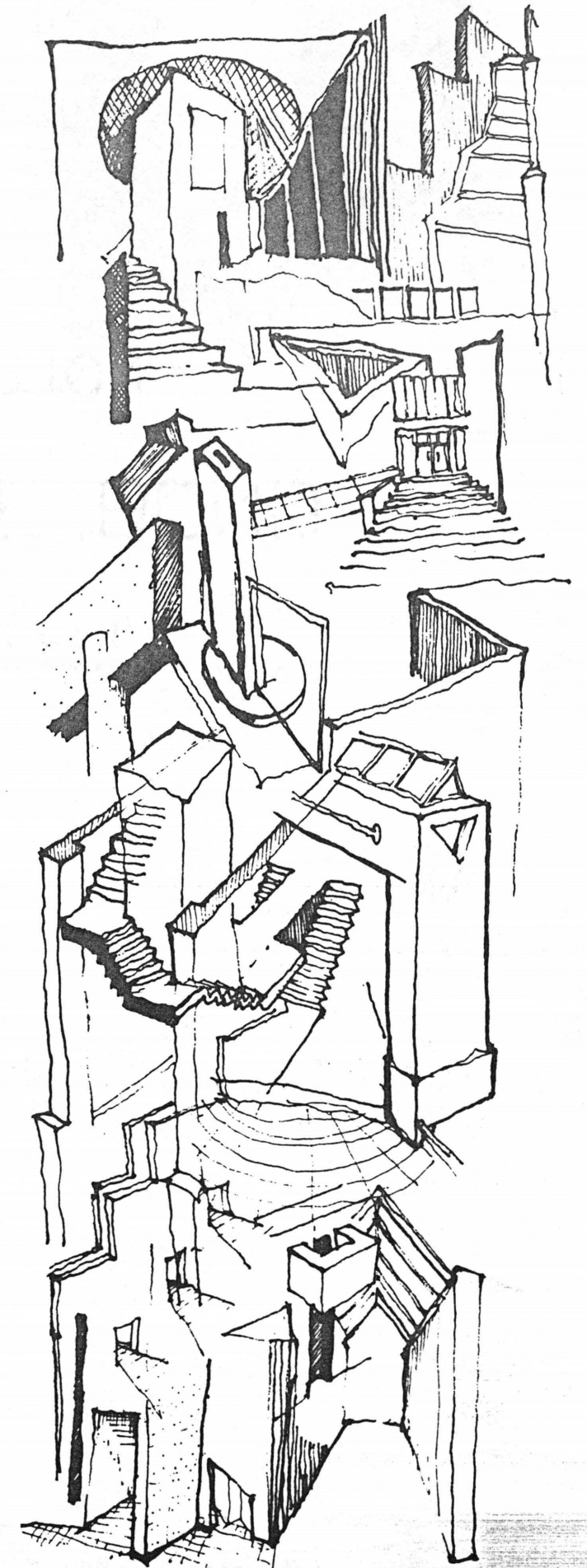
Frederick Andrew Boyd

(ABSTRACT)

Architecture cannot target only a particular age group or type of person worthy of its attention, but rather must respond to the entire human condition. I chose to design a project that would allow me to consider architecturally the span between birth and death, with both segregated and interactive spaces for the various age groups.

The site echoes the human condition in complexity—a steep, wooded slope partially encircling a flat open area, separated by a large, flat stream, further disrupted by a tiny, steeply falling stream. Located on the outskirts of Newport Virginia, the project is a small, self contained community intended to relate to the existing town in spirit as Le Corbusier's La Tourette relates to the nearby town of Eveaux—felt and glimpsed but not seen.

The building is organized around a series of major concrete walls, paired for circulation and containing volumes between the pairs, spaced in multiples of two and three. These walls are oriented to the geologic strike of the rock beds, perhaps the most permanent of all site qualities. Bridges link portions of the project on both sides of the stream, and the center is carved out to form an open plaza; a microcosm of the valley and surrounding ridges which make up the landscape.



ACKNOWLEDGEMENTS

To my and , for bankrolling this adventure;

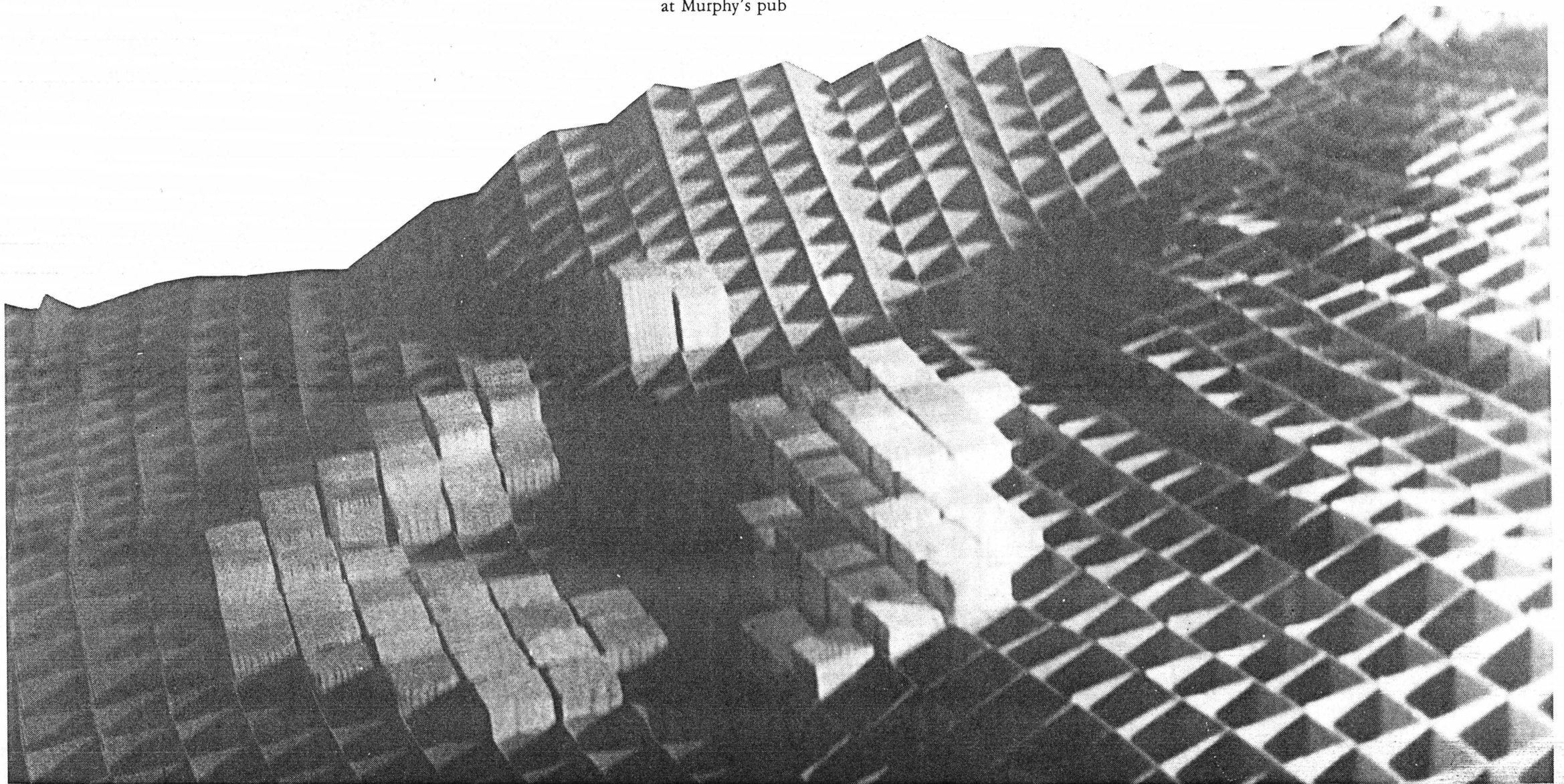
to the influence of and ;

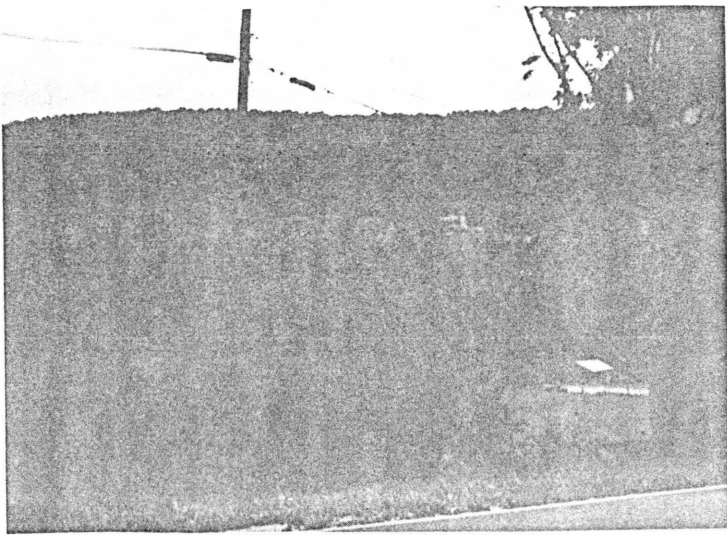
to those whose words of encouragement gave me the confidence to continue when other's comments suggested I should pursue an MBA instead;

and to myself, for what I had to give up to become an architect.

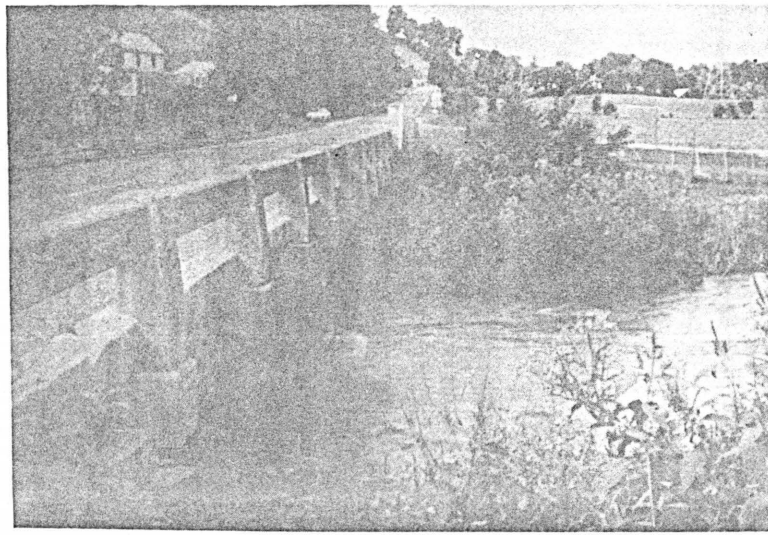
"I'm going to make a place so wonderful that kids won't grow up and old people will refuse to die."

—uttered late one night
at Murphy's pub

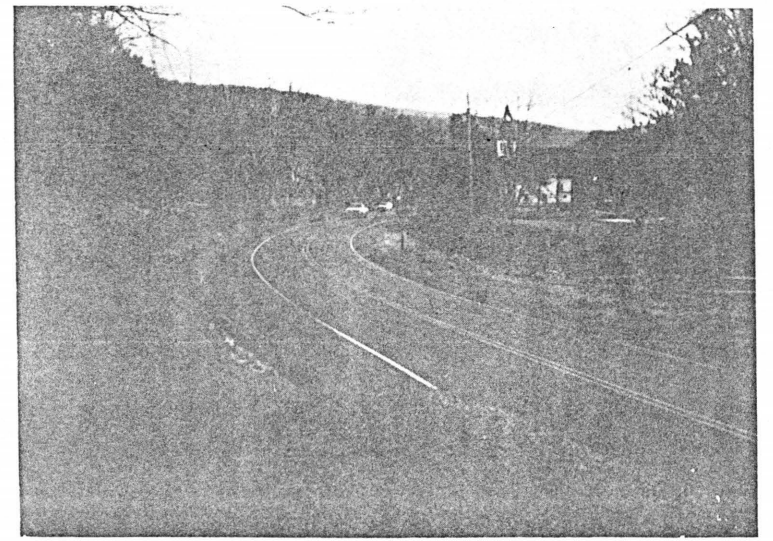




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I chose this project to explore architecturally a large number of issues that affect human lives. The wide range of age and activity types has given me a large vocabulary of functions to address, requiring both the design of individual pieces and integration of these often disparate parts into a coherent whole. It is in essence the design of a small city.

Knowing the building desired, I began the search for a site. My only criteria was proximity to Blacksburg, Virginia. The Newport Recreation Area and surrounding hillsides contains a rich variety of topography, flora, and water run-off patterns that I found irresistible during my search, while the nearby town and well travelled road gave it a certain identity with the other inhabitants of the area.

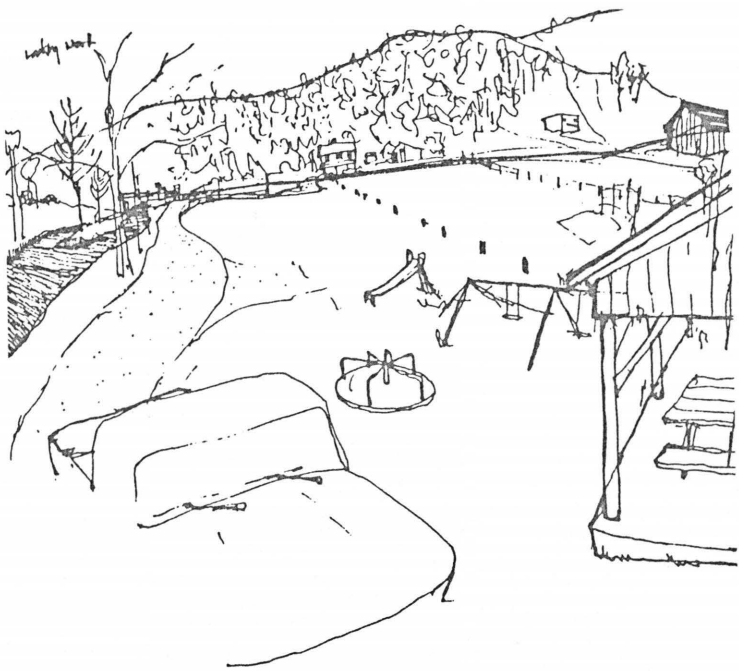
The town of Newport was first surveyed by Christopher Gist in 1751, and first land patents were granted in 1785. Settlers moved in around 1800, and the town was named in honor of a military captain. Newport gained prosperity throughout the 1800's, with smelting furnaces nearby and popularity as a summer resort, sporting four distilleries and three saloons. The town burned April 1, 1902, destroying most of the courthouse records, and after this Newport rapidly declined as people moved to the larger towns nearby. Today Newport consists of a small group of buildings around the center of town, with no real commercial life. The last major construction in town was a school and through town sidewalk along the major road, done by the WPA in 1933. My thesis proposal would extend this sidewalk to Sinking Creek, cross the bridge, and become a path along the river to the building complex.



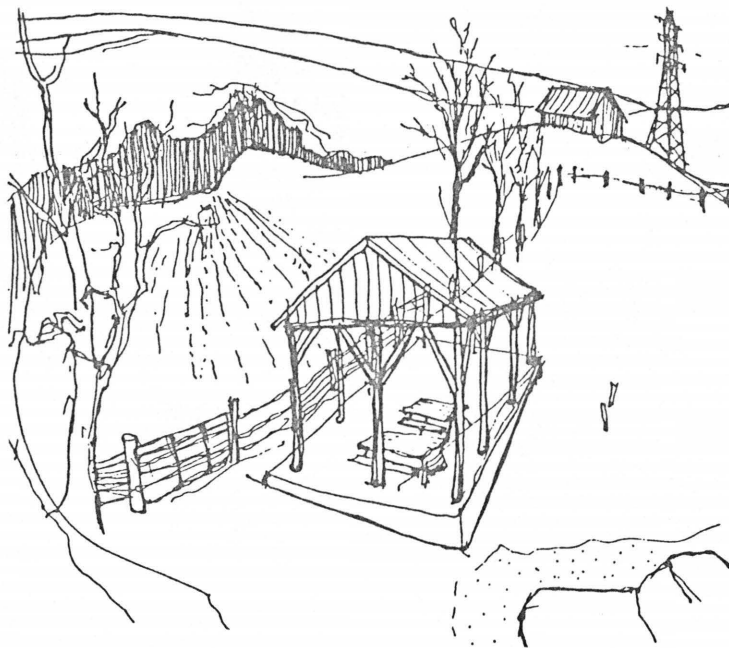
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- 1 Sketch of surrounding countryside.
- 2 Moving towards Newport from Route 460.
- 3 Looking back through Newport en route to site.
- 4 Crossing the bridge from Newport to the site.
- 5 View back to site a half mile after crossing bridge.



6



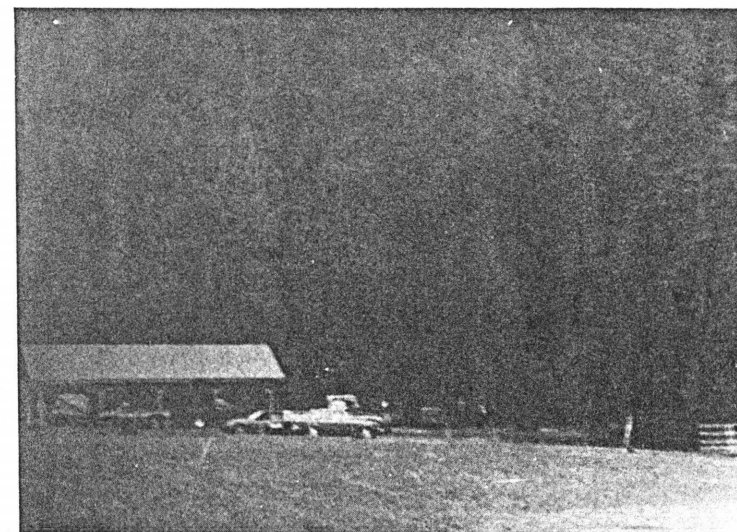
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A site shaped predominately by natural processes challenges the architect when he must place an orthogonal building upon it without the urban context of street grids, surrounding buildings, sidewalks, lampposts, and parking meters. Save for architecture such as Gaudi's, buildings are the domain of line, while the natural world is that of tone and shade. Because my architecture was to be of an orthogonal geometry on a natural site, my first concern was to find both a specific location for this interracial marriage to occur, and an azimuth to orient the building.

- 6 Sketch looking across road from site.
- 7 Sketch of shelter and fence.
- 8 Sketch looking across stream.
- 9 Photo across road.
- 10 Fence.
- 11 Sinking Creek where small stream enters.
- 12 Picnic shelter on site.



12



9



10



11



the river banks allow new views from above



the river moves in periods of collapse - a large scale solution



access is limited to certain parts of the river - different conditions inside or outside as they approach - formerly linear



views of a former bridge - a former path and path road leads - formerly linear



bridge creates shaded area over bridge



features in the river have on traces on the opposite banks - some stretch carrying over stream to bank



2 series of year containment in the valley of all rivers.

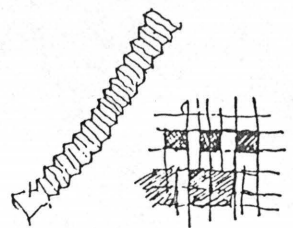
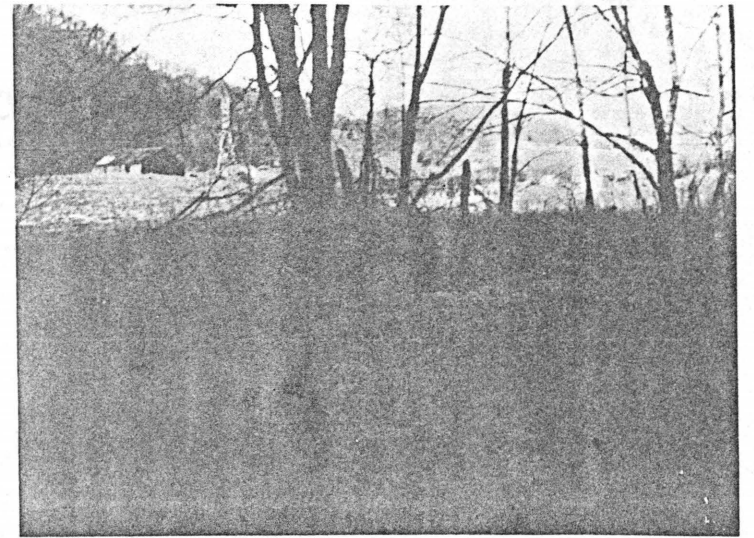


the river to or the dwellings base don't - the more private side of the house

the river position tend to channel year - water towards the side P then back

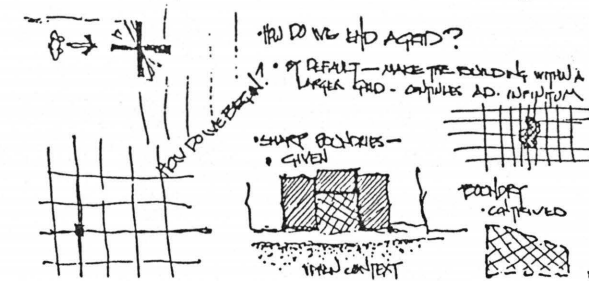


the trees along a canopy over the river - the bank has the dense built morphology

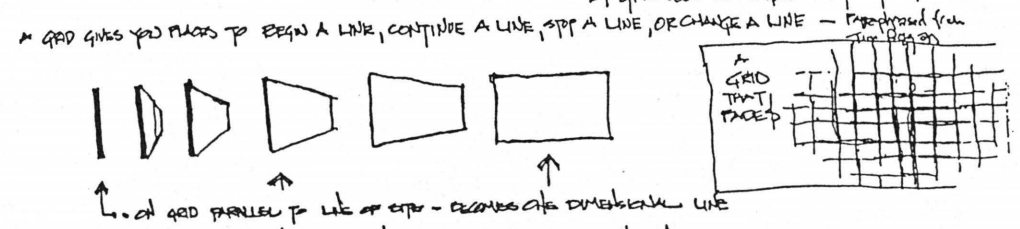


GRID SET UP ACCORDING TO STRIKE OF ROCK BEDS - PARALLEL TO ROAD AT PERIODS PERPENDICULAR TO STRIKE (SEE HOPE)

