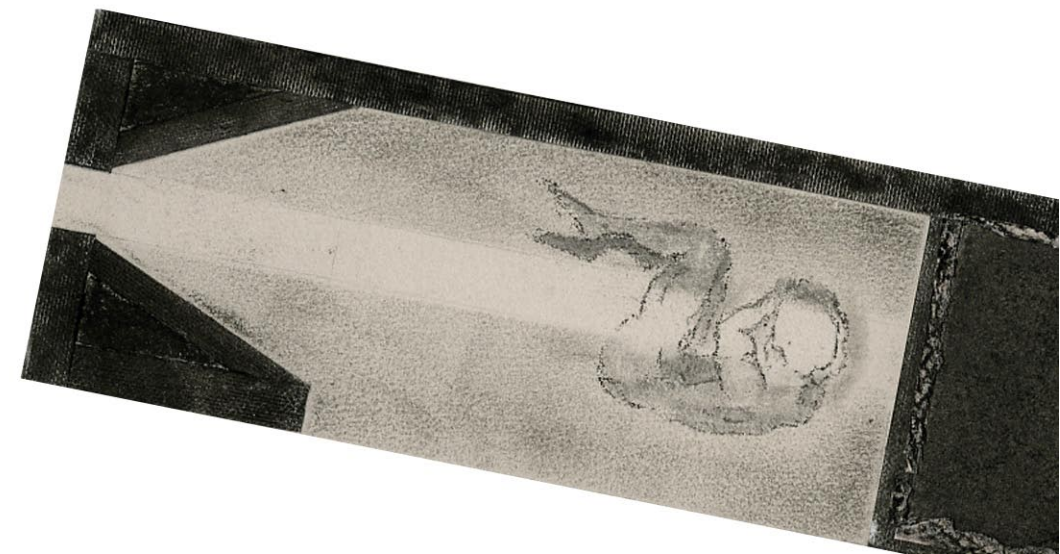


**SENTENCED BY LIGHT:**  
AN ARCHITECTURAL STUDY OF LIGHT AND TIME  
John Schippers



Thesis submitted to the faculty of the Virginia  
Polytechnic Institute and State University in  
partial fulfillment of the requirements for the  
degree of  
**MASTER OF ARCHITECTURE**

Approved

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Susan Piedmont-Palladino, Chair

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Paul Emmons, Committee Member

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Jaan Holt, Committee Member

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Marco Frascari, Committee Member

September 17, 2004  
College of Architecture and Urban Studies  
Blacksburg, Virginia  
Washington-Alexandria Architecture Center  
Alexandria, VA

# abstract

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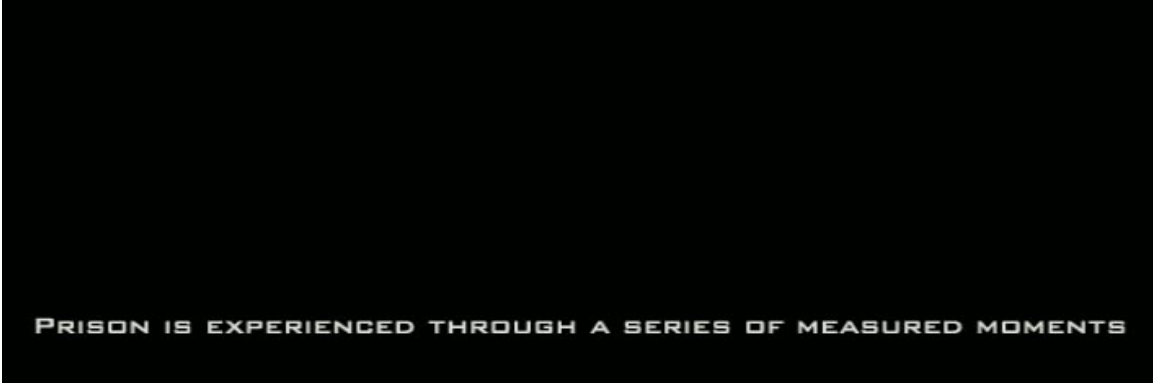
LIFE IS A SERIES OF MOMENTS



ARCHITECTURE IS EXPERIENCED THROUGH A SERIES OF MOMENTS



PRISON IS EXPERIENCED THROUGH A SERIES OF MEASURED MOMENTS



toc  
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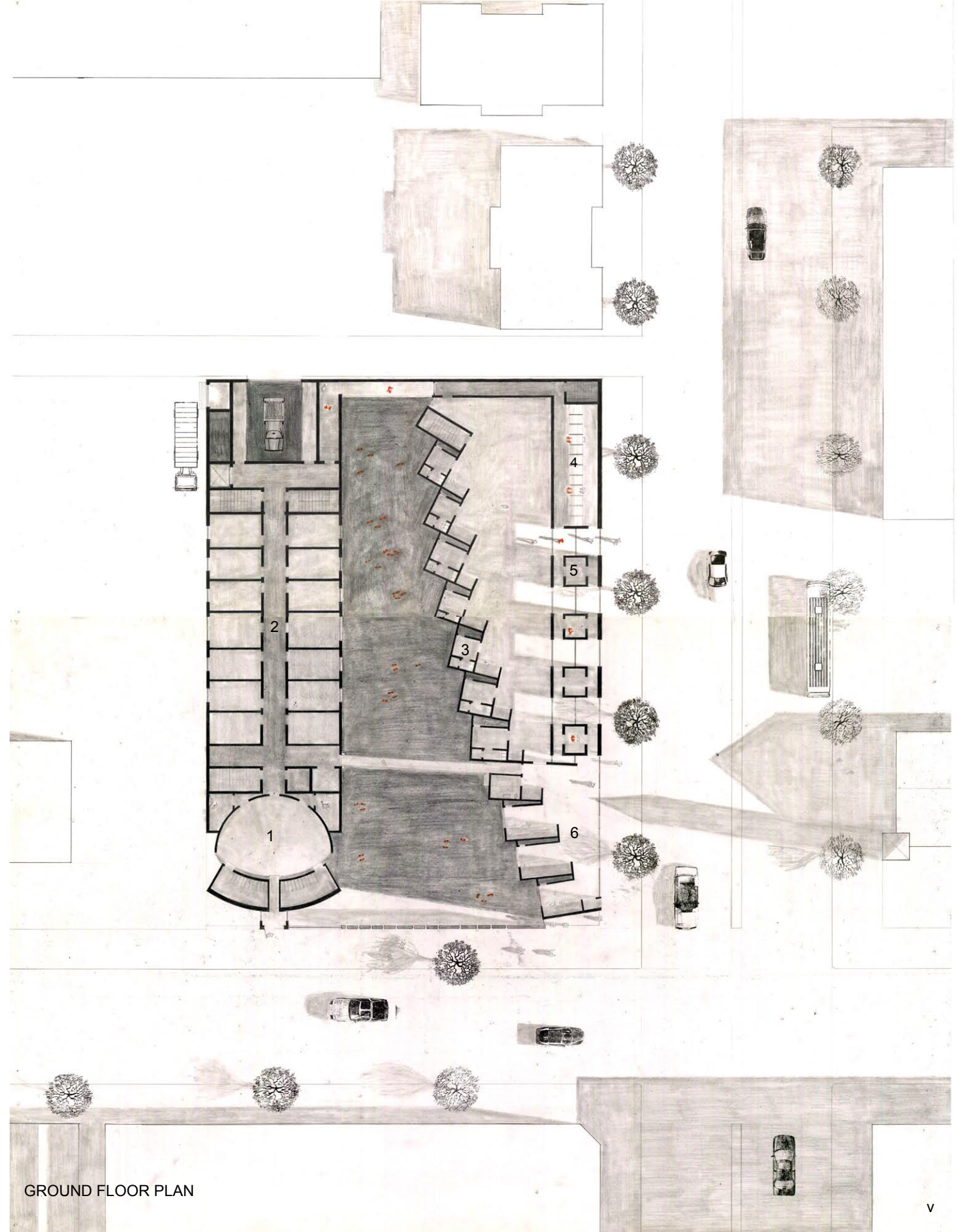
# foreword

Throughout my experience at the Washington-Alexandria Architecture Center, I have discovered who I am. The thesis project, as prescribed, should be a manifestation of one's architectural studies conducted throughout the years. I like to think of this thesis as a manifestation of my life, my experiences, my friends and my family. It allows me to further understand who I am and what I value in this world.

The environment in which I have studied has played a pivotal role in my maturation. I could not have done it without the following people. Akiko Suzuki, Anna Barbour, Mary Butterworth, Steven Siebers, Patrick Cooke, James Krapp, George Makrinos, Jamie Bresner, John Foley, John Wirth, Joe Wheeler, Eric Garcia, Tony Torres and Jon Foote.

And to my committee, whom I consider dear friends- Susan, Paul, Jaan and Marco- you have given me confidence. Where would I be without you?

Thank you.



1. VISITOR ENTRANCE
2. ADMINISTRATION
3. GUARD LOCKERS
4. MEETING AREA
5. LEGAL CONSULTATION OFFICES
6. VISITOR WAITING

GROUND FLOOR PLAN

# intro

## INTRODUCTION

---

The decision to design a prison was an easy one, although the project proved to be quite challenging. I decided early on that I would like to study light and its relationship with time. In prison, each inmate is aware of time spent and time pending. The building expresses the relationship of light and time in regard to the human inhabitant, essentially becoming a calendar and a clock. The objective is that each inmate would attain an apprehensiveness to light, both revealing and hiding beauty through the presence of architecture.

Through the course of the exploration, I found myself much more aware of my surroundings and how light interacted with them. The light that would flicker off of a passing truck, or the shadow of a mailbox, my senses were much more acute. As a result, I was able to incorporate these subtle moments into the building and unleash them in the form of a story.

The documentation of the thesis does not intend to inform the reader of every decision made. Rather, it humbly presents the work and allows an extrapolation of ideas. With that said, I hope you enjoy the project as much as I had enjoyed learning from it...

What you are about to read is a written account of the experiences of captor and captive. The story reveals the direct relationship between the incarcerated individual and the architecture that becomes, changes and defines his life.

**The sentence of prisoner #0904**  
9.17.04 Stair Theatre 5:00PM



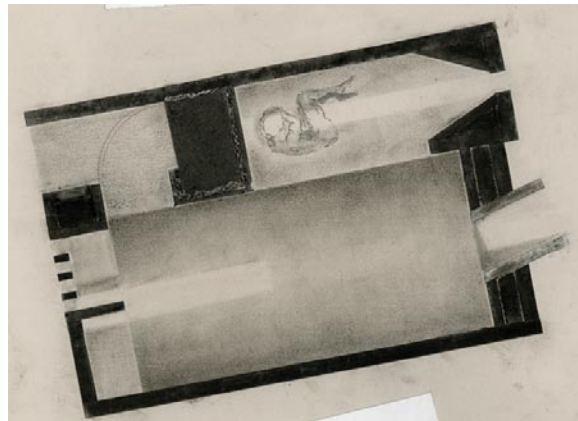
# THE SENTENCE OF PRISONER #0904

## A written account by an unidentified prison guard:

Prisoner #0904 was sent to the DC prison on Sept 17, 1999. He had a way about him that I found peculiar; I was sure that this place would get the best of him. I should've taken another look...

