

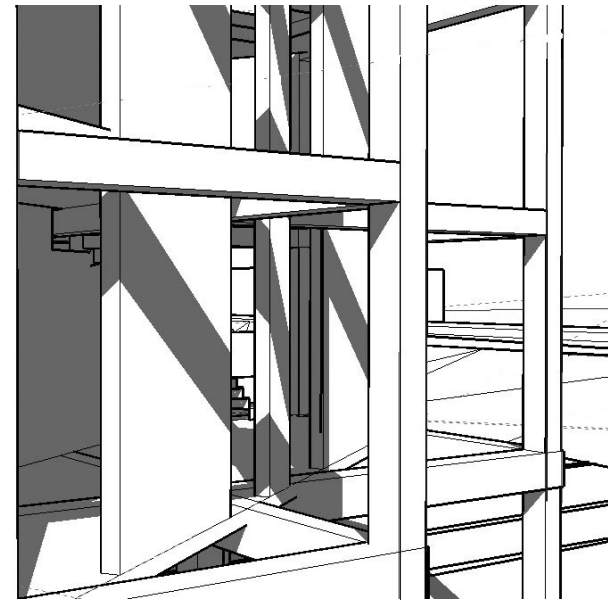
#### PARK BUILDING: ITERATION ONE

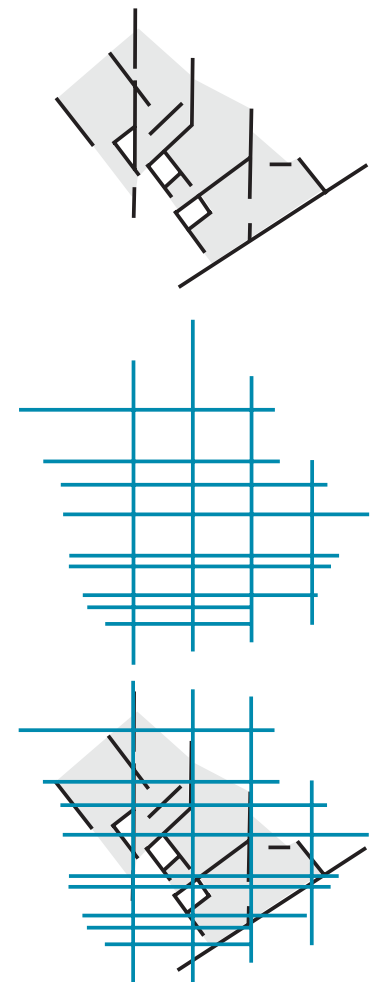
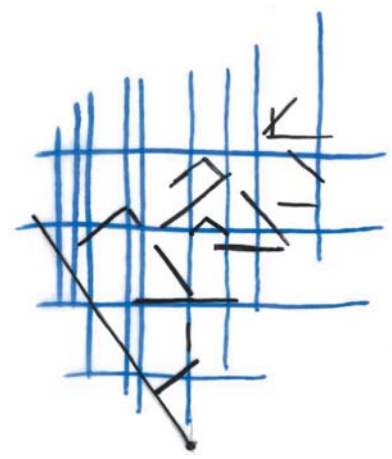
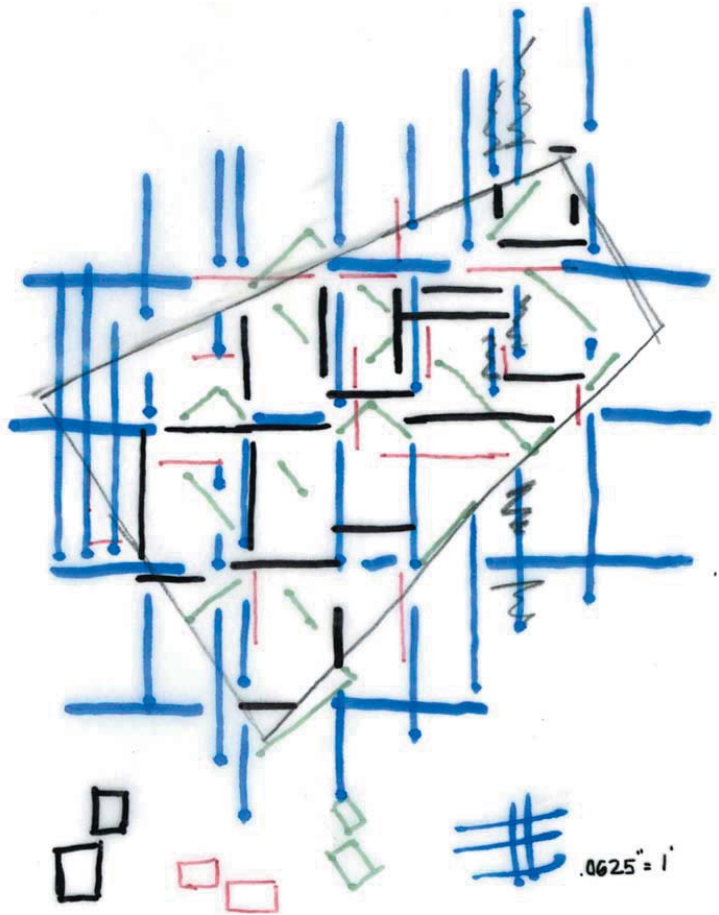
The residential building on the edge of the park became the focus of the thesis since this involves the greatest interaction of the "superimposition" of grid geometry and view geometry. The interaction between the geometries is the location of the tension that required the highest resolution in order for the building to work.