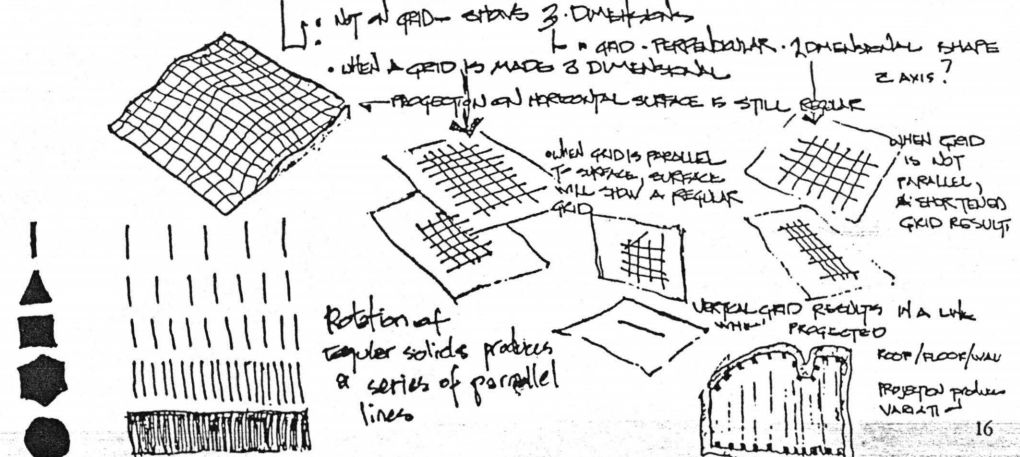
A RECTANGULAR GRID HAS PARALLEL & PERPENDICULAR LINES
IF PARALLEL:
• CAN REPRESENT LINES OF SIGHT, LIGHT (OR AIR POLLUTION)
• TAKES UP MINIMUM SPACE USUALLY BECOMES A LINE NOT WALL
• PERPENDICULAR:
• TAKES UP MAXIMUM SPACE VISUALLY FOR MATERIAL USED
• MAKES THEM 1-DIMENSIONAL



HOW DO WE END A GRID?
• BY DEFAULT - MAKE THE BUILDING WITHIN A LARGER GRID - CAPTURES AD. INFLECTION
• SHARP EDGES - GIVEN
• POLY - CAPTURED
• WHEN CONTENT
• ANGLES FORMED BY GRID BECOMES OTHER SPACE



A GRID GIVES YOU PLACES TO BEGIN A LINE, CONTINUE A LINE, STOP A LINE, OR CHANGE A LINE - Propagated from the origin
A GRID THAT IS NOT PARALLEL TO SURFACE WILL SHOW A REGULAR GRID RESULT
WHEN GRID IS NOT PARALLEL, AN INTERSECTION GRID RESULT
A GRID THAT IS PARALLEL TO SURFACE BECOMES ONE DIMENSIONAL LINE
IF NOT A GRID - STAYS 3-DIMENSIONAL
IF A GRID - PERPENDICULAR - 2-DIMENSIONAL SHAPE Z-AXIS?
WHEN A GRID IS MADE 3-DIMENSIONAL
PROJECTION ON HORIZONTAL SURFACE IS STILL REGULAR
WHEN GRID IS PARALLEL TO SURFACE SURFACE WILL SHOW A REGULAR GRID
WHEN GRID IS NOT PARALLEL, AN INTERSECTION GRID RESULT
VERTICAL GRID RESULTS IN A LINE WHEN PROJECTED
ROOF/FLOOR/WALL PROJECTED PRODUCE VARIATION

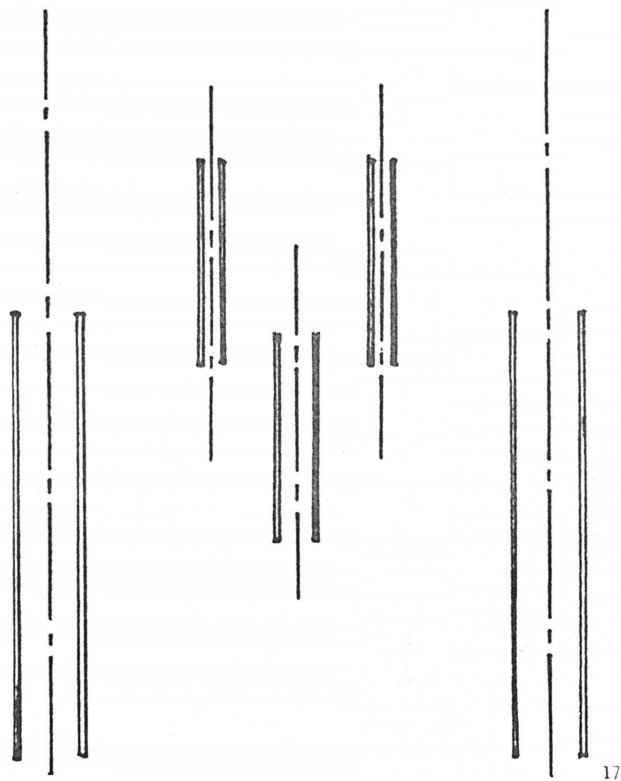


Rotation of regular solids produces a series of parallel lines

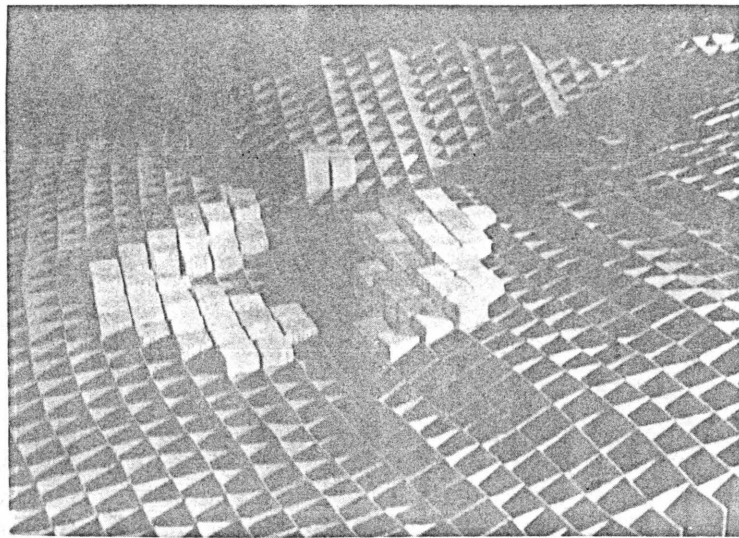


All sites, whether densely urban or far from civilization, age and change: daily, over the years and centuries, and over the geologic time scale of millions of years. Urban sites maintain a certain consistency through the ages in their patterns of built and circulatory spaces—as evidenced by the excavations at Jericho, where civilization has existed for thousands of years. Permanence in a natural setting also depends on major features such as water courses, flat areas, and hills, which unlike the street grid are continuously changing. The Newport area is composed geologically of approximately 5400 feet of sedimentary rocks, which were laid down during the upper cambrian to lower devonian periods (between 4 and 5 hundred million years ago) and subsequently uplifted, folded, and faulted. These parallel layers are quantified according to their inclination from the horizontal, known as the dip, and their projection on a horizontal plane as expressed by a compass direction known as the strike. I took the strike as the orientation for a series of parallel concrete walls, which is perhaps the most permanent and unique feature of this site; a feature that promises to endure throughout the millenia.

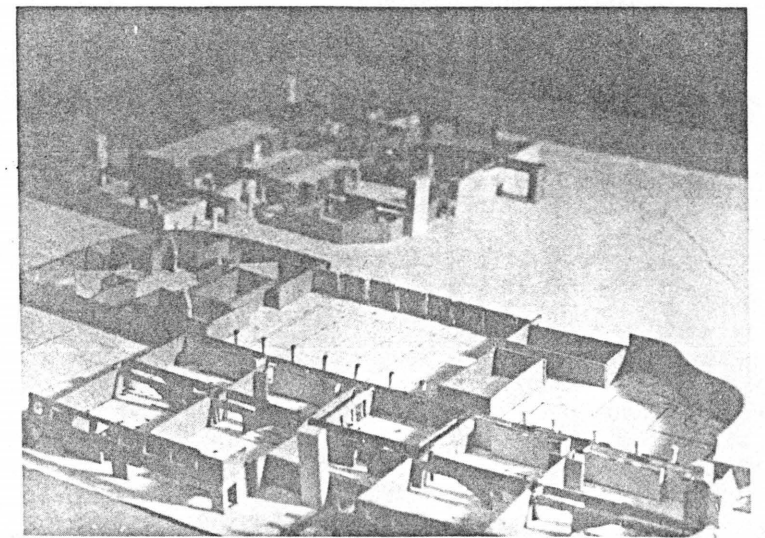
13 Sketch of riverbank conditions in the area.
14 Site from highway bridge.
15 Looking 180 degrees from photo 11.
16 Page from sketchbook exploring grids.



17



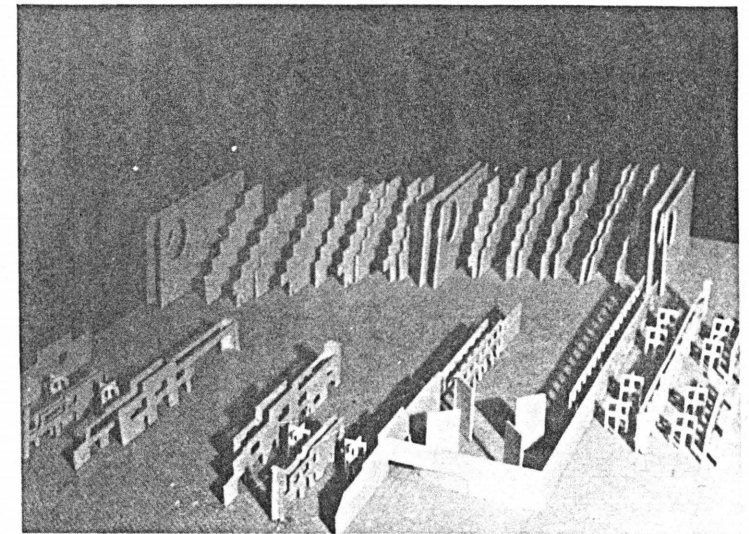
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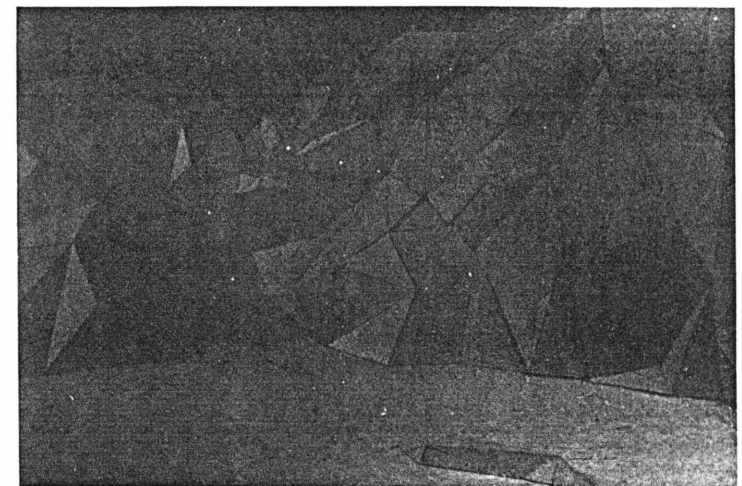
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With the orientation of the major walls decided, their spacing and the areas between them becomes the necessary next step to produce architecture. I decided to make the spacings divisible by both two and three, thus giving me the potential to halve or divide into three equal parts. The major walls are arranged in pairs: a pair every 96 feet spaced 12 feet apart for the large public spaces, halved to a pair every 48 feet spaced 6 feet apart for the communal orphanage housing, and paired 4 feet apart every 32 feet for the individual elderly housing units.

These paired walls act as major structural supports, routes of circulation, and predominant elements in organizing the building. They terminate with a solid wall or chimney, expressing dominance through mass rather than void. Triangular skylights cap the walls; the inverted triangular windows at the wall's apex express the hollow space between the walls at their width and taper to reflect the skylight form. At night the lighted bands of skylights and windows will hover above the darkened walls. At a distance 2 feet above the first floor level the walls flare out 3 inches towards the ground with a 45 degree "water table" to visually root them solidly in their meeting with the ground. This also allows the less dominant perpendicular walls to have a reveal at the 2 foot mark, again stressing the dominance of the major walls. These less dominant enclosure walls use concrete block as their major material, laid between concrete floor and ceiling spandrels that are supported by the major walls.

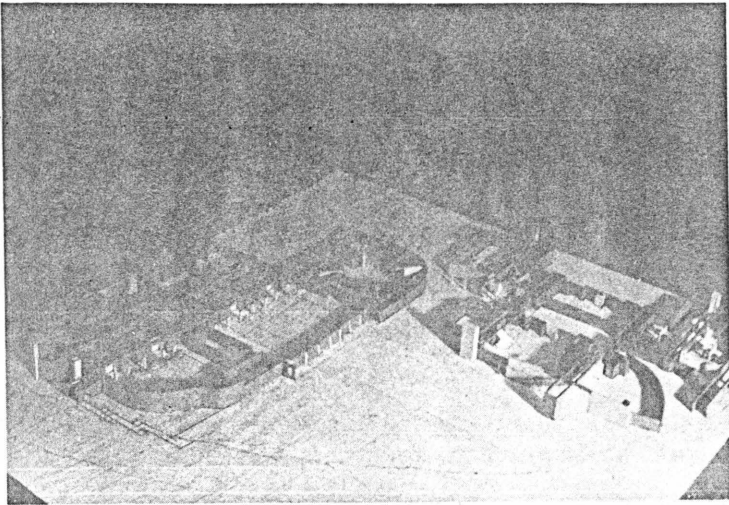


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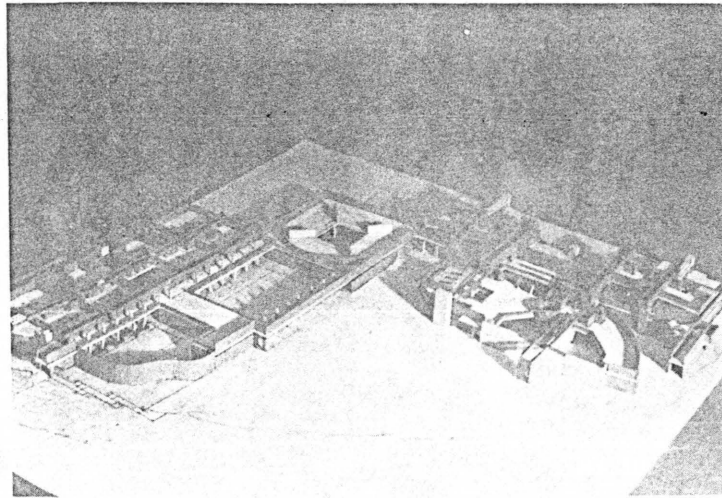


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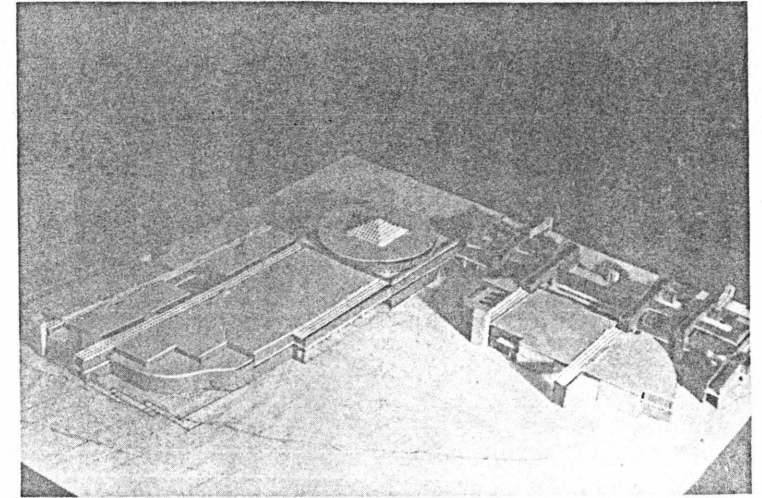
- 17 Layout of main organizing walls.
- 18 Mass model of complex on site.
- 19 Model.
- 20 Model showing major walls.
- 21 Sculptural site model.



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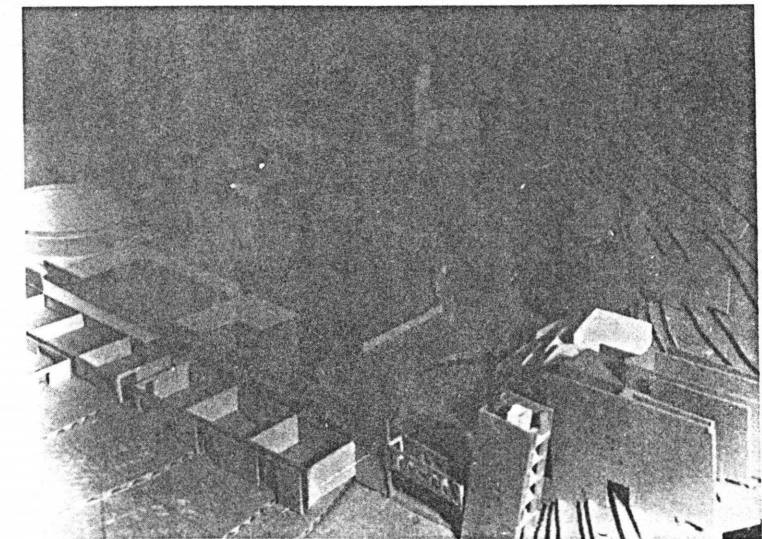


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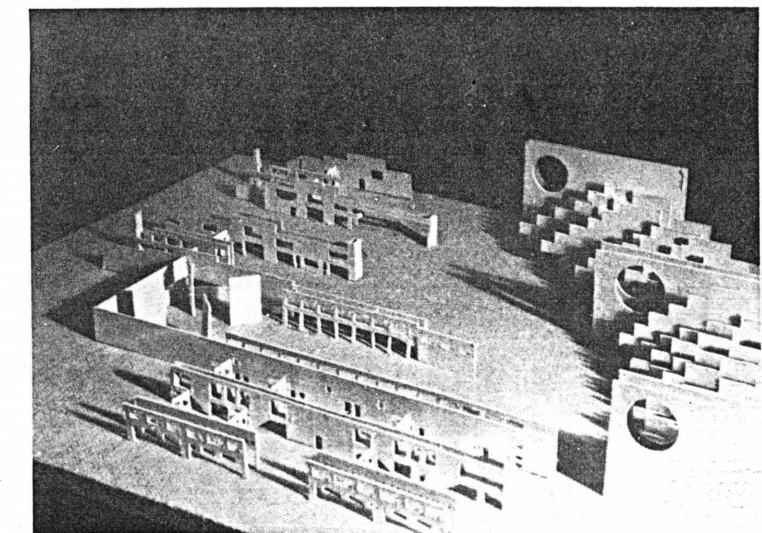
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A hierarchical relationship also exists in the floors and ceilings. The orphan residential portions of the complex use a wooden beam floor and roof structure with tongue and groove decking to span between walls, while the large public areas and hillside elderly housing units use concrete floor and ceiling systems, again spanning between walls. All heights are related to concrete block courses. The second floor elevation is 12 feet 8 inches above the first in the majority of the building, stretching to 16 feet 6 inches over the pool area, and is arranged to allow continuous level travel to the chapel, elderly housing section, and all sections of the main building. The second floor ceiling heights range from 11 feet in the large areas to 7 feet 6 inches at the lowest points in the orphan sleeping areas. Elderly housing ceilings average 8 feet, but have the capability to be lower or higher in portions of each unit, while the floors remain level for ease of movement and wheelchair access. This is intended to contrast with the orphan play areas where the ceiling is constant due to the floor above it, but the floor can be varied with steps and other levels to create a fun environment.

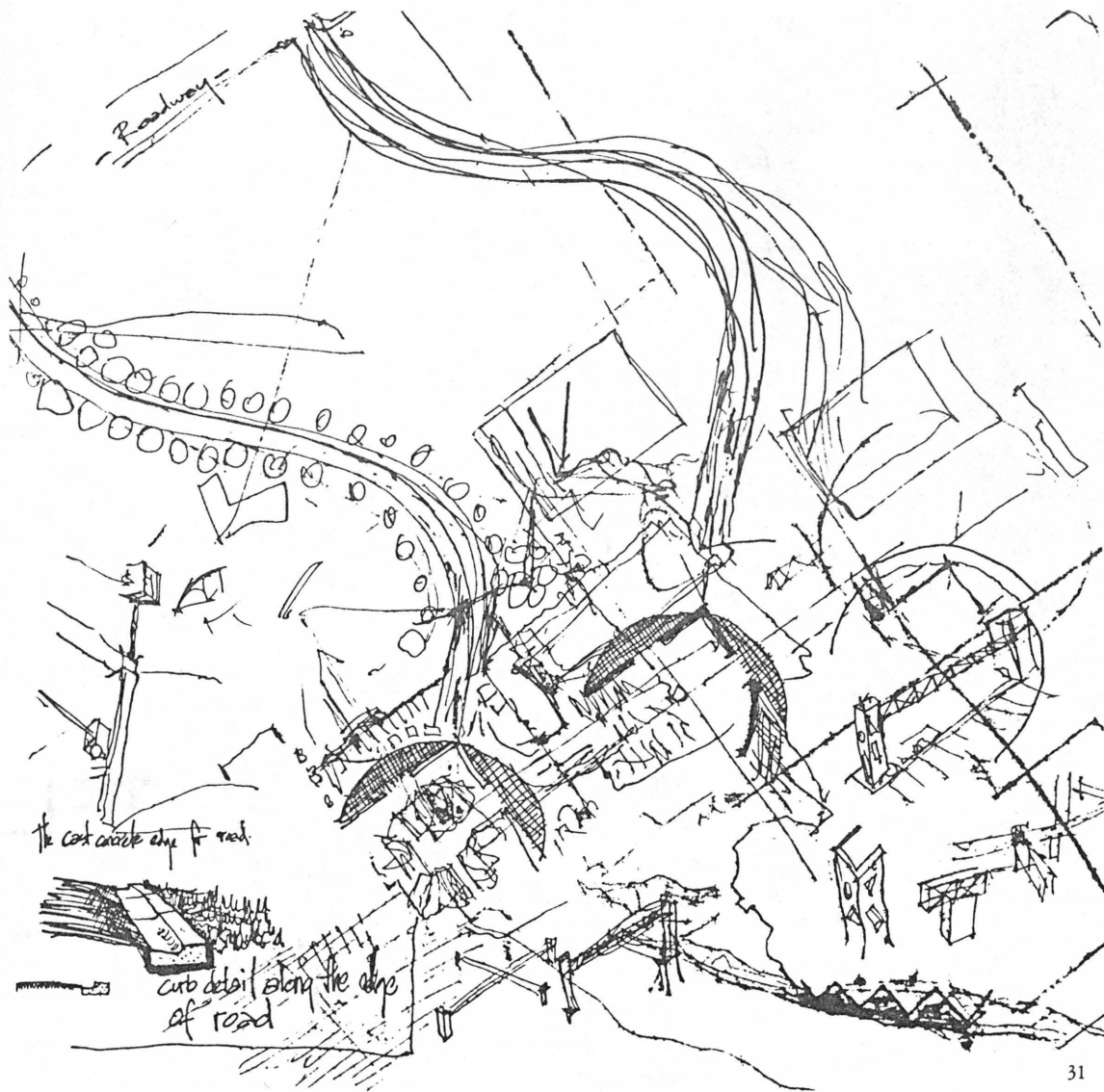


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- 22 3-d first floor plan model.
- 23 Second floor.
- 24 Roof.
- 25 Topographic model with building masses.
- 26 Wall model.

