



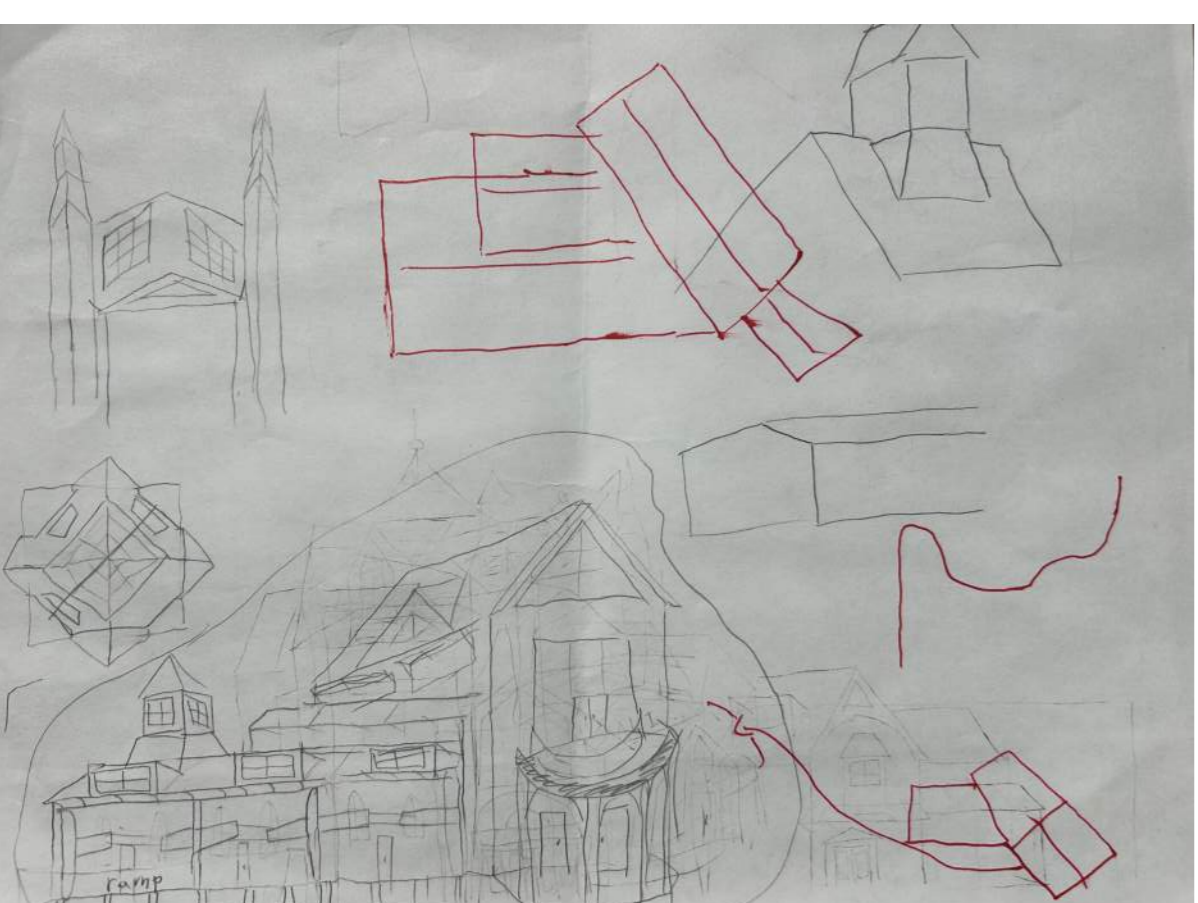
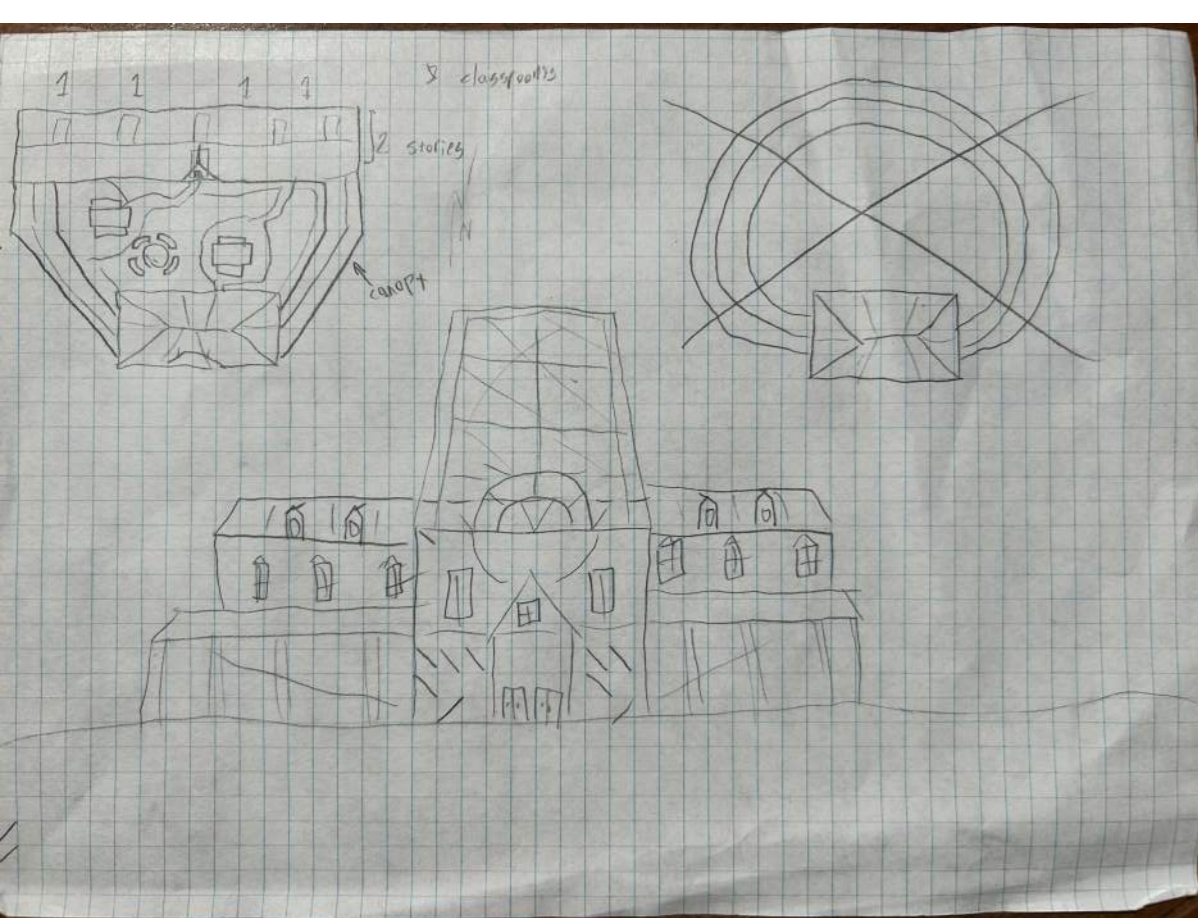
# SALISBURY RIVERFRONT COMMUNITY CENTER