### WAKE UP

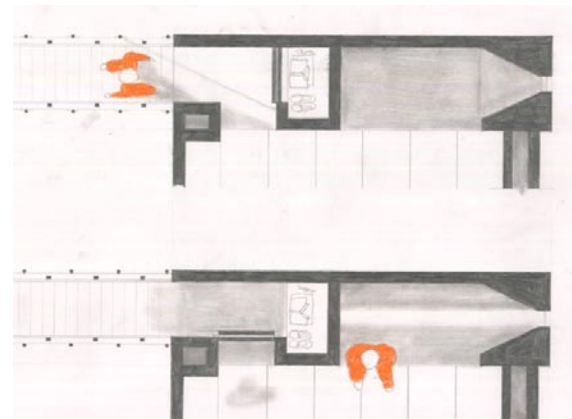
0904 was issued his orange jumpsuit and headed up to his cell. His name was actually his cell number; there was a very simple system in this prison. The cells were arranged in a fashion so that on the 21<sup>st</sup> of each month, sunlight would pierce each heavy wall and awaken the prisoner lying in his bed at 7:30am. So the way we named prisoners is that we took the number of the month of his cell and combined that with which storey it was, so 0904 was in a September cell, meaning light woke him up only on September 21, and he was on the fourth level.



There was also a small mirror and colored glass at the top of the walls. The light would 1. shoot through the colored glass, becoming red and 2. the light that bounced from the mirror was reflected to K street, but not before filtering through red glass located on the south wall, thus casting a red shadow on the street.

It created an interesting relationship in how the inmates perceived time and how outsiders did. To the prisoners, this was one more notch on the wall, and for the unlucky ones, there were quite a few to go. For the public that were on their way to work, it was hardly noticeable, but when they did notice it, they became intrigued. The first time I saw it I was fascinated. I realized that I'm one of the few people that could see this light on both the inside and the outside.

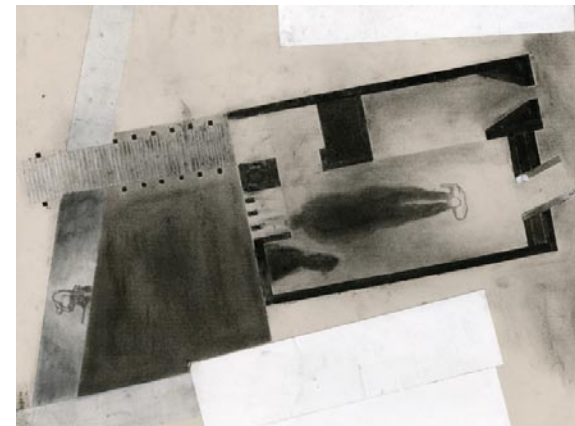
There was a mixed emotion among prisoners regarding the cell arrangement - inmates serving less than a year loved it, knowing that they would never get woken by that light again, some were even lucky enough to never see it. Inmates serving ten year stints on the other hand, weren't so fond of the idea.



### TANTALIZING?

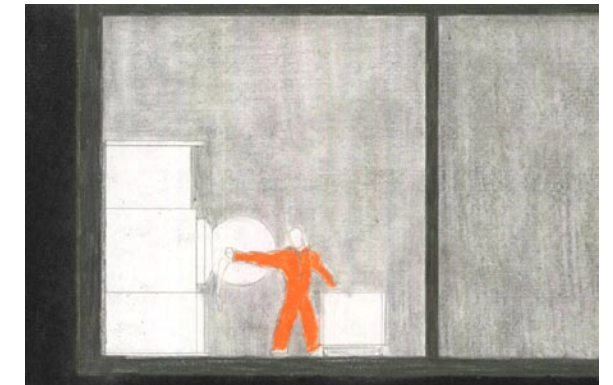
I escorted 0904 to his cell, and before the door opened, he placed his belongings and street clothes in an open room right outside of his cell. Then the cell door opened, which in turn, closed the storage space. That would be the last time he would see his belongings until release. It must have been tantalizing though, knowing that his last taste of freedom was only six inches of concrete away, and while the cell door is closed, these belongings are exposed.

Many prisoners tried to time the opening of the door to grab their belongings, but not one was successful. Another interesting observation is that the catwalk on which the prisoners walked is hung from the wall above. It took them a little while, but before you know it, all of the prisoners seemed to walk in a rhythmic fashion. I guess the shaking scared them a bit.



### INAUGURAL NIGHT

0904's first night in the cell was probably his roughest. I don't think he ever got used to the transparent glass floors and the shadows of prisoners both above and below him. The lighting in the cell was set up that it "threw" the shadows of prisoners across the floors, also making it easier for the guards to see them. And vice versa with the guards, light threw their shadows into the cells so that the prisoner always knew that a guard was lurking. It was a very interesting relationship of captor and captive which I don't think many grew accustomed to.



### DUTY

0904's first job was in in the laundry room, all of the newcomers get laundry or dish duty. He pretty much kept to himself, and the other inmates didn't bother him too much. Before he knew it, one year had passed.

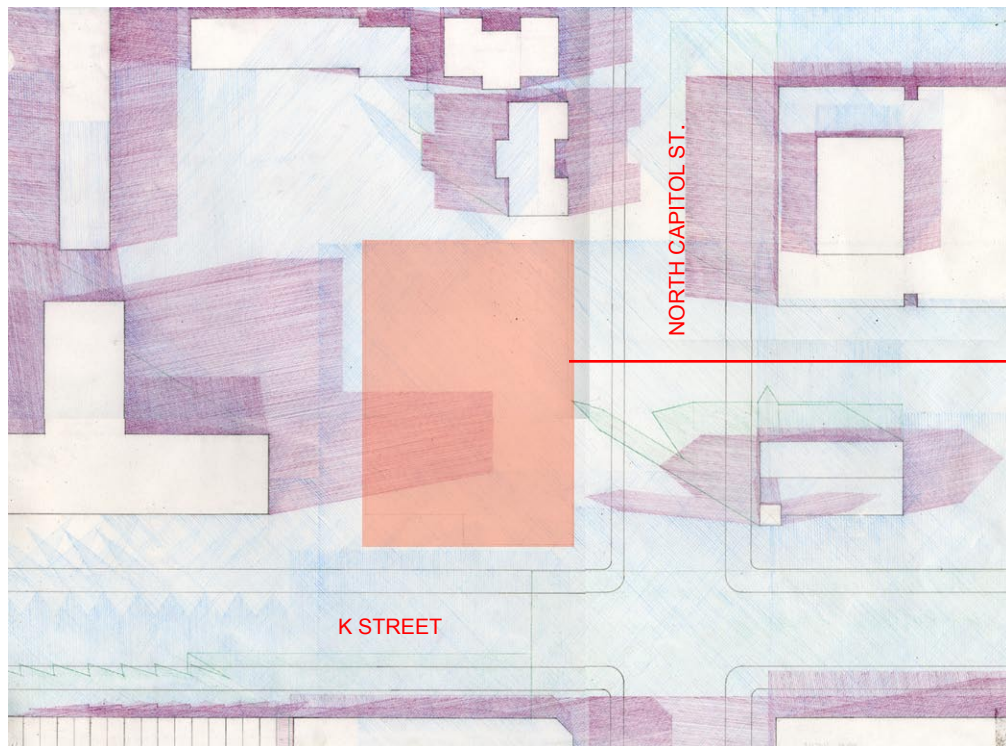


# site LOCATION

The site is located on North Capitol and K Street in NW Washington, DC. It was chosen because of its unique character; two churches, apartment complexes, office buildings a high school. It posed an interesting design problem of introducing a building to house those restricted from the community right in the center of it. The most significant site element is the church located across the street on North Capitol. The relationship between the steeple and its cast shadow had a direct influence on the design of the prison, and of its inhabitants.