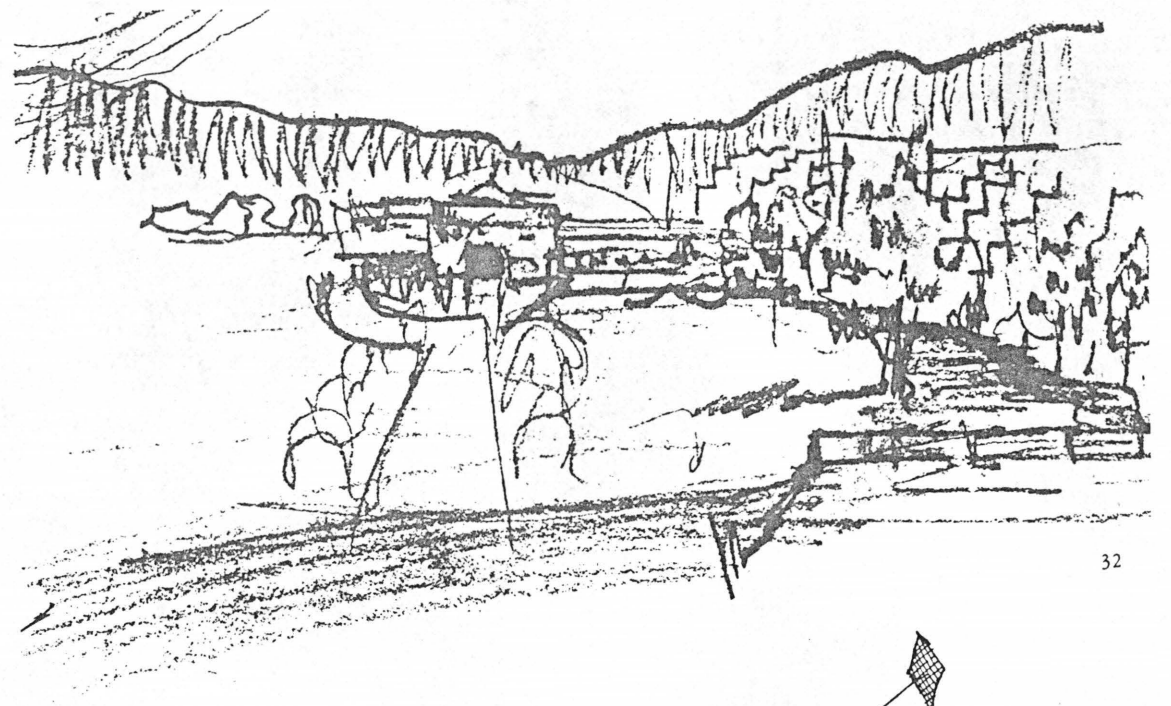


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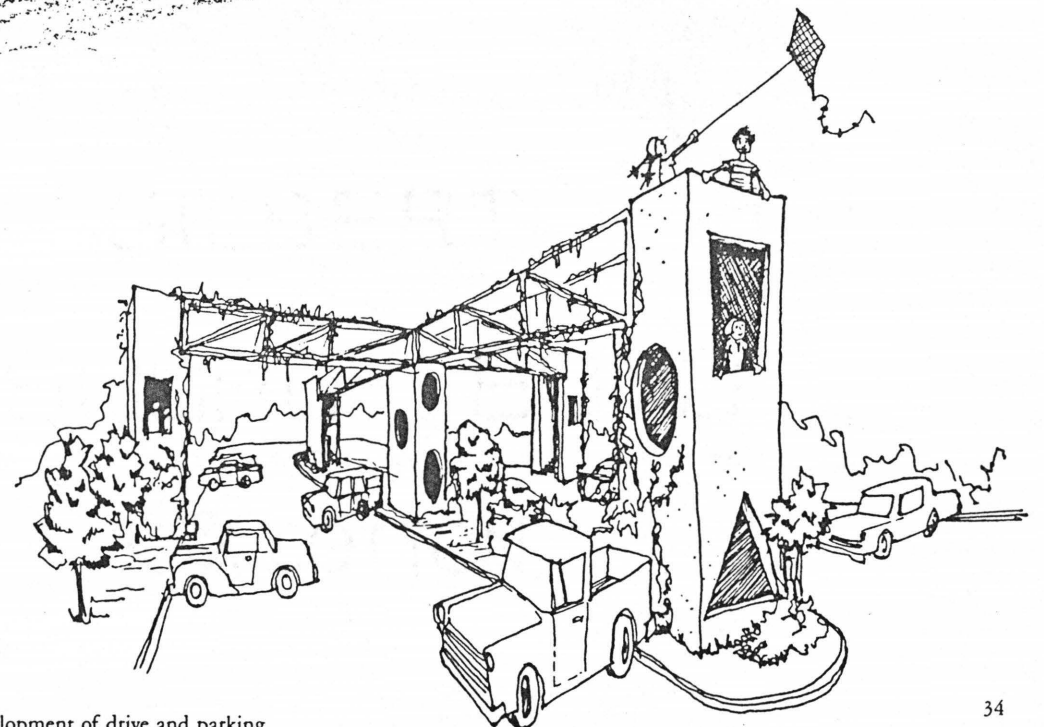


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The complex is arranged in three sections, with major community spaces and orphanage sections on the low, flat area bordering the inner circumference of Sinking Creek, elderly housing units on the steep slope across the water with a large plaza separating them, and the chapel isolated on its own peninsula of land. Parking for the elderly housing is located at the summit of the bank, with the continuation of the elevator tower walls providing an access path up the terraced parking levels. Vehicular access is provided via a roadway just before the Sinking Creek Bridge coming from Newport. The more formal entrance drive services the public facilities and administration personnel. It is lined by a promenade of trees, with a sight line to the main entrances framed through a gap in the foliage when driving in, and a view of the mountains framed in a similar manner upon exiting. This drive arrives at the formal entrance of the building and entrance to the parking lot. My intention was to remove the "ing" from the term Parking. The parking lot is surrounded by trees and foliage, and has a similar green belt down the central island, covered by a large cruciform metal space frame truss supported by concrete towers. These towers and trusses would be planted with vines and creeping plants, and are intended to give a visually pleasing skyline to the parking lot, rather than the artificial, one-dimensional skyline most parking lots exhibit. The cruciform shape will make the planted trusses cover the skyline from any point around the lot. Stairways and balconies will be housed in the towers, which are punctured with openings of various sizes and shapes to create areas for children to play and elderly residents to picnic.



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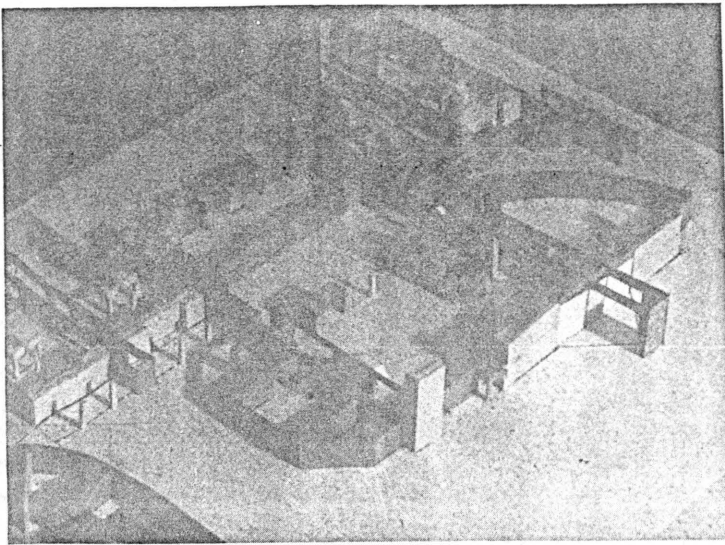


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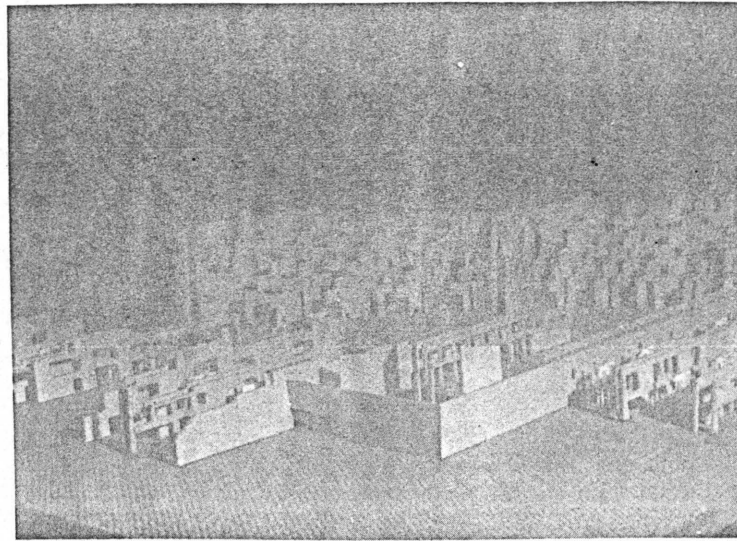
- 31 Development of drive and parking.
- 32 Complex from the road.
- 33 Existing road to the proposed elderly parking area.
- 34 Sketch of main parking area.



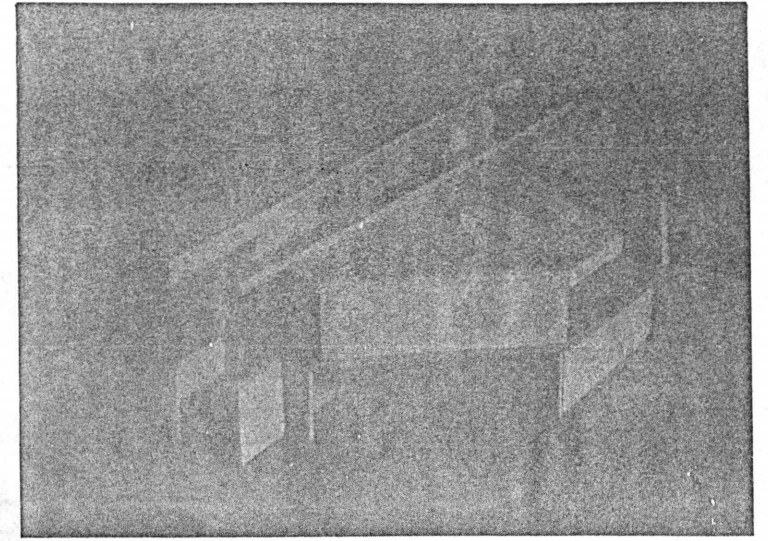
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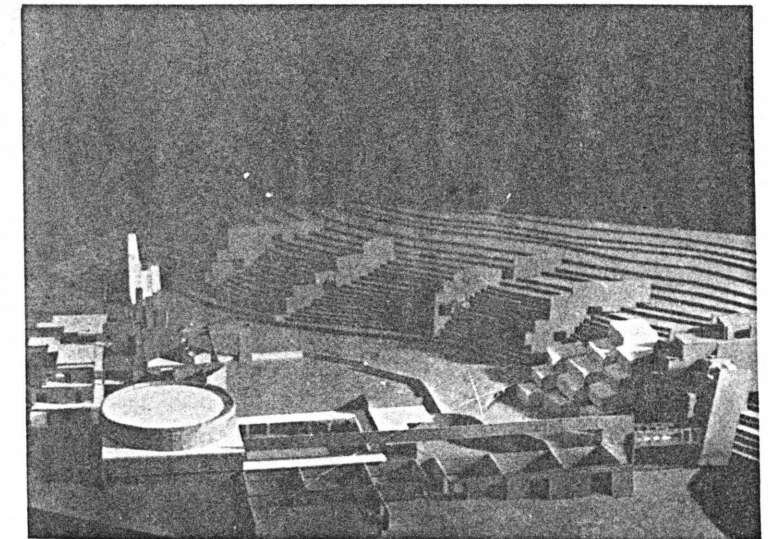
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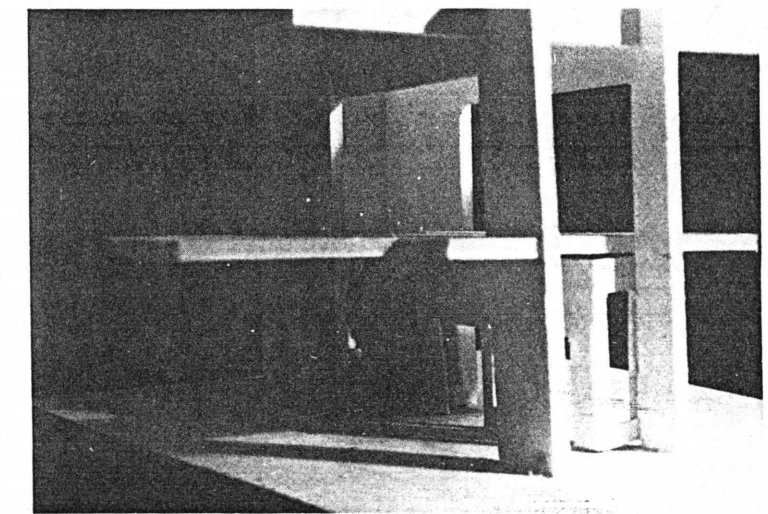
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The large curved portion of the building located across from the parking lot entrance contains the formal entrance to the complex for visitors, and also frames the entrance to the plaza. This framed entrance is formed by the superposition of square and circle to create a gap in the building, with the connection in the square portion at the second level. Upon entering the plaza, the dining and theater wing is to the left, with its entrance doors opening into an indoor skylit "street". The kitchen dumpster area protected under the projecting dining area above. Receiving natural light from above through skylights, the kitchen can thus be surrounded by dining areas, and turn a blank face to the passage, shielding food preparation from the general view. As one progresses farther into the plaza, another dining area opens to an outdoor cafe area, again to the left, which would be set with tables and planters during the warmer months.

Centerpiece for the plaza is a group of four pools arranged at different levels, connected beneath the pavement to the stream beyond. These pools serve as dynamic indicators of the water level, filling in a counter-clockwise direction as the water volume increases. Four small walkways span the pools to access a central square island, upon which a Henry Moore or equivalent sculpture is to reside. This grouping of pools also link the one half module at 48 feet of the orphan housing to the one third module at 32 feet of the elderly housing units. Along the water's edge this one third module is repeated by a series of walls and levels coinciding with the elderly housing units across the creek. This "manmade" edge will contrast with the natural edge under the elderly housing units above. The walls supporting the enclosed bridges terminate the plaza by projecting into the water, providing a definite ending to the manmade edge, while the natural creek-bank continues to each side. A belt of existing trees is preserved along the water's edge in the plaza, contained in planters responding to the plaza geometry, to continue the tree-lined character of the bank through the plaza. The paving surface is formed of 2 foot and 3 foot module precast concrete pads laid in sand over a crushed stone substrate. Primary organizing lines are expressed in darker paving stones of the same morphology. The rather large paved areas are to serve as a public gathering place, and to contrast to the large natural grassy and foliated areas.

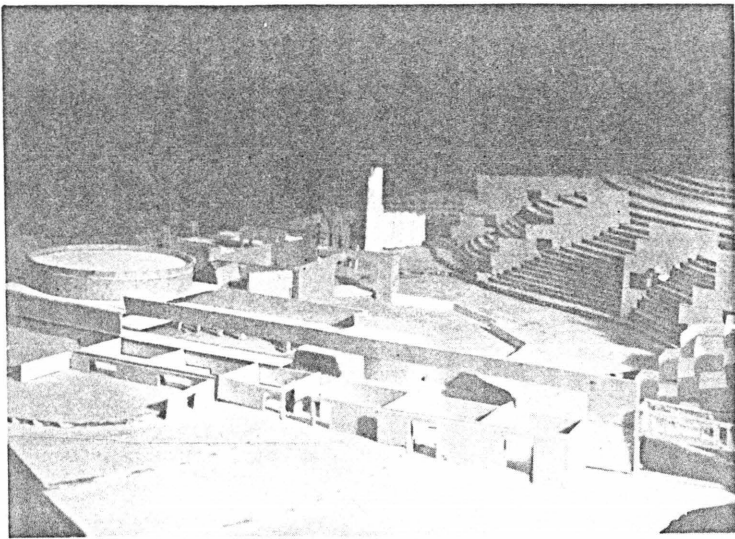


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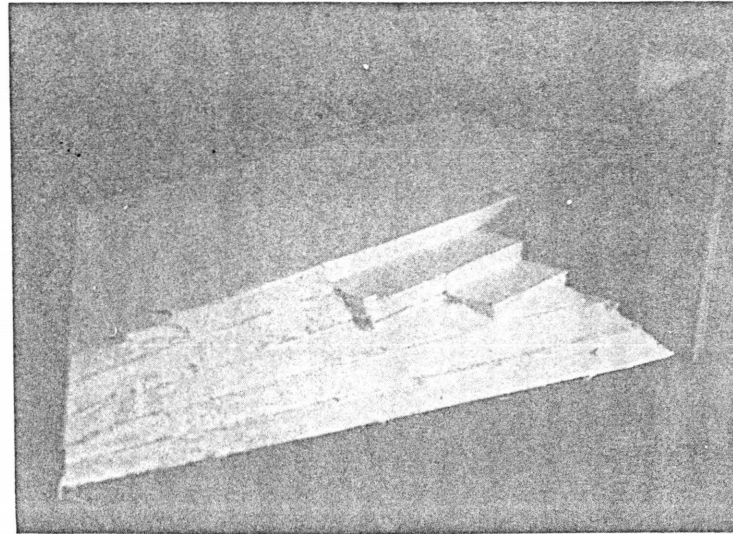


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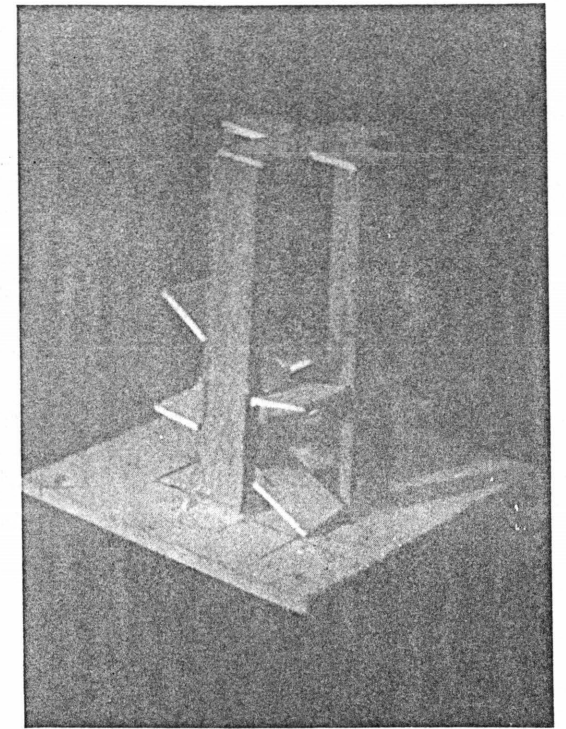
- 35 Dining and Theater area.
- 36 Wall model.
- 37 Kitchen model.
- 38 Topographic model.
- 39 Entrance into central interior "street".



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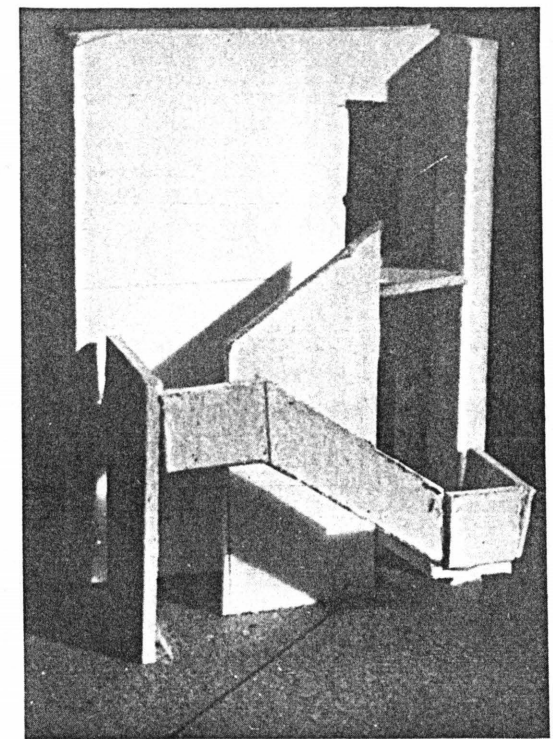
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The theater and dining portion of the complex opens up onto the plaza through large sliding doors which allow one or both areas to view performances and other activities between them and out on the plaza. Windows in the doors are arranged in a sequential fashion, with 8 at the top progressing down to a single window at the nadir, to coincide horizontally with a vertical strip of 8 similar windows in the door pocket wall. As the doors slide open, first the top window on the door pocket wall lines up with the eighth window from the center on the door to admit light, it is blocked temporarily, then two windows coincide. This is repeated until the final open position when all 8 windows on the door pocket line up with door windows, and a vertical column of light is formed. The theater preserves sight lines by sloping the floor from first floor level in the rear down 5 feet over the distance to the stage, with the stage level 2 feet above the floor at this low point. To resolve this change in elevation with the level dining area floor, a steeply sloped and stepped area is located directly in front of the stage, with a 6 inch curb to prevent unwanted wheelchair flights. This area is to be used as a children's play area—an ideal place to build block sculptures out of harm's way and entertain the elderly as they sip coffee after supper. The doubled concrete walls that project out and span the opening allow for a placement of lights and acoustic equipment, and contain a slot for a large, colorful canopy which spreads over the stage area in the warmer months, activated by a pulley system built on the ending wall. This canopy allows the building to expand and become more colorful during portions of the year, much as the vegetation that surrounds it.

Bathrooms for the theater and dining areas are located in the concrete block cylinder and rectangular prism located centrally. They rise through both floors, and contain an open air glass block cylinder and prism respectively. These glass block shapes bring light to the bathrooms, and help screen the toilets from the entrance doors. Rain water is directed down the inside of the glass blocks and drains in the bottom, to produce a shimmering light during precipitation bouts.