## THE PROCESS

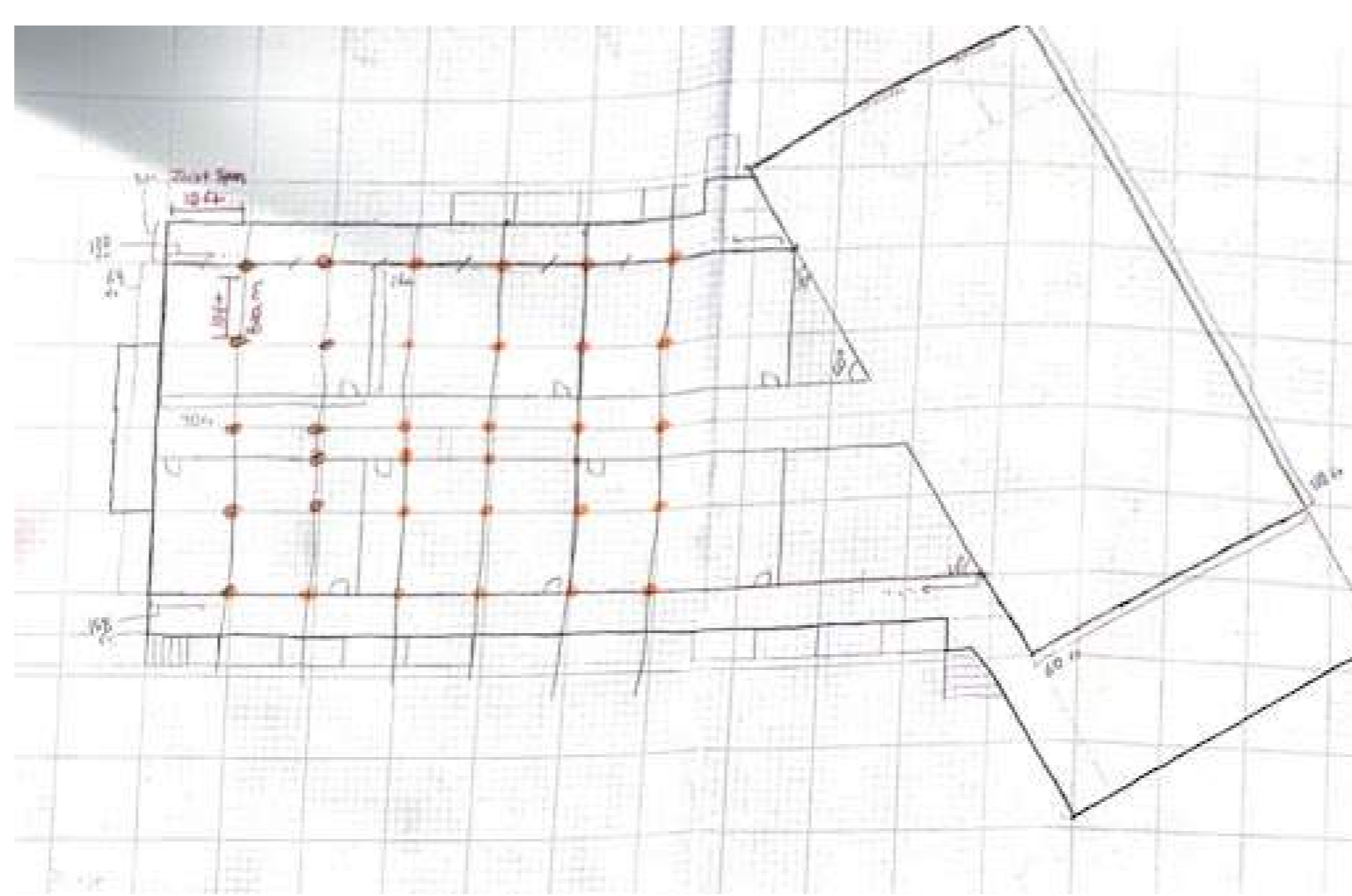
The idea for the building didn't start as a community center- we considered some ideas like a school or bait shop. This is an early sketch of the design.