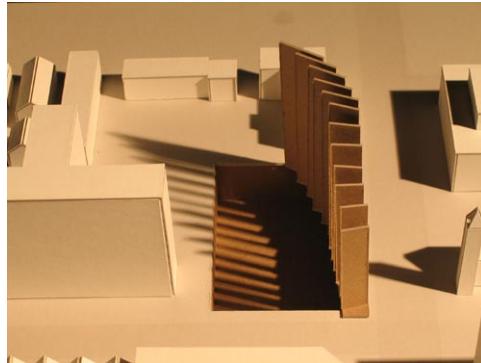
view looking north-east



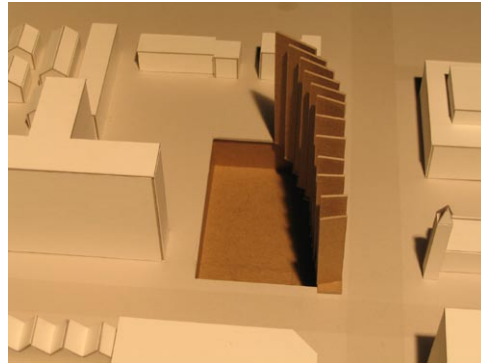


# sun/site

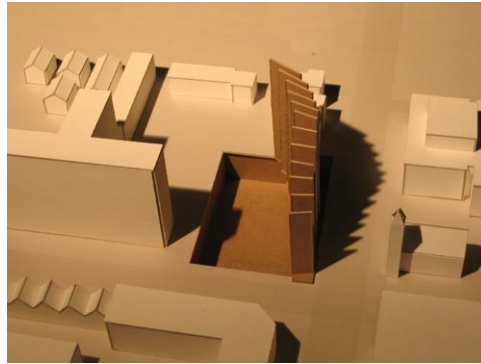
## SITE PLACEMENT



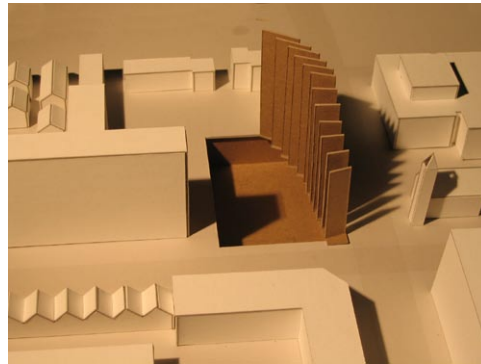
6.21.04  
09:00



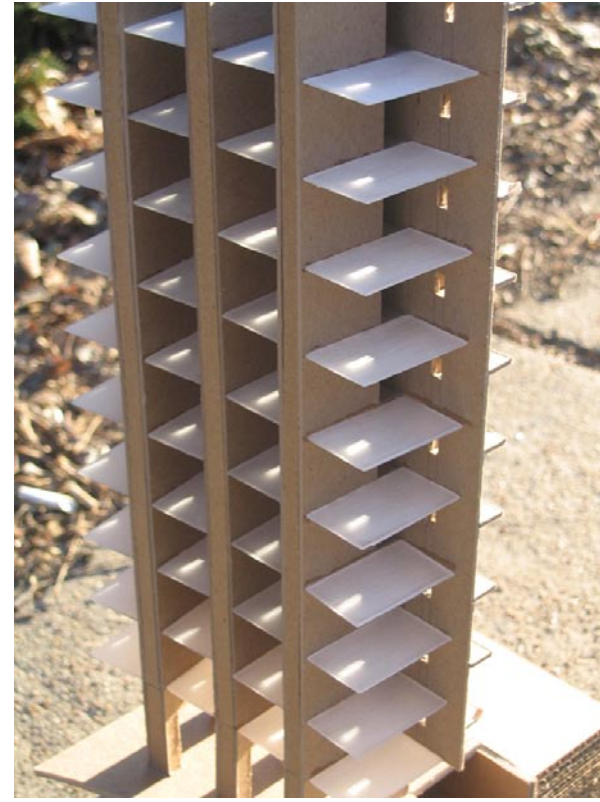
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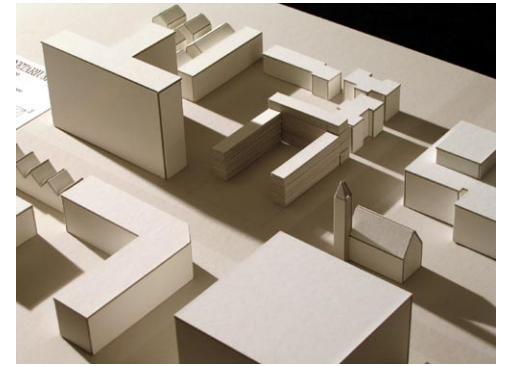
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15:00



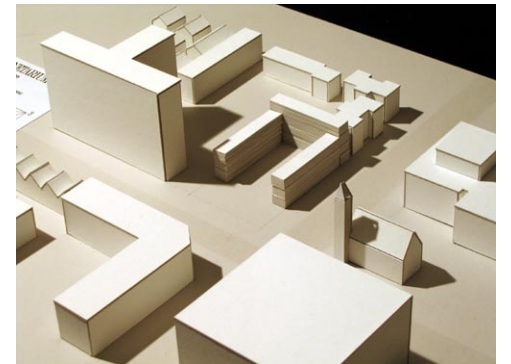
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18:00



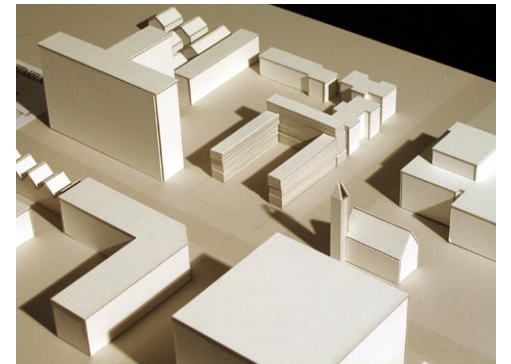
cell arrangement light study  
07:30



summer solstice  
18:00



summer solstice  
15:00

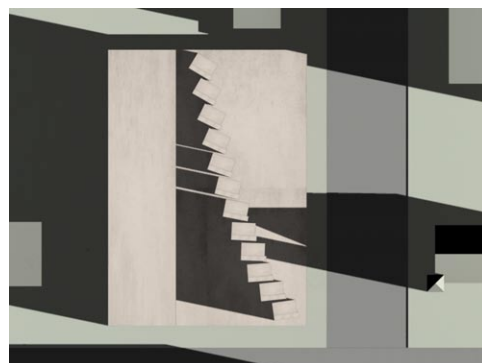


summer solstice  
09:00

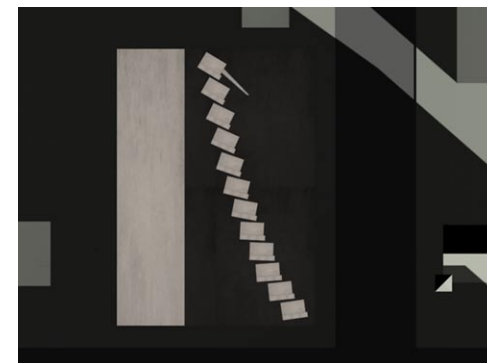
Initial sun studies revealed a significance in the shadow cast by the church steeple. The summer solstice at 09:00 was deemed most significant as it is the longest day of the year and marks the beginning of visiting hours.



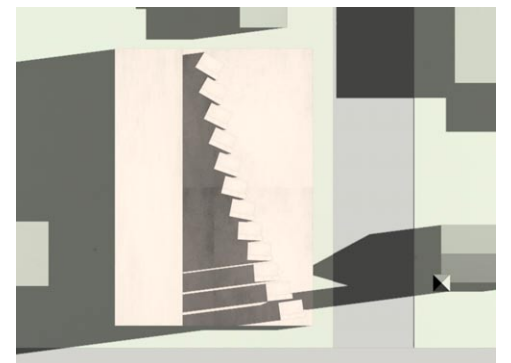
perspective from chapel @ equinox  
07:30



equinox  
07:30



winter solstice  
07:30



summer solstice  
07:30

## INCARCERATION

The new year came and went, and spring was almost upon us. At this time, 0904 worked to produce state issued calendars that were sent out to each state congressman and senator. The prison hosted graphic design competitions yearly, and the top 12 entries were placed in the calendar. It was much better work than laundry duty, and he became proficient with computer software, which would surely help him upon release. He also began keeping a daily journal, convinced that he would some day write a book.



INCARCERATION

## REVELATION

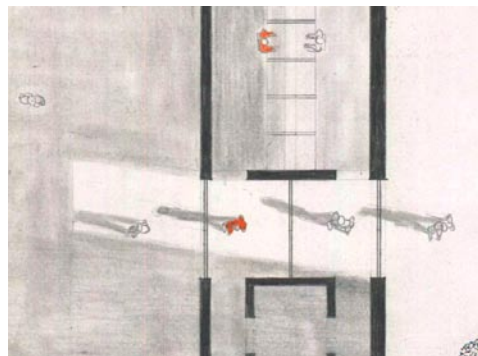
0904 broke out of his shell a bit and began attending the library regularly each afternoon. He enjoyed reading about architecture, and the library held an extensive catalog of the works of Marco Frascari, whom 0904 adored. He then began to broaden his horizons and decided to attend some of the prisons religious programs.



REVELATION

## CROSSING PATHS

One morning as I was walking to take a shower, for a moment I captured an intriguing site. I was looking outside, and directly in my view were a prisoner going to visit his lawyer, a visitor visiting a prisoner, and a citizen on the street walking to work. Not only were they all aligned, but their shadows intercepted into each others space. I sat and thought what each one of those people had on their minds as their paths crossed for that moment.



CROSSING PATHS

MARCH 17 - 2001

TODAY I DECIDED TO ATTEND A RELIGIOUS WORKSHOP. I CAN'T BELIEVE IT TOOK ME OVER A YEAR TO VISIT THE CHAPEL. THE PATH ALONE WAS INSPIRING, THE SOUNDS OF MY FEET AGAINST THE METAL CONSISTENTLY ~~BY~~ CHANGED IN TONE, AND THE RHYTHMIC VIEW TO THE BLUE SKY GAVE ME A RENEWED SENSE OF HOPE. UPON ENTERING THE CHAPEL I WAS INTRIGUED BY THE ANGLED WALL THAT SLICED THROUGH THIS ROUND ROOM I WAS IN. THE LIGHT THAT ENTERED THE ~~ROOM~~ SPACE, WAS SO DIFFERENT THAN ANYWHERE ELSE IN THE PRISON. SO ANYWAY. I SAT THROUGH ABOUT HALF OF THE RELIGIOUS GATHERING AND AFTER ABOUT 1/2 HOUR, I DECIDED TO DUCK OUT. I JUST DIDN'T CONNECT WITH WHAT THEY WERE SAYING.

ANYWAY, MY CHANCES WERE LOOKING GOOD TO MAKE THIS YEAR'S CALENDAR, SO I HEADED BACK DOWN ~~TO~~ THE COMPUTER LAB AND KNOCKED OUT A SWEET DESIGN.

