



## Team 3

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# NARRATIVE

Team 3 worked cohesively across our disciplines which included advertising, architecture, landscape architecture, and civil engineering. Immediately sharing our strengths and weaknesses we worked together to design sustainability for Temple Community Garden's Sonia Sanchez Flower Garden. Embracing TSG's mission of gardening and horticulture to be vital in Philadelphia neighborhoods, our team designed to bring this vision to fruition.

We started our charrette in looking at how orientation and form of our Tiny House can be welcoming not only to Temple students, but all people in the community. The initial form therefore came from an "L" design with its opening facing the corner of Broad Street and Diamond Street, almost wrapping its arms around the site. As further iterations came forth through the process, we finalized on a diagonal wall that acts as a "place-maker"; becoming an opportunity for signage, projections of movies and gathering space, or other promotional ideas. With an understanding that this was the general form and sense of community-welcoming we wanted to push forth, we then began thinking about the structure through sustainable measures. In looking at materials, we thought of cost affordability, ease of access, weight for transportation, and harm to the environment. We chose plywood for the majority of our structure, glass windows, and air as insulation. Following, we addressed the building's orientation on the site and analyzed how to best capture the sun during winter months and shade the building during summer months. Since the Garden will still be used in the winter, we placed windows that are closer to the ceiling so that the roof overhang self-shades in the summer. Our next approach was the design of rainwater harvesting. In sloping our roof, we are able to catch the rainwater in a basin and allow the student volunteers to use it both for watering the plants on the site and washing their hands in the bathroom containing the composting toilet. Lastly, we hope for TSG to be able to use the slope of our roof to install solar panels that are south-facing. In addressing the potential relocation of this structure, we designed it with trusses along the bottom for ease of access to get under the building. We also chose lightweight materials so that they could be moved by 3 or fewer people; designing a structure with modest dimensions but enough space for storage and meeting.

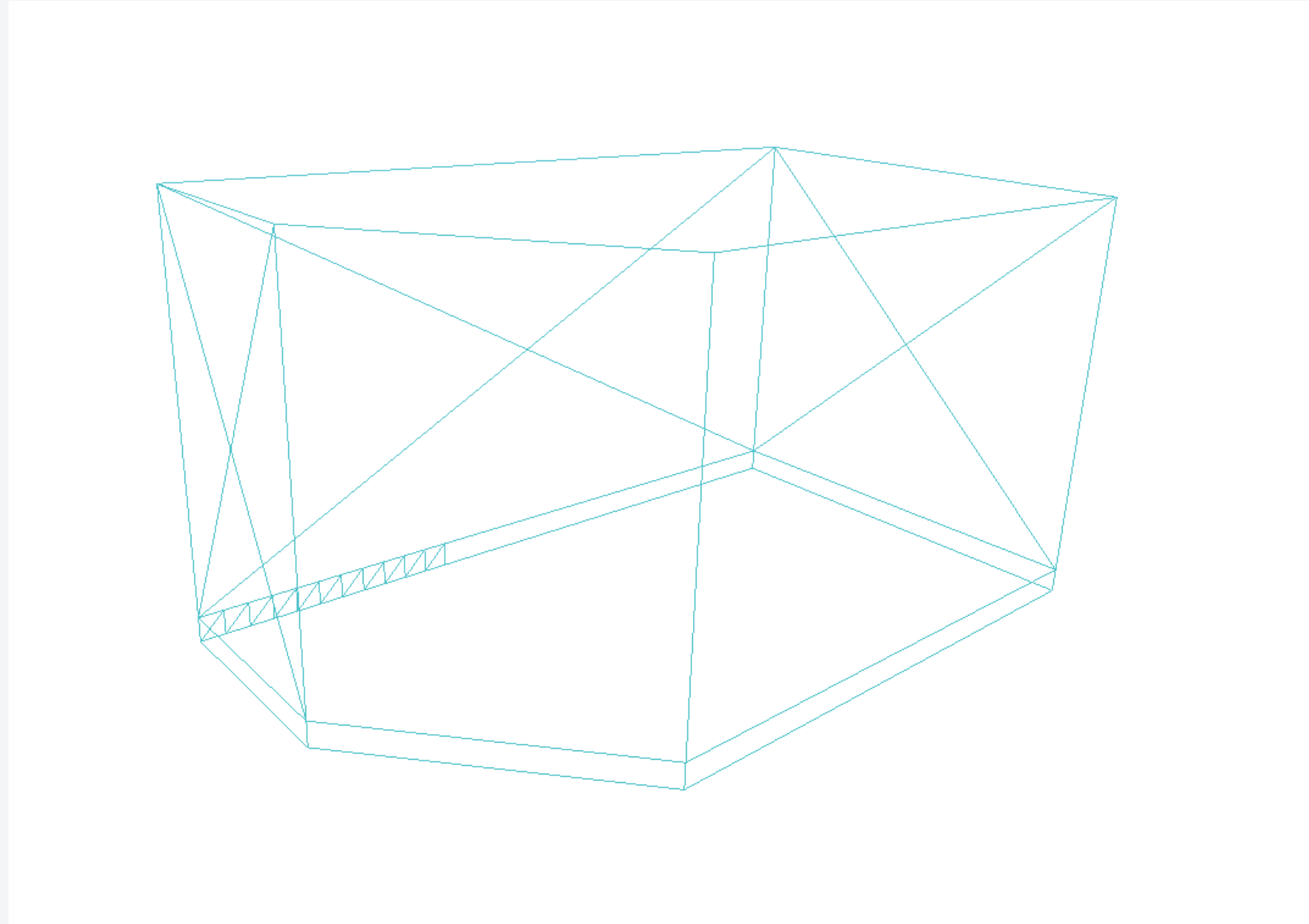
The rest of the site is designed with the existing plant beds to create a "path" drawing passer-byers into the site to get involved with the space and learn about TSG. We hope by creating two pathways from both the SW and SE corners of the site we generate a convergence of people both from the West of Temple's campus and students from campus coming from the East. These ideals of community, sustainability, and bringing people together to learn and feel safe in this outdoor environment is what we carried through in our design approach.

# DESIGN PROCESS

One of the key goals in our design process was to create a sense of space within the garden that was currently absent. The Spring Gardens Community does an excellent job of carving out a large gathering spaces with ornamental planting planning as well as agriculture planting. This allows for easier way finding through the site and creates a sense of enclosure for the community and garden users.