We settled on a community center because we knew that a multipurpose building would be most successful in revitalizing the Salisbury downtown. We had discussions about how to further develop it, and the design started to move forward.

Eventually, the design moved to be more comparable to the final design. We balanced extra details to make the building look better and strictly necessary parts.



Our site in Salisbury, Maryland where we observed significant flooding during our site investigation.



## THE ENGINEERING

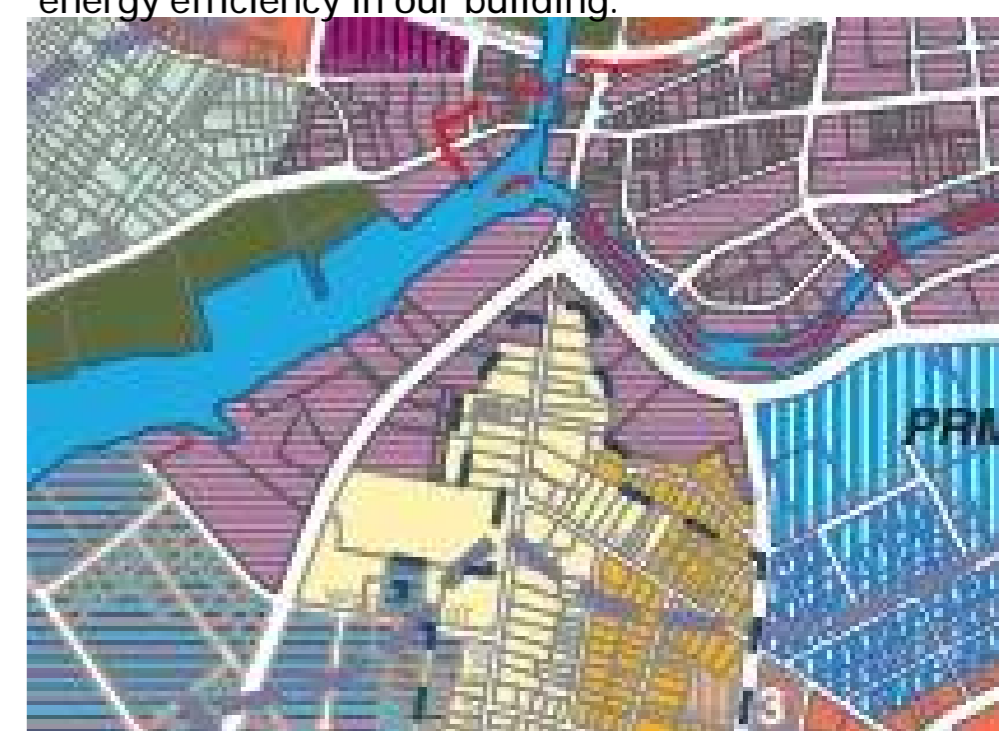
Our project involved incorporating civil engineering aspects to meet the adaptable needs of the Salisbury Riverfront Community. During our site investigation we noticed flooding issues. To mitigate these challenges, we adapted the joist grid within our pile foundation. This foundation, was constructed using timber piles and and timber floor joist. This will effectively mitigate flooding issues that are prevalent in our location, while also preserving the economy and preventing corrosion of piles and floor joists. Additionally, we reduced the joist grid from a 12 by 12 foot dimension to a 10 by 10 foot dimension to alleviate overstressing. By supporting our beams with studs, we have ensured distributed weight and a stable pile foundation, effectively mitigating flooding issues.