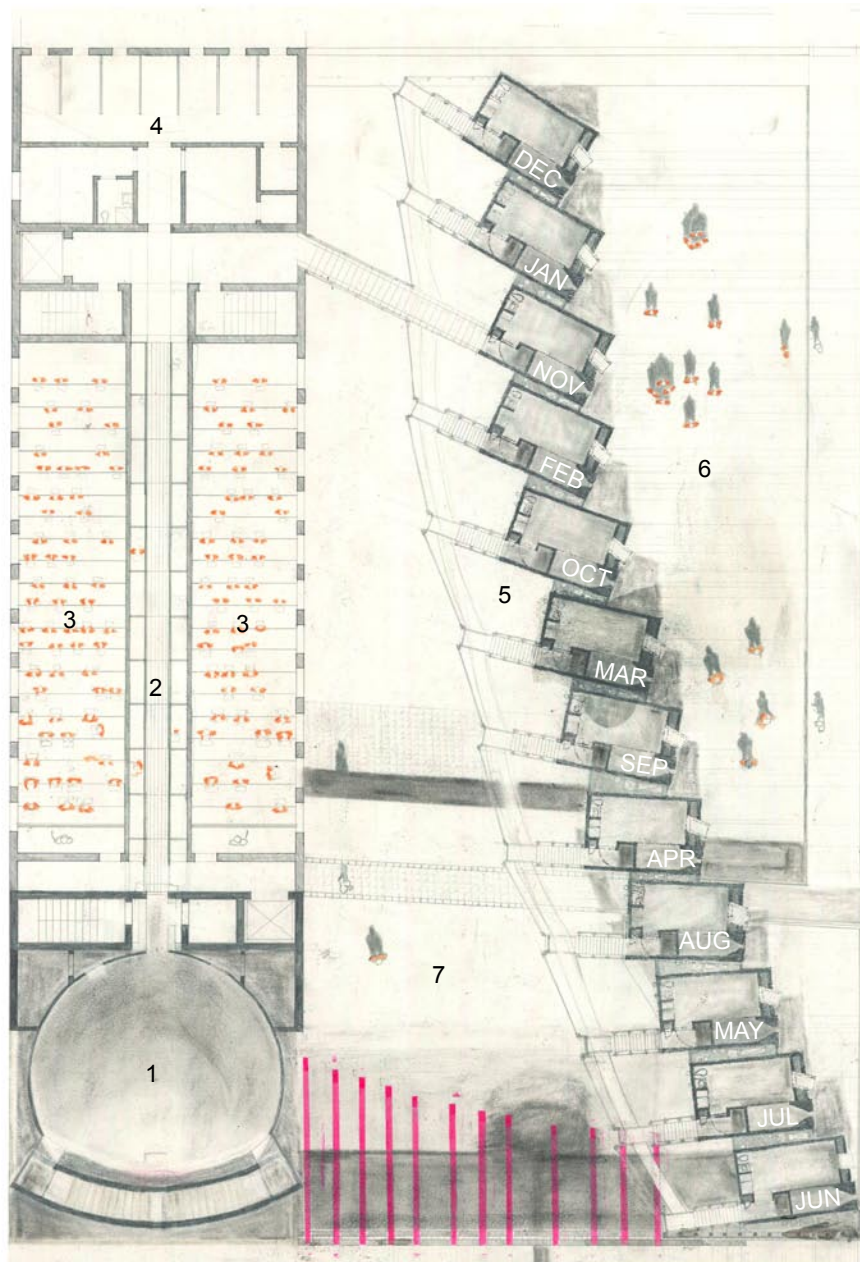


march 2001

# sun/cell

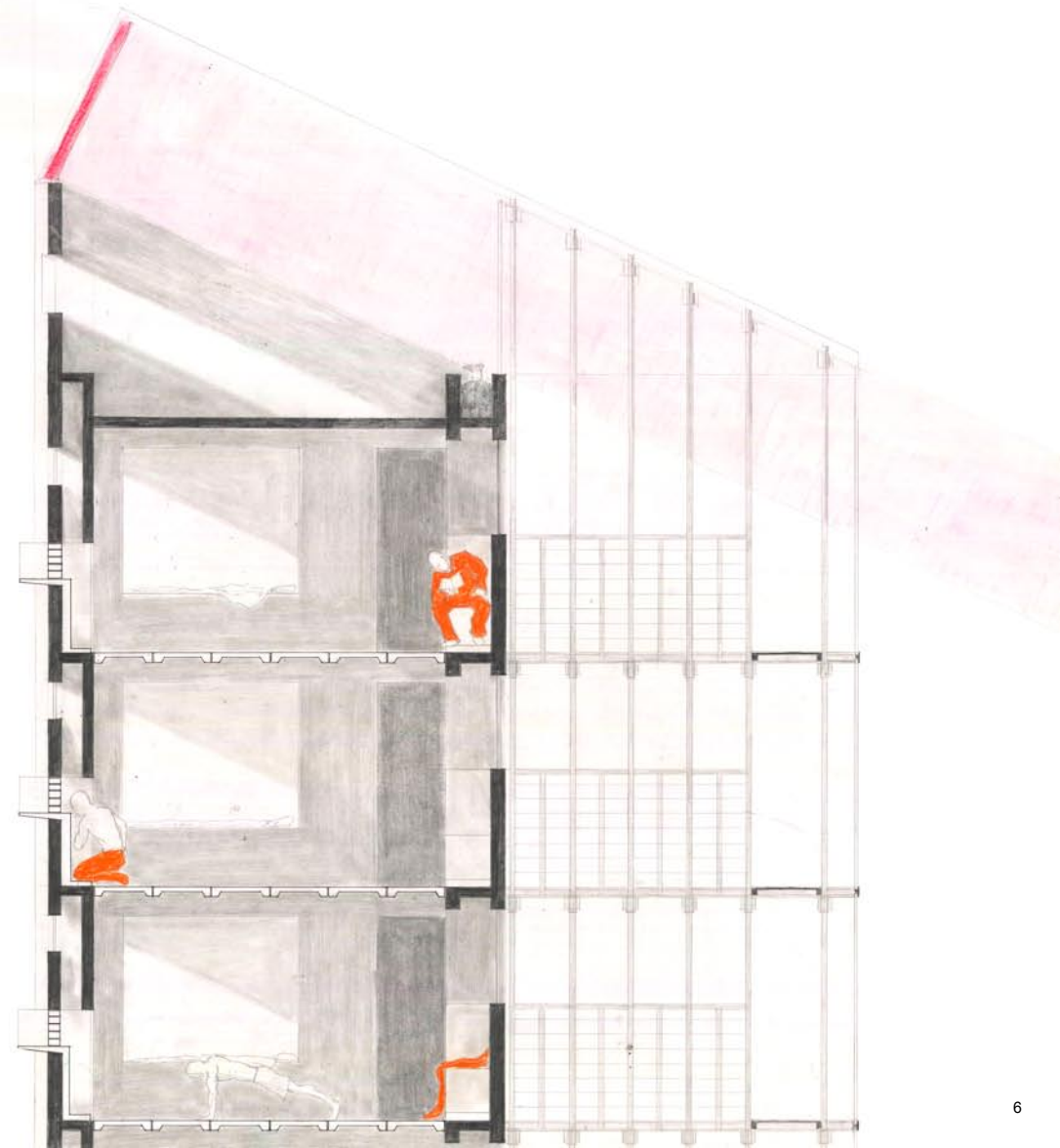
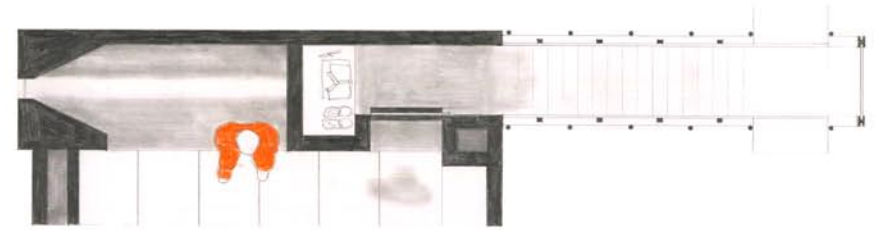
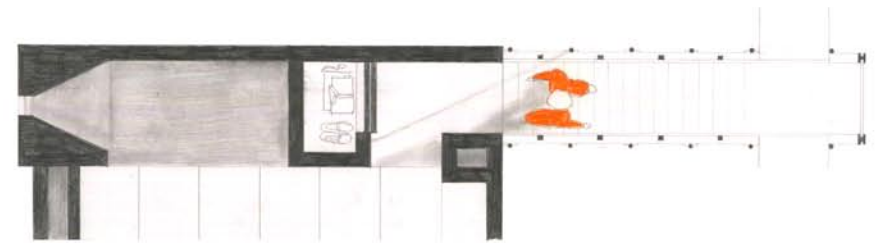
## THE CELL

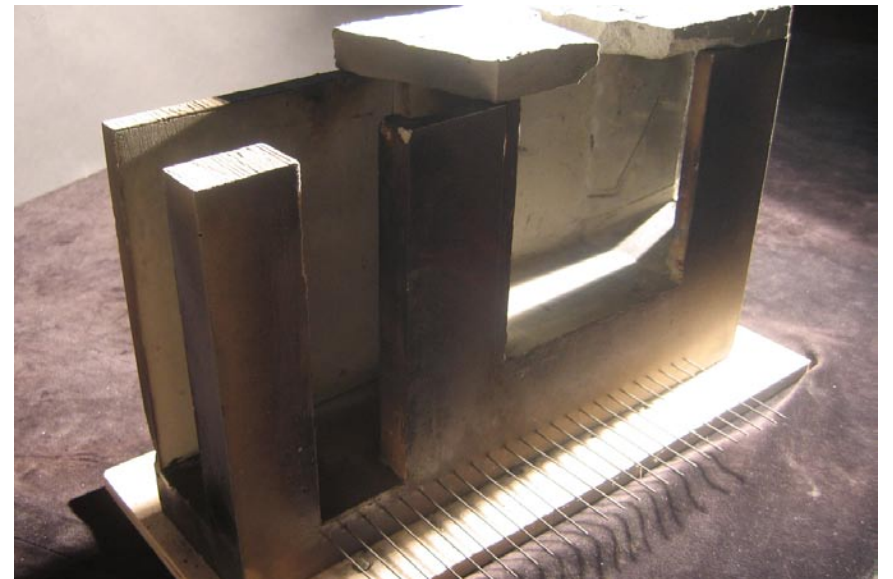
Each wall of cells is oriented toward a monthly rising sun. Since there are twelve months, there are twelve walls, twelve levels high, in which the prisoner inhabits as a bed. Each wall receives a wake up piercing of sunlight at 7:30 AM on the 21st day of its respective month.



1. CHAPEL
2. PATH TO CHAPEL (ABOVE)
3. MESS HALL
4. INFIRMARY
5. CELLS
6. OUTDOOR EXERCISE AREA
7. INTERIOR COURTYARD

SECOND FLOOR PLAN



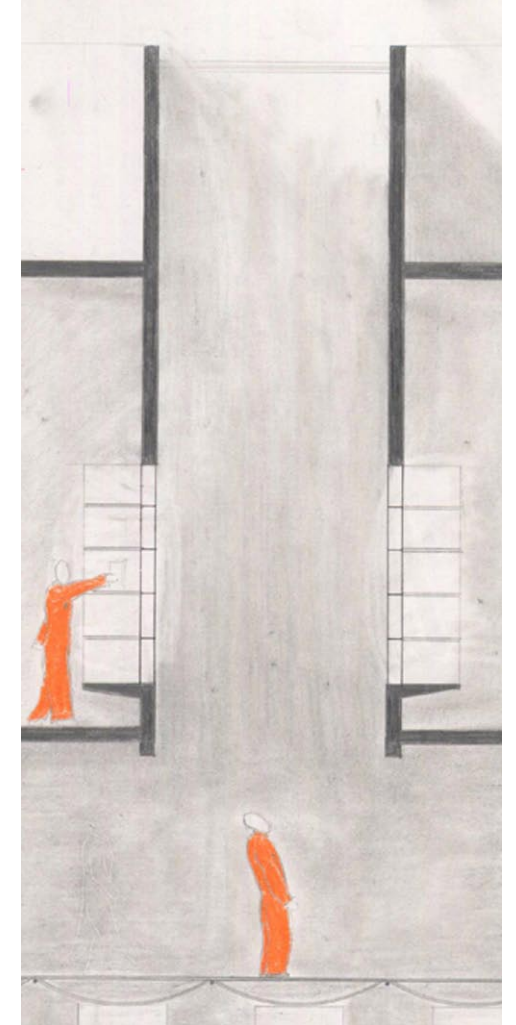


CONCRETE STUDY MODEL  
Light shown at 7:30 AM  
The model is an exploration of  
the material of the cell wall and  
how it interacts with light.