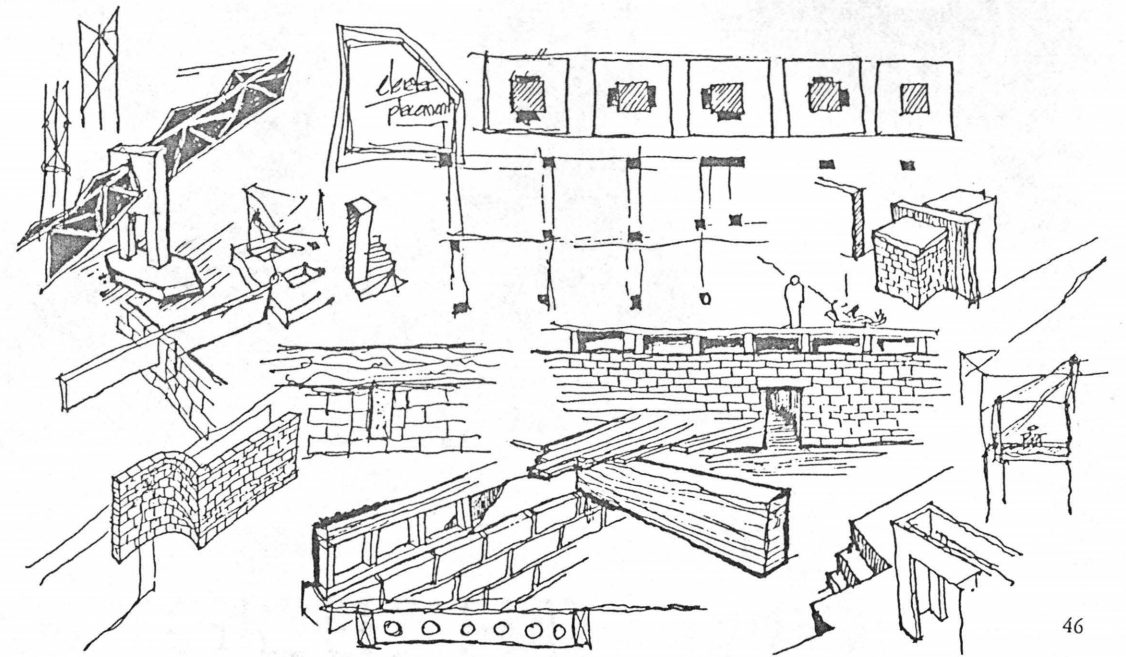
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- 40 Topographic model.
- 41 Sloped and stepped children's play area.
- 42 Double—helix stairs between theater and dining area.
- 43 Exterior stairs for theater and dining areas.

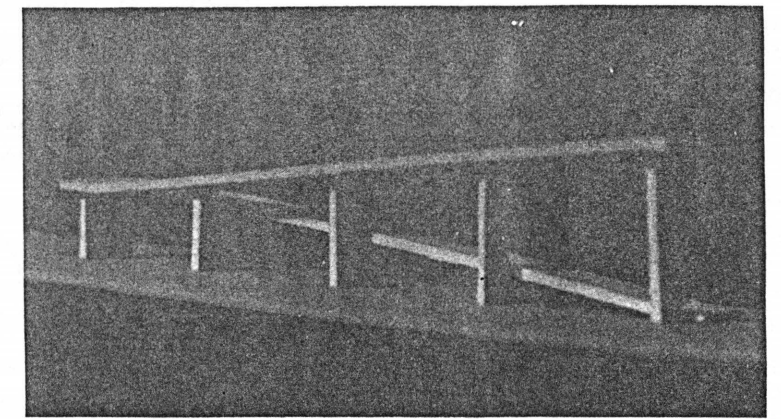
The indoor "street" is located between the dining area and the wood shop, art studio, and music practice rooms. This central area contains the circulation at the second level for the complex and accesses the orphan housing to each side. The rather stark wall separating the wood shop and art department is a barrier to dust and noise, and is meant to be a backdrop to the large recirculating ramp which gives visual impact on a large scale. A recessed planted area with benches meets the lower edge of the ramp, to open up this otherwise constricted space. Bridges within the paired walls link the second floor balcony levels across the central space to produce a variety of circulation within this public "street". The space between the walls terminates with a doorway leading to the exterior courtyard. This space rises to a three story height across the public street, and the passage to the courtyard also has this high ceiling, allowing balconies to project from the second and third level sleeping areas of the orphan housing.

The exterior courtyard serves as a play area for the orphans and a sculpture garden for the shop and art studio. Large doors span out from those areas, allowing projects to be fabricated and displayed both indoors and out. Two large planters with trees are located in the courtyard, providing a comfortable shaded area for relaxation. Between the art and wood shop are storage areas, a paint room, and welding shop. The paint room and welding area are open to the wood shop and art department through large doors, recognizing the interrelation of the arts and the building trades, and promoting interaction. Darkrooms and pottery area are also included in this section.

Above the shops, and overlooking the courtyard with an exterior second floor balcony are a grouping of music practice rooms. These rooms are arranged in small 7 feet by 7 feet individual practice rooms and larger 15 feet by 15 feet group practice rooms, overlooking the public "street" towards the interior of the building. The pyramidal glass skylight and hard block walls are an attempt to gain the hard, rapid reverberation of sound experienced when singing in the shower, while providing an abundance of natural light from above. The glow of these skylights at night should be quite beautiful from the surrounding meadows. Music is produced both by those who wish to share and perform for others, and those who desire private, secluded practice. Half of the rooms are arranged in the more private fashion, with a 5 foot high block wall around a small courtyard to the exterior of each room, and a rather small door without viewing window to the interior; the remaining rooms open out in both directions with low benches surrounding the exterior courtyards, and large doors with windows towards the interior.

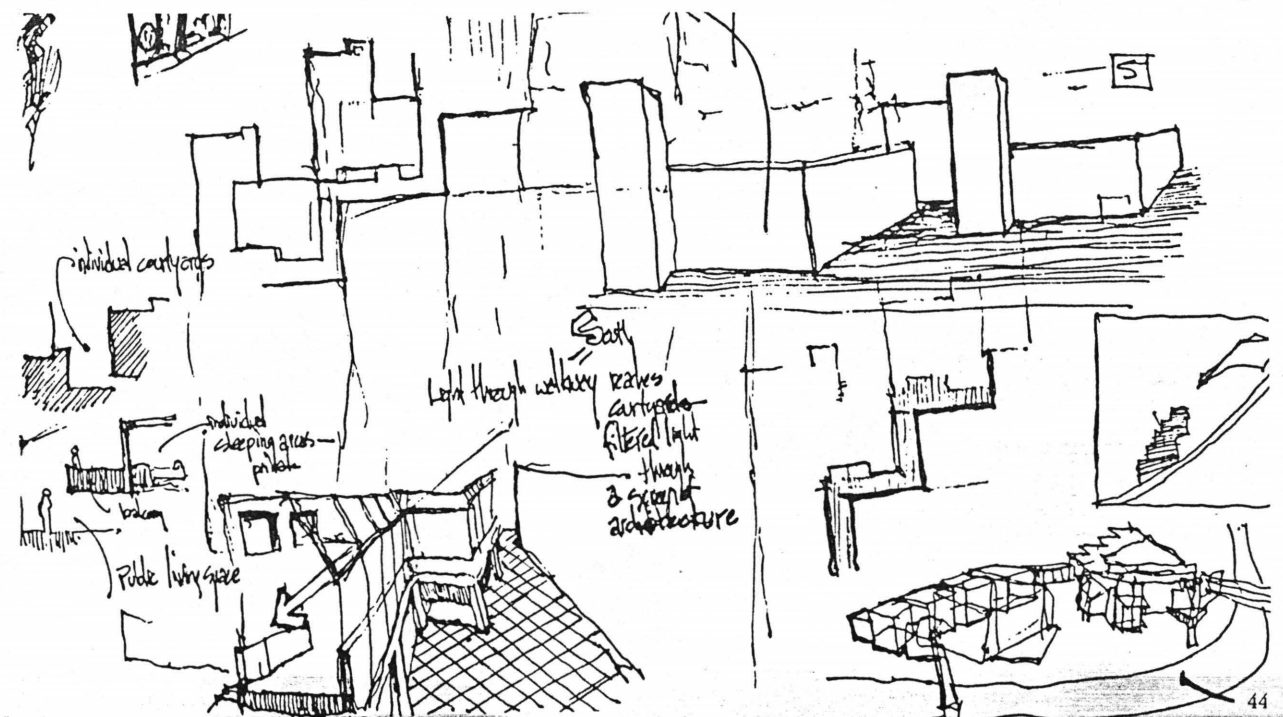


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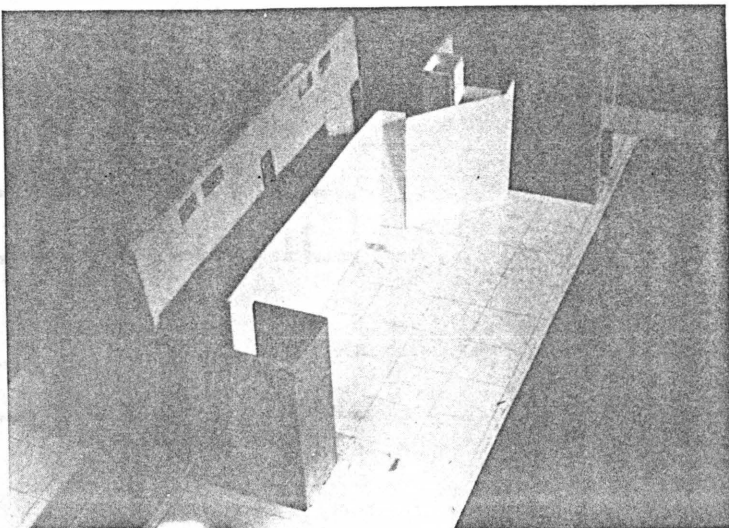


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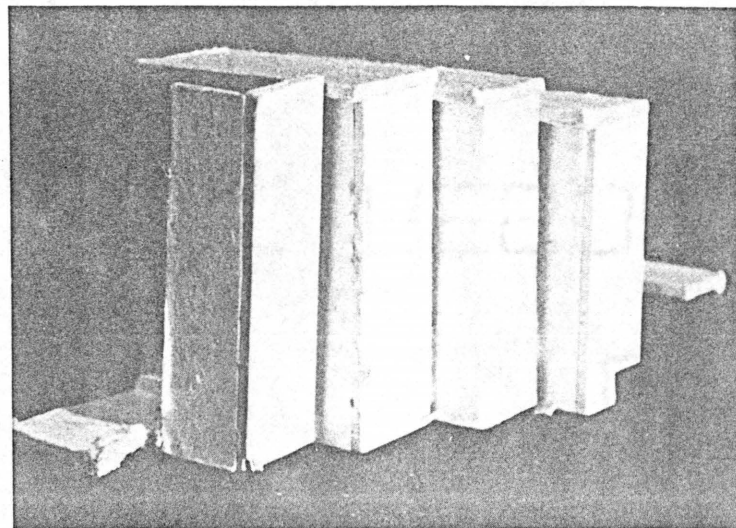
44 Development sketch of public area.
45 Ramp in public interior "street".
46 Detail sketches.



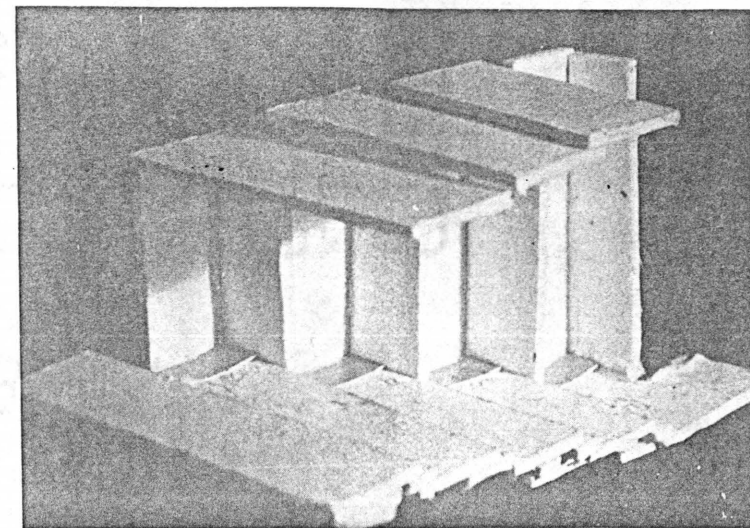
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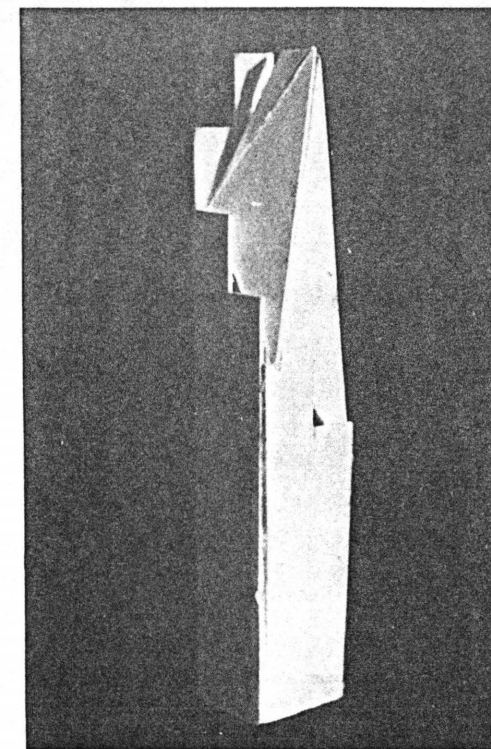
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49

Visible from the interior "street" across a small foot-bridge on the second level, the chapel cascades down the hillside to Sinking Creek and reaches up towards the sky with forms of concrete, stone, and glass. The bridge is outside and exposed to the weather—I did not wish the chapel to be just another door down the end of a hall, but rather a place that required a certain degree of effort and exposure to reach. The chapel is meant to stand on its own, with the only use of natural stone in the community, yet still owe allegiance to the whole.

Seen as a building with only two planes, the large stone wall wraps around to become a downward stepped floor, while the concrete ribs complete the enclosure by bending over from vertical to form a roof. This thick stone wall curves up from the ground to a peak, in line with the community organizing lines, facing the theater and dining wing, laid in random coursing. The wall and roof ribs are formed of stepped concrete plates separated by 12 inch glazed openings, which allow ribbons of natural light to fill the chapel. The small stream adjacent to the chapel is tapped at the entrance floor level, bringing a portion of its water through a sluice which carries it below the bridge and into the chapel. A series of interconnected pools channel the water into the building and back out, eventually spilling it into Sinking Creek, as the parent stream does. Pews and alter are of cast concrete vertical supports with 2 inch thick oak horizontal members.



50

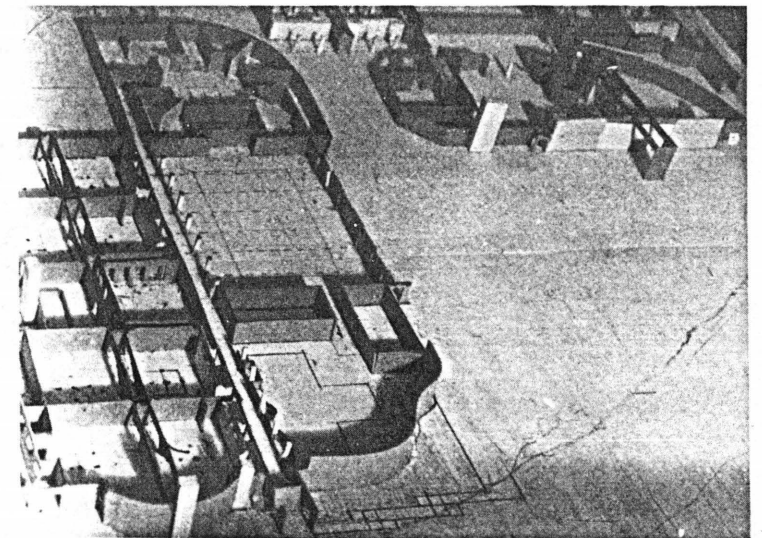
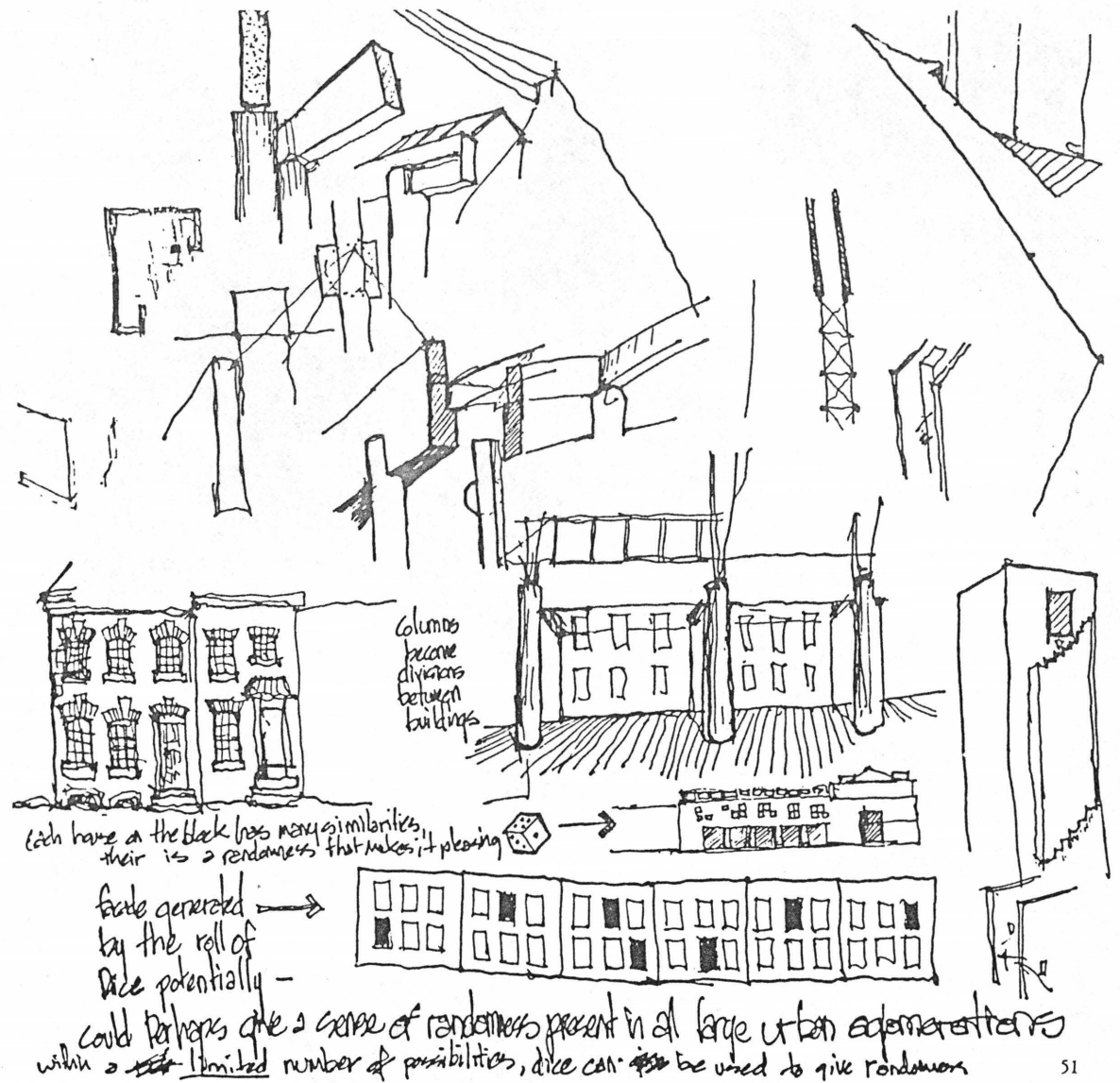
- 47 Walkway from interior "street" to chapel bridge.
- 48 Chapel concrete rib walls—exterior.
- 49 Chapel walls—interior.
- 50 Early design for chapel steeple.

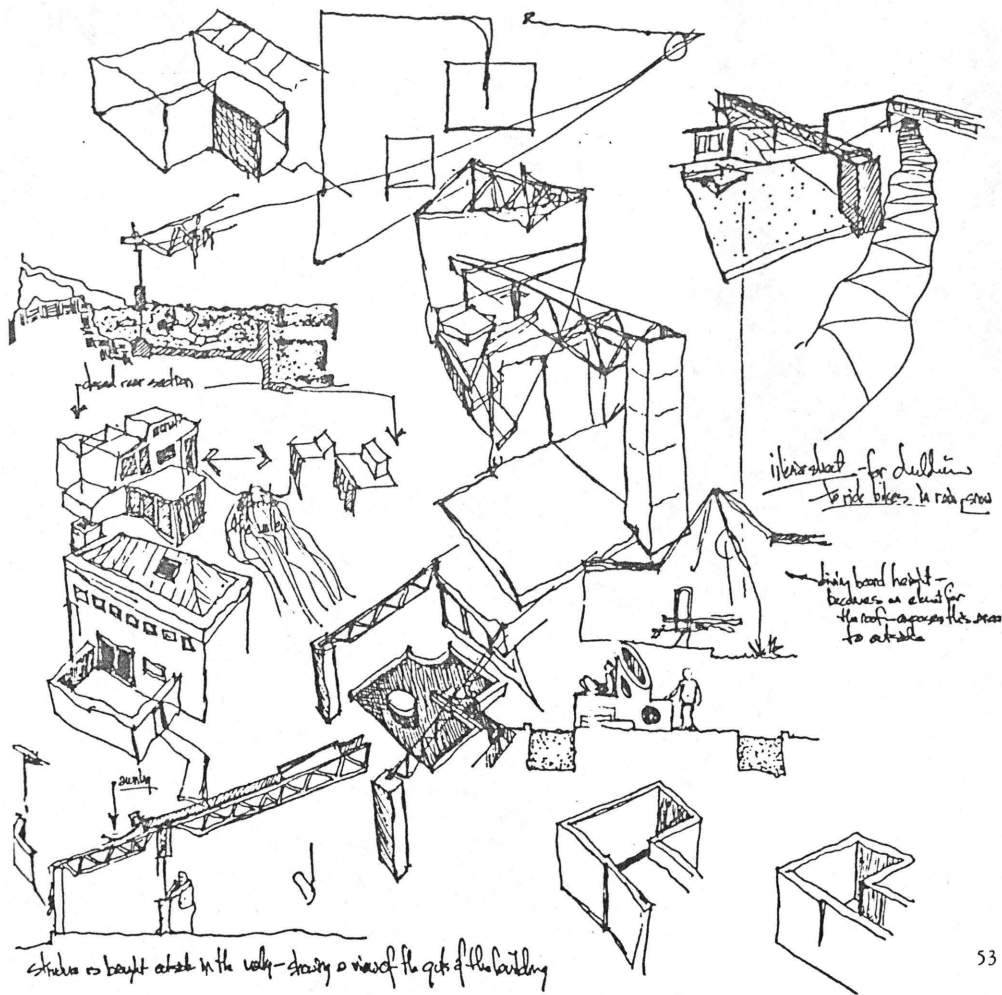
Circulation between the dining/theater wing and the administration/gymnasium wing occurs at the second level, on axis but at the opposite end of the interior "street" from the chapel. The administration section is treated as a large concrete donut with central skylit lobby and 4 large concrete pillars supporting the structure and organizing the plan. Oversize doors in a 2 story doorway opening create powerful first floor entrances, which lead to the lobby surrounded by staff offices, a boutique/drugstore, barber, and beauty shops. Locker rooms are placed along the gym diving wall, separated to provide an entrance for the gym from the lobby; opposite this entrance double stairways and an elevator service the 3 story lobby space. Second floor circulation occurs along the perimeter, forming a smaller lobby at the stair entrance overlooking the main lobby, and providing access to lecture and conference rooms which open to the central space with balconies. The infirmary is also located on the second floor, over the locker rooms to provide a central location and plumbing access.