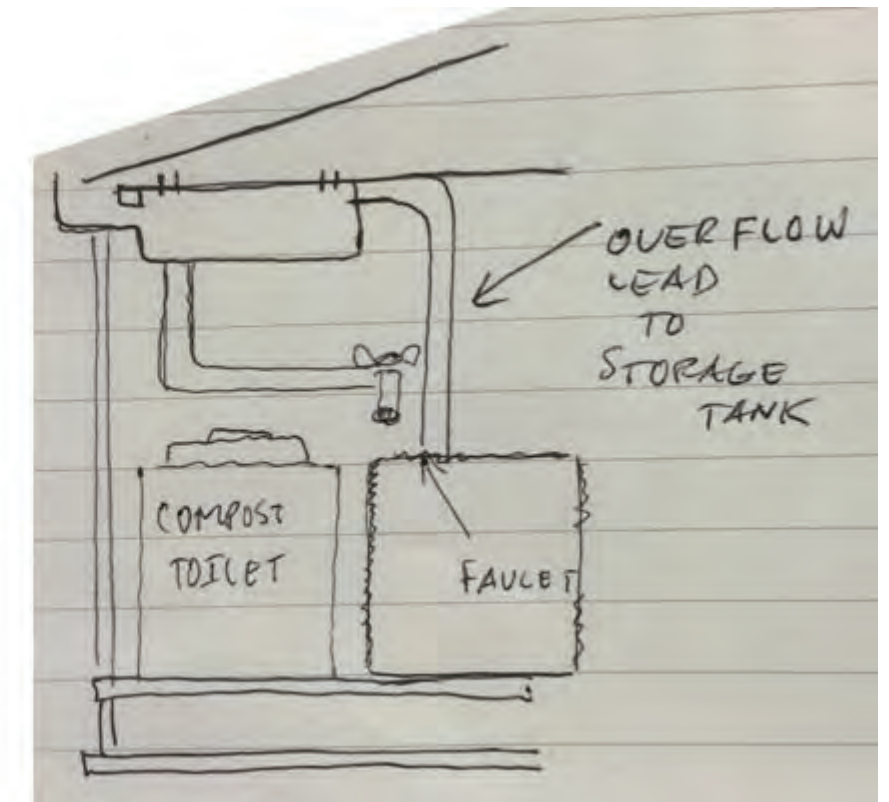
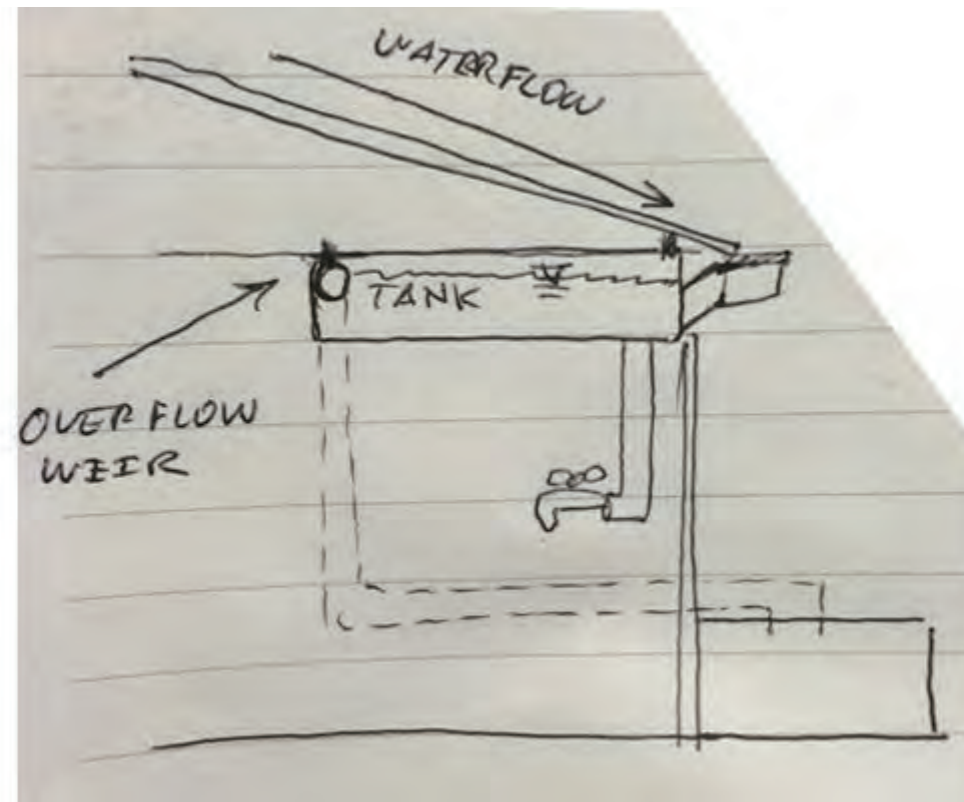
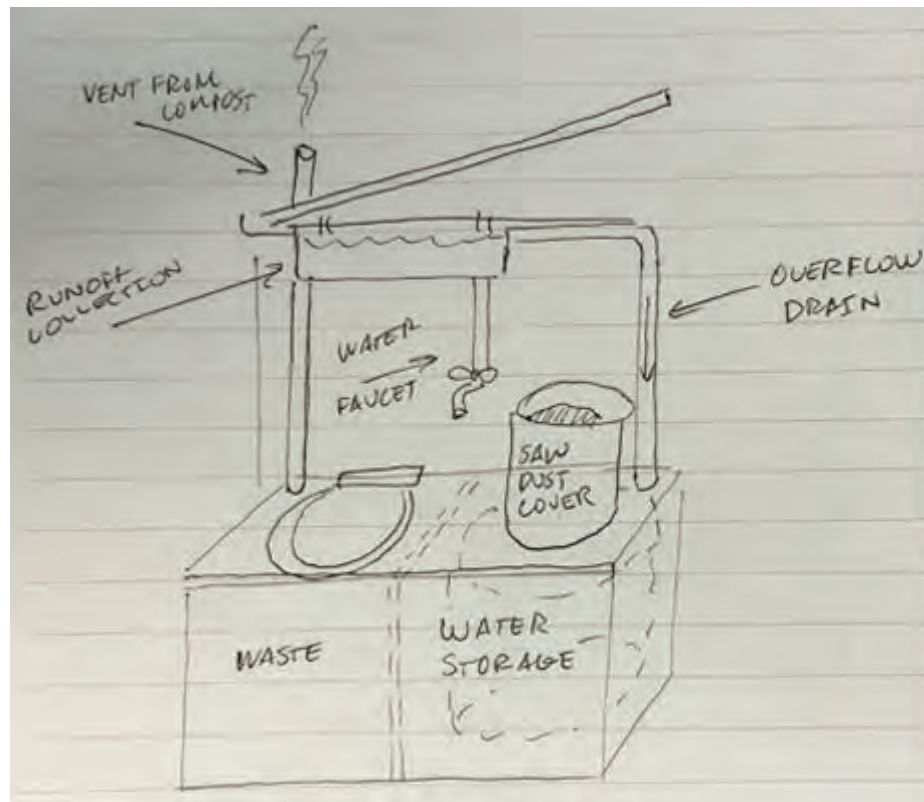


# STRUCTURAL DESIGN APPROACH



The floor truss provides strong and lightweight structure for the foundation. Cross bracing in the walls provides enough strength to resist wind forces. Each portion of the walls, floor, and roof are made of individual members which interlock to form one whole structure. If needed, each piece can easily be deconstructed for transport.

# SUSTAINABLE DESIGN APPROACH



Water flows from the roof and is collected in tank secured to the bathroom ceiling.

The tank is relieved of excess water by a weir which transfers the extra water to an exterior tank for additional storage.

# SOLAR ANALYSIS

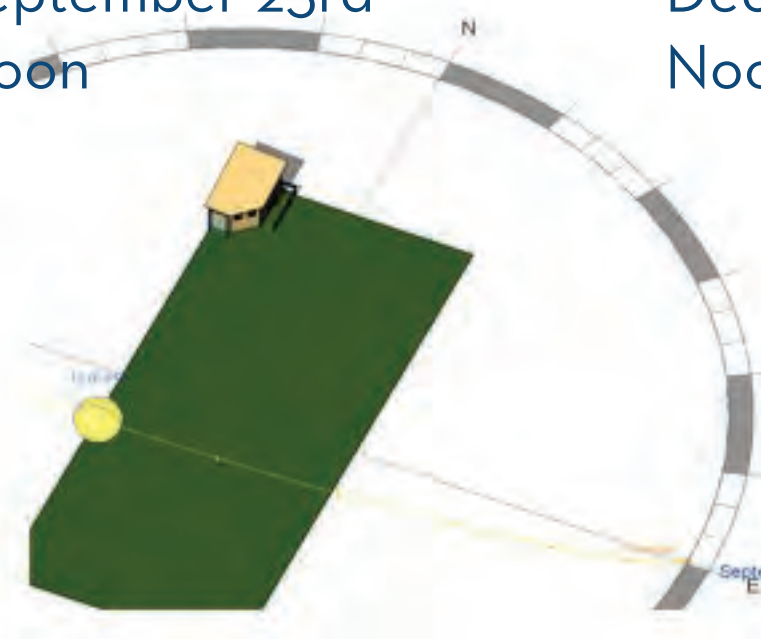
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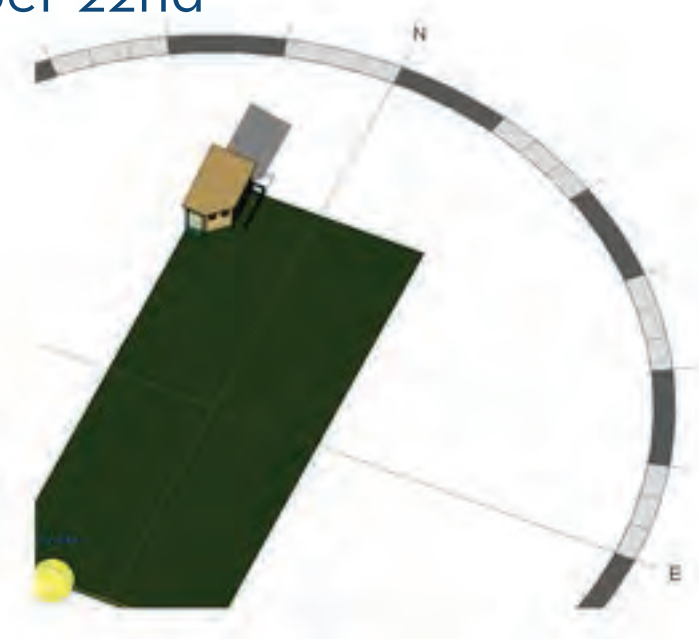
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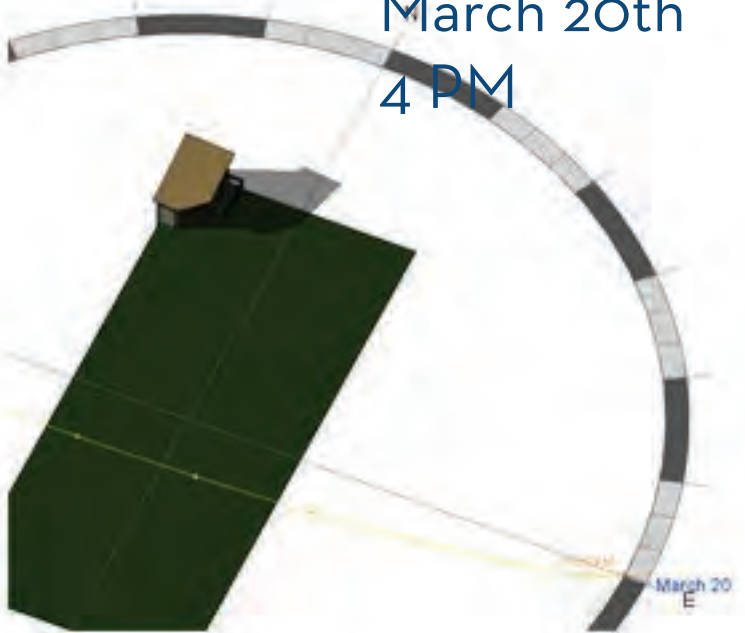
September 23rd  
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December 22nd  
Noon



