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

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Dedicated to: Matha Morales [mom], Victor Paz [dad], Vicmar Paz [sister], Margot Paz [sister]
Photography now days challenge our perception of space, light, and architecture. Photography has challenge the way we perceive, interact and communicate in the world. In today’s society photography has find ways to communicate faster through images. Technology has played a big part on how we exchange pictures making it very accessible to all ages and cultures. As photography has become more accessible and it has become more technological advance, new challenges and problems have emerge. I consider that society has lost the ability to be aware of two basic essential elements which are light and space. These two elements are very important in photography but also in the human physical and emotional existence. I wanted to celebrate the learning process of photography and to be more conscious of the superficial world we live in today. I consider that by educating new generation the process of light and space can influence how people can become more in touch with its spiritual being. By providing a educational space in Georgetown where people are able to interact with visual media and learn the process of photography can have a positive impact individually and collectively. Considering that many people visit Georgetown every year became a important portal to spread the knowledge globally.

by Antonio Paz-Morales
Thanks to my committee; Jaan, Paul and Susan. Thanks Jaan for sharing your wisdom and letting me find it out, and experience it by myself. Thanks Paul for teaching me how to discover the poetics and the soul of architecture. Thanks Susan for your passion for architecture and always pushing me harder to be a better architect. Thanks Carolina for the support and the guidances through thesis.

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Thank you all!
Antonio Paz

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These people who in own unique ways have helped me became a better person and architect.
Abstract

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Louis Kahn

“A room isn’t a room with without natural light”

Louis Kahn
The site I have chosen is located in Georgetown in Washington DC, next to the Key Bridge. I decided to choose this site because of its dynamic interaction with the public as well as its context. This part of Georgetown was currently abandon so it was a great opportunity to rethink for a more sustainable use.
SITE

1. Key Bridge
2. Whitehurst Freeway
3. Form Architecture & Design Building
4. Chesapeake and Ohio Canal
5. Potomac River
6. Ukraine Embassy
7. Retail Stores
8. Georgetown Waterfront Park
9. Francis Scott Key Memorial Park
District Department of Transportation (DDOT) conducted a survey to determine the impact of the Whitehurst Freeway Deconstruction Feasibility, http://ddotsites.com/documents/whitehurst/ in 2006. DDOT study area in terms of traffic, access to Georgetown and the future waterfront park, land use and value, and other factors. This information is used to develop and evaluate alternative roadway configurations and connections to accommodate current and future traffic patterns if the Whitehurst Freeway is removed. Over the course of the study, the project team of the DDOT and consultants worked closely with city officials, community and business groups, and individual members of the public to identify goals and objectives for the study and a range of alternatives that would be analyzed. This outreach took the form of technical groups and public meetings in which the project team learned about the options that were preferred by a variety of groups. Members of the public suggested several new alternatives, which the project team consider and added to the study. Some of the alternatives were, short tunnel along K street, elevated sidewalk on existing structure, grade avenue with connections to key bridge and canal road.
After looking at the site conditions it was important to address public and private spaces. In order to create a harmonious space for people to interact I started thinking about solid and void spaces. The void spaces started to mark transitional thresholds from public to private spaces. It was important for the in-between spaces to feel comfortable as moving through the building. As I developed study model the void spaces became skylights, patios, gardens for people to interact with urban fabric.
One of the challenges in developing the program was an existing retaining wall which became the spinal cord to organize private spaces, which need little or no light. Darkrooms, libraries, conference rooms, egress stairs, theaters where placed along the retaining wall. A conference room was placed strategically to the NW of the site to define the edge of the building. This model and hand drawings were created early in the design process and rebuilt to analyze the relationship between circulation, voids, private and public spaces.
Framing the views around the site became important in order to control the natural light for the building to be energy efficient. The waterfront provided with magnificent views to Rosslyn, the Potomac River, and the Chesapeake and Ohio canal. The south facade made out of glass wall with louvers allow light to travel deeper into the spaces, reducing the use of electricity from the power grid lines. Having a very transparent envelope gave me the opportunity to add solid concrete bearing walls, and redirect the views toward the O&C canal, Georgetown Waterfront Park, the key bridge of to the Kennedy center.
The study model explore void and solid spaces which shift accordingly to the program. Egress stairs, elevators shafts became problematic as these spaces had to connect all floors. Many walls define exhibition spaces, but also became blank canvases for students to accommodate their work. The step built-in theater I consider one of the most dynamic spaces, which is a way to access the exhibition space, but also in summer times its an outdoor theater for the public.
Process drawings were made to explore and to find solutions to the different spaces for the program. I started to analyze sun light by making models of the sun path for the solstice and equinox. This gave me a clear idea of the angles and structure will interact with the shadows. Also on the South facade it was important to analyze the louver system to consume less energy and to enrich the spaces with natural light. Light was an important factor to develop for the School of photography and the process that photography is able to capture light.
I developed different physical and digital models studying how the sun path travel to the site and how will impact the building. I started looking at the solstice and equinox. I develop three physical models to understand the angles and the change in diameter of sun light throughout the year. After, I started to look in a digital format the light that will travel to the public spaces such as lobby and exhibition space. Using light as paint I was able to draw textures in walls to define lobby spaces.
The structure for the building became a significant struggle, and challenge. The cantilever tower and the third floor green roof were important parts of the concept in order for the building to harmoniously coexist with neighbors' conditions. The third floor public garden space needed to consider additional reinforcement to hold the live loads and dead loads. Concrete beams and columns had to be adjusted and space accordingly to spaces usage. Another struggle was to provide enough support for deeper and bigger trees to be planted in green roof. I explored several ideas with the structure and decided to make most structure out of reinforce concrete. Another reason I decided to use concrete was to have a direct relationship to wood, which was one of the main elements throughout my building. I used wood forms to create concrete columns and beam to leave the wood texture imprinted on its surface. I find this relation same as how light its transfer to the paper to create a photograph.
The structure of the building plays along with the geometry and architecture gestures. The school is held by concrete columns and beams, concrete bearing walls are placed strategically to create transitional/threshold spaces. To create a green roof on the third floor, the structure had to be deeper to take into consideration the movement of live loads. Also, the elevators and stairs work as anchors and connections for the building. This voids are spaces where elevators and egress stairs will puncturing through all the floors.
final design
bibliography


All images, drawings, and collages are produced by the author.