Level three is the library—a perfect circle within a circle, save for the straight section of interior balcony meeting the vertical circulation and bordering the circulation desk. This one anomaly recognizes the non-centered position of the stairs and elevator, and the special function of the desk, linking them to the otherwise pure geometry. Four equal terraces roof the square floor below the library; their variability lies in different orientations which give each individual quantities and qualities of light and wind. The stacks are arranged to provide reading areas along the perimeter and smaller, more private reading areas dead-ending between the 4 pillars towards the central space.

The athletic facilities for the complex are contained between 2 sets of paired walls, extending towards the creek from the administration section, providing a basketball court, squash, racquetball, and a swimming pool. It is basically a large, open 2 story space with circulation occurring in the spaces between the walls. The second floor circulation is preserved, but the long hallways are transformed into bleachers and viewing areas over the pool and basketball court. Large curved glu-lam beams span between the supporting walls at 16 foot centers, covered with wooden decking, rigid insulation, and standing seam copper roofing. This large curved roof is peeled away over the pool, supported on large covered columns and beams, to reveal the glass enclosure curtain wall. In portions of the athletic section the inner doubled walls are transformed into columns spaced at 16 foot centers, taking a round section to express their new method of resolving forces. Towards the plaza the outer wall is cantilevered off the ground, to expose a this colonaide, which is glazed with fixed panels and doubled glass doors to enclose the interior space. Decorative ironwork protects these panes from stray basketballs. The large cantilevered concrete wall above the colonaide contain a series of 4-window groupings generated by rolling dice within a matrix of 6 possible positions for each case; and attempt to avoid composing, while giving random variability within a system, such as found in many of the world's more pleasant neighborhoods.

51 Window placement determined by dice.
52 Sports and Administration section.

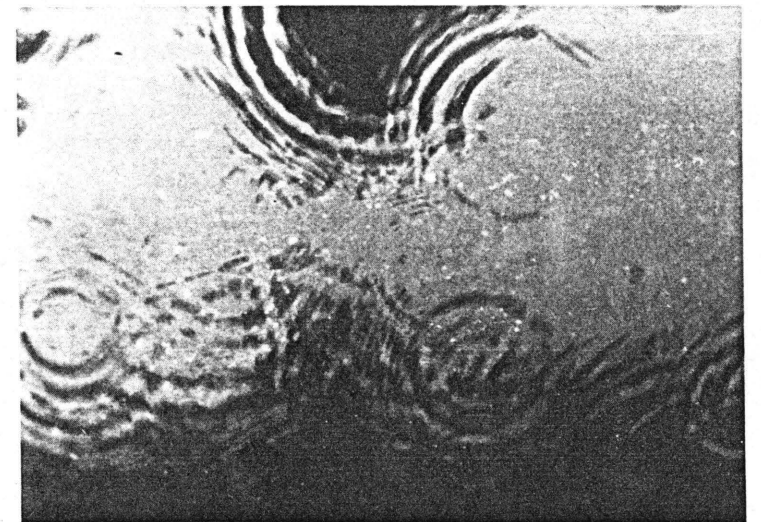
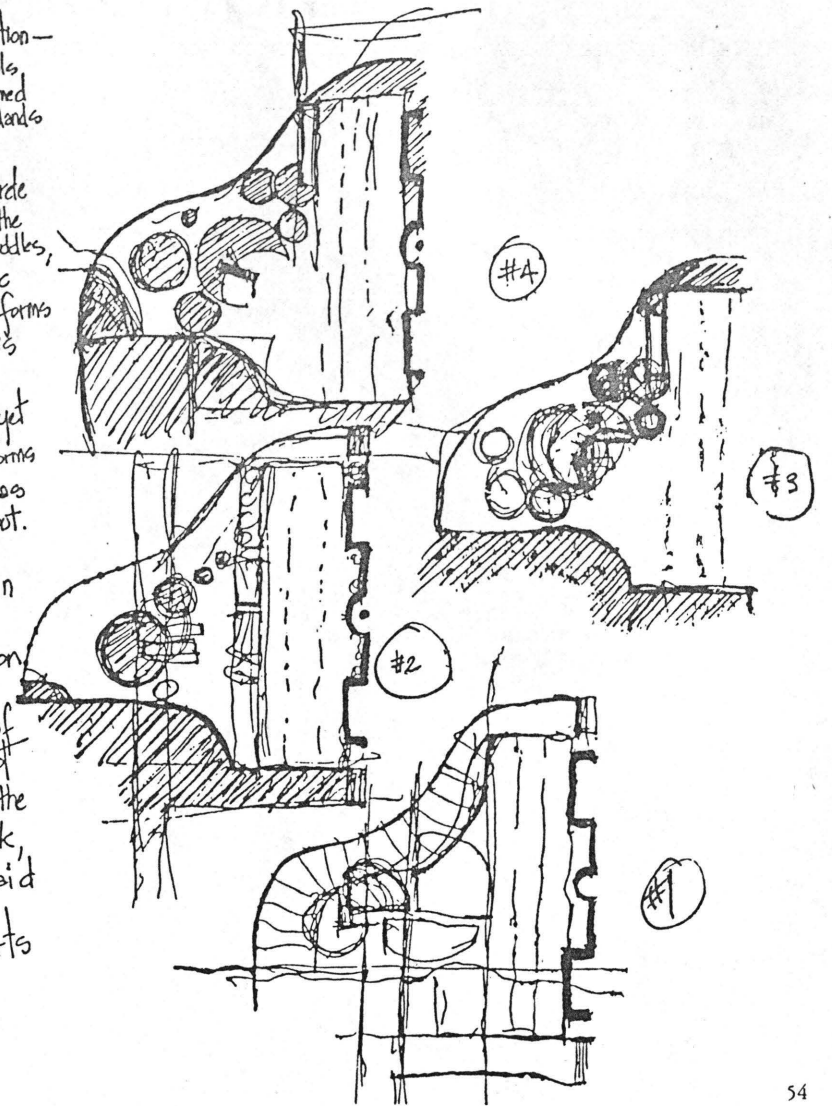


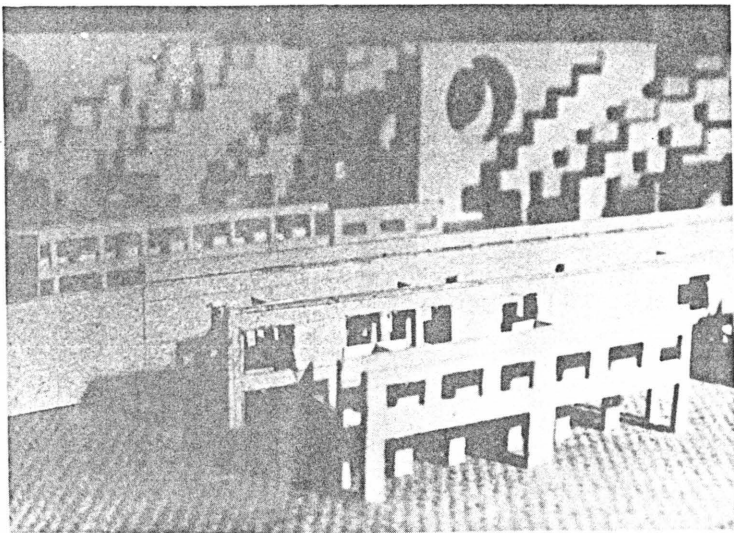


The pool, racquetball court, and squash court are located on a lowered floor level to allow the pool water level to coincide with the creek's average water level, and to give space for an auxiliary recreation area above the courts, used for gymnastics, weight training, and aerobics when the basketball area is in use. Glass walls face the pool and hallways in the racquetball and squash courts for light and spectators, while solid walls separate them from the basketball area. The pool contains 4 olympic lap lanes, a diving area, and shallow wading area separated by circular concrete islands, which were inspired by the pattern raindrops create when splashing into puddles. A portion of Sinking Creek's bank is excavated to allow its waters access to the aquarium type transparent wall of the wading pool. This will allow the children to view fish and other aquatic life from the shallow waters inside, which combined with the various concrete islands and water depths should provide a fascinating environment.

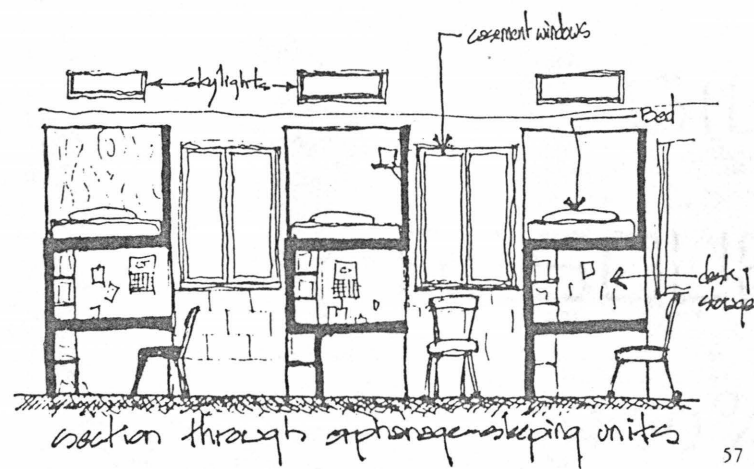
53 Development sketch of pool.
 54 Later development of pool.
 55 Raindrop patterns.

- I took my original assumption - a concrete plinth with pools hollowed out - and transformed it into a lake with concrete islands inserted.
- The circular islands of concrete take as their germination the patterns of raindrops in puddles, as they spawn concentric dynamic rings whose forms begin with perfect circles.
- Perfection in nature - yet these original perfect forms are destroyed as soon as they begin to spread out.
- The very randomness in location of beginning dooms their perfection.
- I followed the rules of water for the pool, not taking my cues for the rules of concrete, block, wood & steel. I laid down in the other parts of the building! Water as its own material.

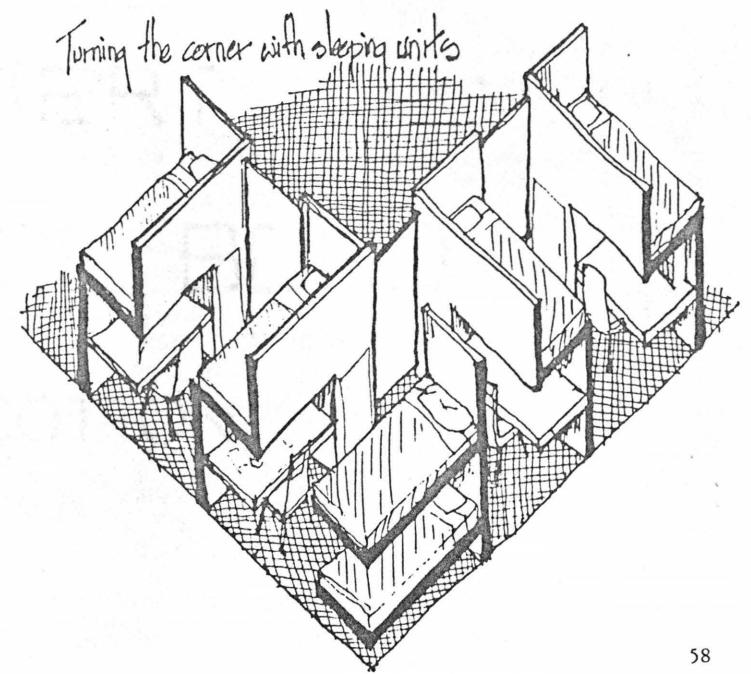




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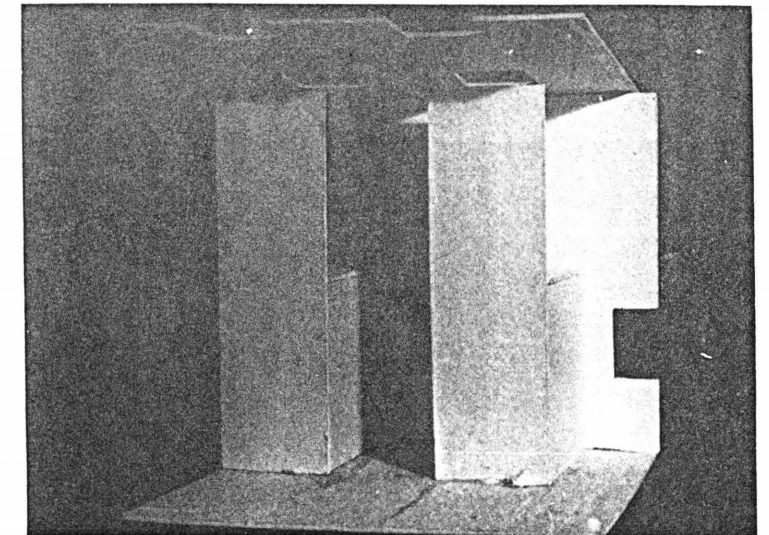


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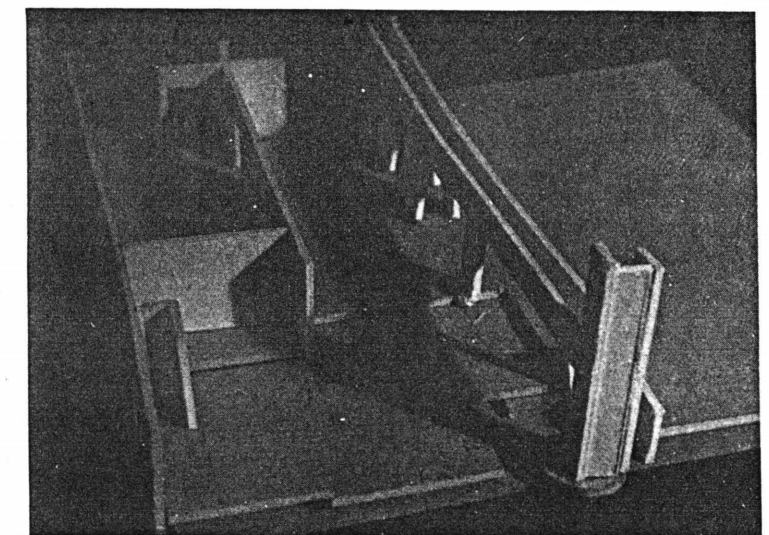


58

The orphanage housing is wrapped around the large public areas of the complex, opening outward to the meadows beyond, which serve as playgrounds. My organization into age groups is based on that used by Aldo Van Eyck in his orphanage outside of Amsterdam, and vertically placed the large play and gathering areas on the first floor and sleeping on the second floor. Cruciform concrete elements are centrally located between the organizing walls, providing locations and plumbing service for bathrooms, and creating smaller scaled areas within the larger play areas. These elements also help support the wooden beams, covered as in the gym with wood decking, insulation, and a standing seam copper roof. The doubled walls which contain the sleeping and living areas adjacent to the gym utilize the inner wall for enclosure, and the outer to frame the view and reflect the morning sun; sunlight is either enjoyed directly or enjoyed when reflected from the object it strikes. A similar screen is used on the other orphan housing units. Private and semi-private sleeping areas are provided at the furniture scale, to avoid a plethora of small, box-like rooms. The furniture units combine a bed over a desk and dresser, each with its own window and skylight. These sleeping units wrap around the perimeter of the second floor, which is pulled back at the common wall to the large public spaces to produce small exterior planted areas providing natural light and ventilation. Mechanical systems are placed below in the space generated, which is invaginated to make sitting areas and a transitional entrance from the large public areas to the more private play areas.

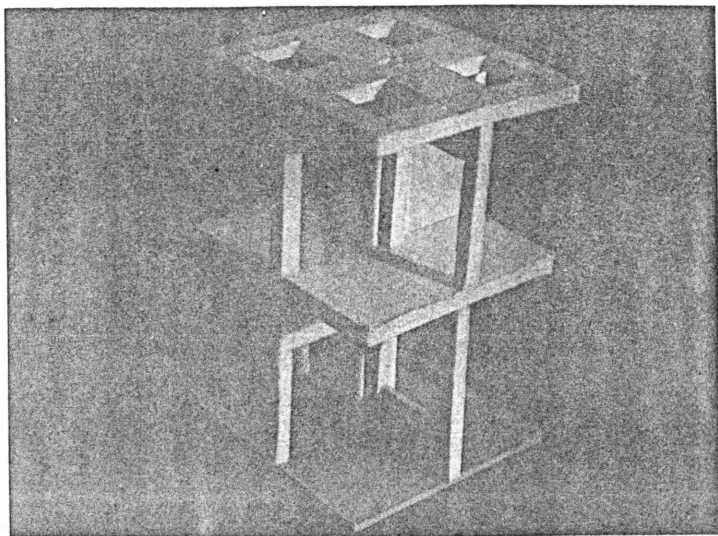


59



60

- 56 Orphan housing section, showing sunrise reflector.
- 57 Section.
- 58 Axonometric.
- 59 Sleeping units.
- 60 Play and living room area.



61

- 61 Concrete element in orphan living areas.
- 62 Sketch.
- 63 Stair tower.
- 64 Future playing fields.
- 65 Italian hill town sketch.
- 66 Early housing model.

The vine-wall system



workmen carefully harvest vines.

②



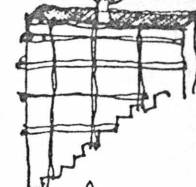
the vines are spread on the form material

③



a clear plastic sealant is applied

④

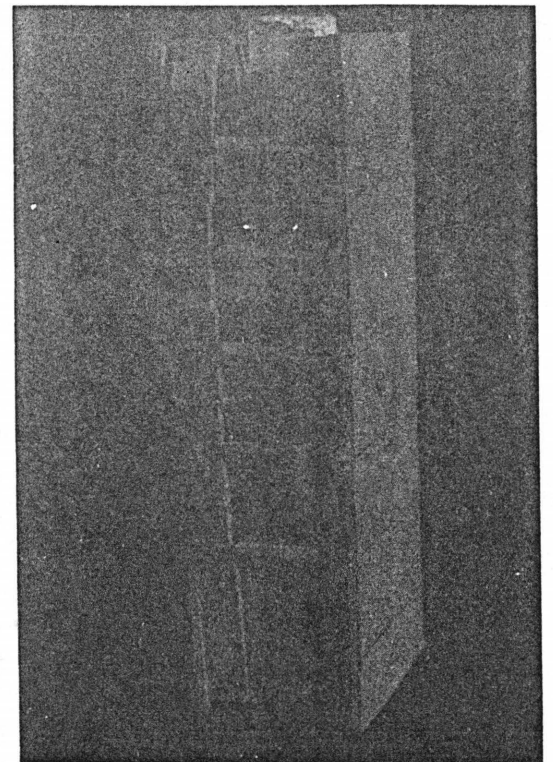


the forms are assembled, and concrete poured to produce pattern in relief.