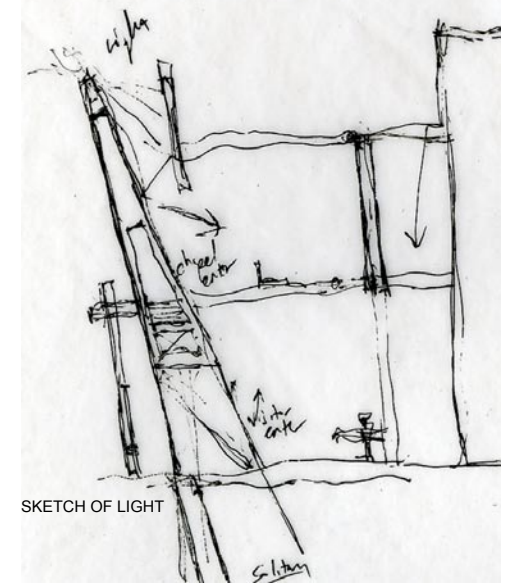
UNITY

The day is now Sept. 17, 2001. 0904 seemed to sink into somewhat of a depression, although most prisoners seemed to given the state of the country at this time. To deal with the events, the prison held extended meetings and religious events in the chapel. 0904 attended quite a few to cope with what was going on.

SEPTEMBER 17, 2001  
I ATTENDED SERVICES IN THE CHAPEL, THERE SEEMS TO BE MORE PRISONERS COMING NOWADAYS IT'S NOT A GOOD TIME - EVEN BURBA ISN'T HIS USUAL SELF. ON MY WAY TO THE CHAPEL, ~~AND~~ AGAIN I WAS ENTHRALLED BY SOUNDS OF METAL CLANKING 'CLUNK' <sup>CLANK</sup> - AND THE OCCASIONAL VIEWS TO THE SKY. WHEN I GOT THERE, I SAT + LISTENED TO CHRISTIAN + MUSLIM + JEWISH CLERGYMEN SPEAK ABOUT THE EVENTS THAT HAD TAKEN PLACE EARLIER + HOW IT WAS IMPORTANT THAT WE ALL UNITE; IT WAS INSPIRING, I DECIDED TO SACK AROUND AFTERWARDS, NOT 5 MINUTES AFTER EVERYONE HAD LEFT, CLOUDS CAME OVER THE SKY + THE ANGLED WALL OF LIGHT BEGAN DRIPPING WITH WATER. I WENT OVER + TOUCHED IT - AS I WATCHED IT TRICKLE DOWN THE CONCRETE WALL, <sup>WHERE?</sup> BENEATH THE FLOOR, IT WASN'T LONG UNTIL THE CLOUDS MOVED OUT + THE RAIN WAS REPLACED WITH BRIGHT SUNLIGHT. LOOKING AT THE SUN REFLECT FROM THE WALL + REFRACT THROUGH THE DROPLETS OF WATER THAT THE CONCRETE WALL HAD CAPTURED WAS AWE INSPIRING. I STILL HAD MY PENCIL + FLYER FROM THE SESSION, SO I DECIDED TO SKETCH IT. JUST AS I FINISHED, GUARD THOMPSON ALERTED ME RATHER BLUNTLY THAT I HAD WORK TO DO.



THE PATH TO THE CHAPEL



SKETCH OF LIGHT



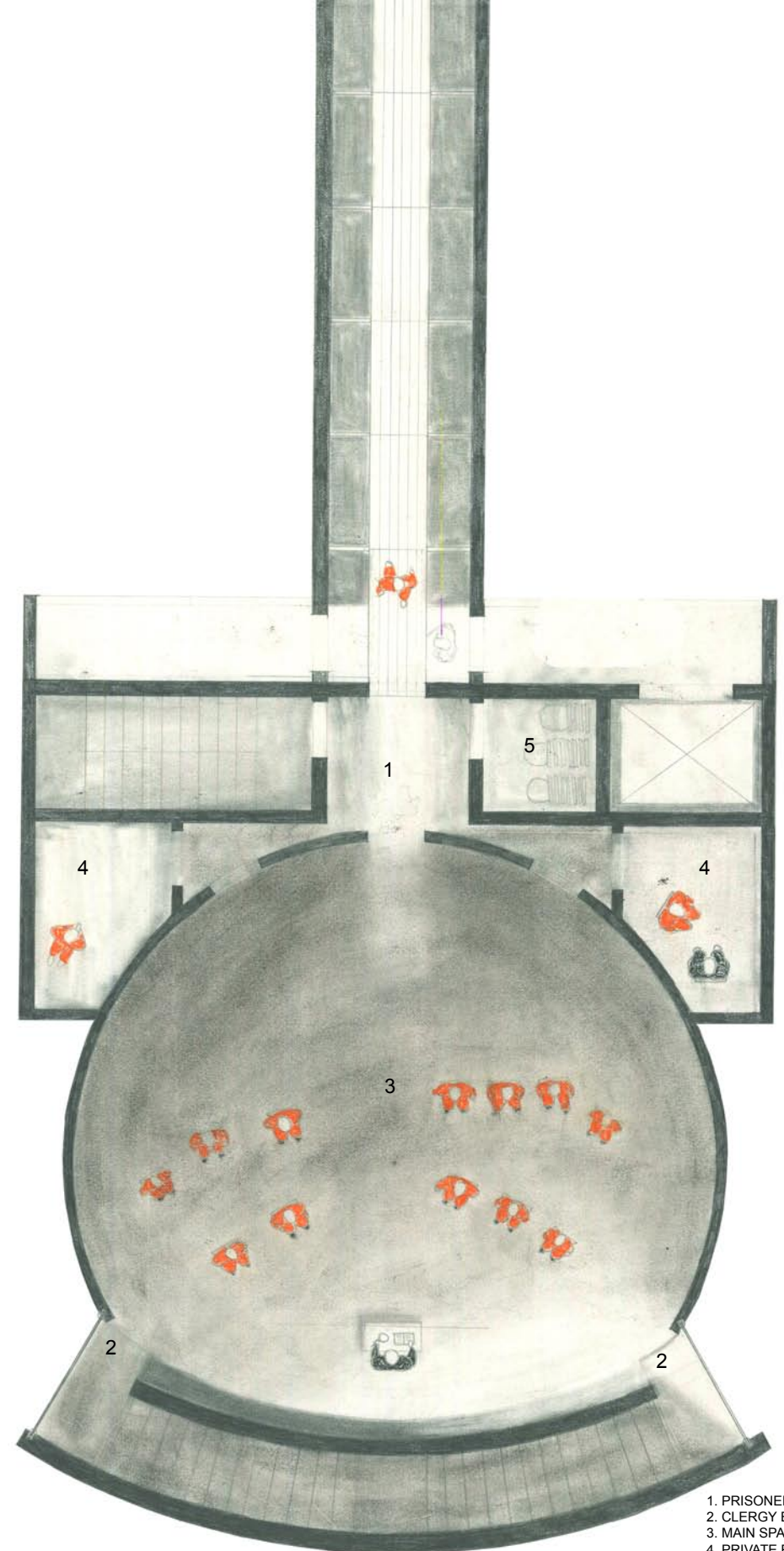
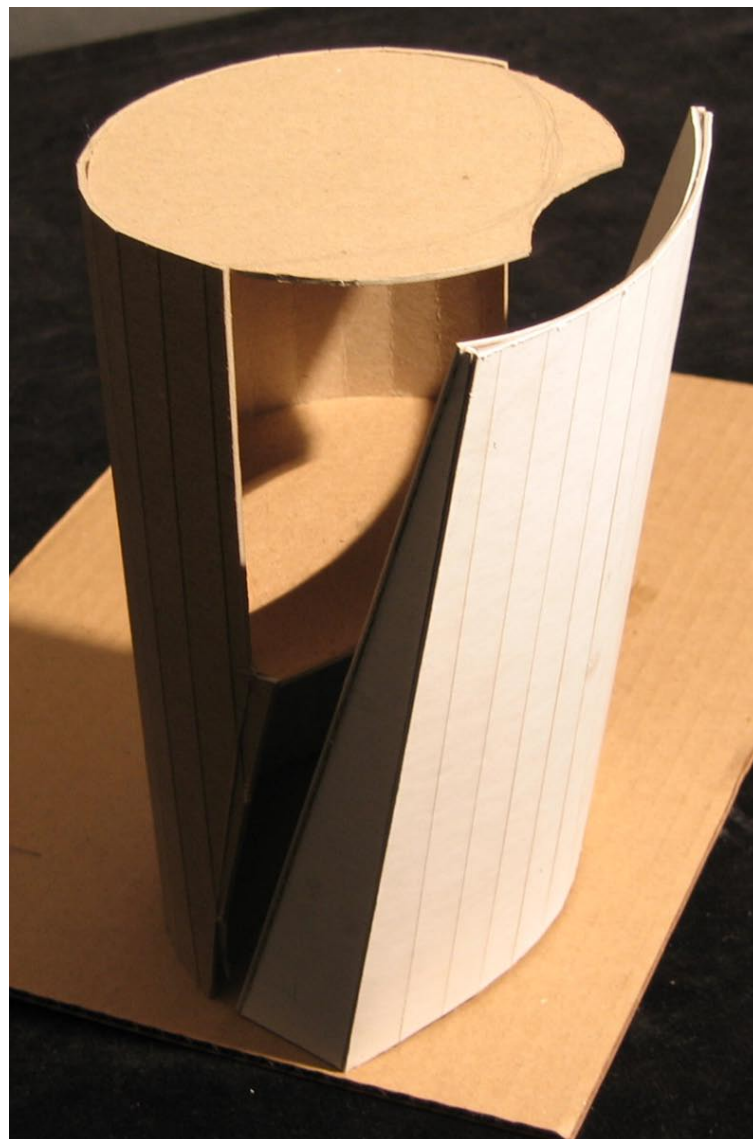
# sun/shadow