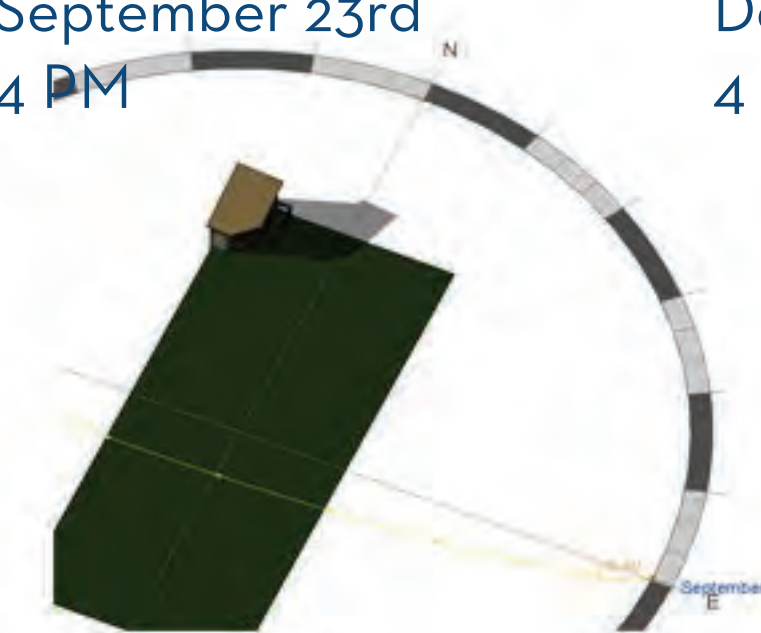
March 20th  
4 PM



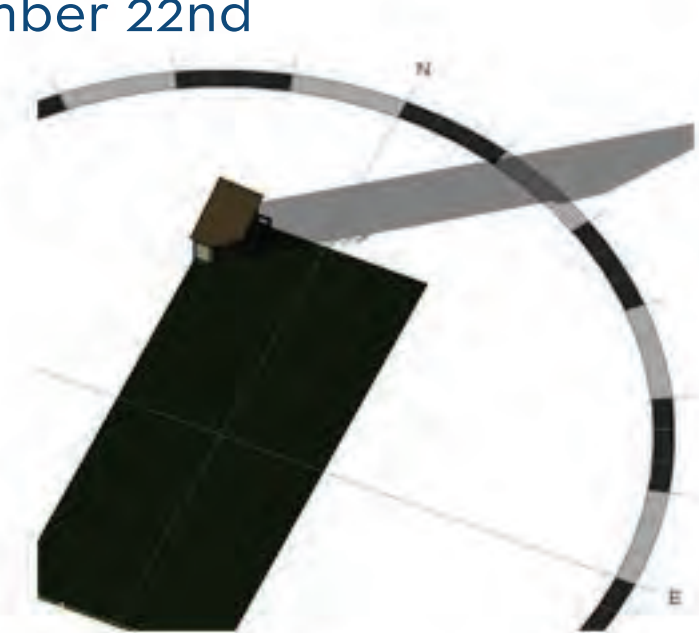
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September 23rd  
4 PM



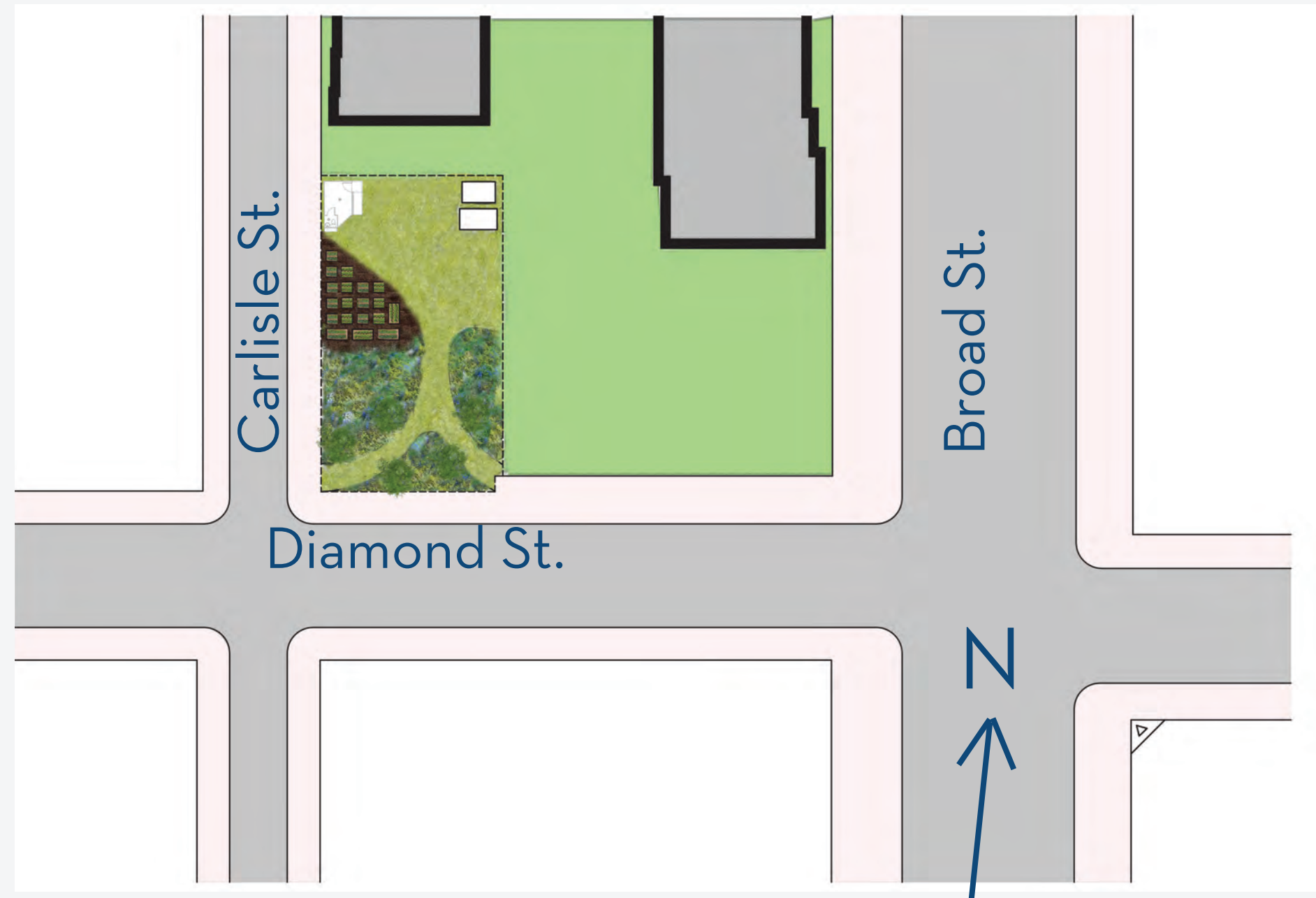
December 22nd  
4 PM



"By placing our structure in the NE corner of the site, we are optimizing the amount of sun that comes onto the location and not placing our building in shade. This will allow our "greenhouse" that grows along the south-facing wall to receive ample light. With our roof extending slightly over the floor plan, we are allowing the summer sun to be blocked, and the winter sun to penetrate into the structure for heating purposes."