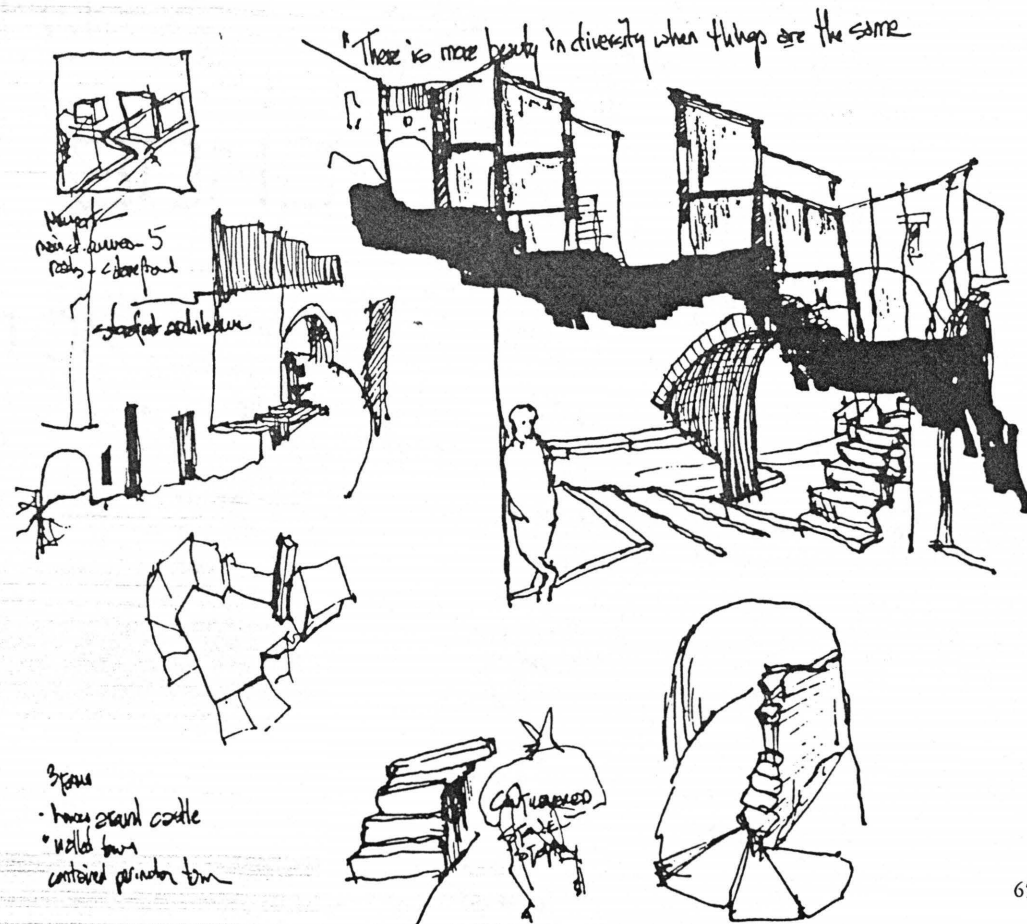
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66



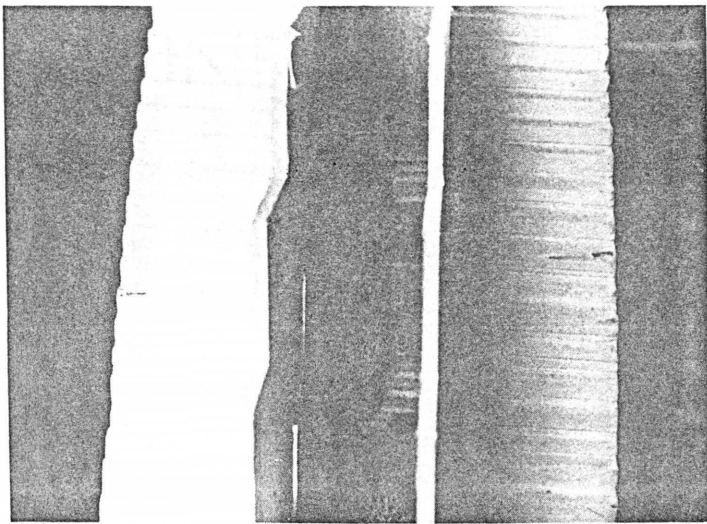
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64



67

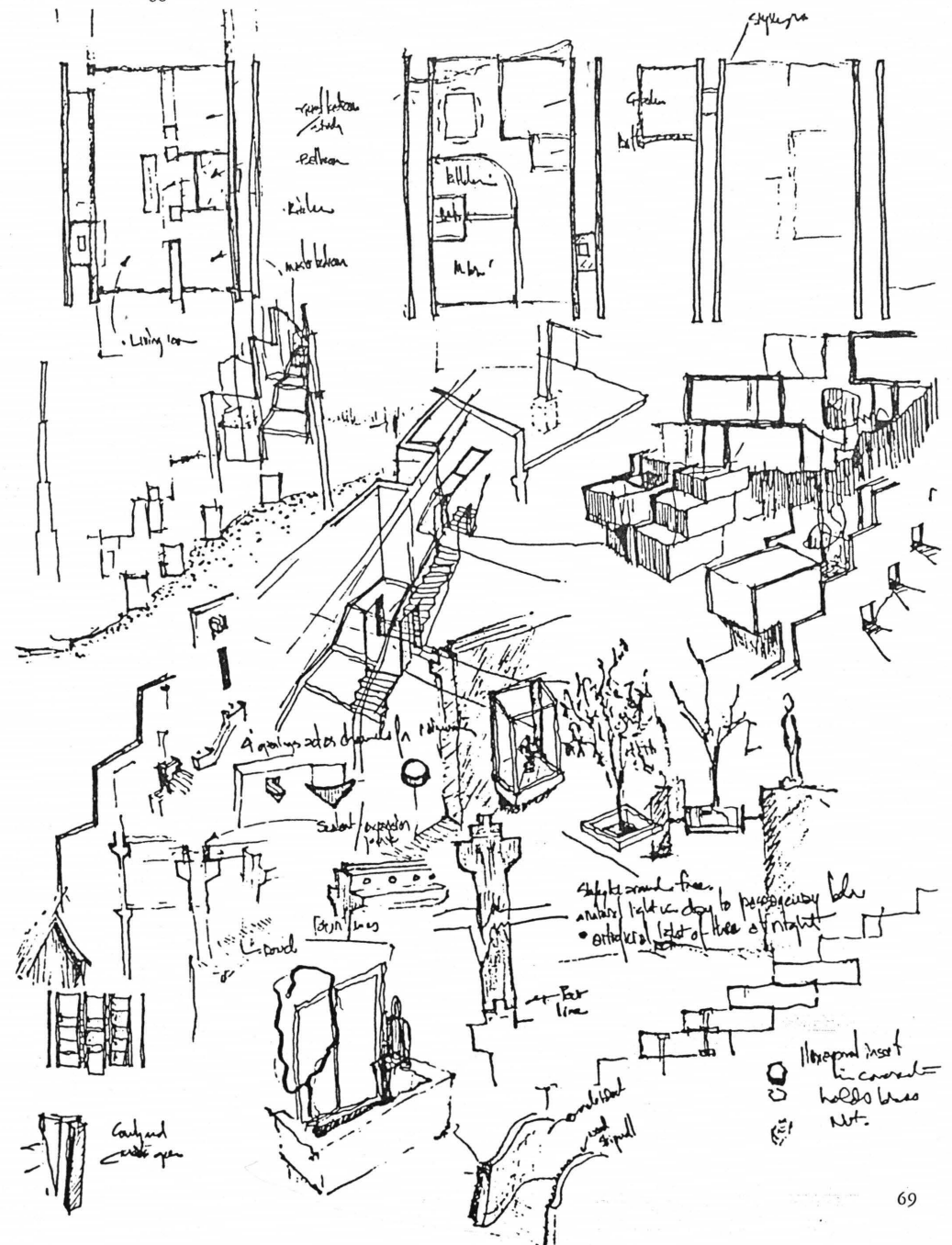


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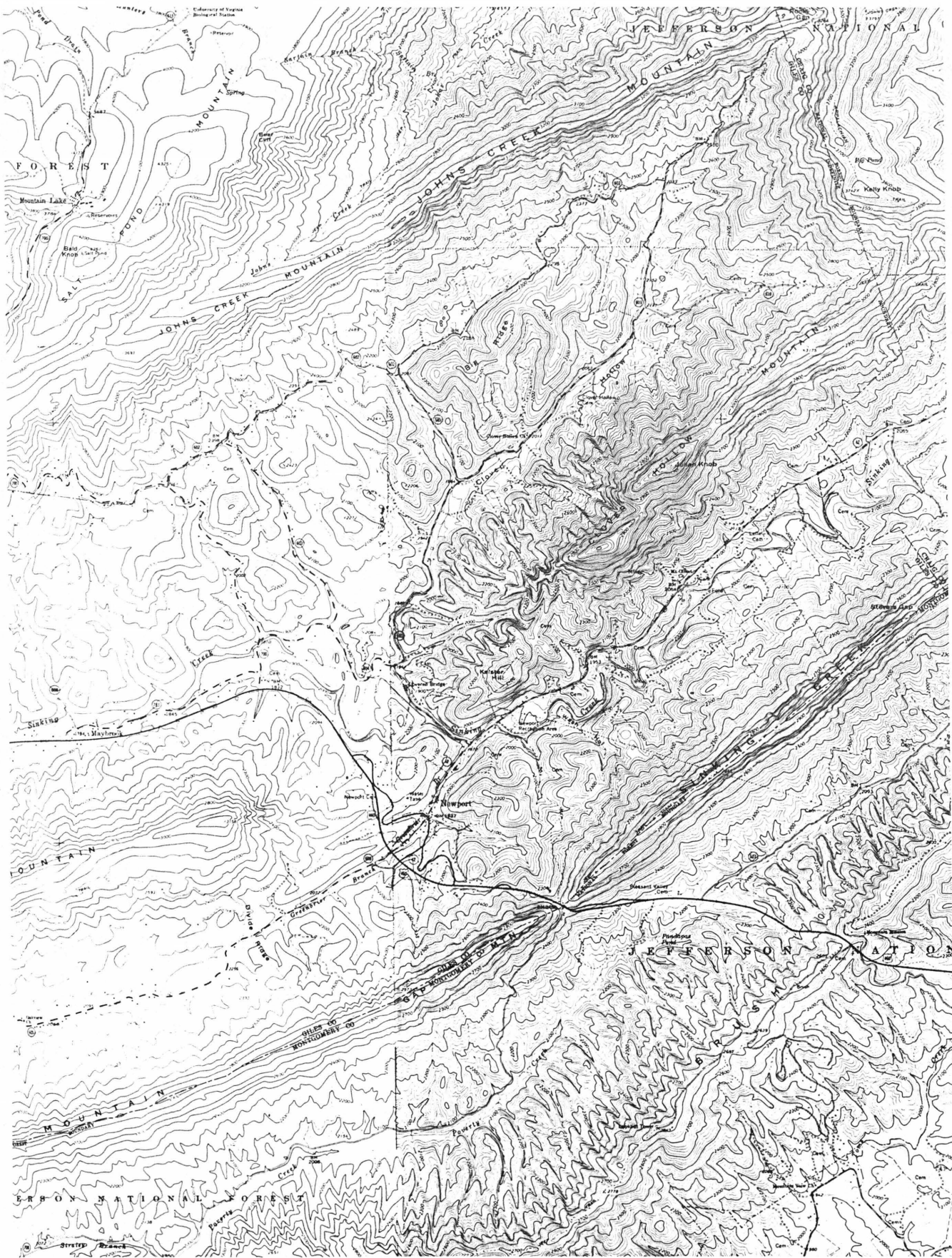
The elderly housing units depend on the parallel walls for both structure on the steep hillside and as organizing elements for both individual unit plans and circulation throughout. All floors are made elevator accessible by the 3 towers, and at the second floor a continuous loop can be made through the towers and back across the bridges. The smaller 4 foot spaces between the one-third module walls are used for circulation and allow cantilevered windows and fireplaces to project out, providing a visually rich space. The two large stairways between the elevator towers climb the full height of the bank with planters and twisting pathway. Although the occupants are never required to negotiate these stairs to access any of the units, they provide a slice of green space for the inner units, and can be enjoyed by all as a sculptural element. Circulation for the housing units perpendicular to the main walls occurs behind the units along the hillside, with glass block floors providing the glow of natural light to the walkways below, augmented with artificial light as required. Parallel circulation occurs in the skylit 4 foot space between the walls, creating a rhythm of bright and dark light as one traverses this walkway to the individual units. Entrances to the units are under the skylit areas.

A grouping of very similar objects may lead to monotony and sterility if a certain degree of variation is not effected. Variation at the large scale for the units is accomplished by setting back each unit above the lower one an amount corresponding to the slope of the grade at that point, creating different profiles for the units at each third module, contrasting the regularity of the organizing walls. This large scale variability allows each individual unit to vary slightly in window placement and type, and gives each a different size terrace. These terraces are formed by the stepping back of the units, and are arranged differently for each unit. A light scoop forms the front wall of each terrace, bringing southern light into the unit below. At the top level 2 units are placed back to back with a skylit walkway between, to face the final row of units towards the upper parking and hillside beyond. Individual units plans utilize an organizing spine down the center, separating the sleeping and living areas.

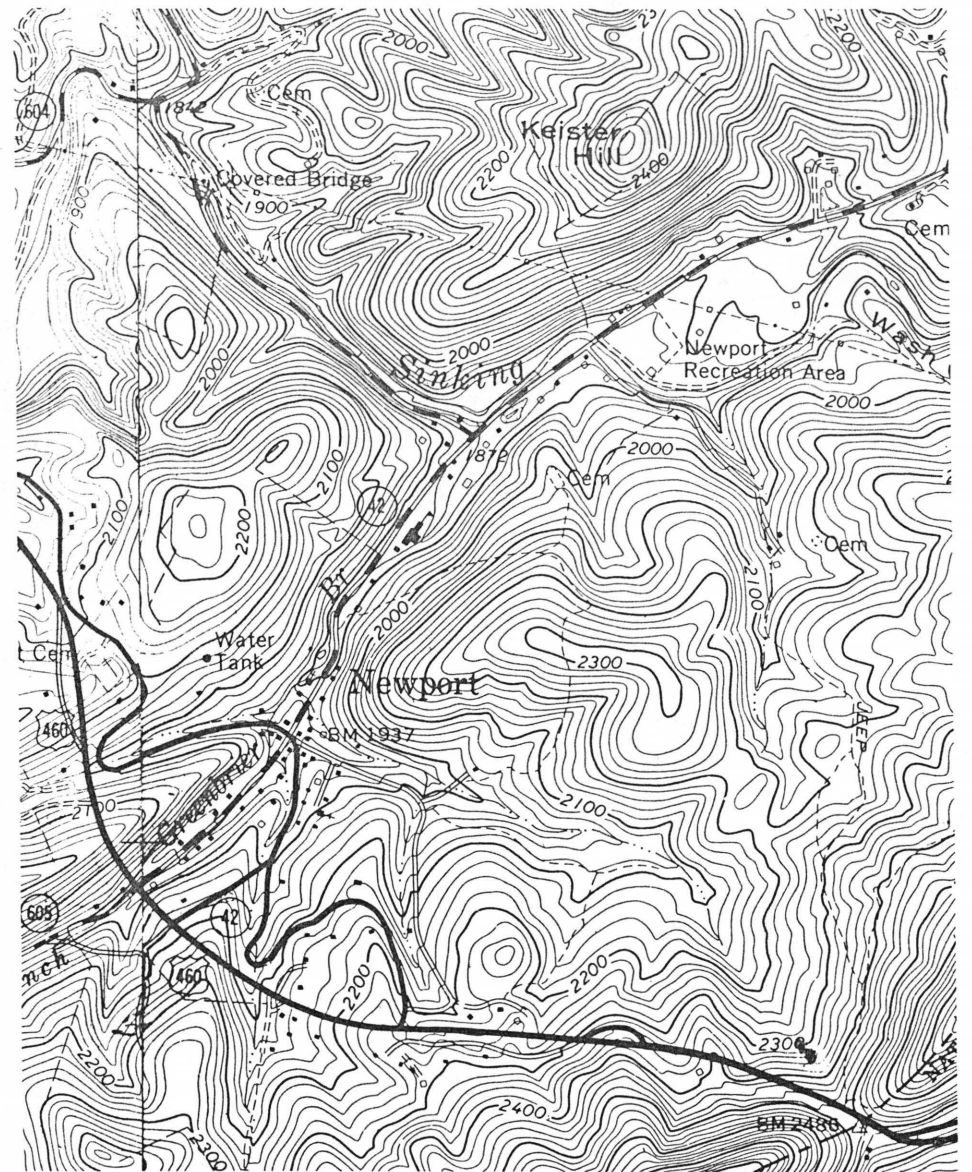
67 Exterior stairs.
68 Exterior stairs.
69 Elderly housing development.



69

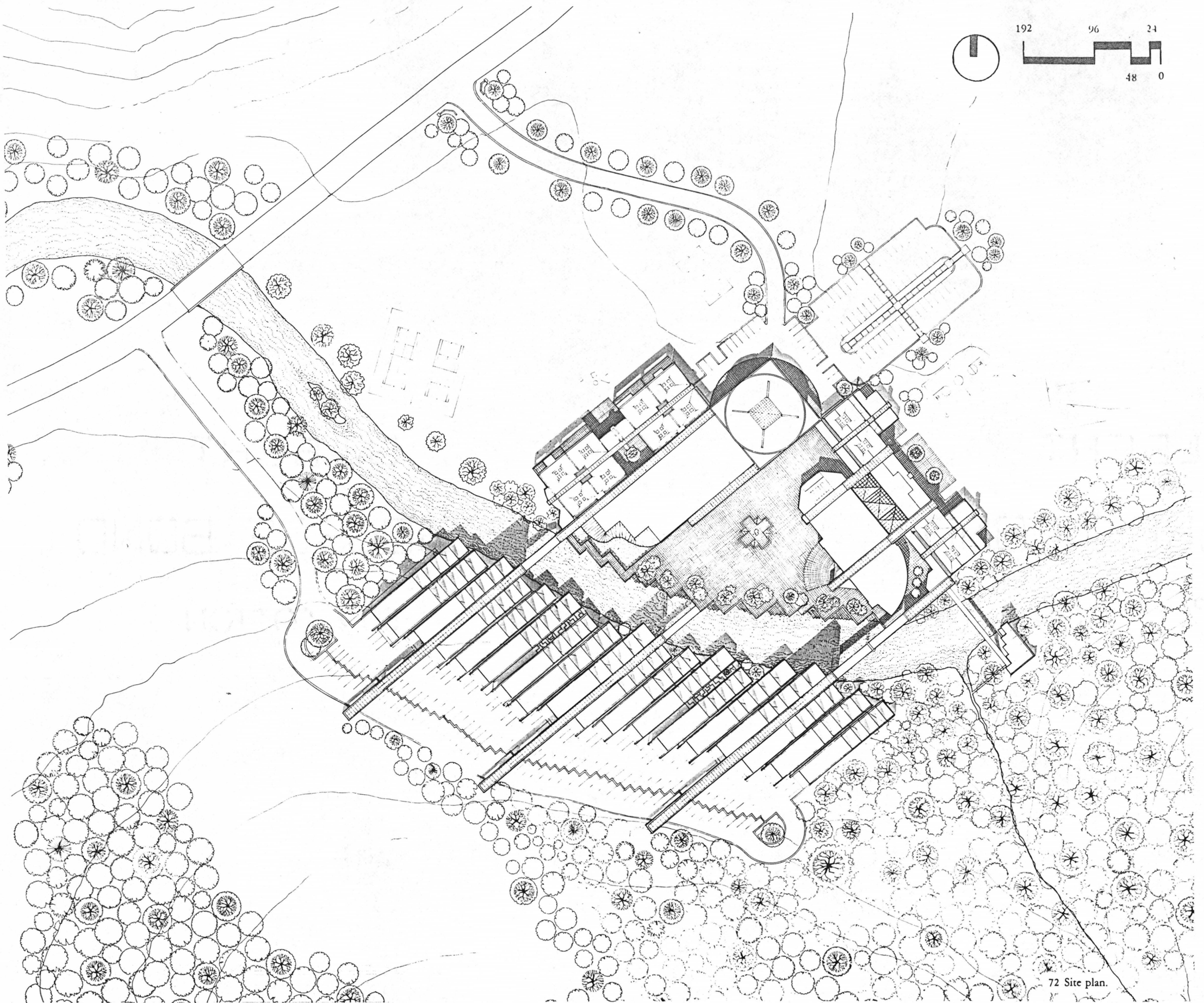


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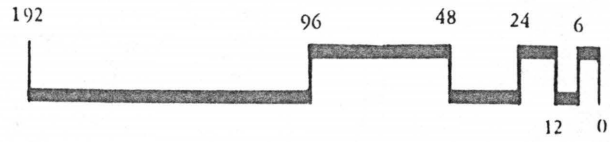


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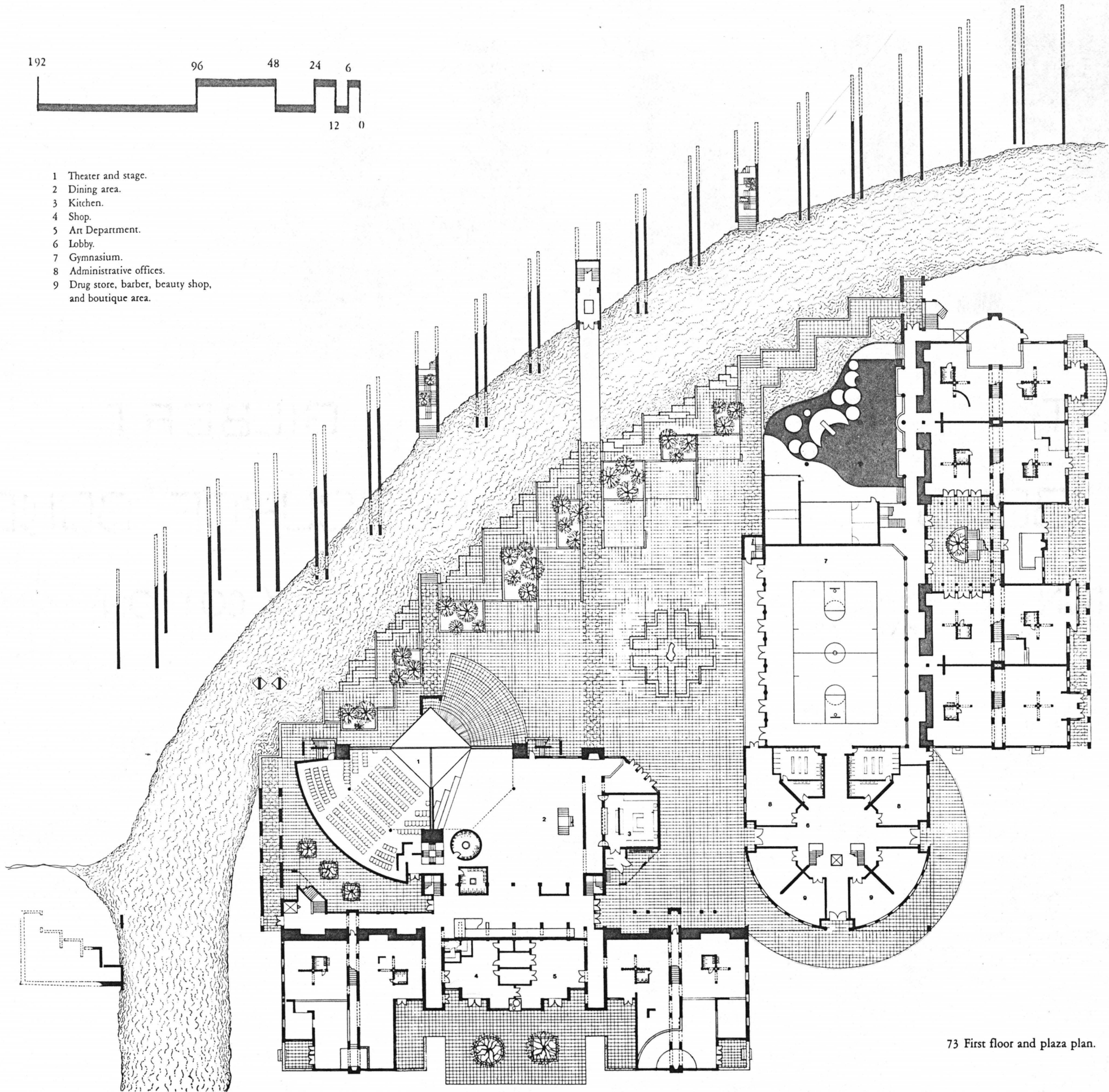
70 Newport and surrounding areas.
71 The site..



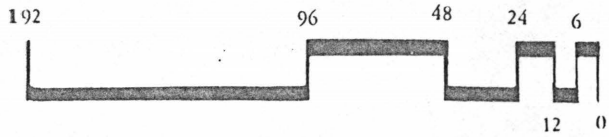
72 Site plan.



