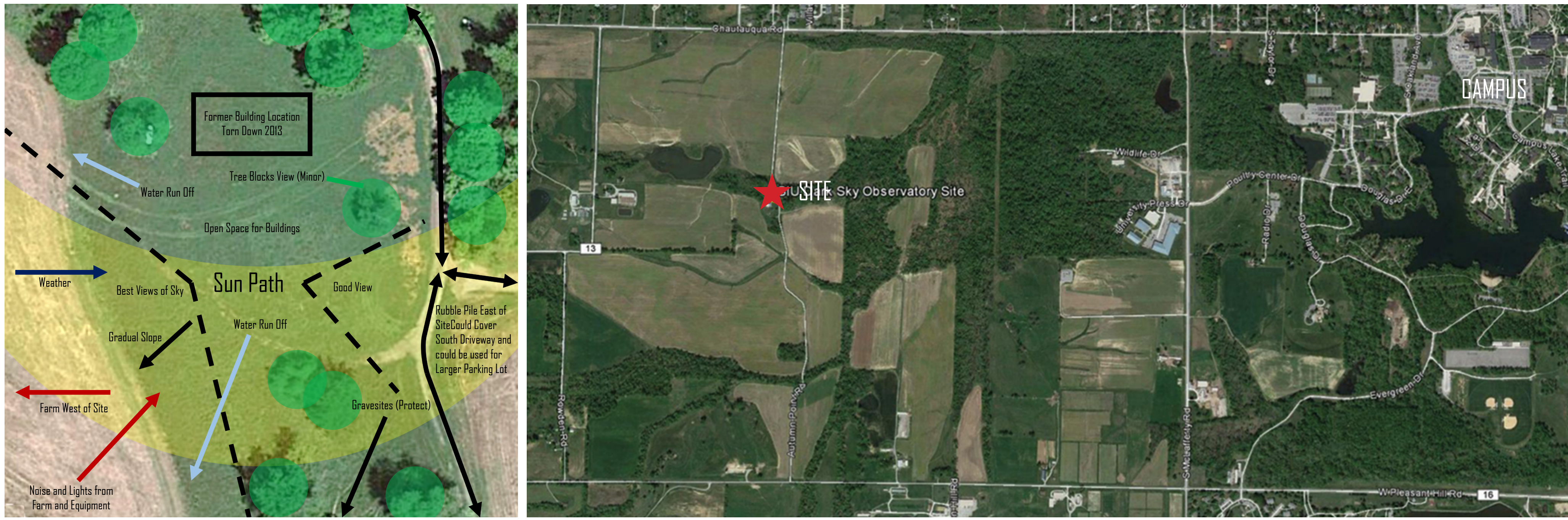


# DARK SITE OBSERVATORY

## THE BACKGROUND



### THE PROPOSAL

In the next decade, Carbondale will be at the center of 2 Total Solar Eclipses, 2017 and 2024. The Physics Departments present facility is currently not up to the standards to hold an event of this magnitude. The department has asked the School of Architecture to come up with design for a new facility that will be able to accommodate those needs. The Physics Department wants a new facility that will give them the space they will need to host this event with lower light pollution, more accessibility, and greater area to hold this and other events in the future. This design is currently being used to solicit funding and to setup initial layouts for the actual site.

### THE VISION

- The new facility will be located about 3 miles West of campus in the SIU Farms.
- This new Location will create a Dark Site Area, this will allow for Observations to uninterrupted by light pollution.
- All-Weather Telescope Pads
- Roll-Off Roof Observatory to house larger permanent telescopes.
- Spaces for Large and Small events and demonstrations.
- Later phases of the project will see additions of classrooms, offices, domed observation facility, and planetarium.