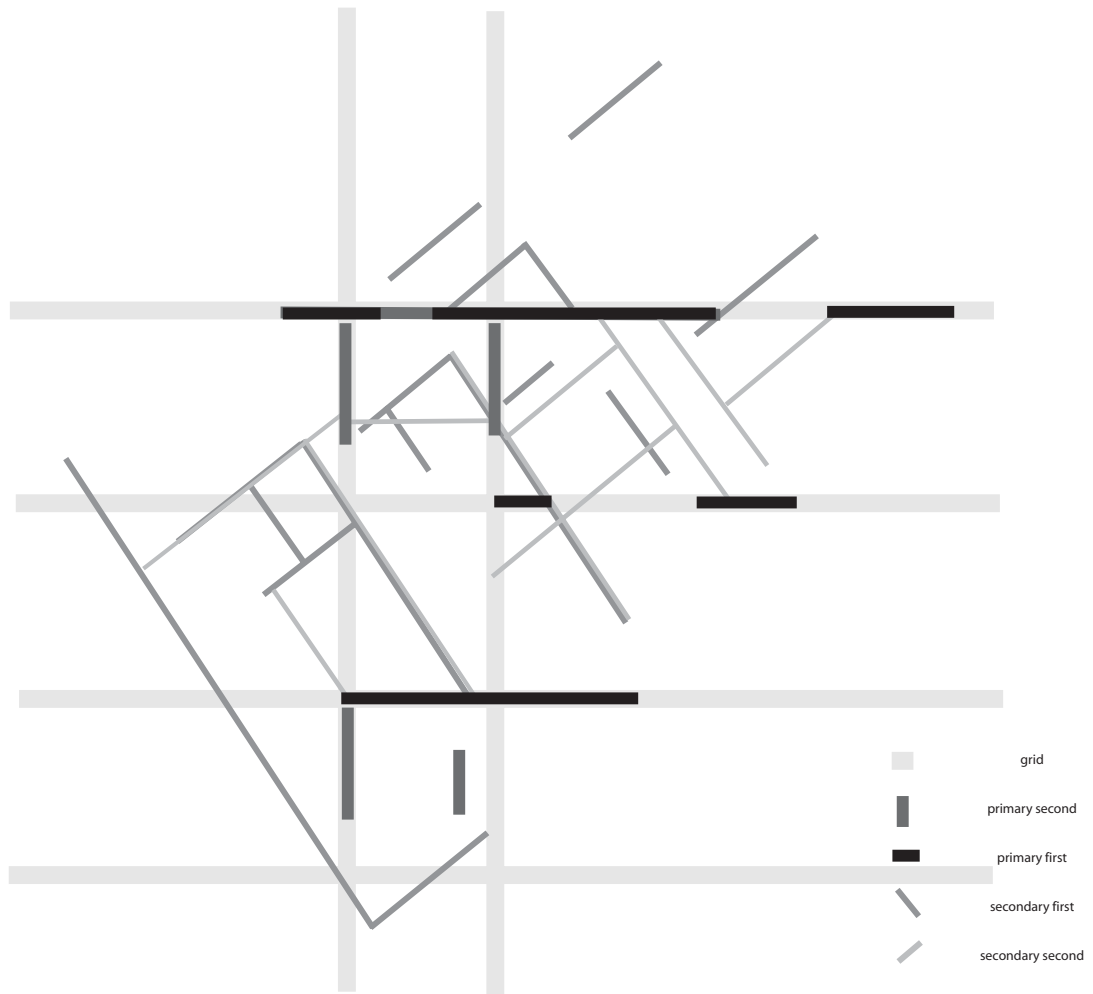
The grid became important not just for dimensional "snaps," but also for the structure of the buildings. The grid intersections became points where structure would touch the ground, the lines between the points becoming beams. In the residential building the grid-based structure became the highest hierarchical element as the building developed. The view geometry that defines the exterior walls is pierced by the structure, one point of tension in the superimposition. To expose the building's structure the columns and beams extend beyond the walls becoming components in a sculpture of light and time. This dynamic response is achieved by tracing the sun through the day and year on the built facade and the context of where the buildings exist. The interior walls- primary, secondary, and tertiary walls- all respond to the view geometry that resulted in a very complex structural interaction.

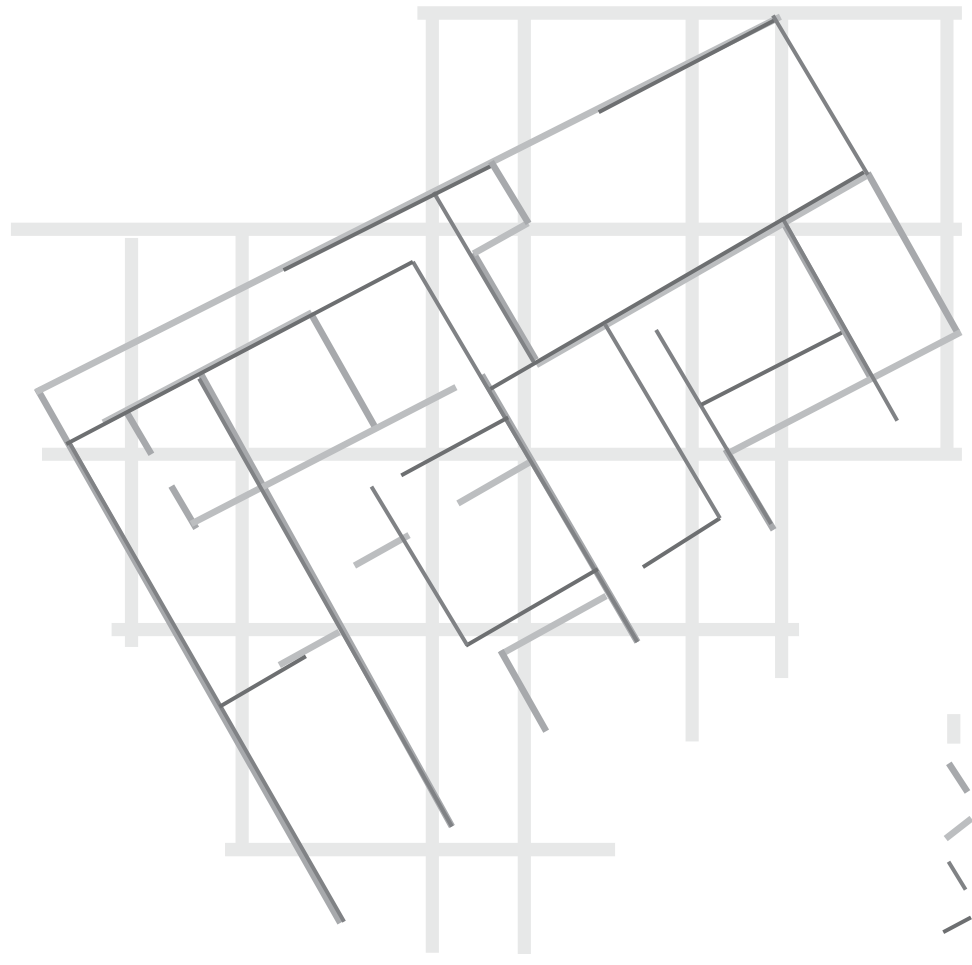
Early on in the development of the program, each residential unit was a double height loft with interior stairs and no common vertical connection. Only the foyer of the building connected the four units together. This idea resulted in well-lit units on the north end of the building and naturally ventilated spaces from a pressure change from roof monitors over every unit. The need to acquire views of the trestles from all the living units was mandatory since the residential building extends into the park so every unit ties to the exterior via balcony spaces.

The drawback to this scheme was that every unit had its own stairs with no vertical circulation that touched the ground or a place for utilities to run vertically. The building created independent simple spaces with a complex structure, this was not the best resolution.