### Calculation Notes:

1. Upon analyzing the live and dead loads on the floor, we referred to manufactured I-joist load tables.
2. For beam design, we computed the bending moment, determined the allowable steel stress, calculated the section modulus, and finally selected our beam.
3. This slide contains our detailed calculations, aiding in determining the dead and live loads, crucial for subsequent design calculations.

## THE SITE

In the 1970s, the Urban River Plan was introduced to highlight the natural beauty of the Wicomico River in downtown Salisbury, Maryland and influence future developments. Being a central business district, we are encouraged to prioritize recreational activities to unite the community of Salisbury. We adhered to Salisbury's current codes throughout the development of the Salisbury Riverfront Community Center to enhance energy efficiency in our building.



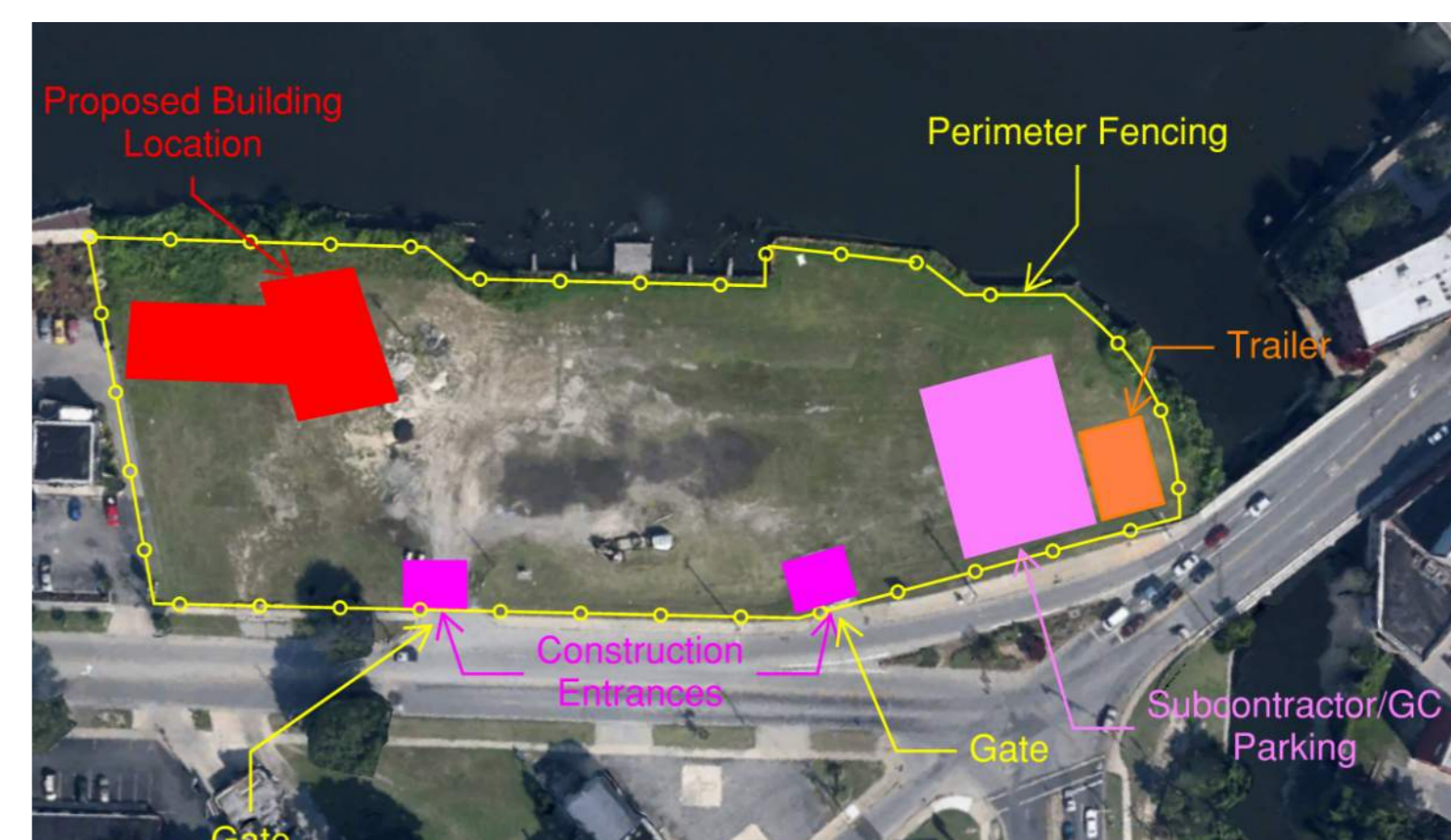
- International Building Code 2018 Edition
- International Residential Code 2018 Edition
- International Mechanical Code, 2018 Edition
- International Energy Conservation Code 2018 Edition
- International Plumbing Code 2018 Edition/WSSC Traps, Interceptors & Separators 2019 Edition
- International Fuel Gas Code 2018 Edition
- International Existing Building Code 2018 Edition
- International Green Construction Code 2018 Edition (Voluntary)
- ADA Standards for Accessible Design 2010 ICC/ANSI A17.1
- National Electric Code 2014
- Electrical Code via Wicomico County