# SITE RENDERING

The entrances to the site are located on along Diamond Street and are bisected by a native planting bed. Both entrance paths are enclosed with native planting creating a welcoming entrance experience into the community garden. The paths conjoin at an opening to the large gathering which can be used for private meetings among TCG members, as well for large events. The building is located in the north corner of the property to maximize southern exposure as well as to create anchor the large space around it. The composition of the building allows it easily moved while retaining its structural integrity.

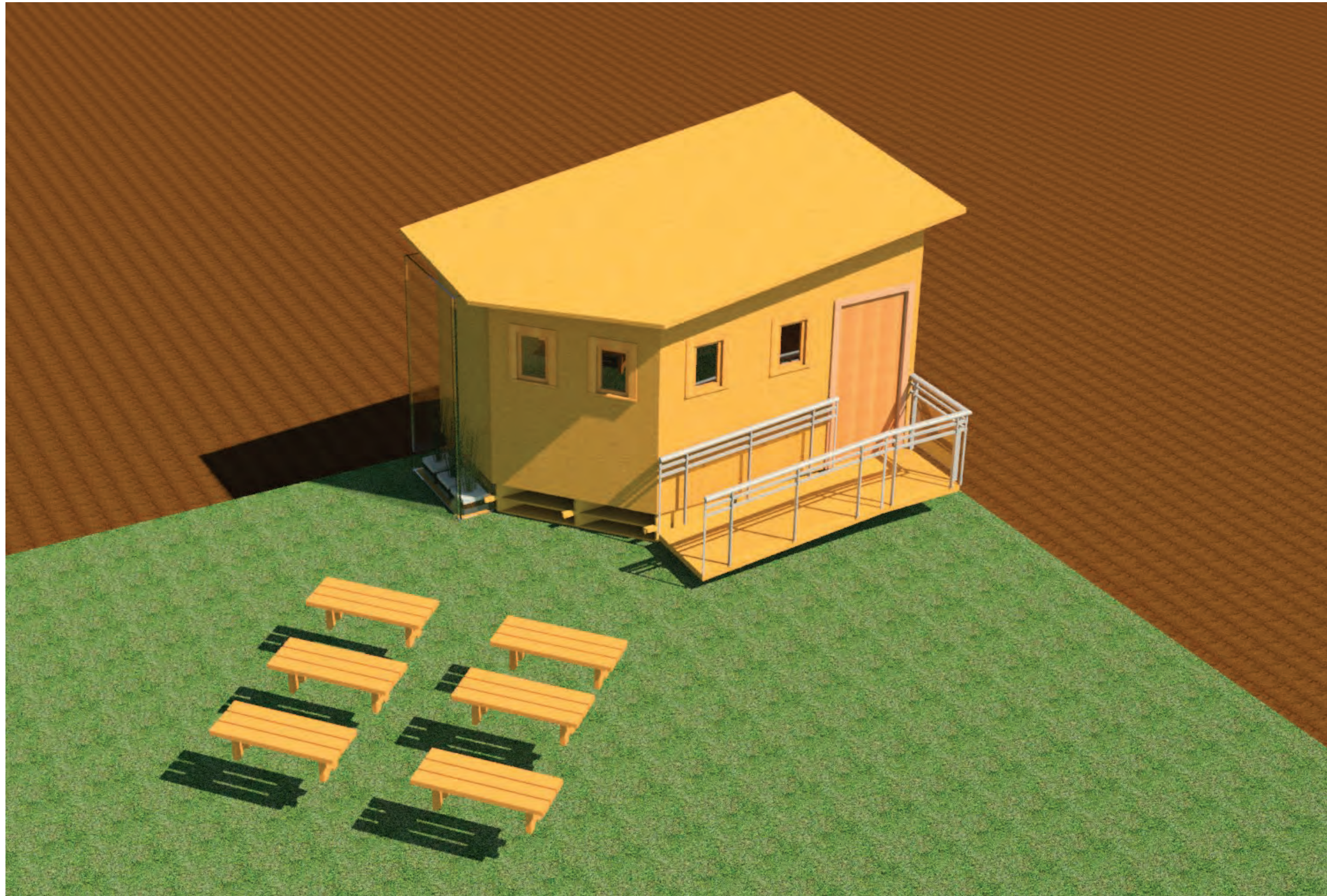




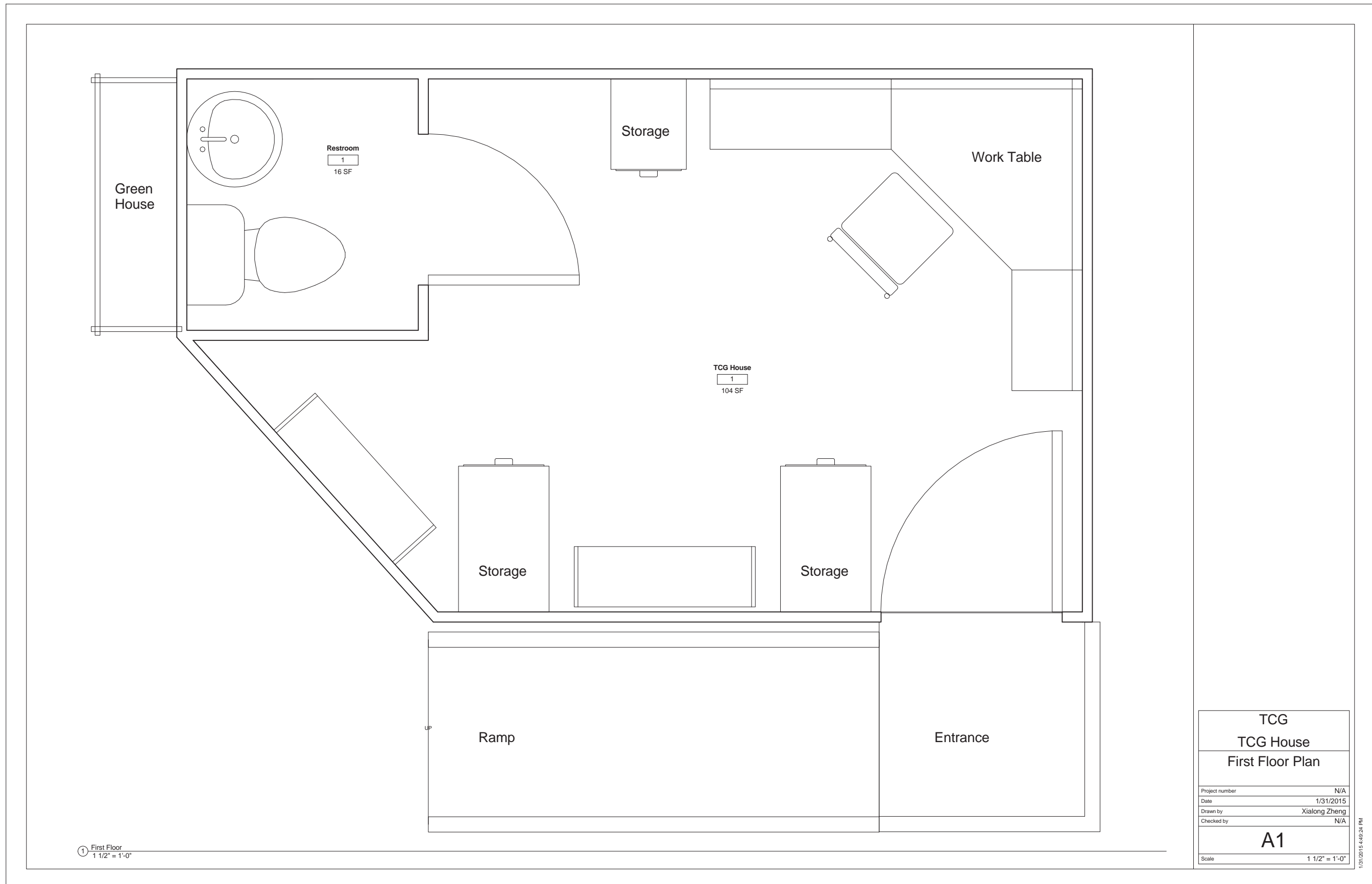
# EXTERIOR RENDERING



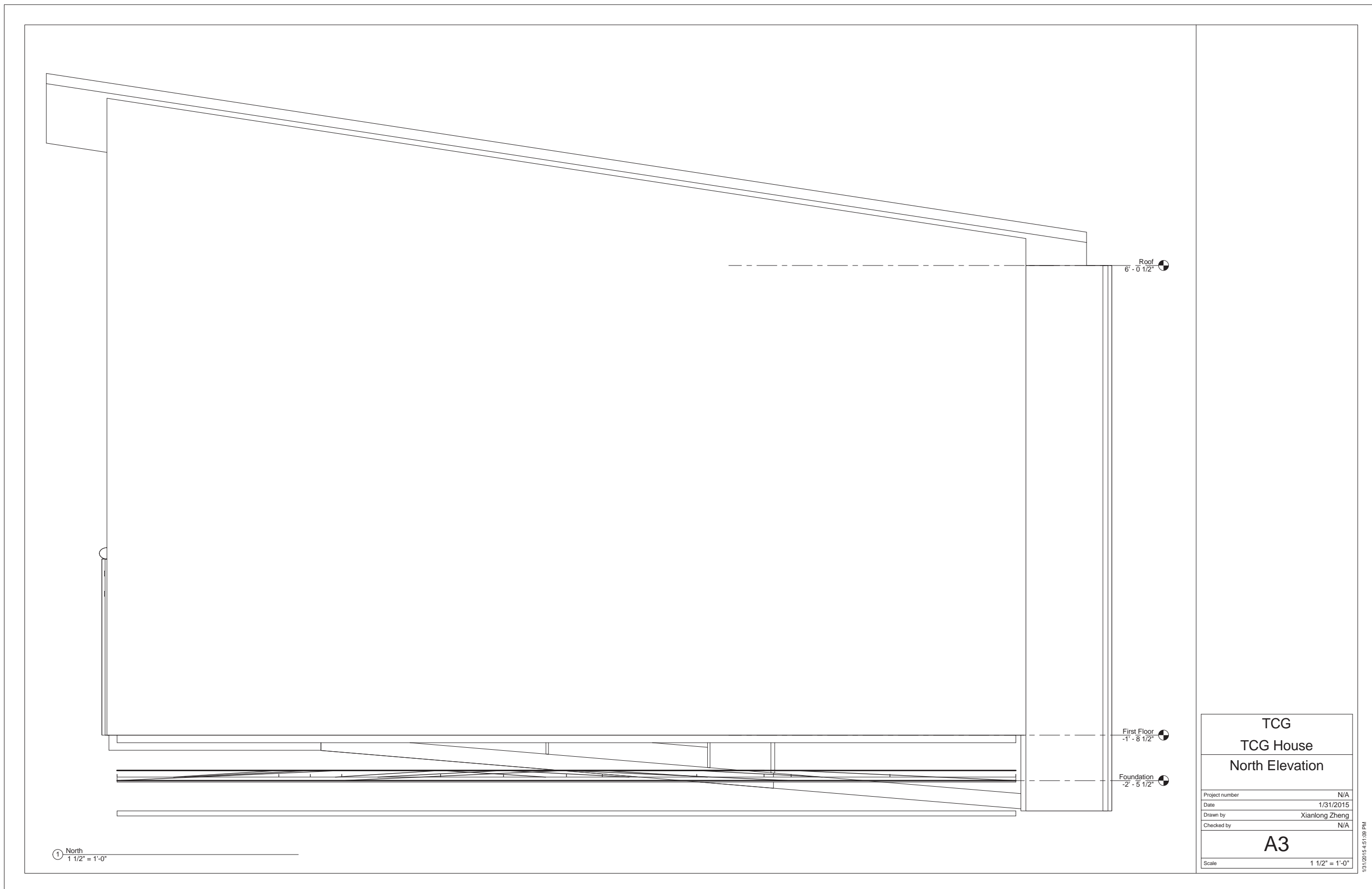
# EXTERIOR RENDERING



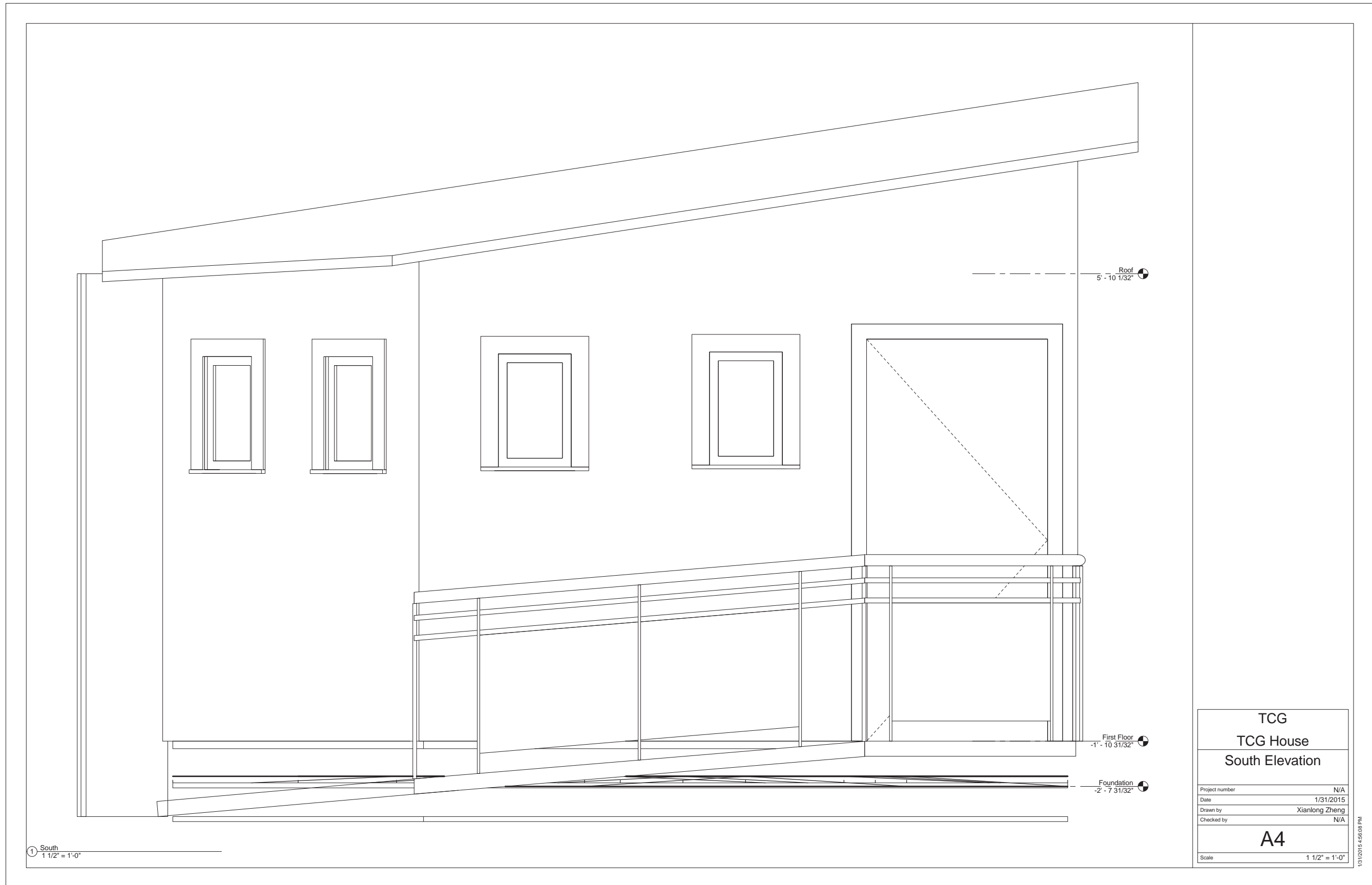