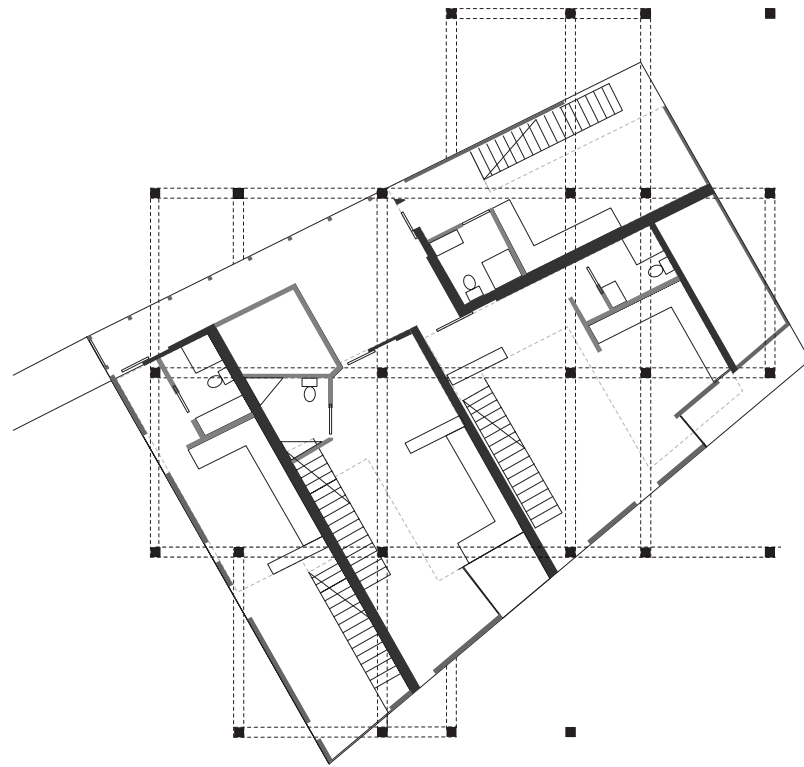
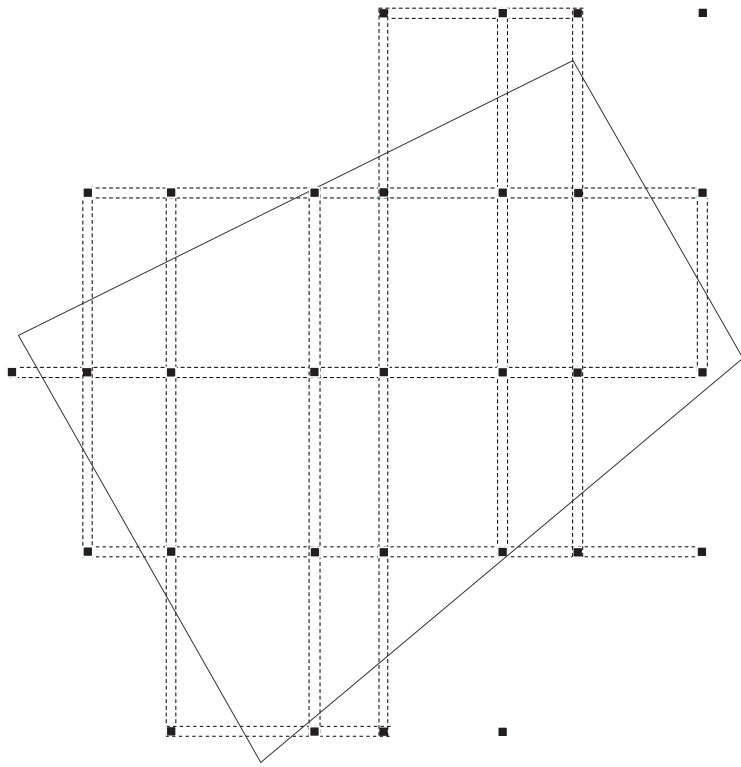




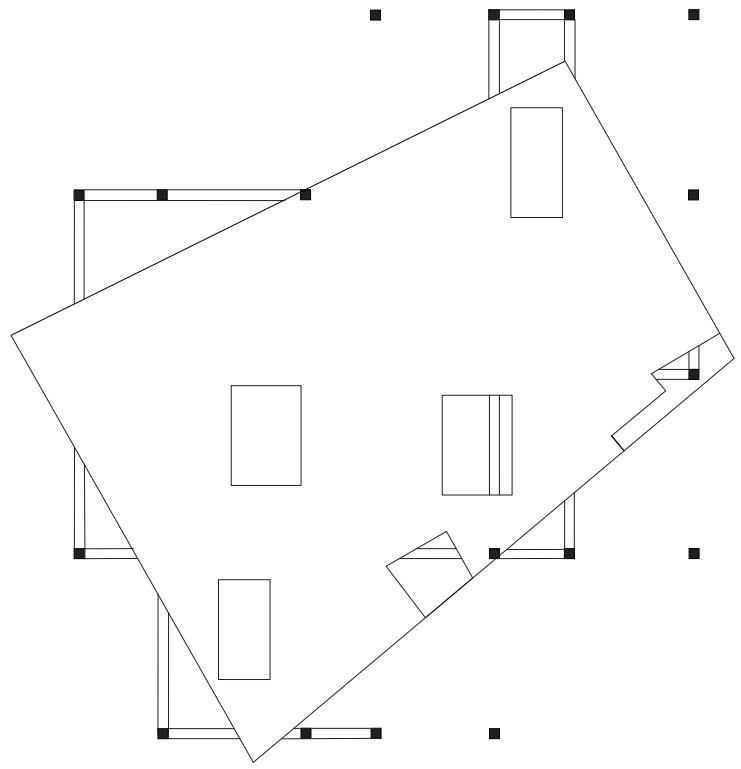
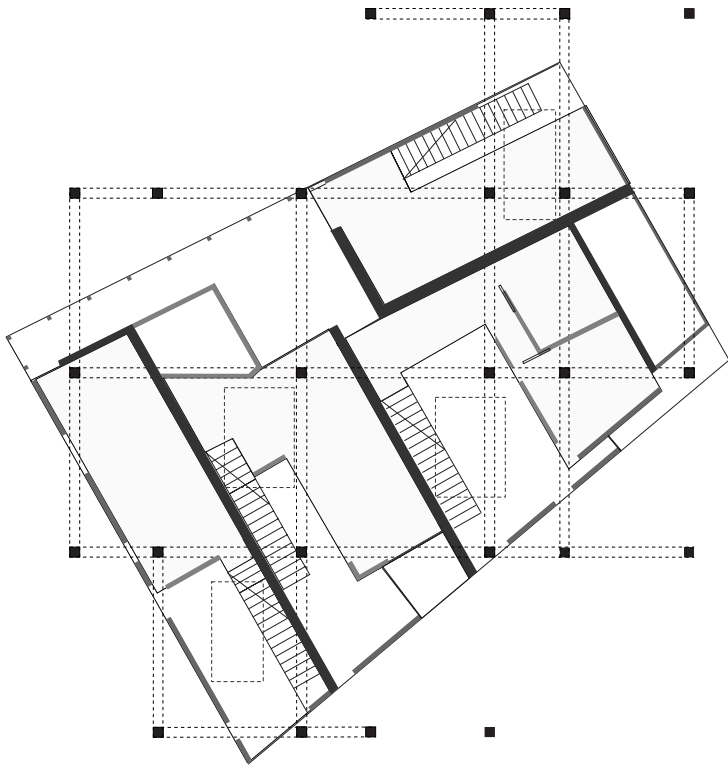