## THE CHAPEL

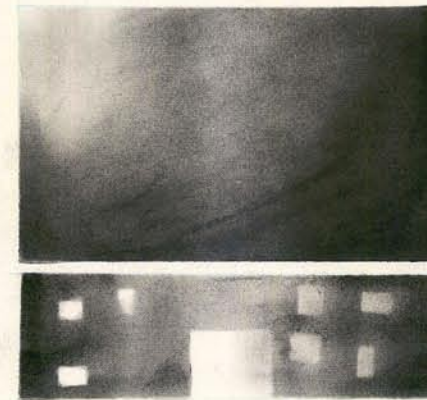
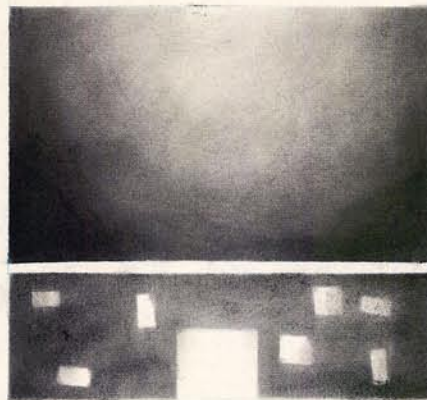
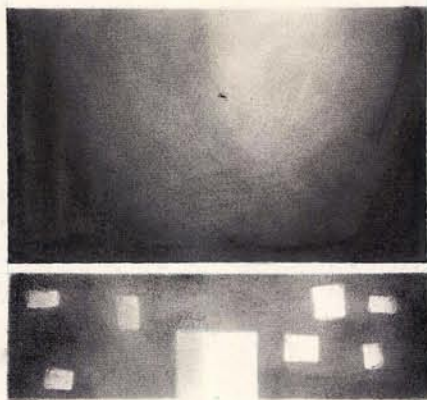
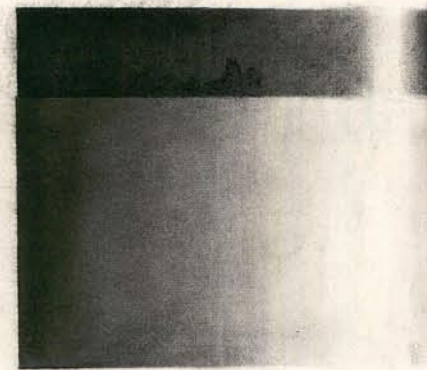
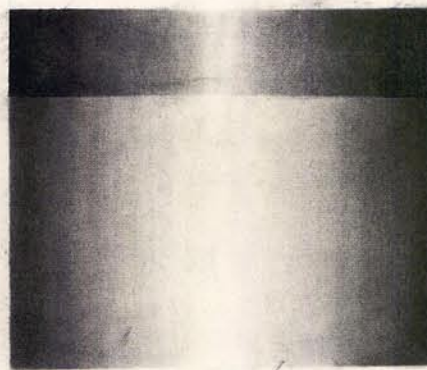
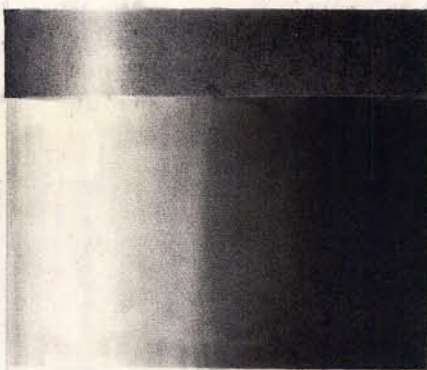
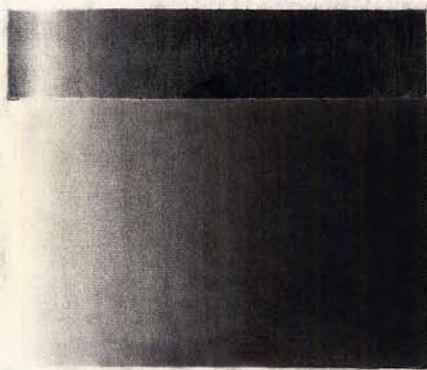
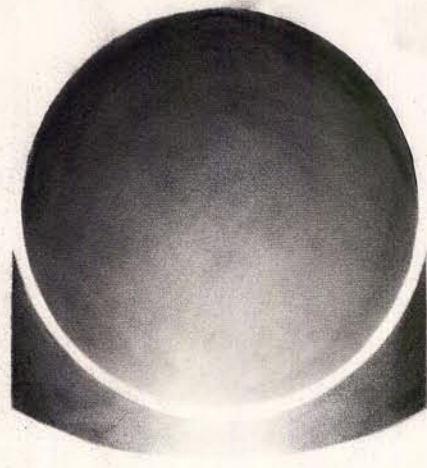
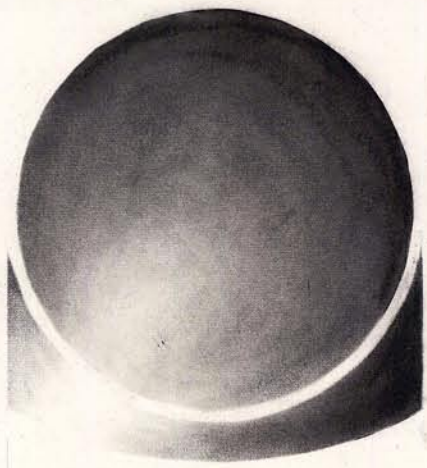
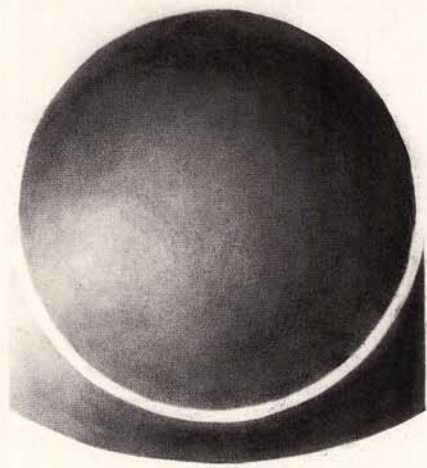
The most special space in the prison, the chapel represents what we human beings put so much faith into: hope. The architecture is intended to instill a sense of inspiration into those that occupy it, and to allow the minds of the incarcerated to wander off into the future of freedom.



The chapel design begins with a cylinder shape, the only such in the entire prison. In an attempt to create a uniquely lit space, an angled concrete wall slices through the room, slightly tilted towards the path of the sun. The result allows the inmates to quickly orient themselves in the world based on the source of the diffuse lighting as well as create an effect that completely contrasts the harsh, direct sunlight of the cells.



1. PRISONER ENTRANCE
2. CLERGY ENTRANCE
3. MAIN SPACE
4. PRIVATE ROOMS
5. FURNITURE STORAGE



18:00

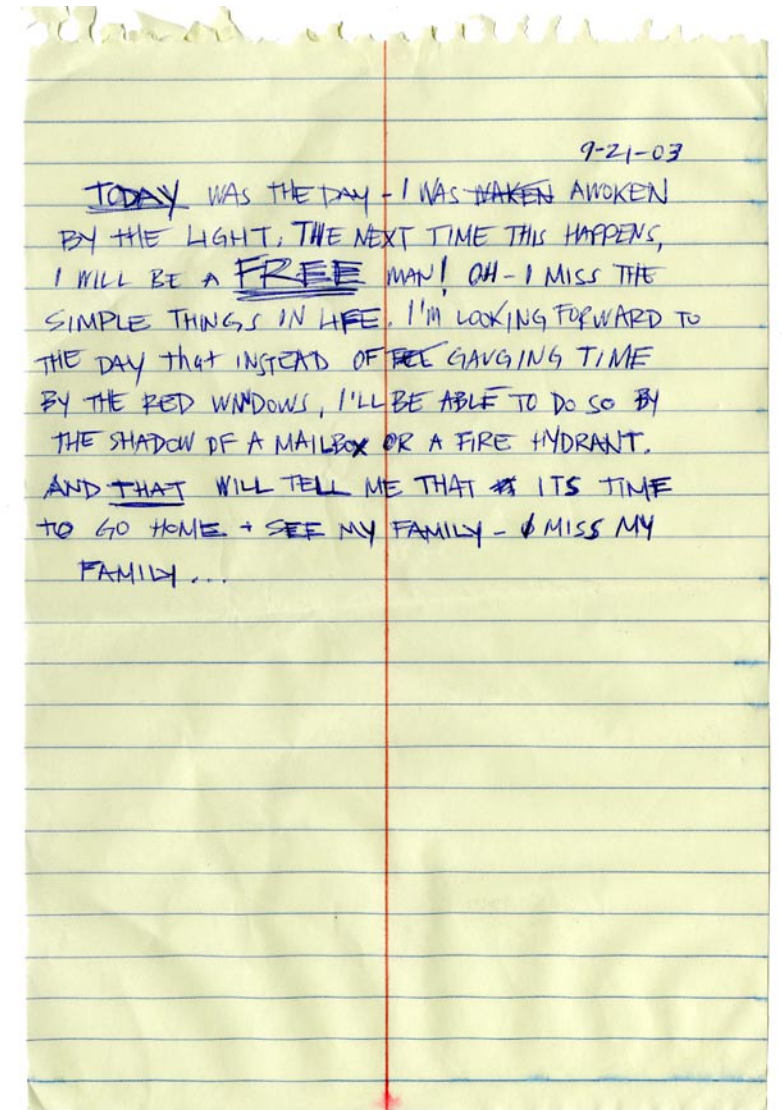
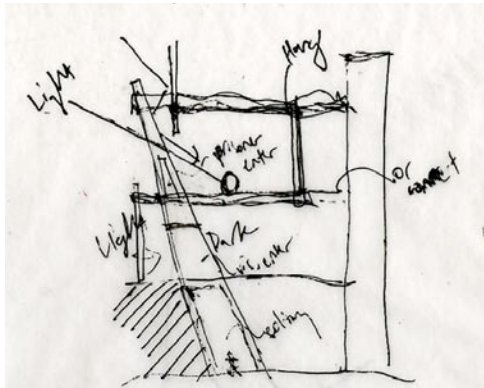
15:00

12:00

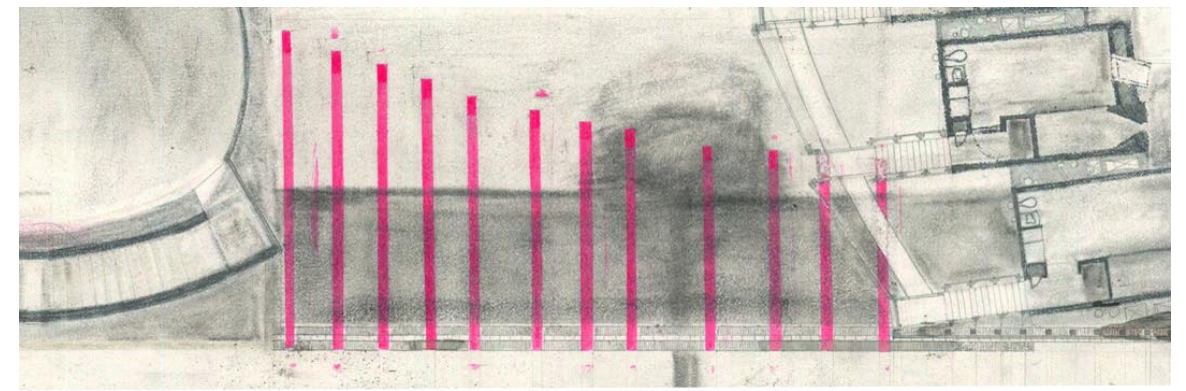
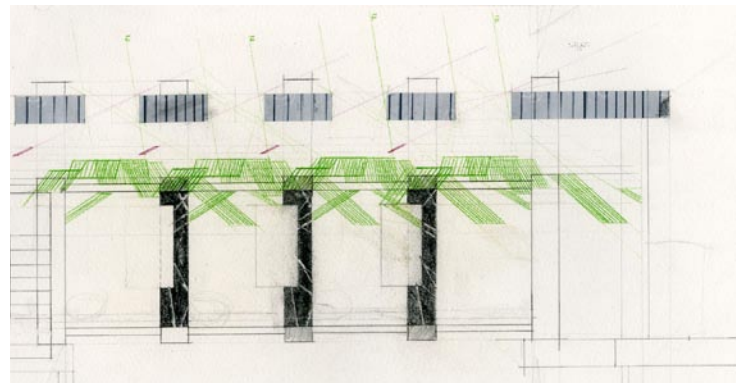
09:00

## HOPE

0904 frequented the chapel, although not for the sermons or events that it held. He now had a hobby, which was to try and capture its simple beauty through his prison issued pen and yellow notepad. As time passed, 0904 began to sketch other parts of the building, and was just beginning to understand the qualities of light. He knew by the way the red beams streaked across the interior courtyard that it was one hour until he had to return to his cell.