# DRAWINGS: PLAN



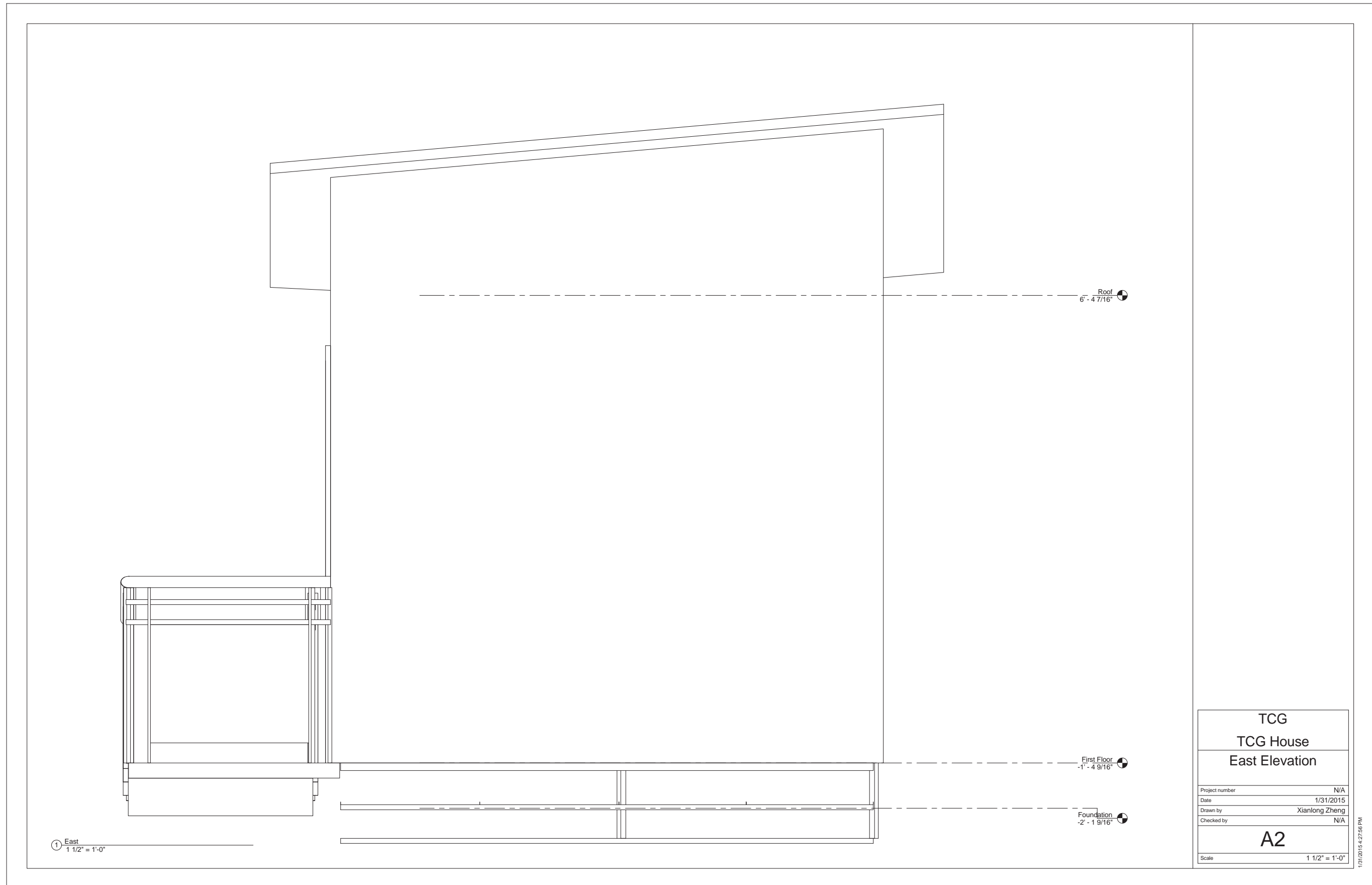
# DRAWINGS: ELEVATION - NORTH



# DRAWINGS: ELEVATION - SOUTH



# DRAWINGS: ELEVATION - EAST



# DRAWINGS: ELEVATION - WEST

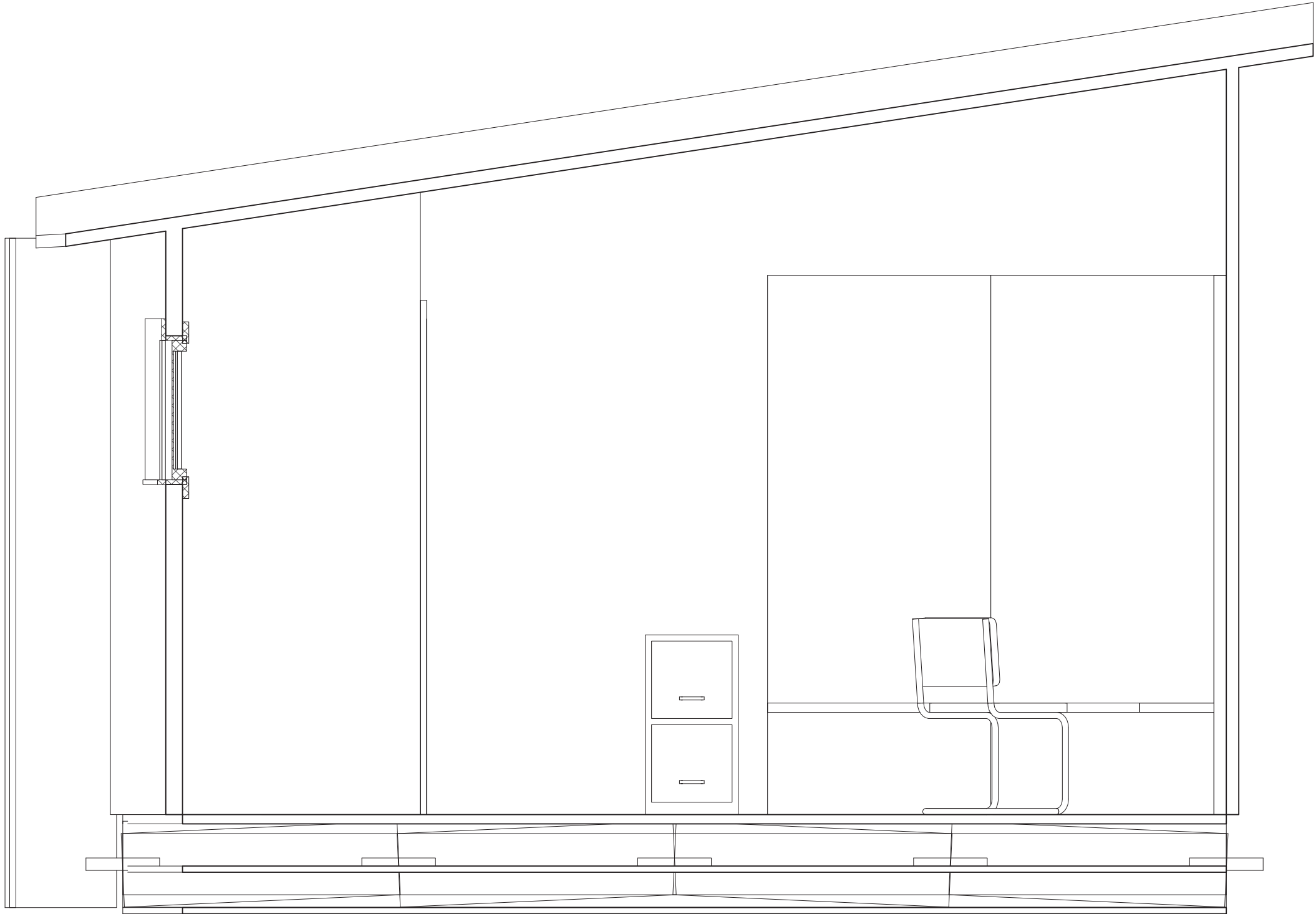


① West  
1 1/2" = 1'-0"

TCG TCG House West Elevation	
Project number	N/A
Date	1/31/2015
Drawn by	Xianlong Zheng
Checked by	N/A
A5	
Scale	1 1/2" = 1'-0"