- grid
- first;nw-se
- first;sw-ne
- second;nw-se
- second;sw-ne



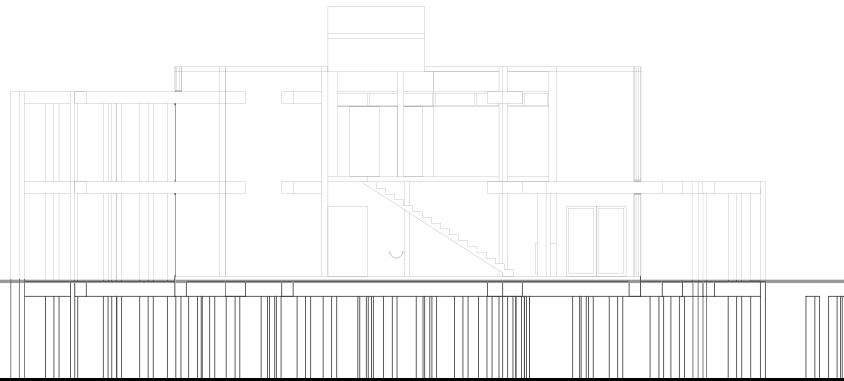
Schematic Plans of the Park Building  
0, horizon +1, horizon +2, roof plan



in permanent  
construction

site horizon

permanent  
construction



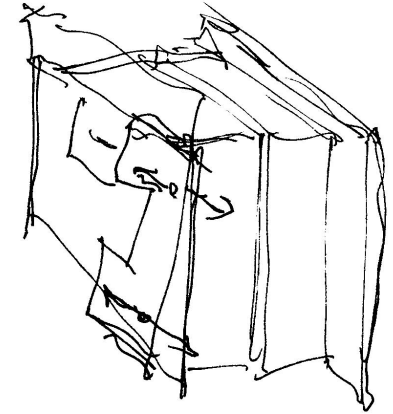
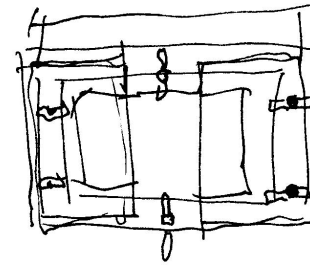
MEDIATING THE GRID GEOMETRY AND VIEW GEOMETRY:  
The Exterior Wall and Beam

This connection results in the mediation of the beam through the building's exterior wall. Since the exterior walls of the residential building are at a variety of angles to the beam, this connection is necessary to prevent infiltration and to avoid an undesirable meeting of materials.

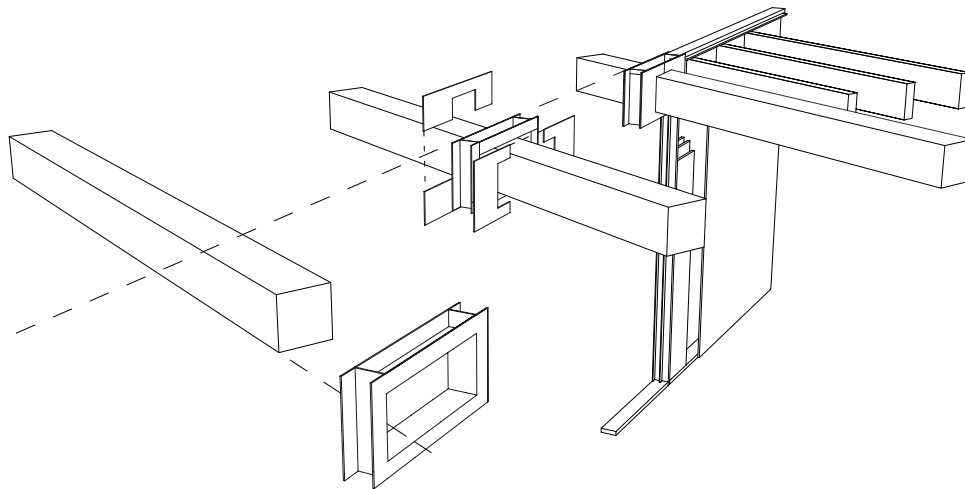
The connection on this page consists of a steel frame that is slid over the beam during construction. When the exterior walls are erected the frame is bolted into place. This is one way the exterior wall ties into the main structure. Two sets of plates are attached opposing one another. One set is on the exterior moving vertically, while the other is set on the interior moving horizontally. A metaphor for this connection is a camera shutter.

This connection allows for the metal of the shutters to expand and contract independently of one another. The exterior would move according to exterior temperatures, while the interior temperature maintains the controlled environment.

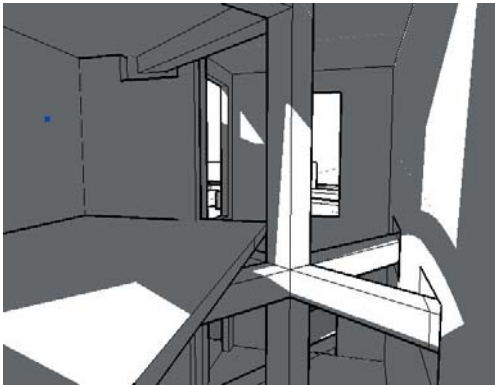
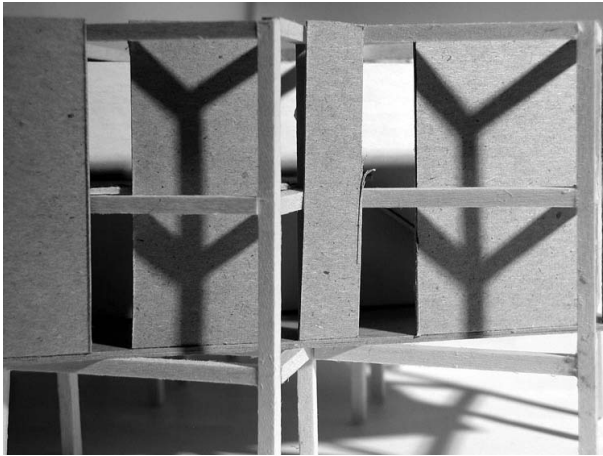
EXT. WALL BEAMS WINDOW