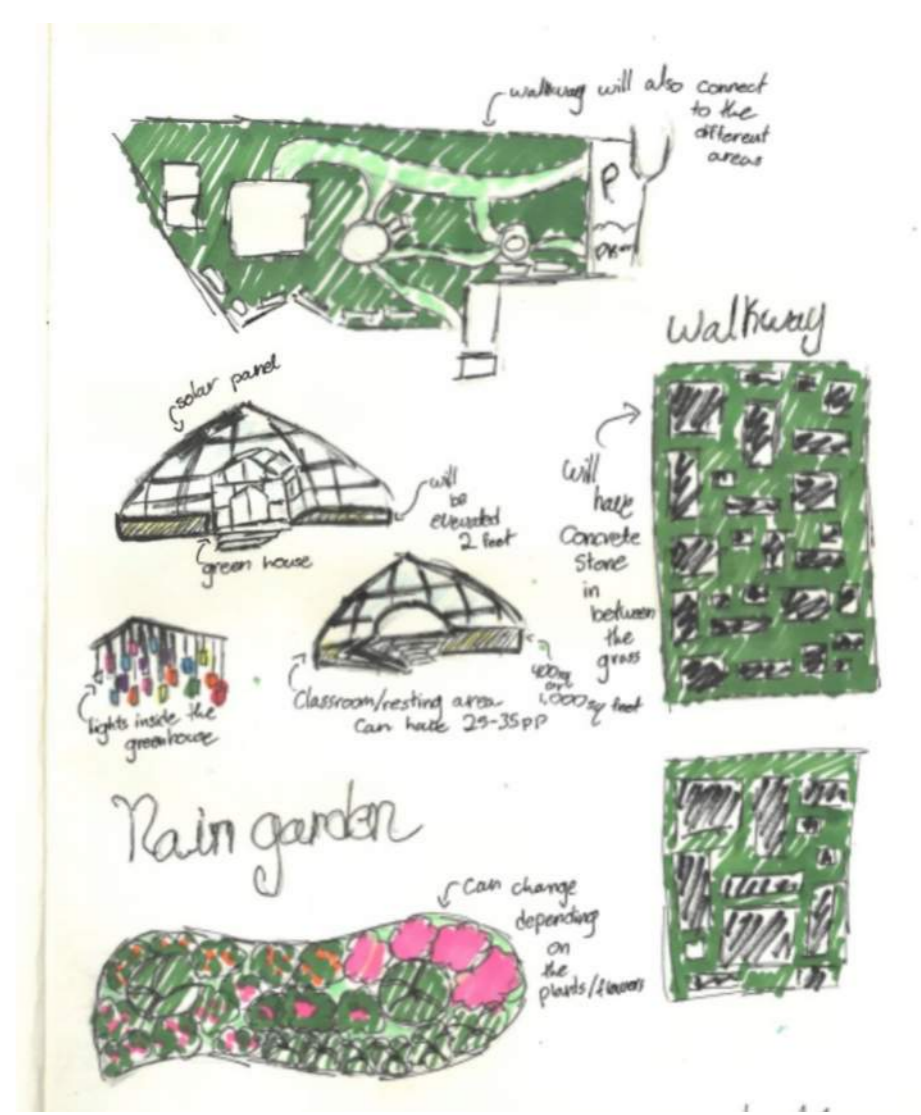
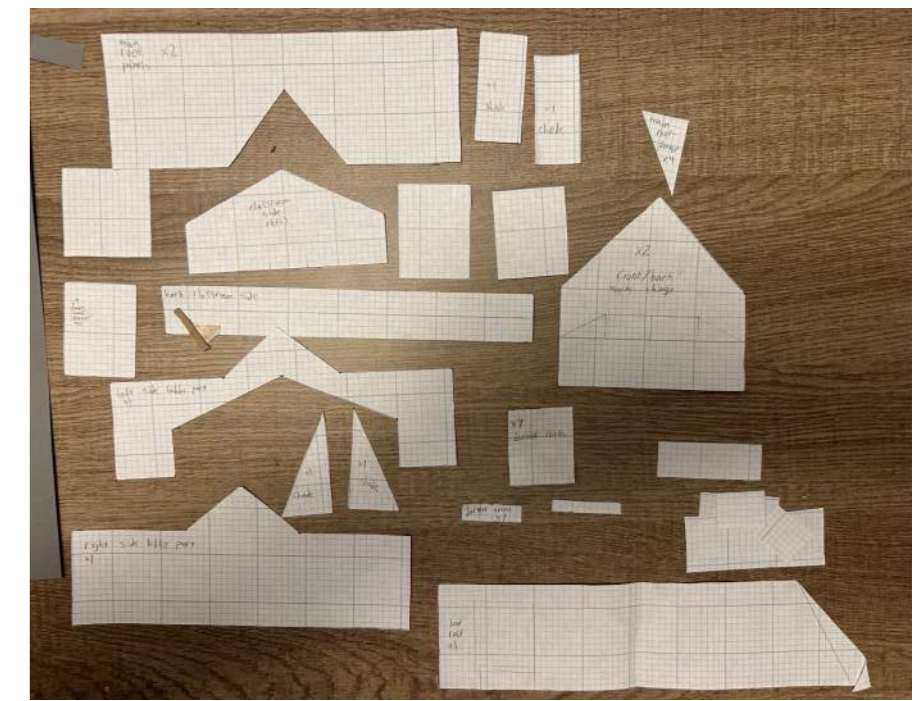
	duration (mo.)	jun	jul	jan	feb	mar	apr	may	jun	jul	aug	sept	oct	nov	dec	estimated price based similar
Design	4															\$720,000
Bidding / Permitting	2															by owner
Sitework	1															\$1,500,000
Foundations	1															\$250,000
Structure	1															\$450,000
Skin / Exterior Framing	1															\$80,000
Roofing	1															\$200,000
MEP Installation	1															\$1,032,000
Interior Framing	1															\$200,000
Inspections	1															by owner
Parking Lot	1															\$100,000
Landscaping	1															\$100,000
Finishes	1															\$500,000
Furnish	1															\$1,500,000
Substantial Completion	1															
																sum = \$6,632,000