1/31/2015 4:56:03 PM

# BUILDING SECTIONS



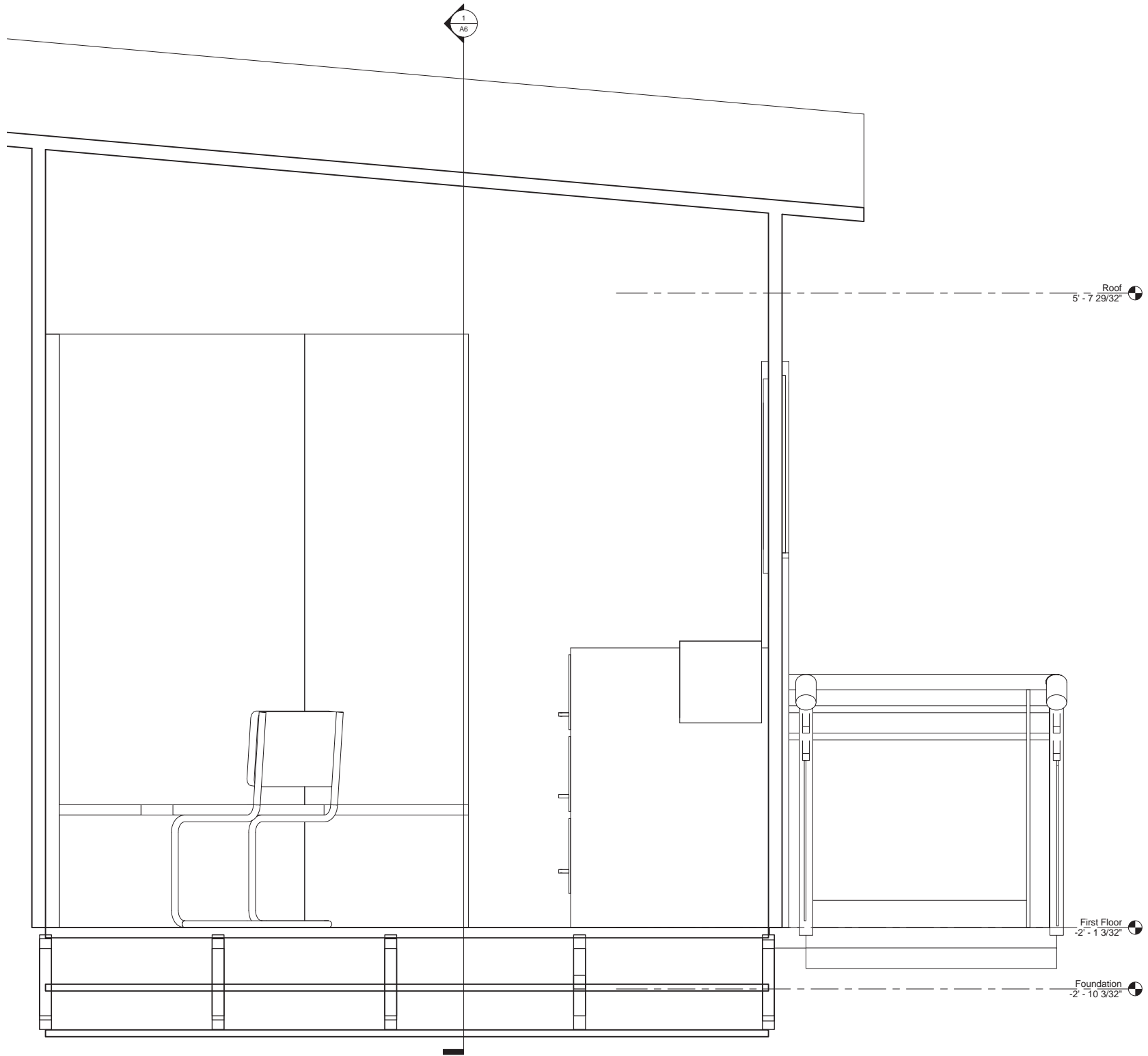
① Section 1  
1 1/2" = 1'-0"

TCG TCG House Building Sections	
Project number	N/A
Date	1/31/2015
Drawn by	Xianlong Zheng
Checked by	N/A
A6	
Scale	1 1/2" = 1'-0"

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# BUILDING SECTIONS

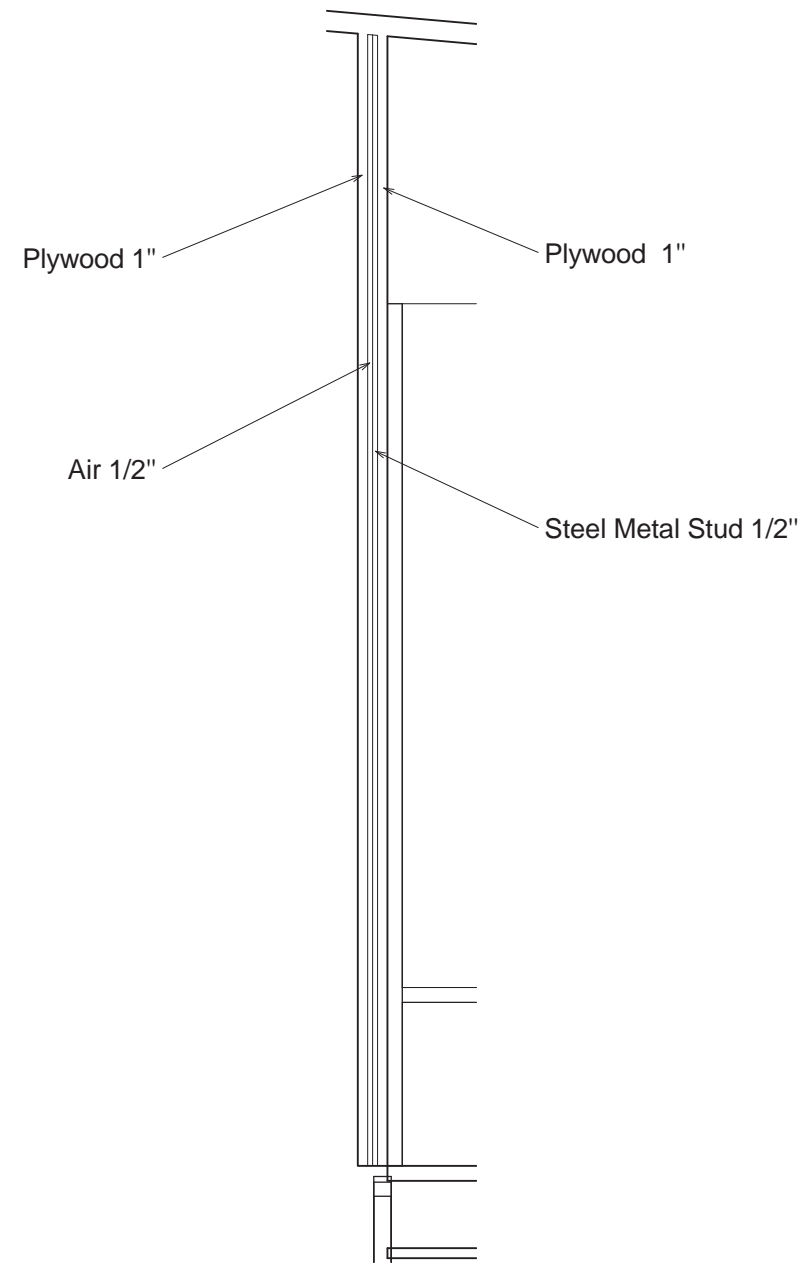


① Section 2  
1 1/2" = 1'-0"

TCG	
TCG House	
Building Sections	
Project number	N/A
Date	1/31/2015
Drawn by	Xianlon Zheng
Checked by	N/A
A7	
Scale	1 1/2" = 1'-0"