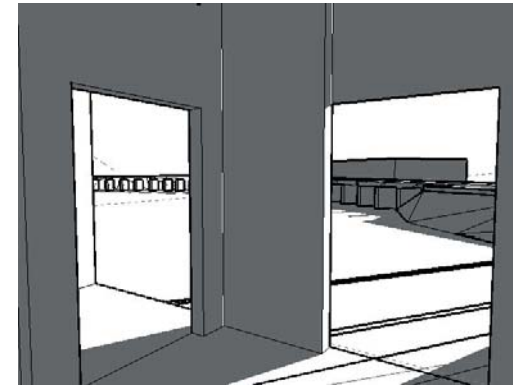
- MULTI-SLEEVE  
DEVICE BETWEEN STUDS  
SEPARATION - THERMAL BREAKS
- CAMERA SHUTTER

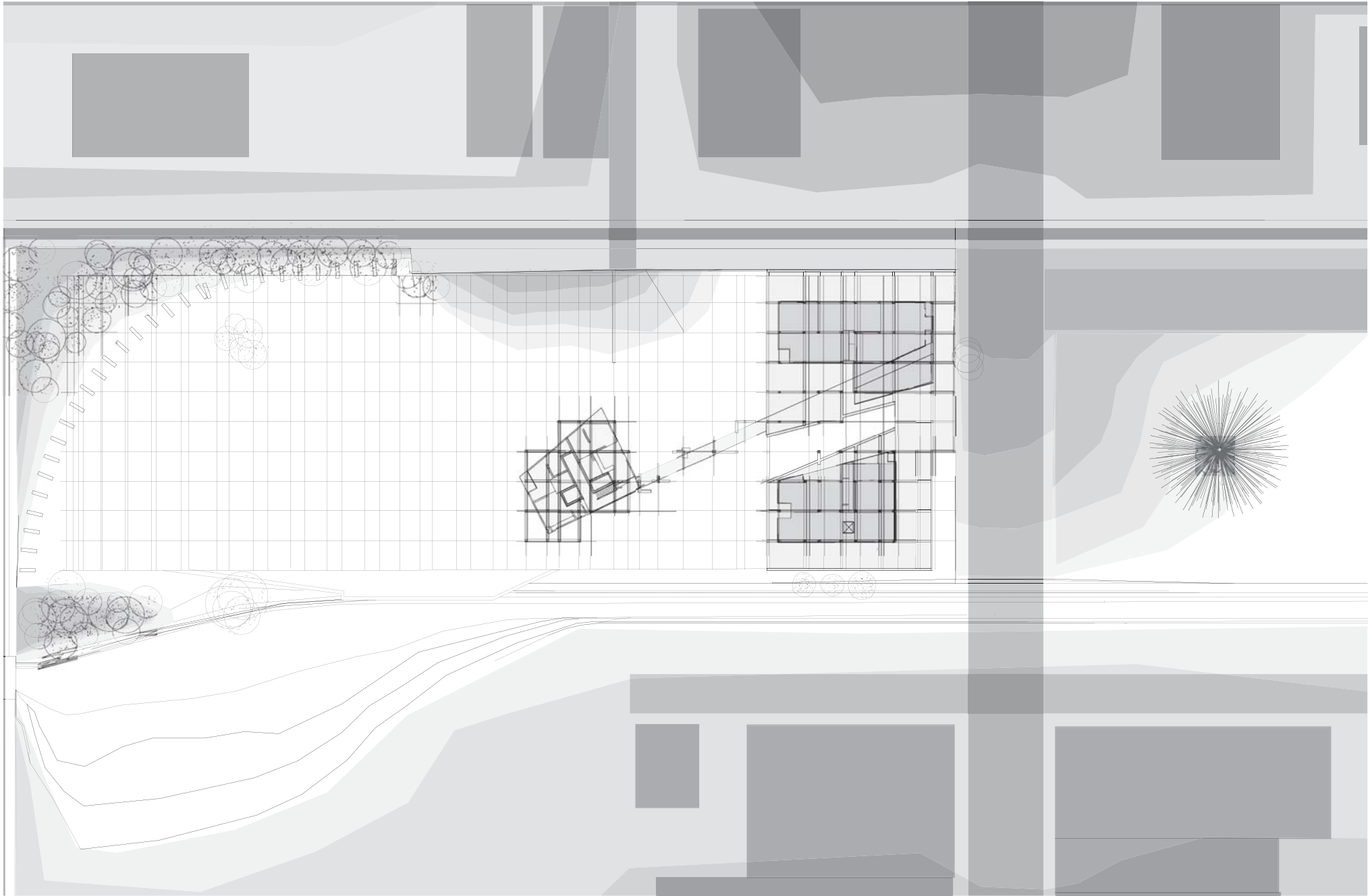


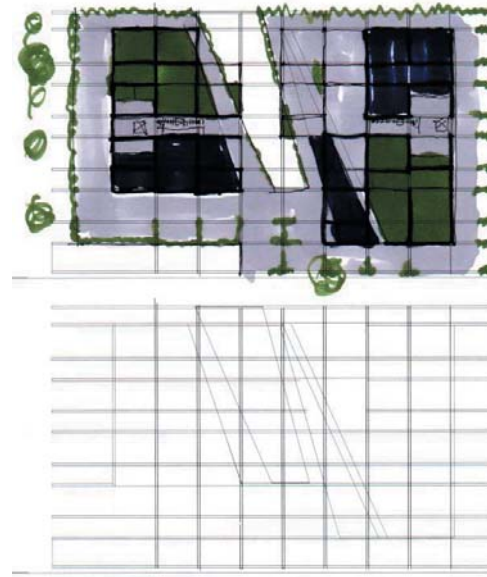
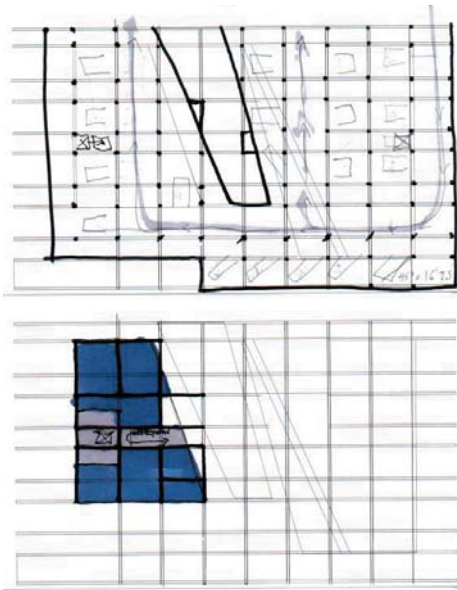




Illustrated on this page are sunlit examples of the exposed structure in the buildings and outside. In order to magnify the shadows the primary structure is dimensionally larger than necessary.