DESIGN LOADS	STRUCTURAL NOTES	
ROOF DEAD LOAD	(TOP CHORD)	7 PSF
	(BOTTOM CHORD)	10 PSF
ROOF LIVE LOAD		20 PSF
FLOOR DEAD LOAD	(PARTITION)	20 PSF
	(OFFICE)	50 PSF
	(CORRIDOR)	80 PSF
	(PUBLIC AREA)	100 PSF
FLOOR LIVE LOAD		50 PSF
SNOW	ROOF SNOW LOAD	30 PSF
	(EXPOSURE FACTOR)	1.0
	(THERMAL FACTOR)	1.1
	(IMPORTANCE FACTOR)	1.0
WIND	(BASIC WIND SPEED, 3-SEC. GUST)	118 MPH
	(RISK CATEGORY)	C
	(EXPOSURE CATEGORY)	C

The budget for this project is \$6,632,000. The construction process will take nine months to build the building shell and fourteen months to finish and furnish.

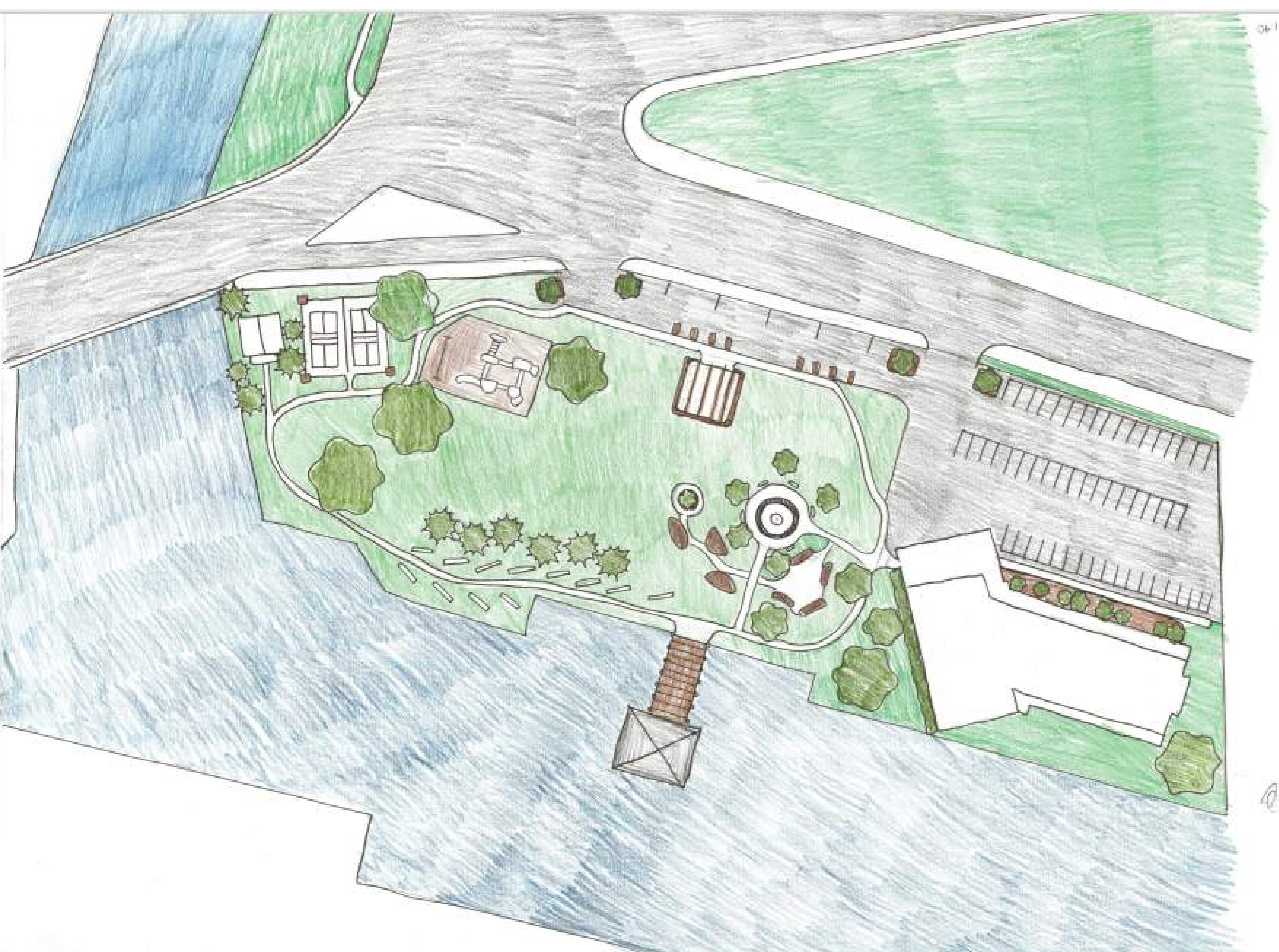
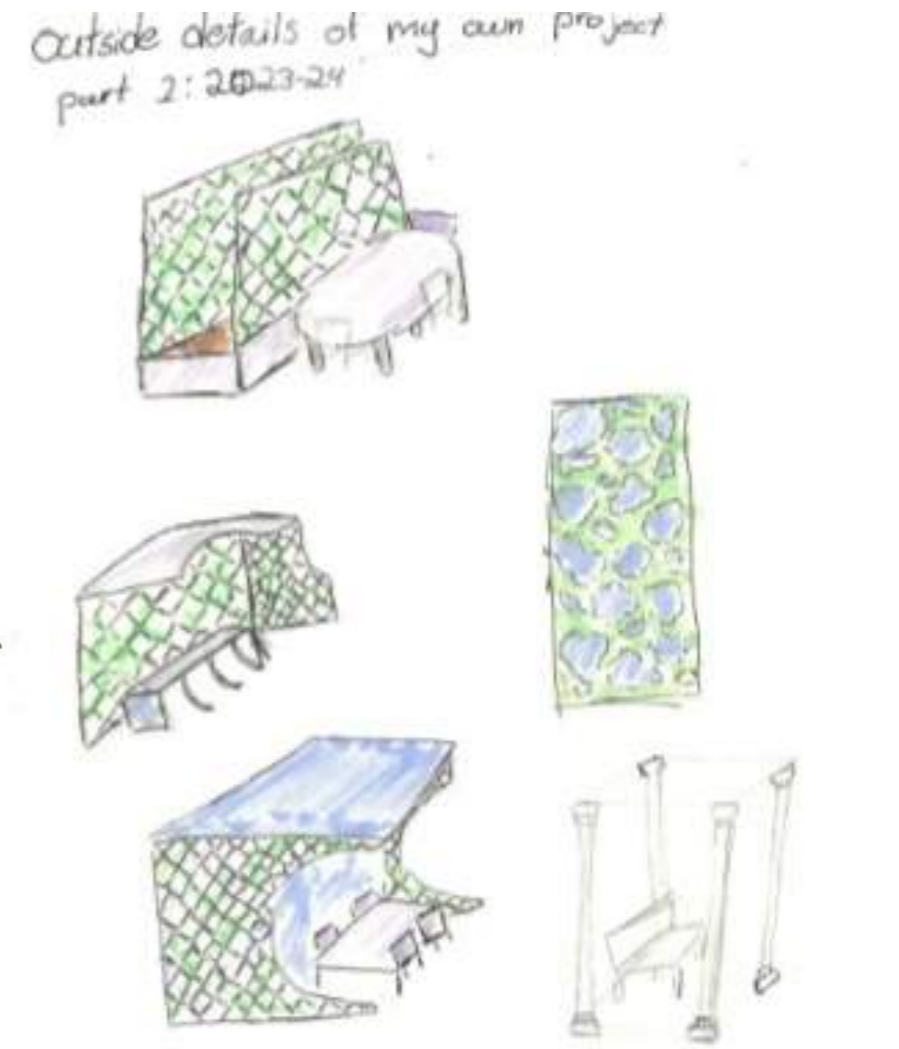
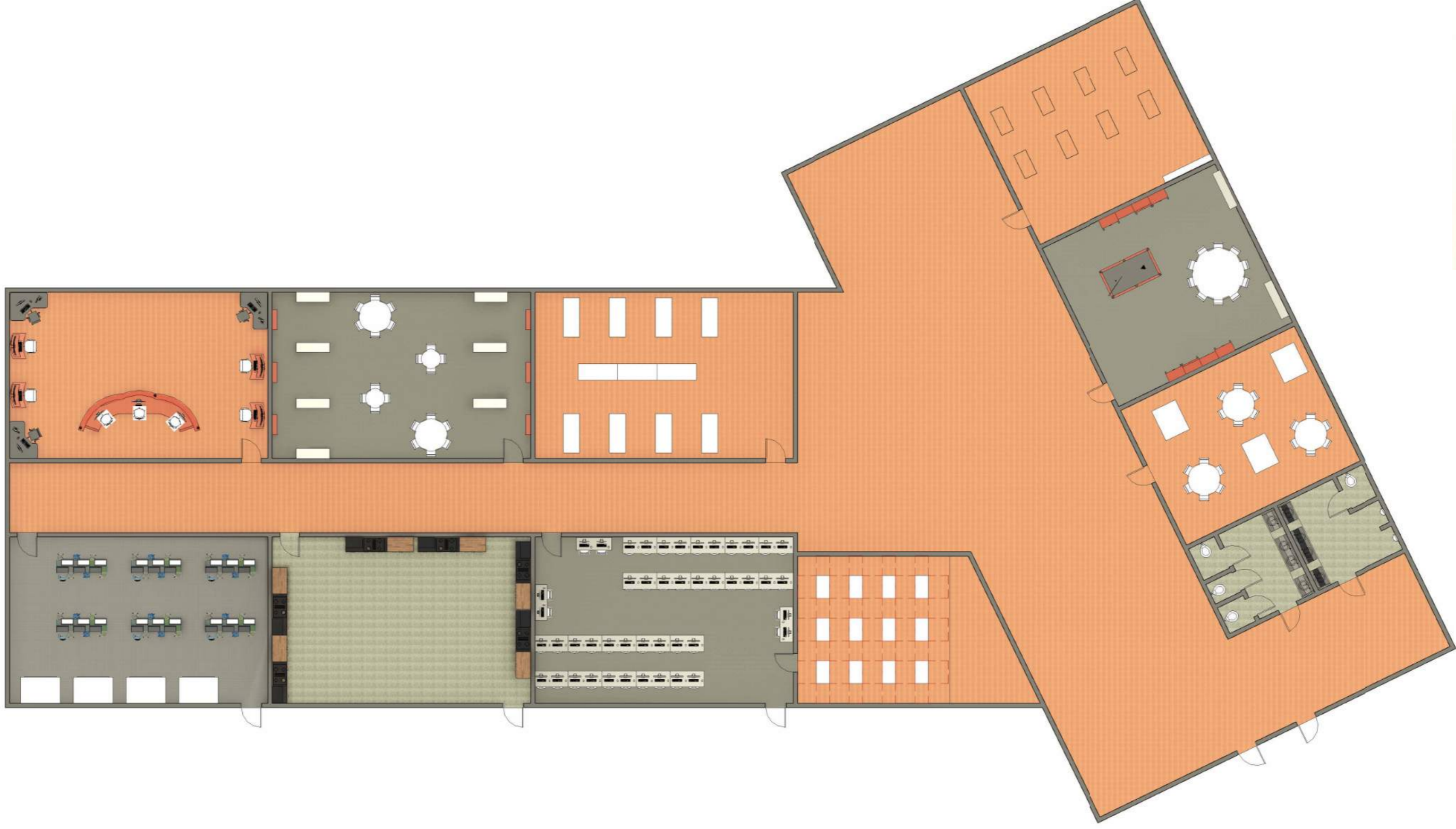
To optimize site logistics and minimize congestion, we implemented two large gates for efficient access while enclosing the perimeter with a fence to restrict unauthorized entry. The orange symbolizes