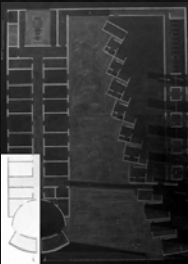
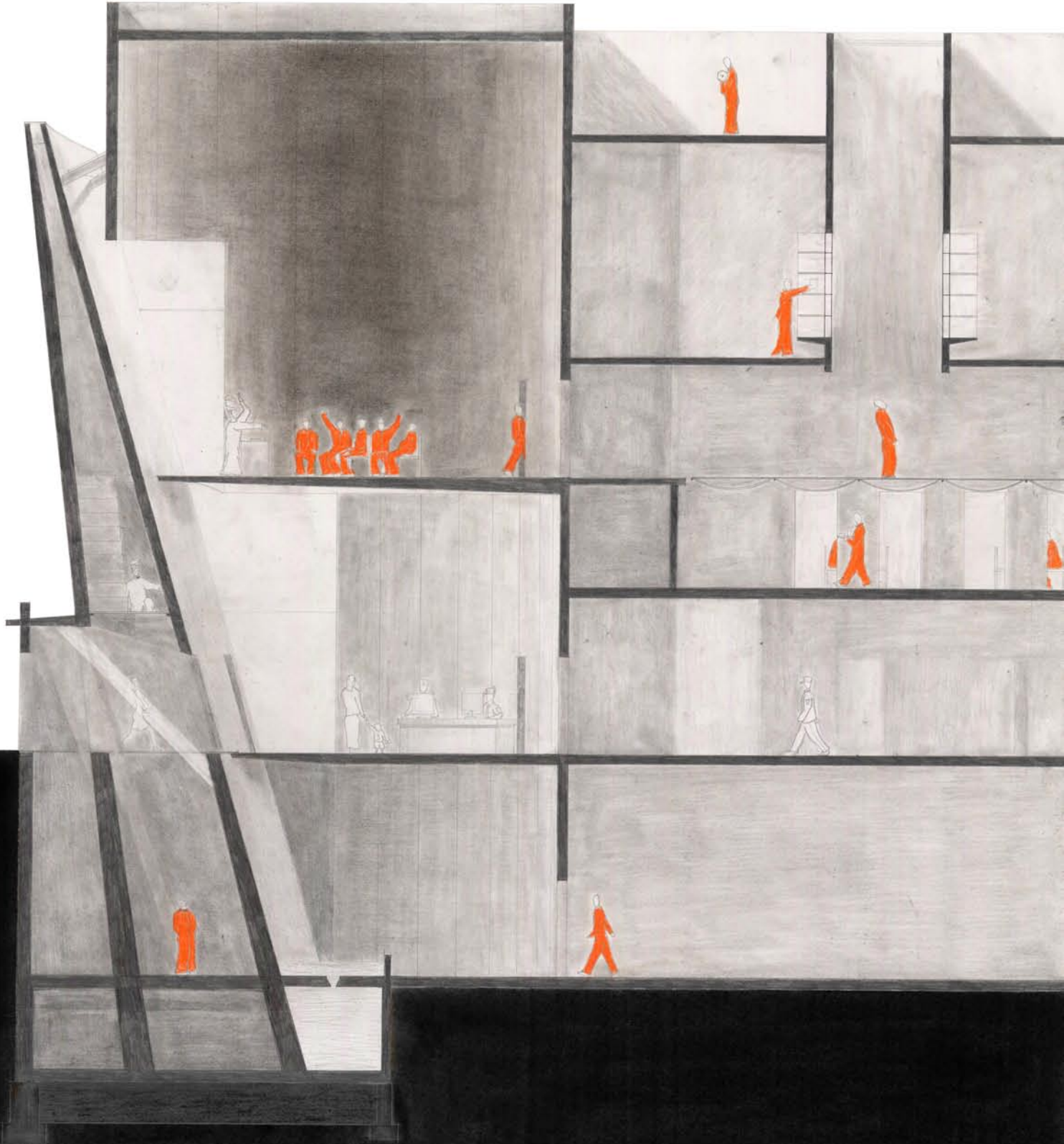
CHAPEL SKETCHES



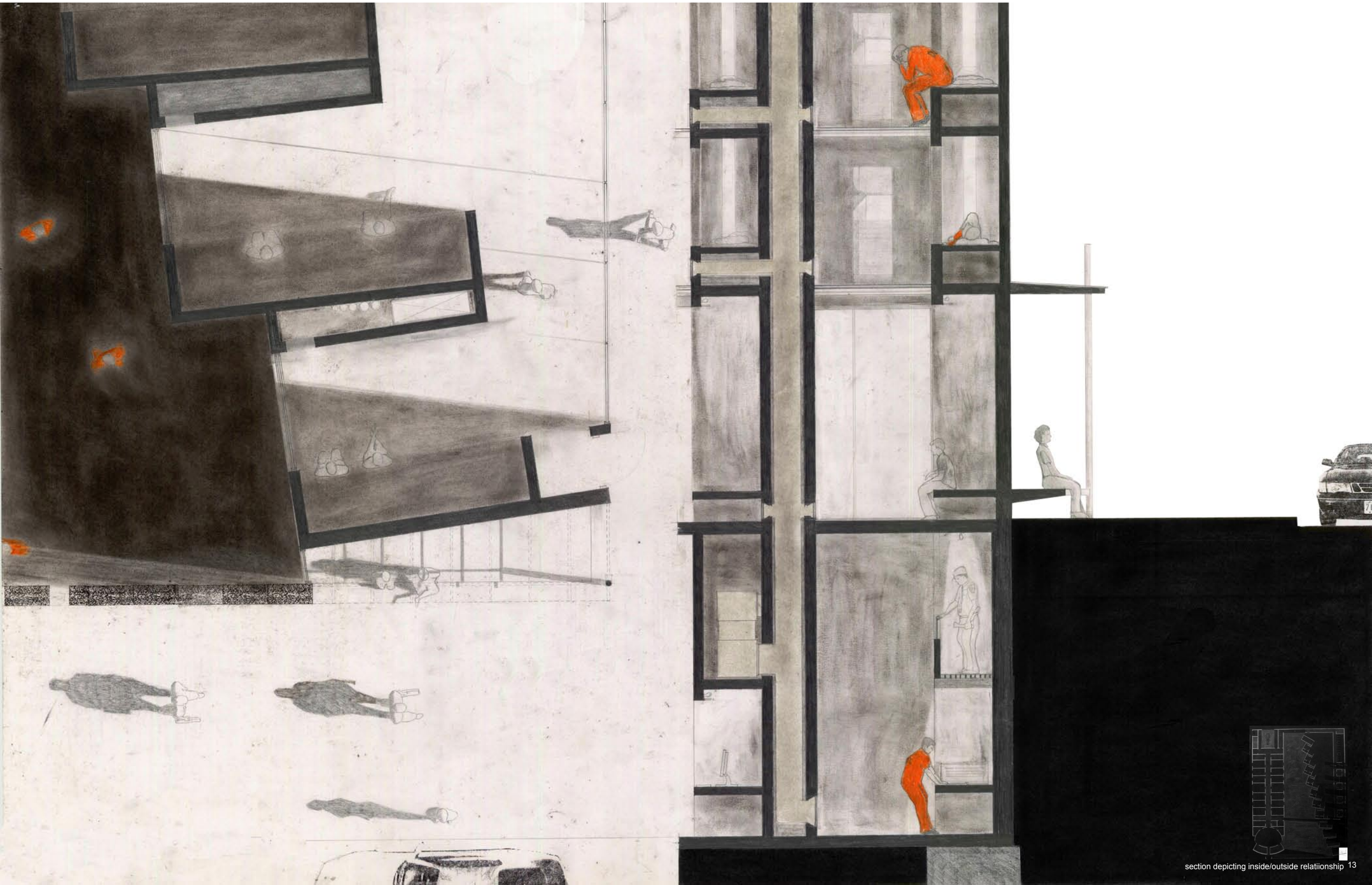
LUNCH TIME

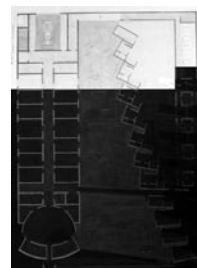
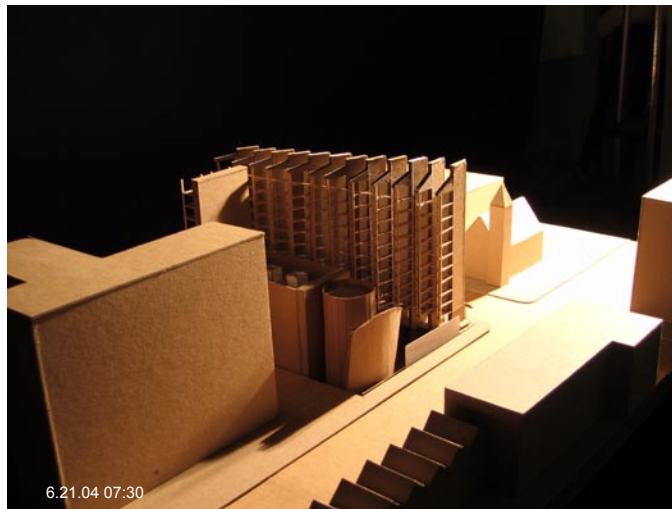
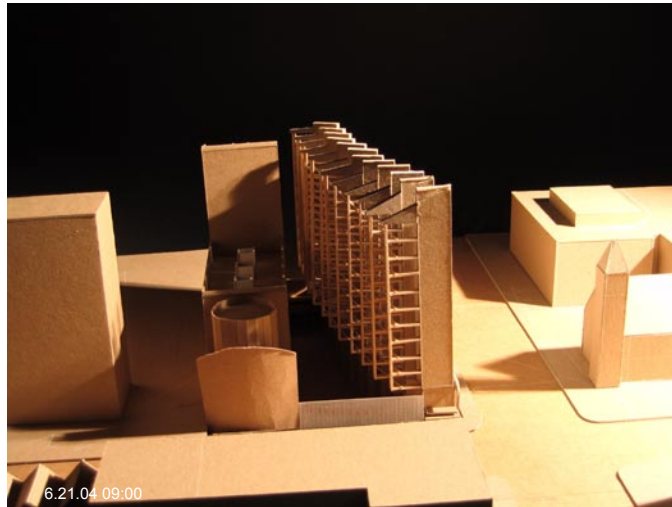