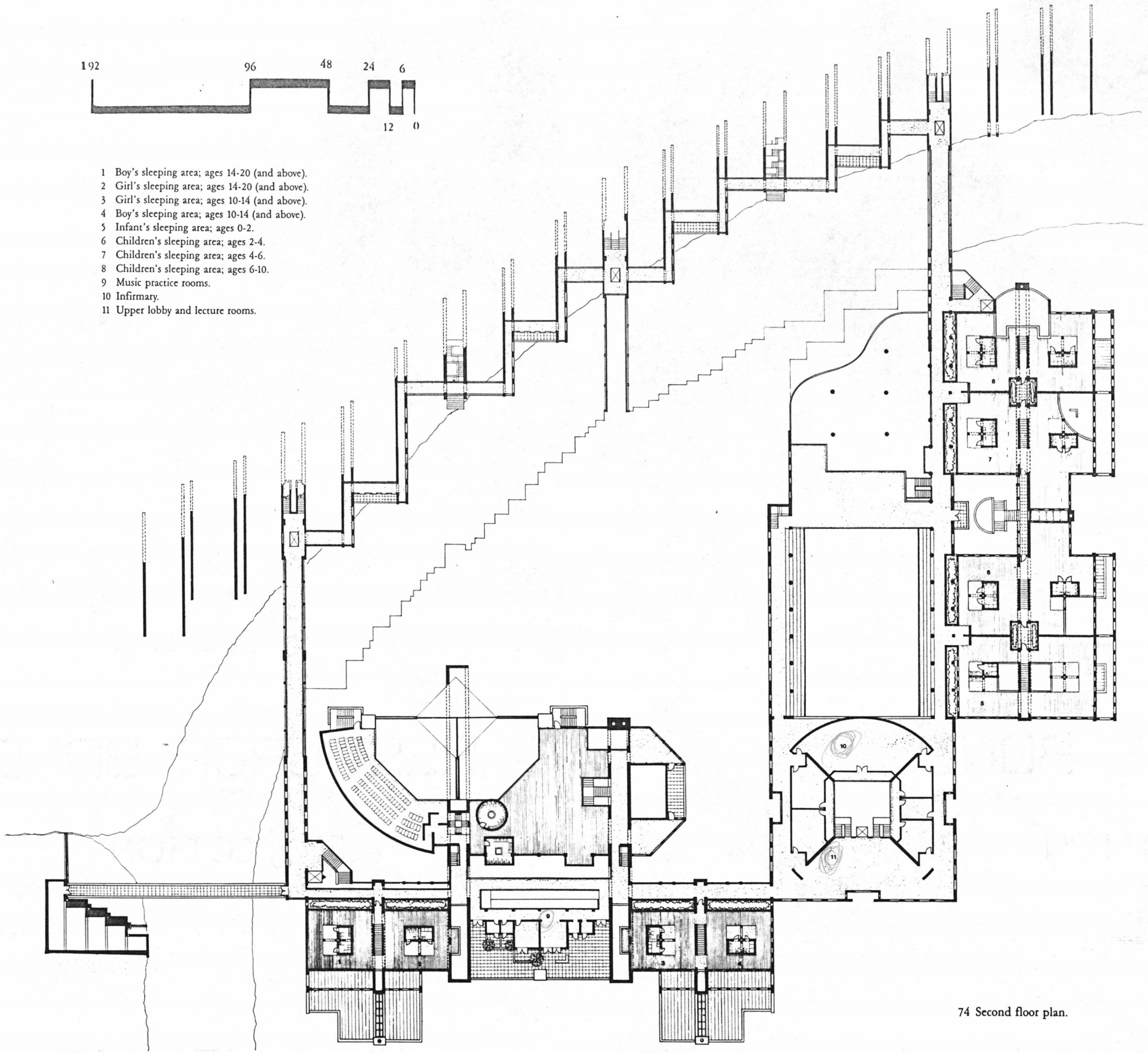
- 1 Theater and stage.
- 2 Dining area.
- 3 Kitchen.
- 4 Shop.
- 5 Art Department.
- 6 Lobby.
- 7 Gymnasium.
- 8 Administrative offices.
- 9 Drug store, barber, beauty shop,
and boutique area.



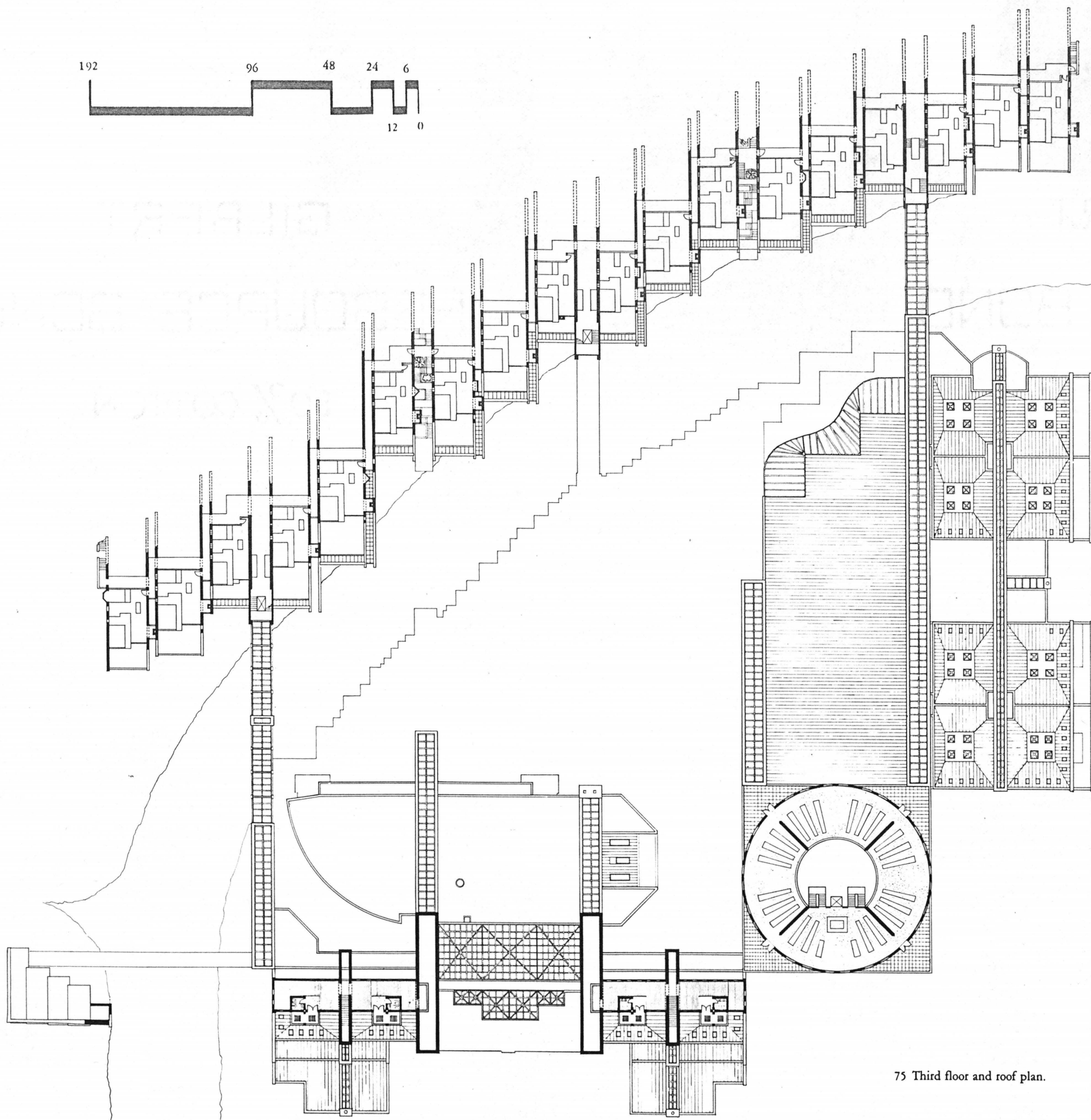
73 First floor and plaza plan.



- 1 Boy's sleeping area; ages 14-20 (and above).
- 2 Girl's sleeping area; ages 14-20 (and above).
- 3 Girl's sleeping area; ages 10-14 (and above).
- 4 Boy's sleeping area; ages 10-14 (and above).
- 5 Infant's sleeping area; ages 0-2.
- 6 Children's sleeping area; ages 2-4.
- 7 Children's sleeping area; ages 4-6.
- 8 Children's sleeping area; ages 6-10.
- 9 Music practice rooms.
- 10 Infirmary.
- 11 Upper lobby and lecture rooms.



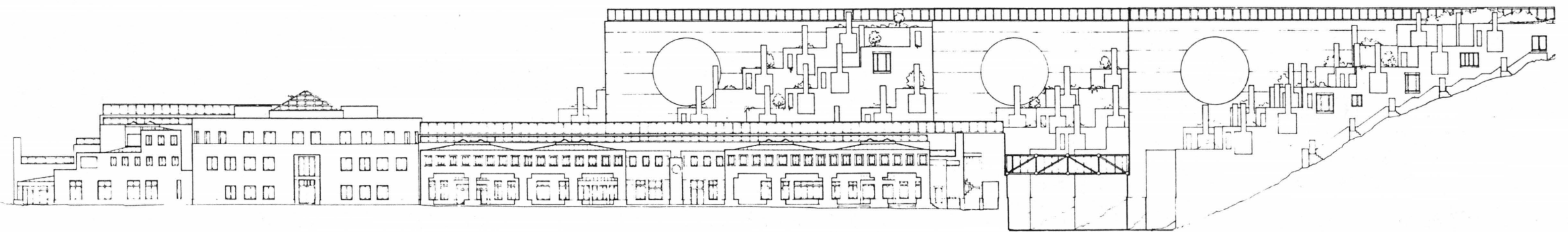
74 Second floor plan.



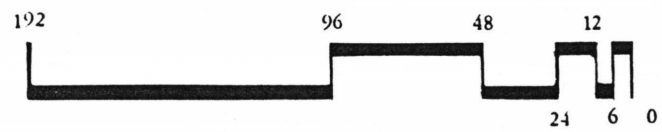
75 Third floor and roof plan.

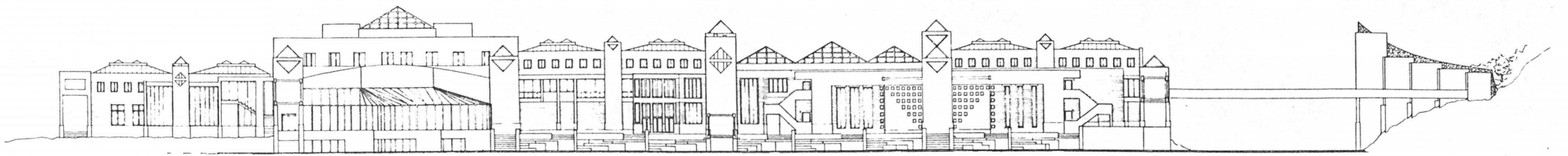


76 Northeast elevation.



77 Northwest elevation.

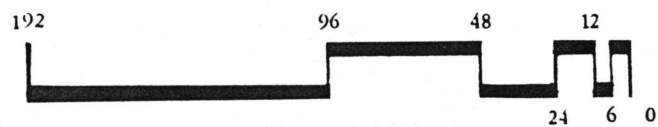


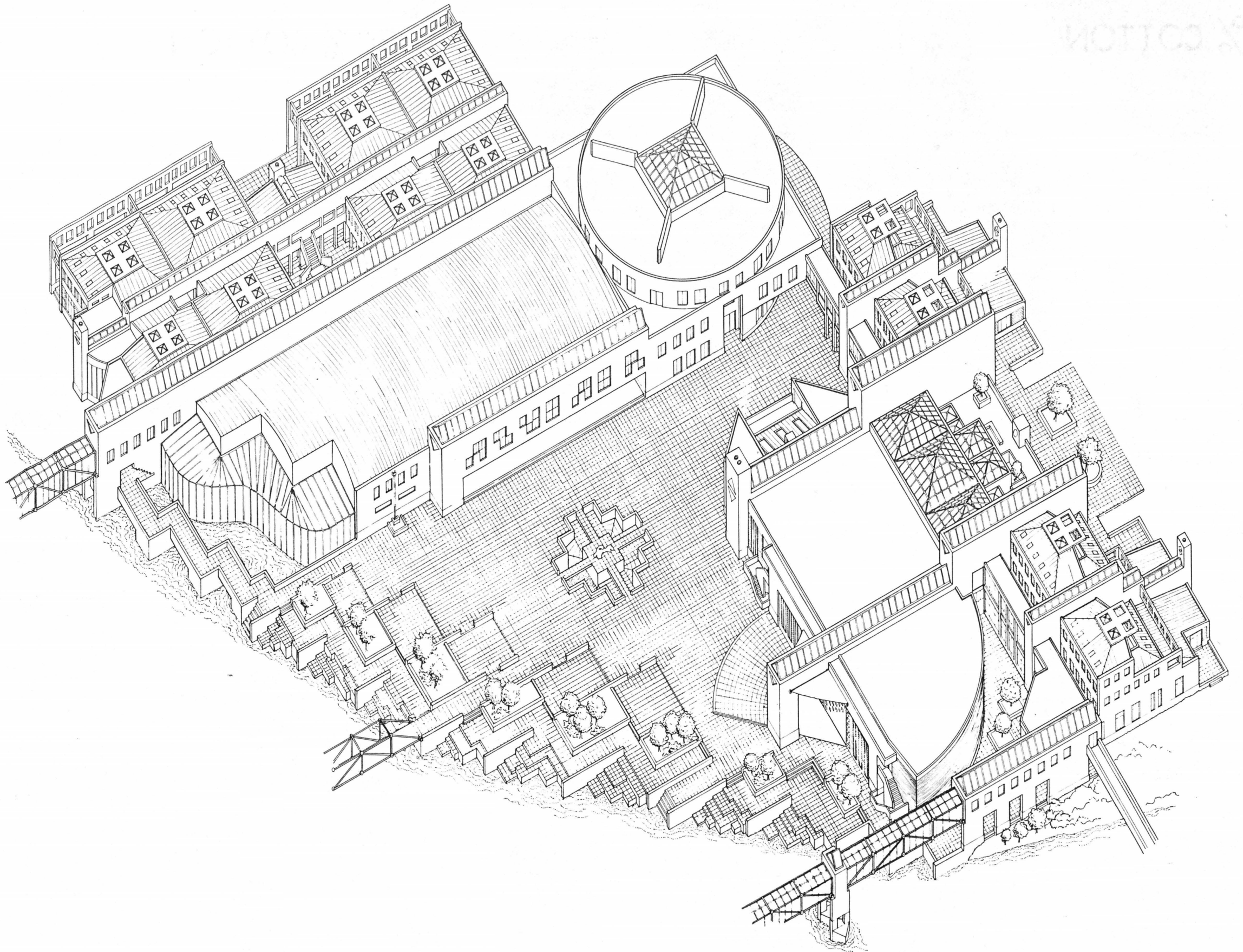


78 Southwest elevation.

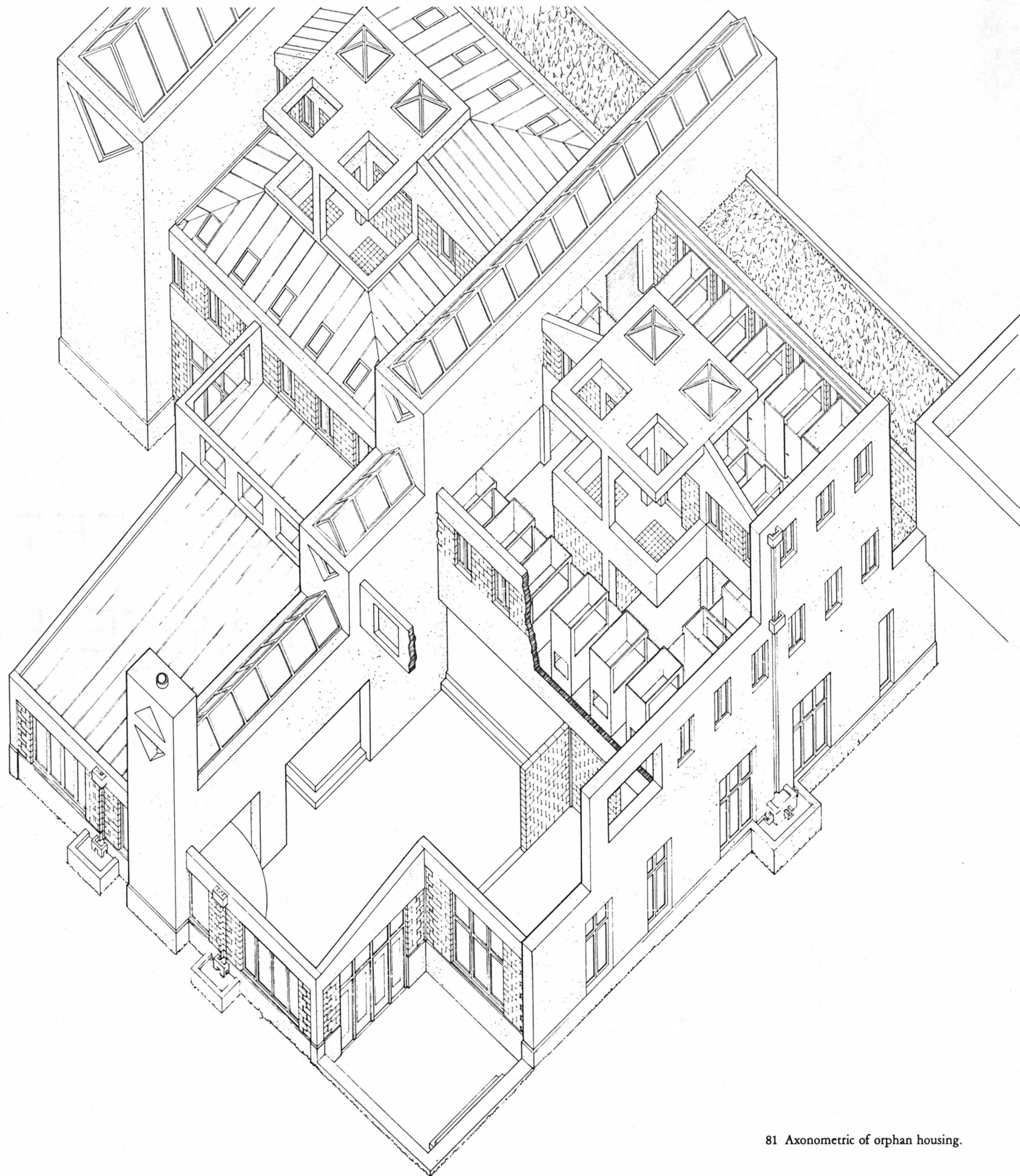


79 Southeast elevation (elderly housing not shown).

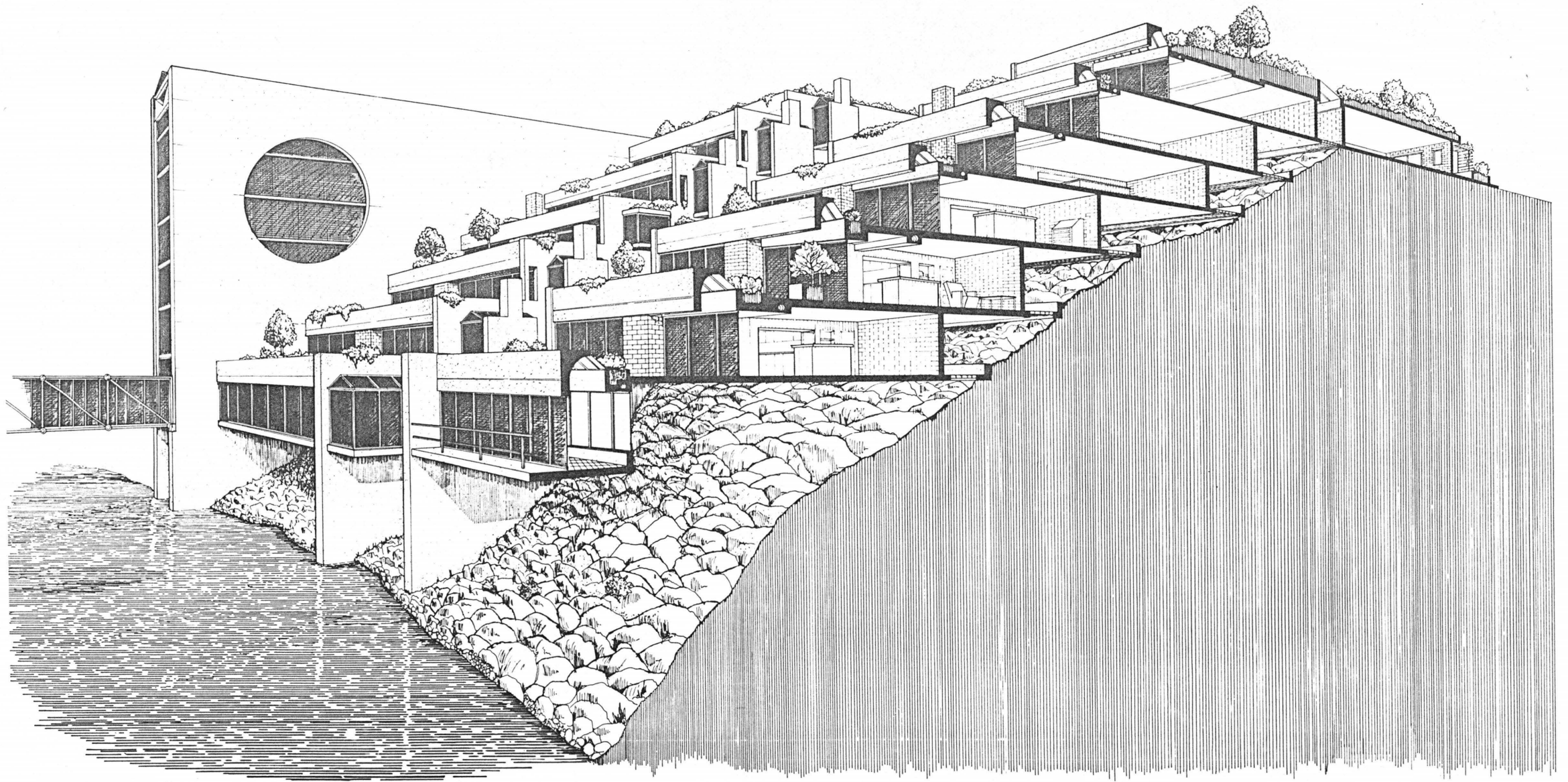




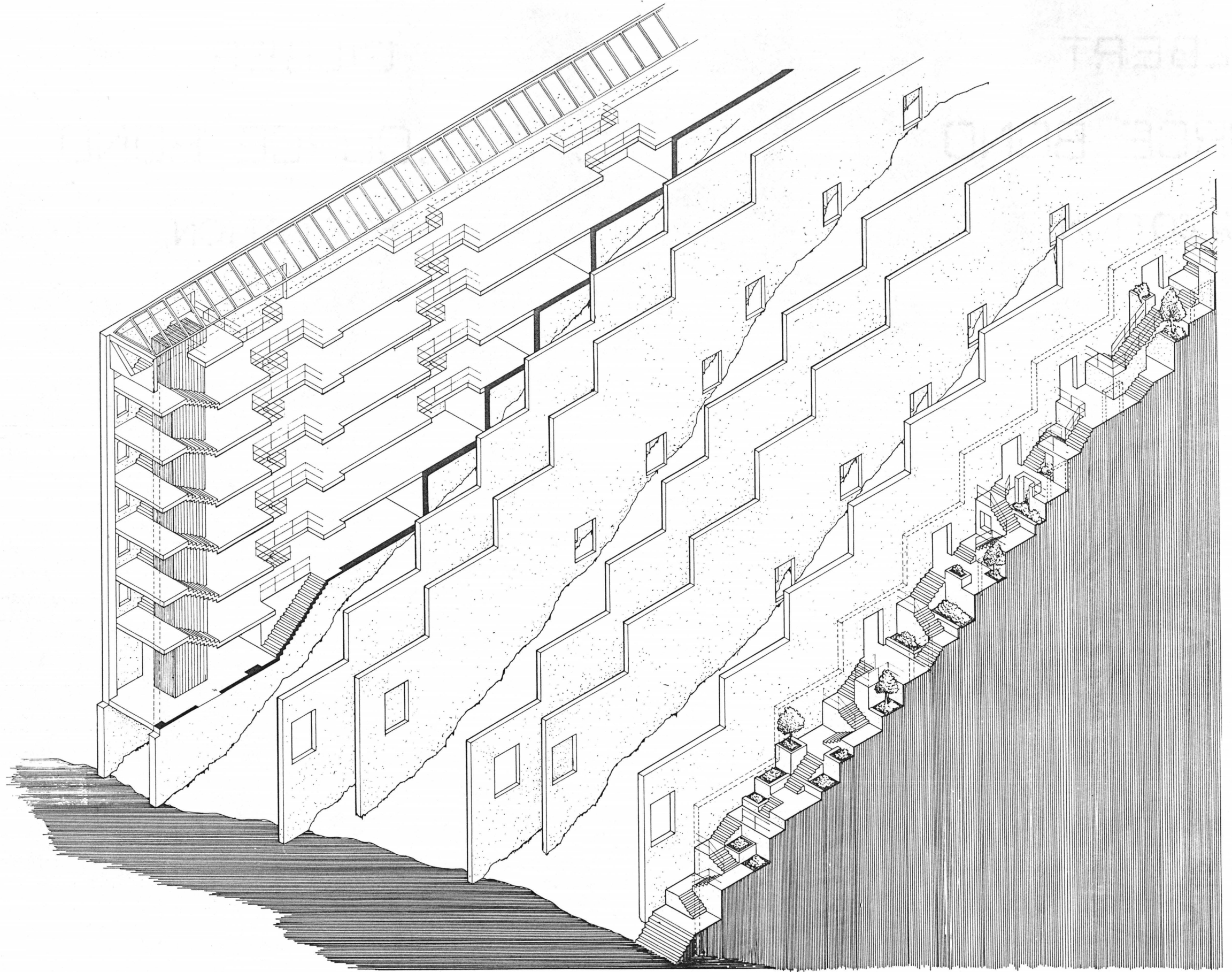
80 Main building and plaza.