a designated trailer area for workers, pink indicates parking facilities, and red area is for the construction site where the building will be created.





### THE INTERIOR DESIGN

We carefully considered the design elements for each room of this multi-use facility. The interior walls will be painted white to create a minimalist atmosphere. The white color will also increase the contrast between the walls and the art made inside the building. For the flooring, gray carpet, concrete, and wood flooring will be used depending on the room. The art classrooms will feature painting canvases and adjustable light fixtures. The building also features a multipurpose room for extra community events.



### THE LANDSCAPE ARCHITECTURE

For our project we decided to keep everything as environmentally friendly as possible. We wanted our community center to feel inviting. To make our area more environmentally friendly, we decided to make a pathway out of stones and grass to play with contrast in texture for those traveling the path. We have two big gardens in the landscape. One for native plant species of Maryland and one for herbs and vegetables to engage with the community by a fountain. We have a big sports field where people can play football, soccer, outdoor yoga, and other outdoors activities. There is a pickle ball and tennis court area by the end of the property so people can access during operating hours. There will be a play ground for little children to play at and will be open 24/7. A food truck parking area and a picnic area will invite people working in the surrounding area to relax and enjoy our landscape during their lunch break. Along the river walk, there will be murals for artists to express themselves and bring the local art to the rest of the community members.