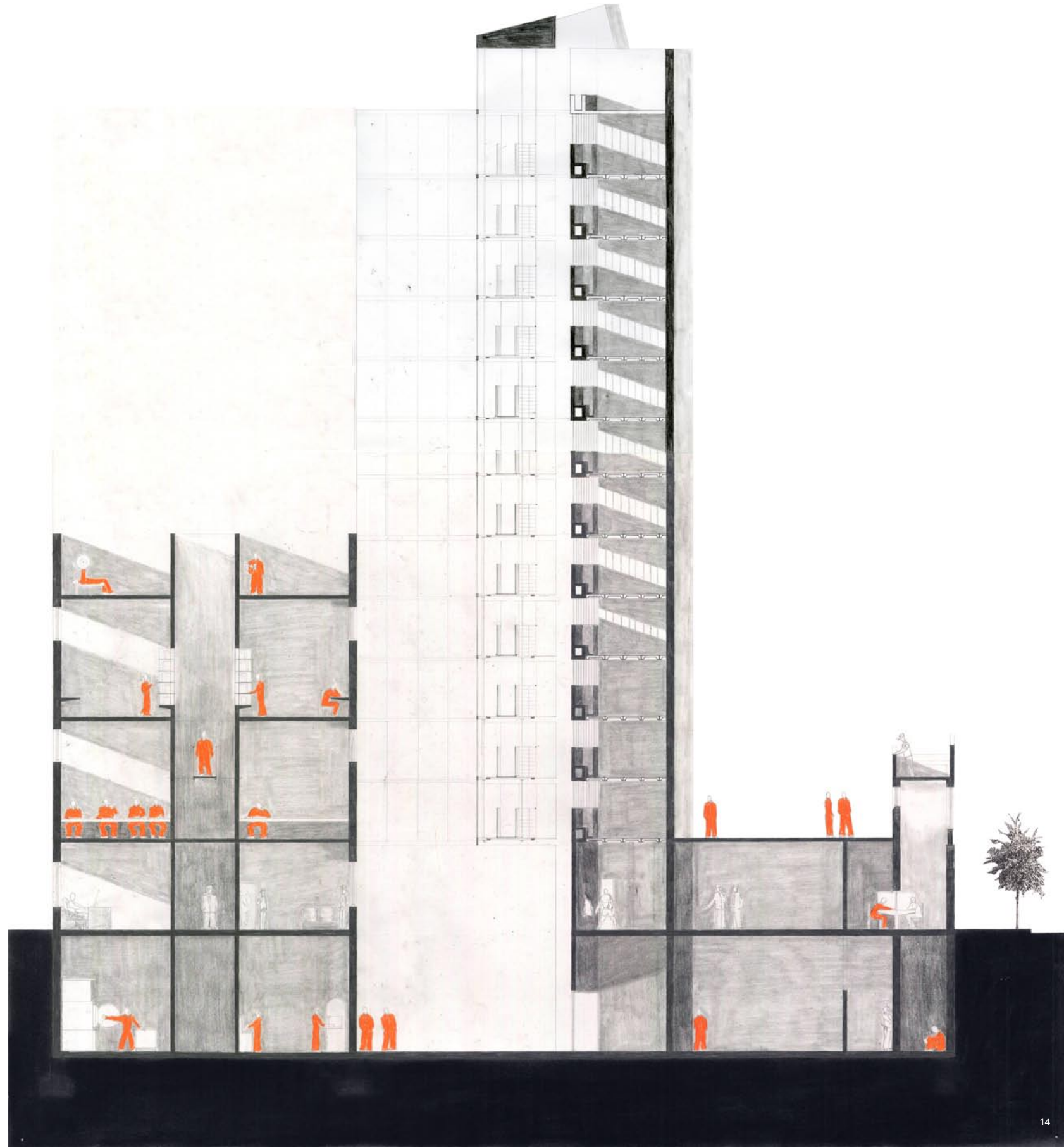


section through chapel





transverse section looking north





transverse section looking south

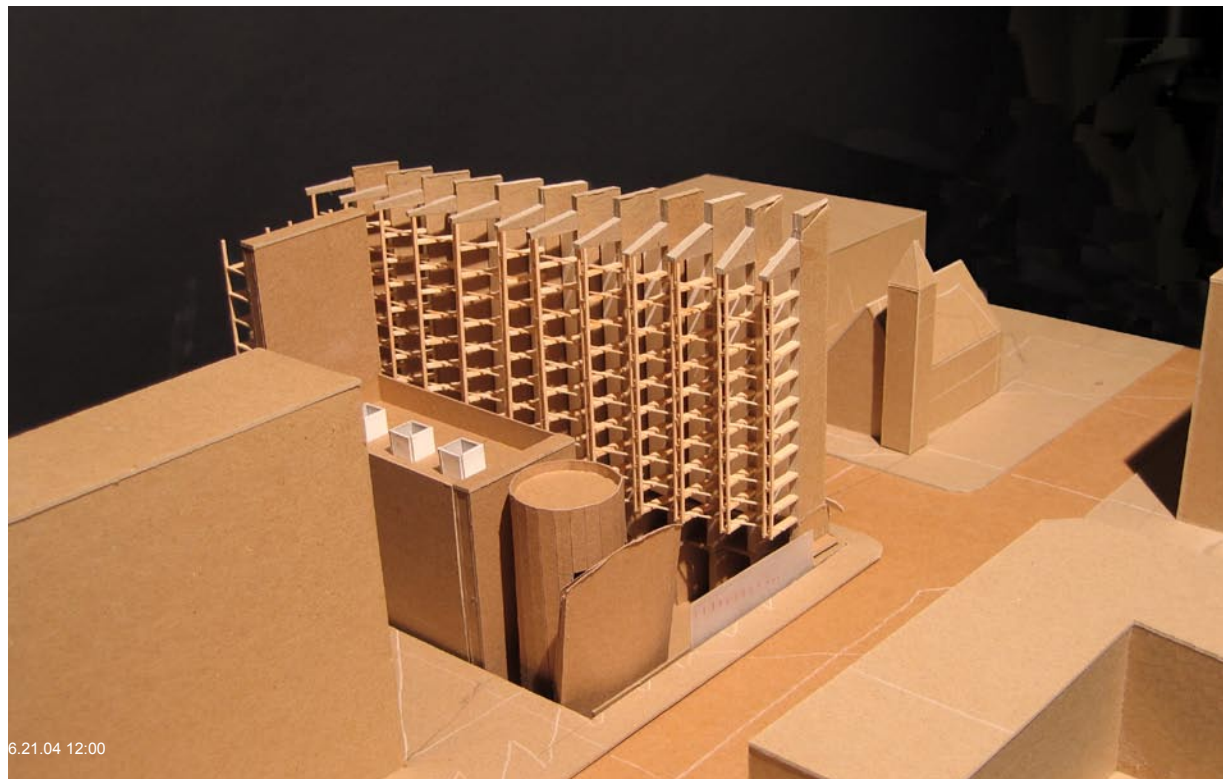


K STREET

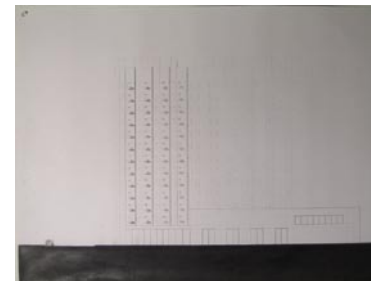
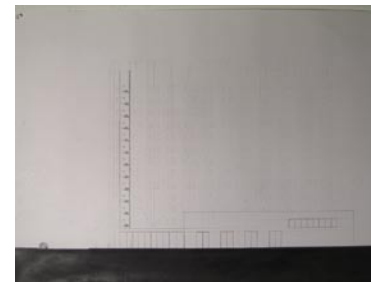
NORTH CAPITOL STREET

RELEASE

The day had come. 0904 was set for release. The date is September 17, 2004. He was filled with anxiety. The sun seemed to rise in slow motion. It should have struck each part of the building simultaneously, but it didn't. Not on this day. It took its time to reach each part of the building, each tower of cells and cast each shadow. Its almost as if light was slowed down to beyond the nanosecond. 0904 took these last few minutes in his cell to write the conclusion of his journal.



6.21.04 12:00



9-17-04  
THIS IS IT! The DAY ~~IS~~ ~~HAS~~ HAS FINALLY COME, I THOUGHT IT NEVER WOULD. HOW WILL THE "REAL" WORLD LOOK AT ME?? WILL I BE ~~WANTED~~ ACCEPTED? WHO WILL HIRE ME? SO MANY EMOTIONS, I DON'T KNOW WHAT TO THINK. I AM FILLED WITH EXCITEMENT, ANXIETY, FEAR NERVOUSNESS AS I ENTER THIS "REAL" WORLD. I DO KNOW THAT I'VE DISCOVERED SOMETHING IN THE PROCESS SOMETHING INDISCRIABLE. SOMETHING WITHIN. THIS PLACE HAS CHANGED ME - FOR THE BETTER. HOW WILL ~~EVERYONE~~ MY LOVED ONES RESPOND TO THIS CHANGED ME? HOW WILL I SHARE MY EXPERIENCES WITH THEM? MAYBE SOME THINGS ARE BETTER LEFT TO ONESELF, I DO NOT KNOW, BUT I DO KNOW THIS - there are 4 people I couldn't have done it without...  
SUSAN, PAUL, JAAN + MARCO  
- THIS IS MY THANK YOU!  
-John Schippers.



# bibliography

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## John A. Schippers

### education

Virginia Polytechnic and State University  
Washington-Alexandria Architecture Center  
M.Arch 2005

University at Buffalo  
B.P.S. Architecture 2002 cum laude

### experience

RTKL Associates Inc. 04-

Papp Architects, P.C. 00-03