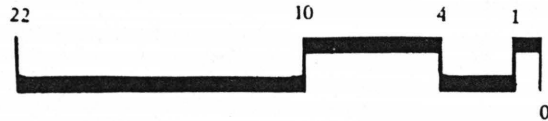
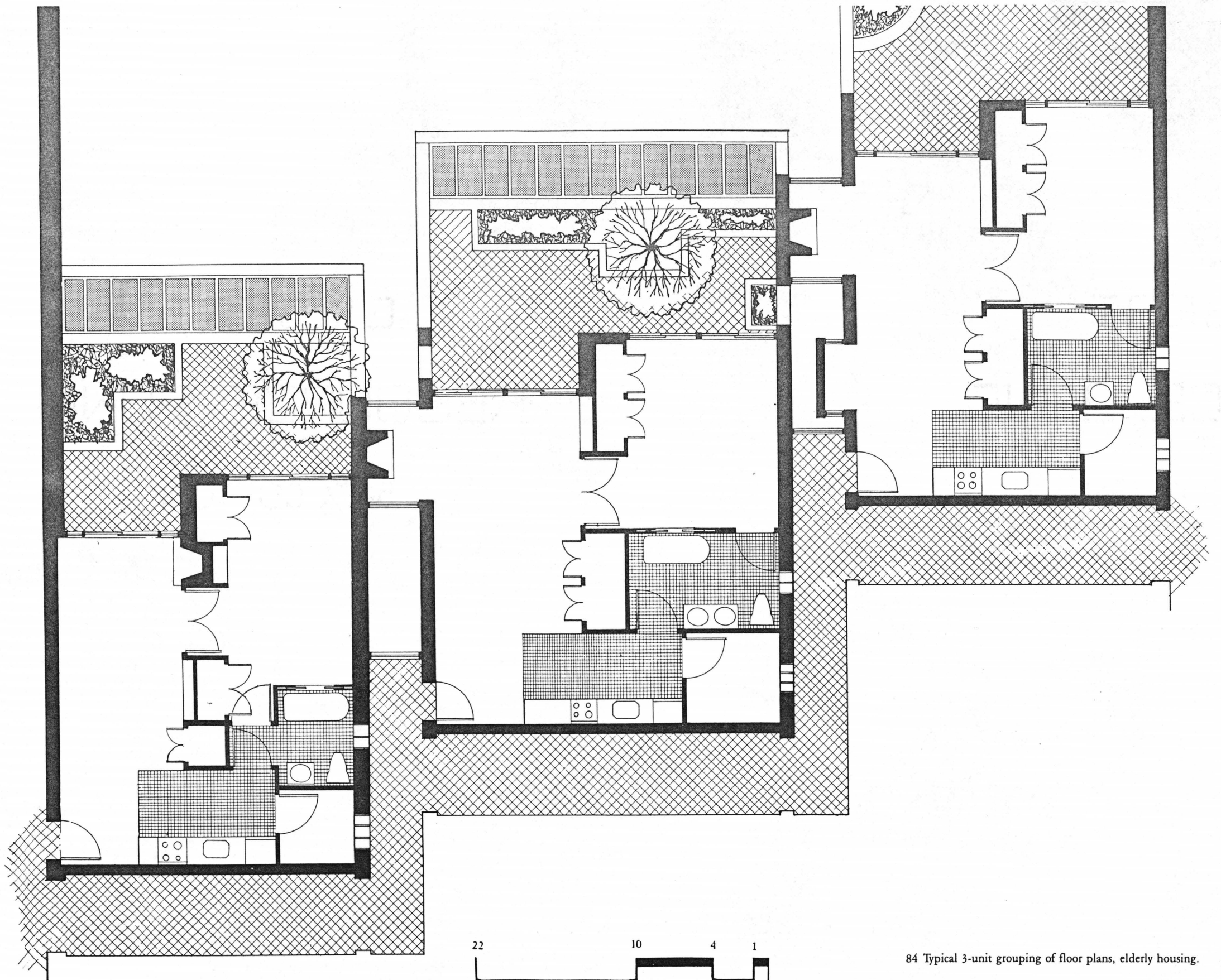
81 Axonometric of orphan housing.



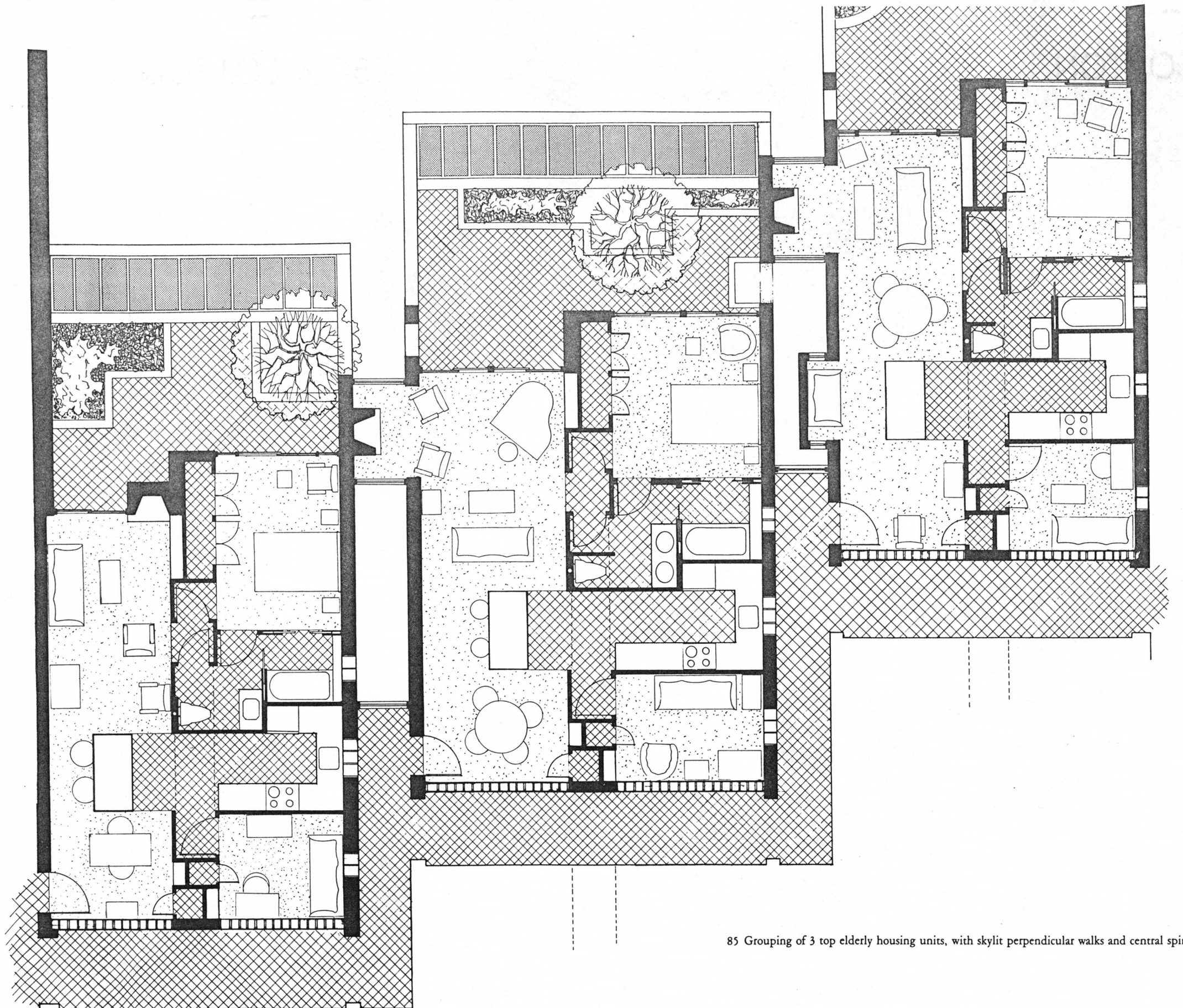
82 Section / perspective through elderly housing.



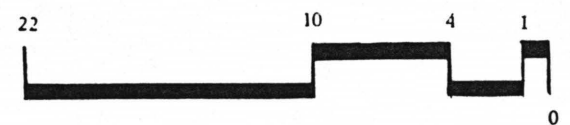
83 Elderly housing major walls, showing stair tower and exterior stairway.

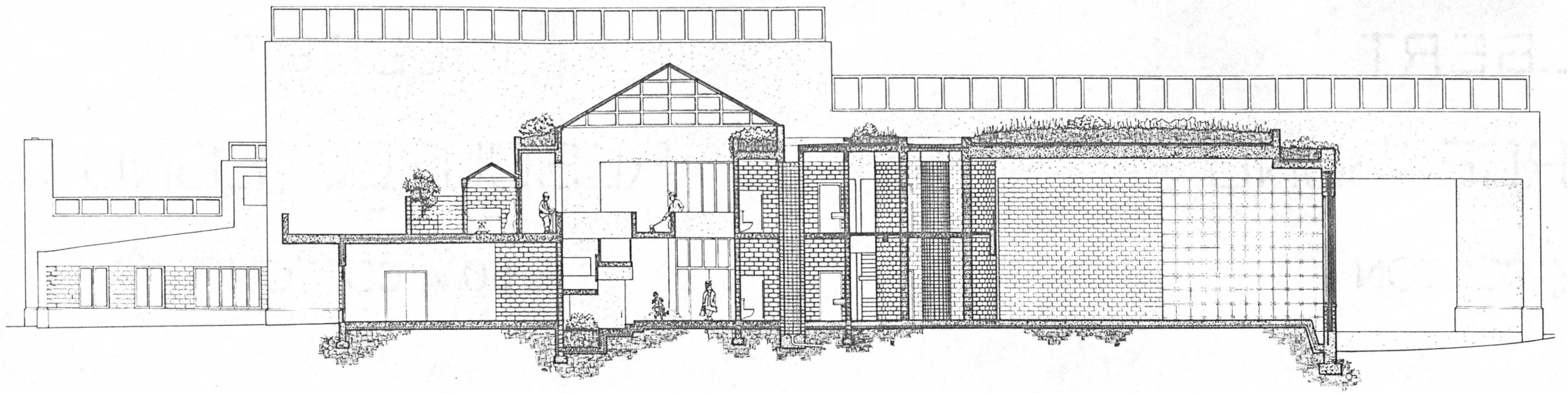


84 Typical 3-unit grouping of floor plans, elderly housing.

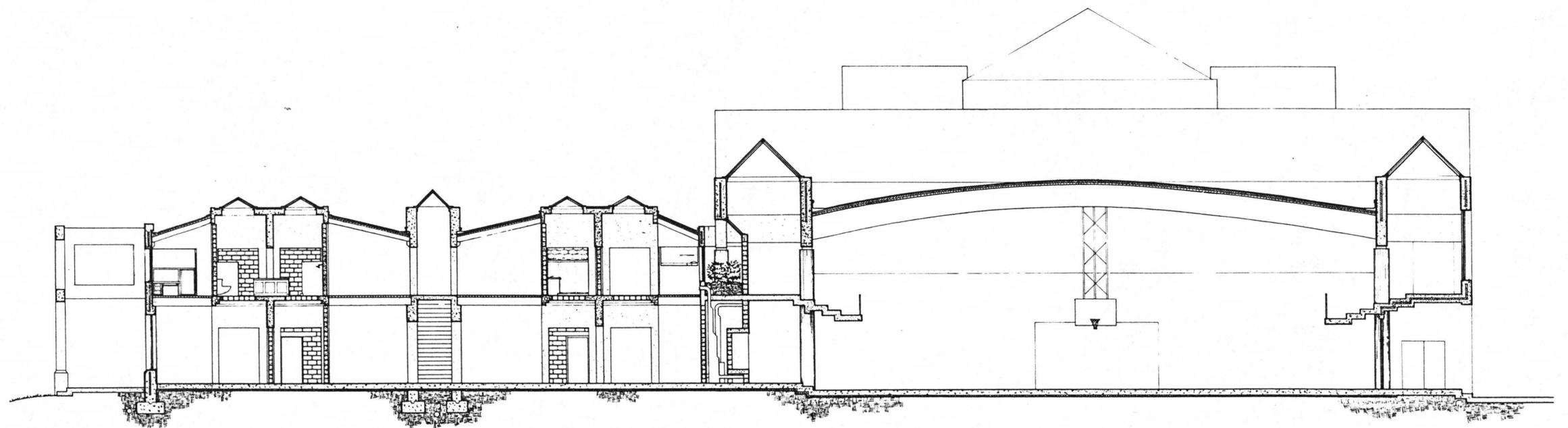
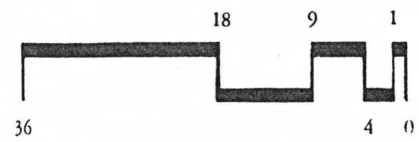


85 Grouping of 3 top elderly housing units, with skylit perpendicular walks and central spines.

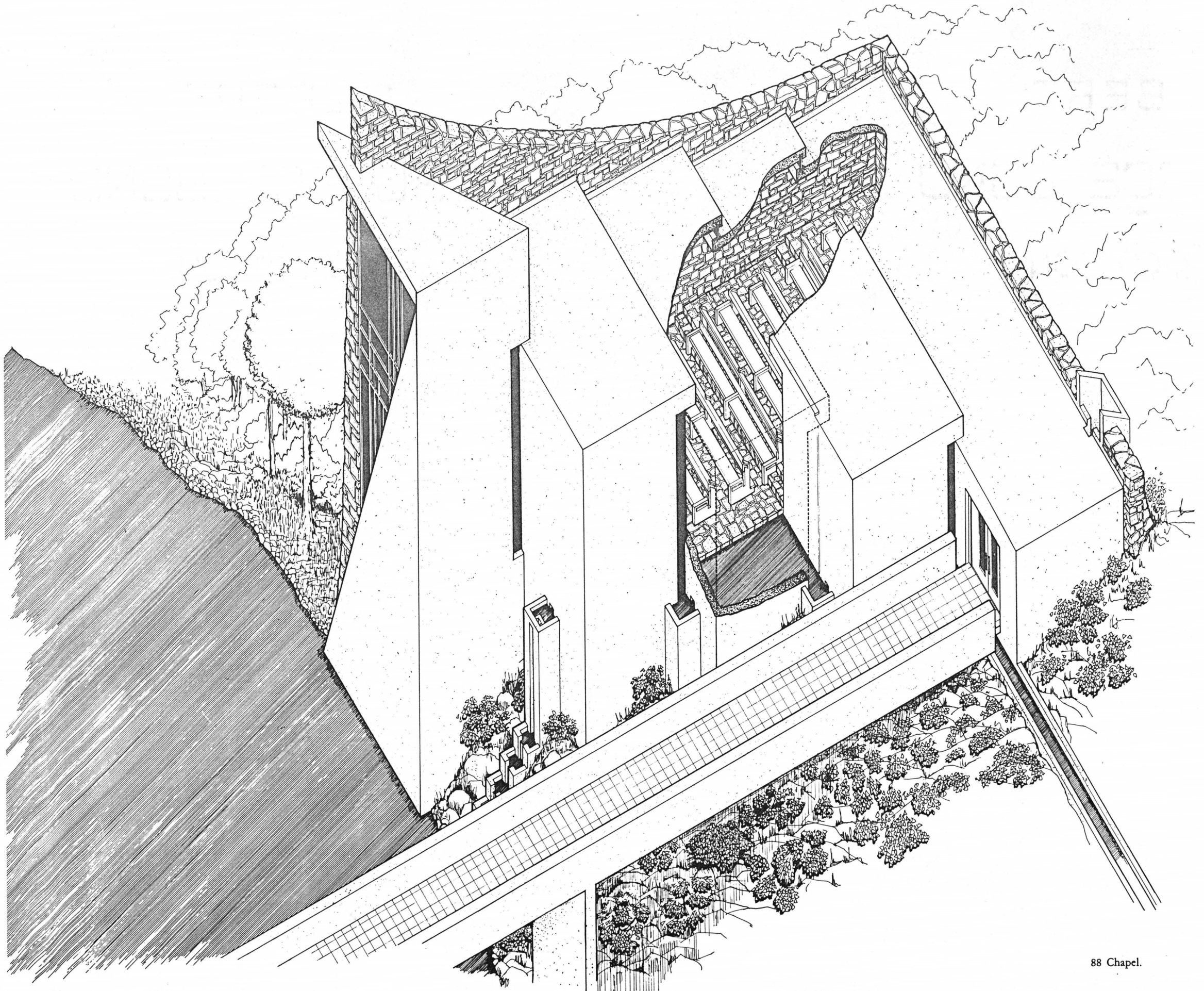


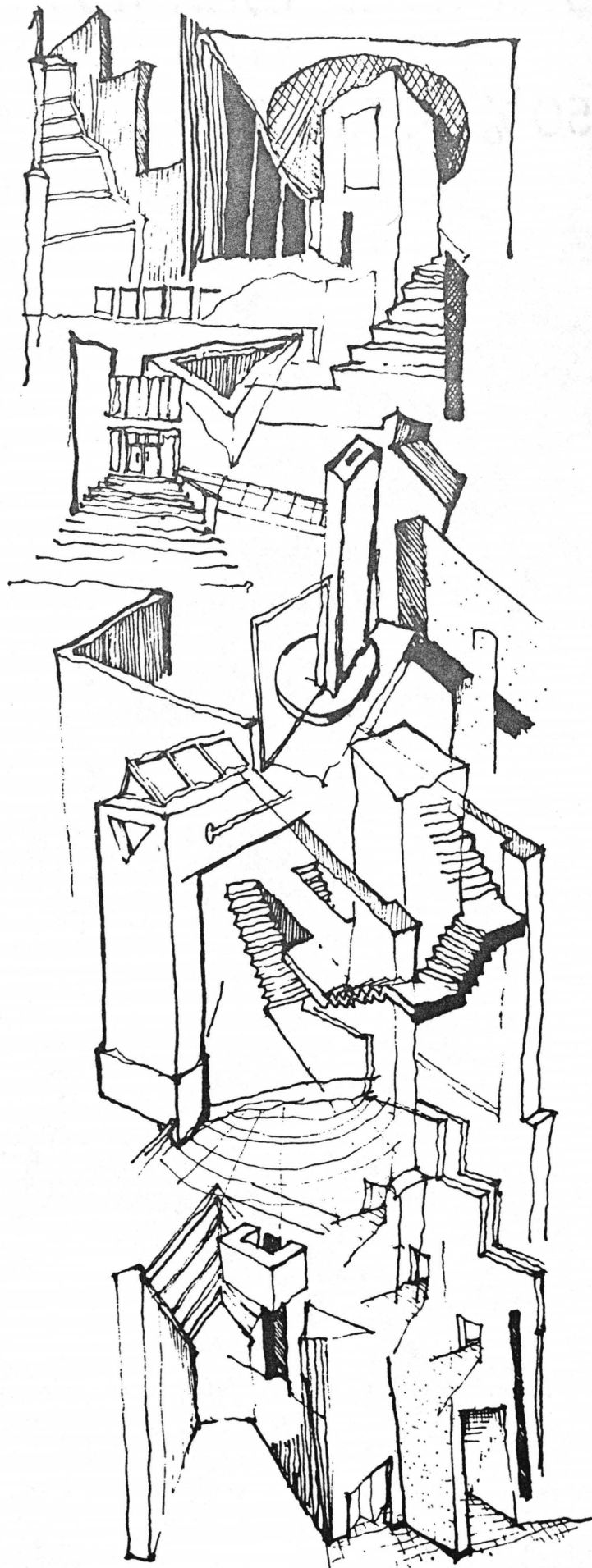


86 Section through shop, music practice room, interior "street", bathrooms, and dining area.



87 Section through orphan housing and basketball court.





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"It was late in the evening when K. arrived. The village was deep in snow. The Castle hill was hidden, veiled in mist and darkness, nor was there even a glimmer of light to show that a castle was there. On the wooden bridge leading from the main road to the village, K. stood for a long time gazing into the illusory emptiness above him."
—Franz Kafka

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