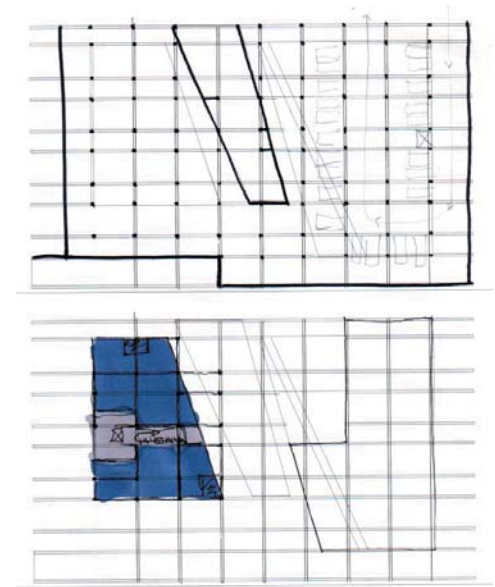
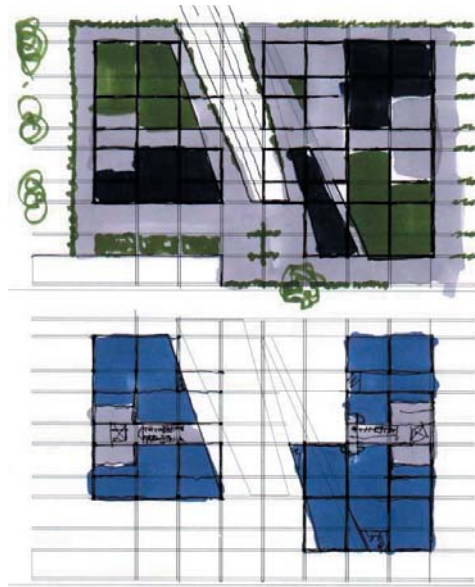


## THE STREET FRONT

Unlike the park building the two buildings lining Market Street have an obligation to the street and the context. In addition, they are obligated to the site, both structurally and geometrically.

The street buildings also must serve two scales: the human and vehicular.

Geometrically the built forms are more regular to the grid and the building's exterior walls react to the view geometry less than in the residential building. Each side of the residential building responds to this geometry. The result is a greater level of tension between the regular grid and the irregular view geometry. The street buildings respond to the view geometry only on two of the eight sides of the street buildings. These two walls respond to the view geometry occurring nearest the center of the street front and the ramp where the path drops from the plinth to the park.



Structurally, the buildings again are organized to the grid, but the secondary and tertiary walls are fewer and also fall in line with the grid, creating simple open spaces that allow spatial flexibility.

The commercial and residential spaces become simple spaces to construct and more flexible which is ultimately a goal of contemporary architecture so buildings are easier to change programmatically and have a longer life span.

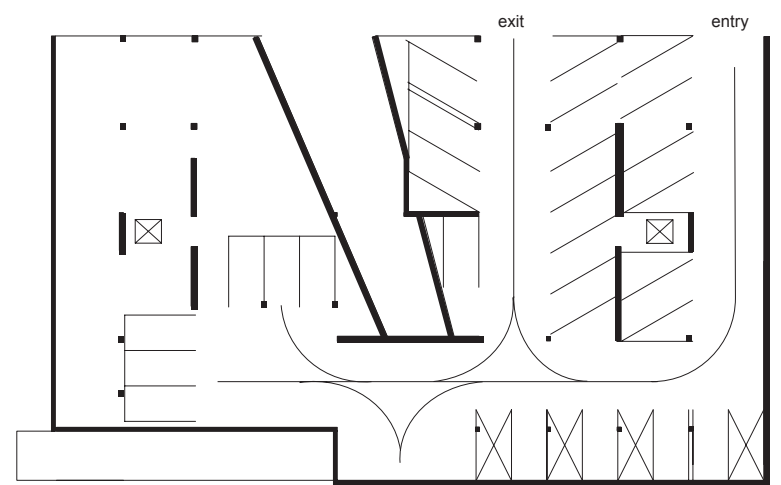
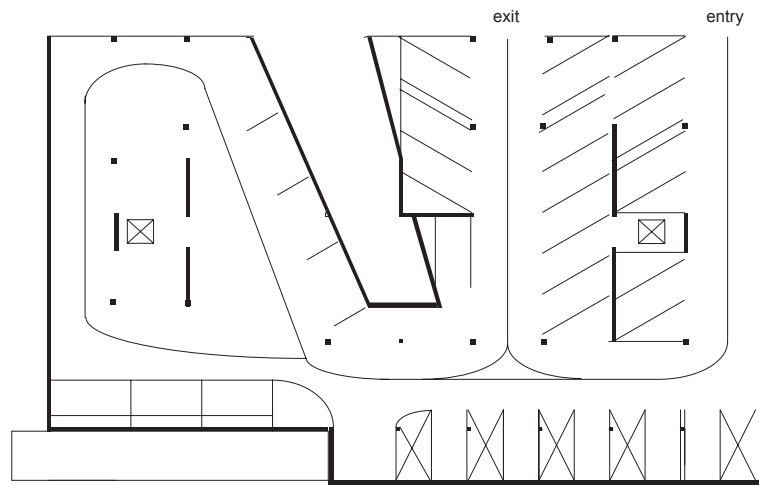
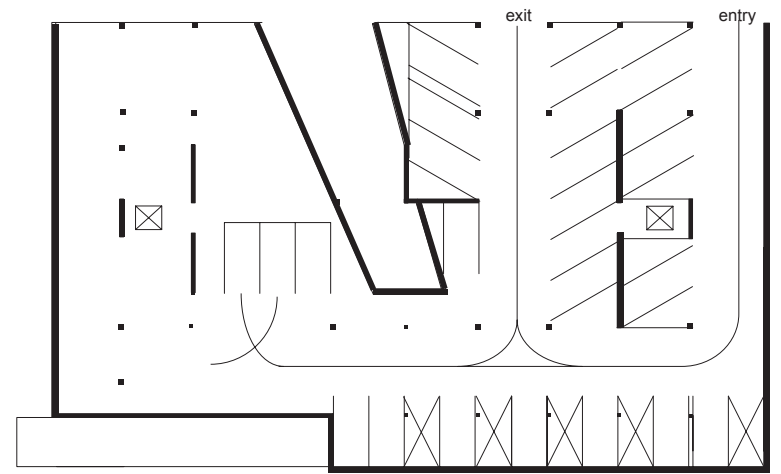
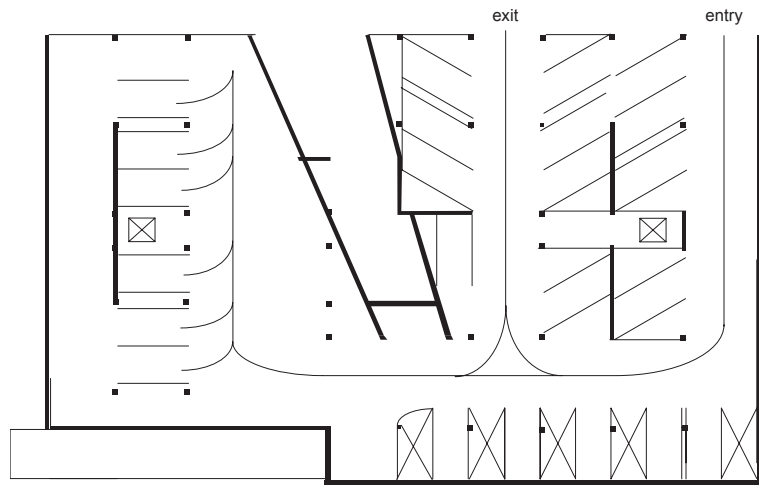
Left & Above: Images begin to work out the need for parking, mechanical, and vertical circulation among levels. The study begins to look at the space of the vehicle below the datum.