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# WALL SECTION

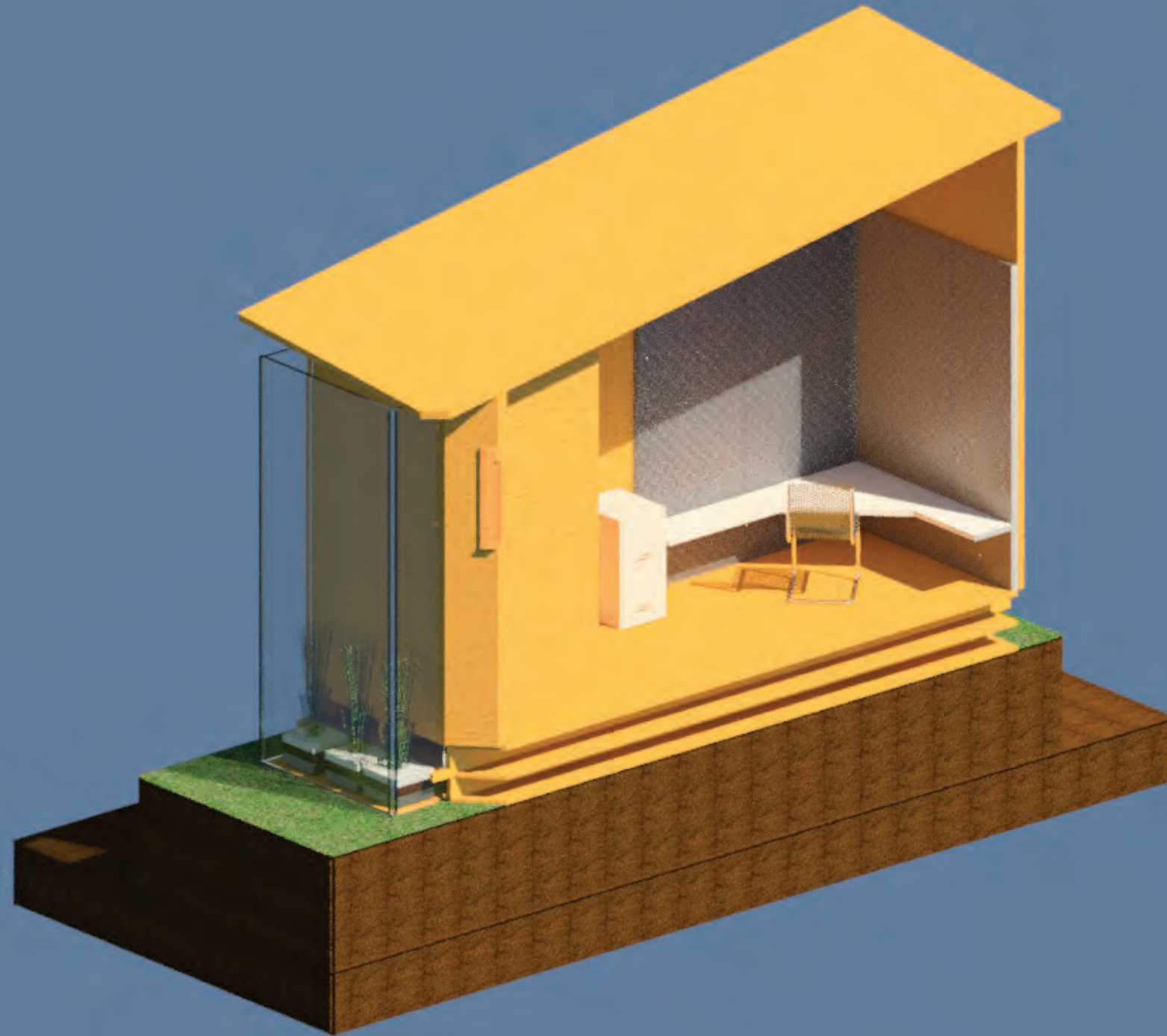


① Section 2  
1 1/2" = 1'-0"

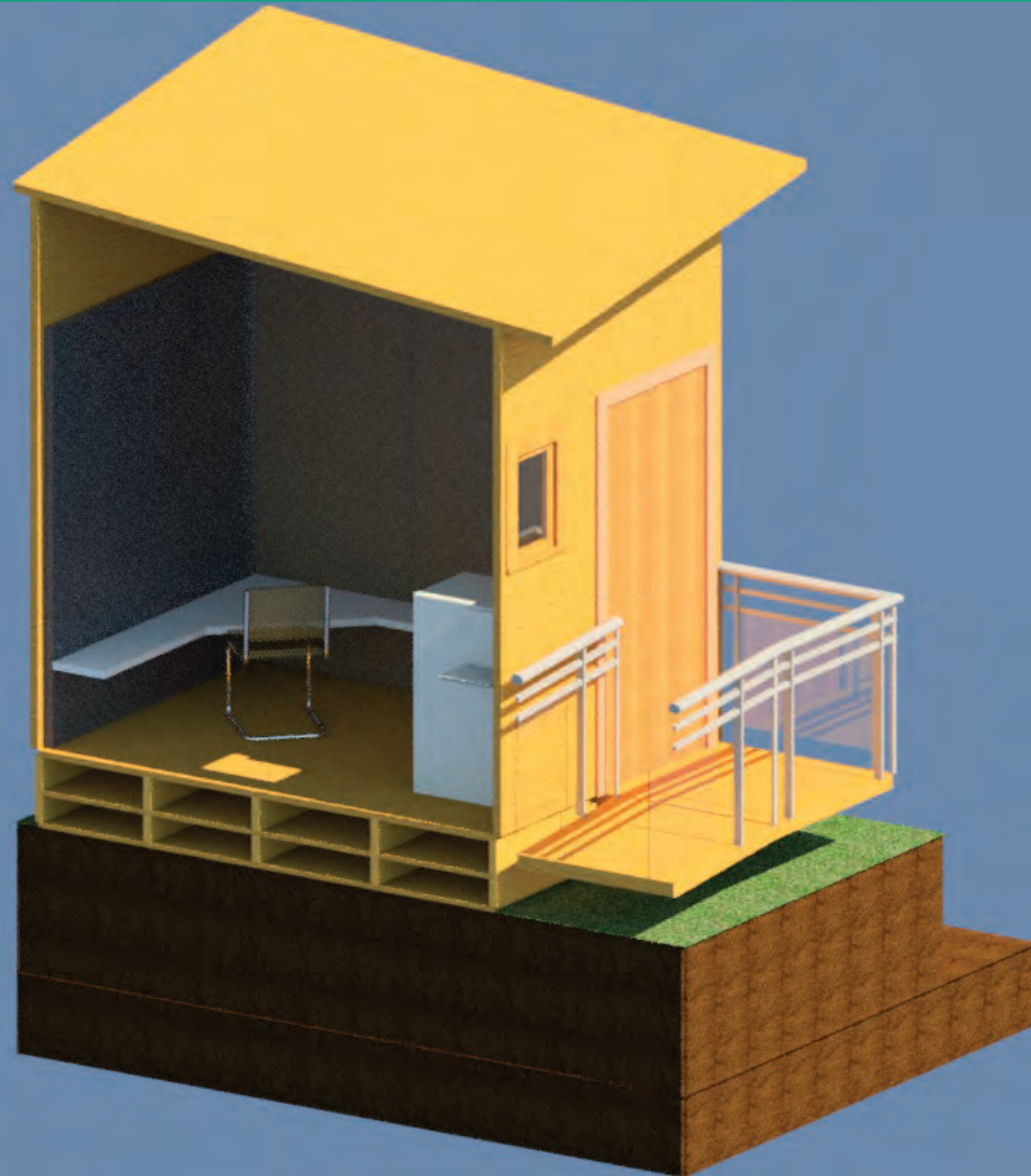
TCG	
TCG House	
Wall Section	
Project number	N/A
Date	1/31/2015
Drawn by	Xianlon Zheng
Checked by	N/A
<b>A8</b>	
Scale	1 1/2" = 1'-0"

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# INTERIOR RENDERS



# INTERIOR RENDERS



# BUILDING COST ESTIMATE

Component	Description	Quantity	Unit	Estimated Price	Comments	Source
Plywood	General use for wall and floor panels	TBD	7/16"x4'x8'	\$8.75 each	Ideally reclaimed if available	<a href="#">Home Depot</a>
Lumber	Structural construction for framing	TBD	2"x4"x8'	\$3.05 each	Ideally reclaimed if available	<a href="#">Home Depot</a>
Solar Panel	140 Watt Solar Module	2-3		\$285 each	Depends on estimated power demand. Donations ideal.	<a href="#">Kyocera</a>
Mosaic Pieces	For Building Artwork	--	--	--	Free	
PVC	For water collection and allocation	TBD	3/4"x10'	\$2.81 each		<a href="#">Home Depot</a>
Faucet	3/4"	1		\$9.67 each		<a href="#">MSC Direct</a>
Large Water Tank	Rain water overflow collection tank	1	45 Gallon	\$89.99 each		<a href="#">tank-depot</a>
Small Water tank	Rain water collection for hand washing	1	7 Gallon	\$17.95 each		<a href="#">Amazon</a>
Steel Door	Outside and bathroom	2		\$99.00 each	Ideally reclaimed if available	<a href="#">Home Depot</a>
Insulation	Used between all exterior and interior panels			Free	Desired 100% recycled materials (styrofoam)	
Windows	Estimates to be determined					
Bolts, nuts and other small components	Estimates to be determined					
Toilet seat	for composting toilet	1		\$5.74 each		<a href="#">Home Depot</a>
Paint and sealants	TBD					
Bucket	for composting toilet	1	5 Gallon	\$2.97 each		<a href="#">Home Depot</a>

# MARKETING PLAN

- Utilize Temple's OwlCrowd site
- Raise funds through TCG's biannual Feast
- Assemble grant writing team for grants in Philadelphia area
- Contact local government officials



# PROGRAMMING PLAN

The structure will be used foremost as a meeting space for weekly garden hours. Demonstrations on gardening and sustainability practices will be held in and around the designed space. This includes, but is not limited to presentations on starting seedlings in a greenhouse, learning about various urban gardening basics, and screening documentaries about sustainability.

Documentary screenings will be held facing the structure, where a screen will be affixed, with seating that can be arranged around the garden.

We plan to heavily focus on the involvement of elementary through high school students, as TCG has a history of working with after school programs. To kick off this partnership, we plan to install a mosaic on the side of the structure, designed and executed by TCG members, Tyler students, and students from neighboring elementary schools. To relate to TCG's sustainability goals and principles, the mosaic would be largely constructed from found materials. Specifically, the mosaic's pieces would be from broken glass found on the streets of Philadelphia in order to give litter new life and create art.