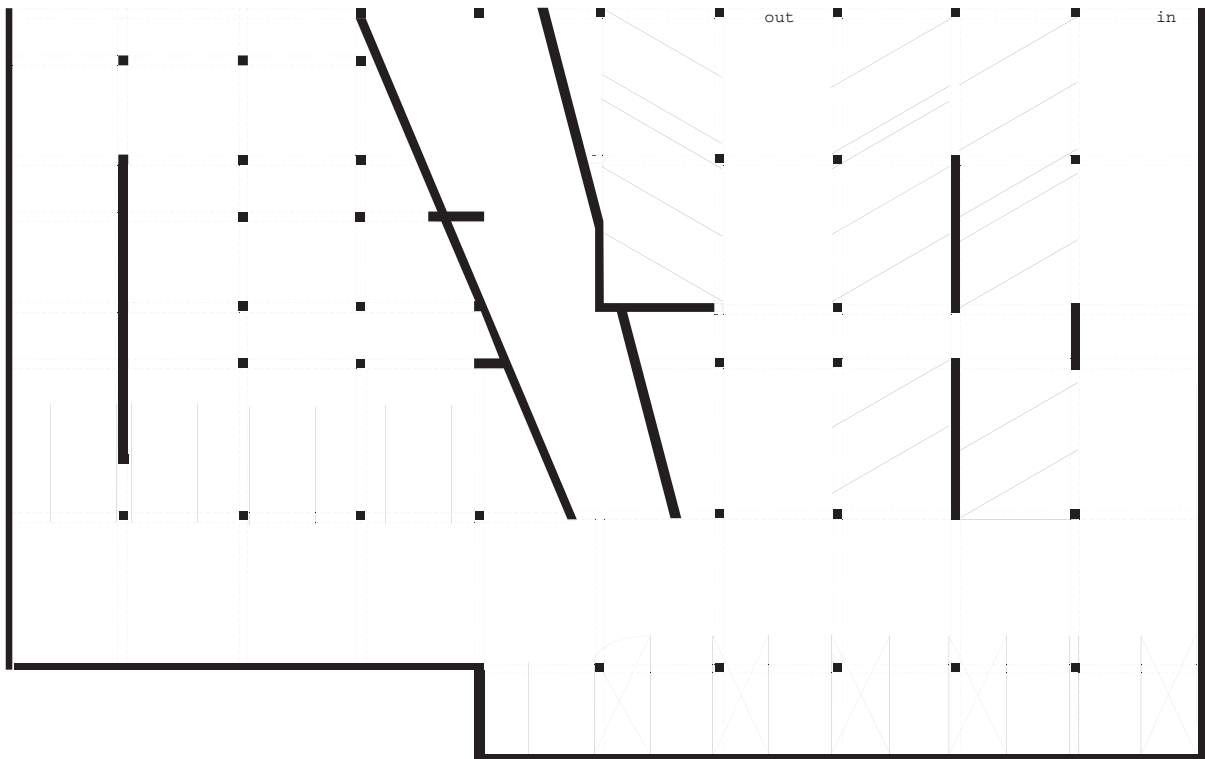
## THE VEHICULAR STRUCTURE

Cars need more space to maneuver than a person; this is without question. The question here was the manipulation of the grid to form a structural relationship that allowed parking with space to move around and provide the minimum required spaces for the residents of the complex. According to the town's code there needs to be  $\frac{3}{4}$  spaces per bed; space for businesses is not required according to the town code. In accordance with this code, the need is for fifteen spaces.

The design of the parking level involved developing good traffic flow in and out of the structure and providing adequate space for each vehicle within the framework of the site grid. The iterations at right fail to maximize the space for both vehicle parking and movement. The final iteration of the parking structure allows for twenty cars to park including some business owners. The structure also accommodates the bearing of the building above the horizon to occur.

Facing Page: Iterations of the parking level

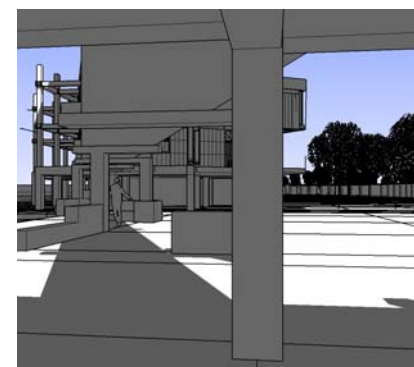


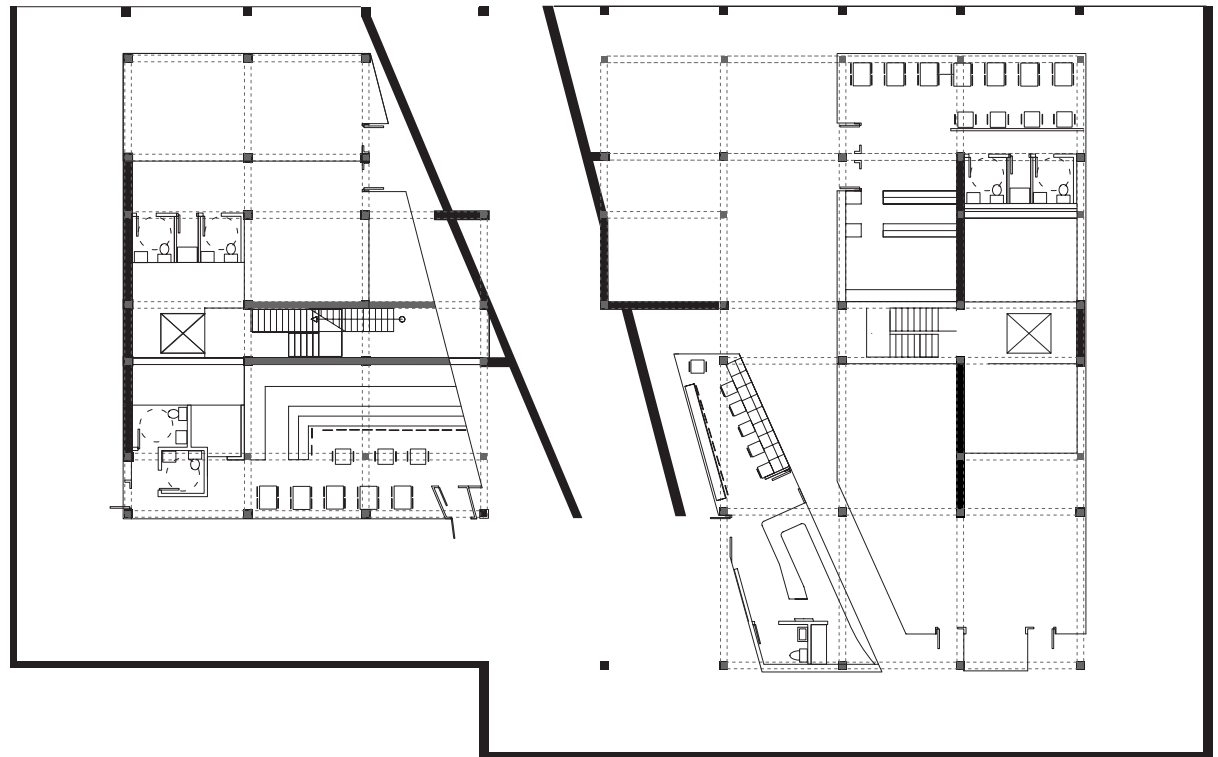


Final Iteration of the parking level

All the parking on the site occurs under the street plinth. Too often a default parking lot is developed and paved eliminating green space. In this design the space was already available and no better usage could be resolved below the plinth, because the project lies in a flood zone anything that occupies the zone below the horizon needs to be mobile.

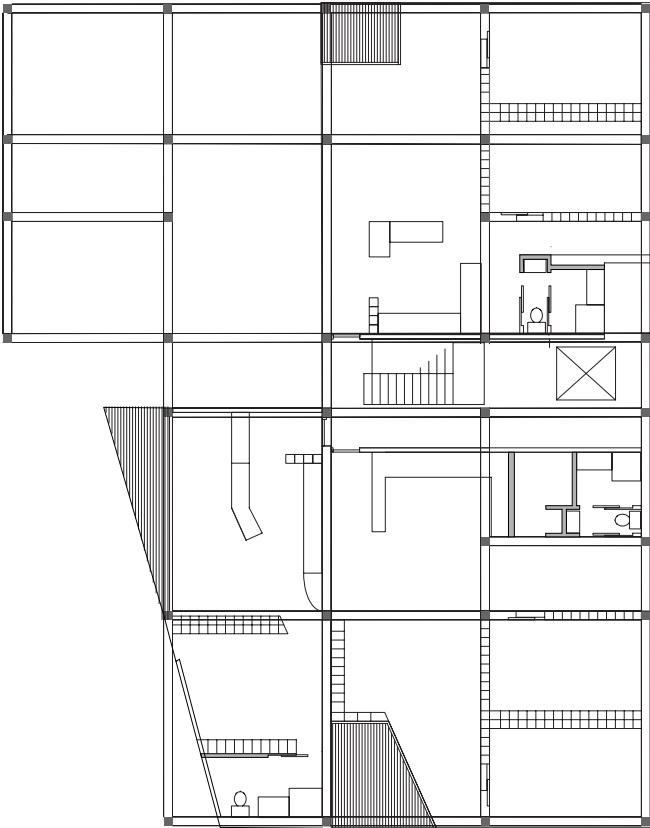
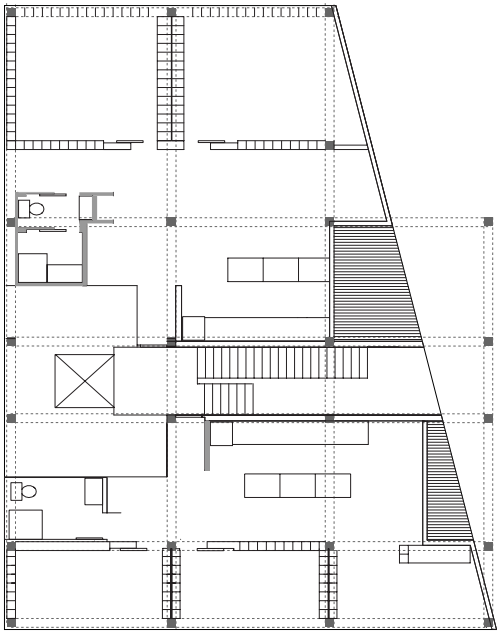
In developing the parking for all the residents, a covered connection was needed between parking and the park building. A bridge was necessary to connect the plinth level between the street buildings and the park building. The underside of the bridge needed to have places of rest and a place to put down groceries if necessary.



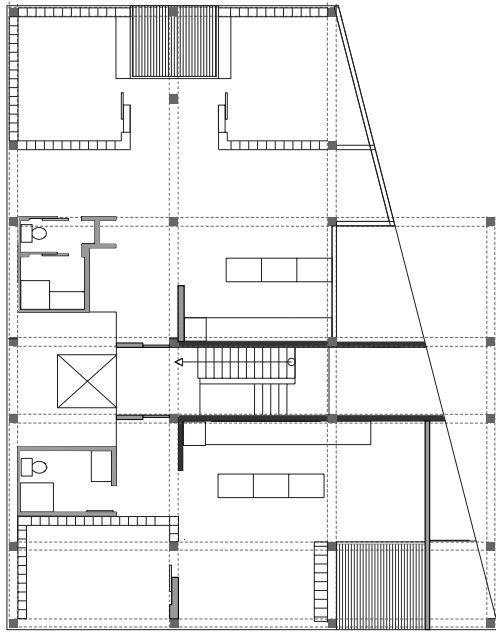


Overlay of the Horizon -1 and Horizon +1

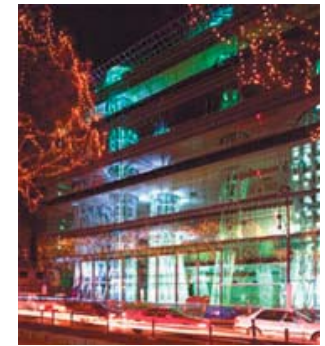




Horizon +2



Horizon +3



Night view of Sendai Mediatheque (10)

The residential development of the street buildings derived from using the grid and primary structure to develop interior divisions, resulting in one stair core that is fire-protected, two masonry walls enclosing the stair and separating the two living spaces of each floor in the southwest building and the three units of the southeast building with fire rated gypsum on the second level. In addition to the main exits, each balcony is usable for evacuation much like Toyo Ito's Sendai Mediatheque.

Interior walls evolved from fixed to movable walls, providing storage spaces for each room. These plans show the walls in one scheme, but walls can be pulled to the edges creating screens to the exterior as in the north unit of the plan at left.