### THE USES

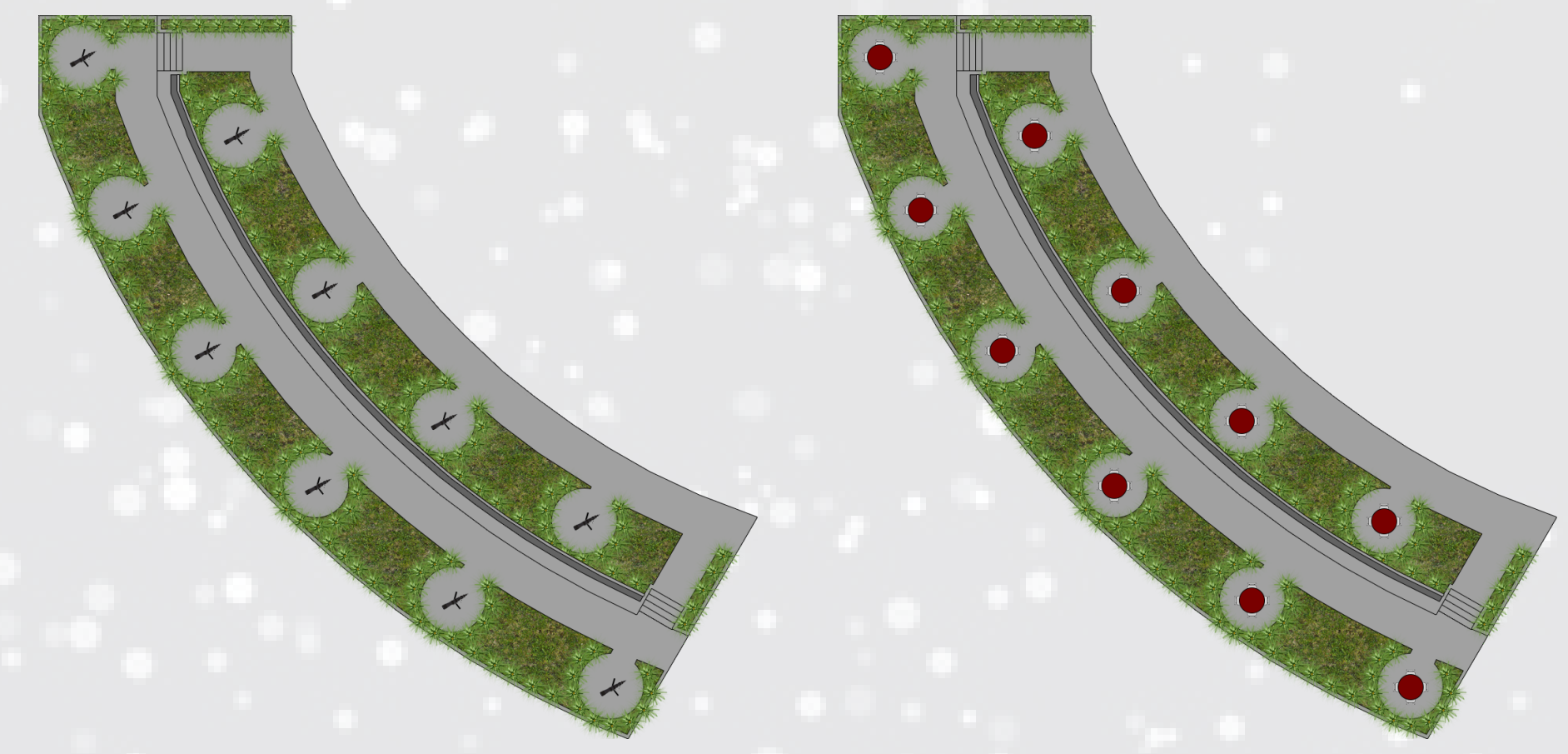
- Dark Site Observations for Physics 103 at Site or By Remote
- Special Observations and Events for Campus Classes and the General Public
- Daytime Solar Observations
- Club and Society Observations and Workshops
- Storage and Operation of Solar Telescopes for Cornell Research during Total Solar Eclipses.
- A Venue for Future Astronomical Events

### THE IMPACT

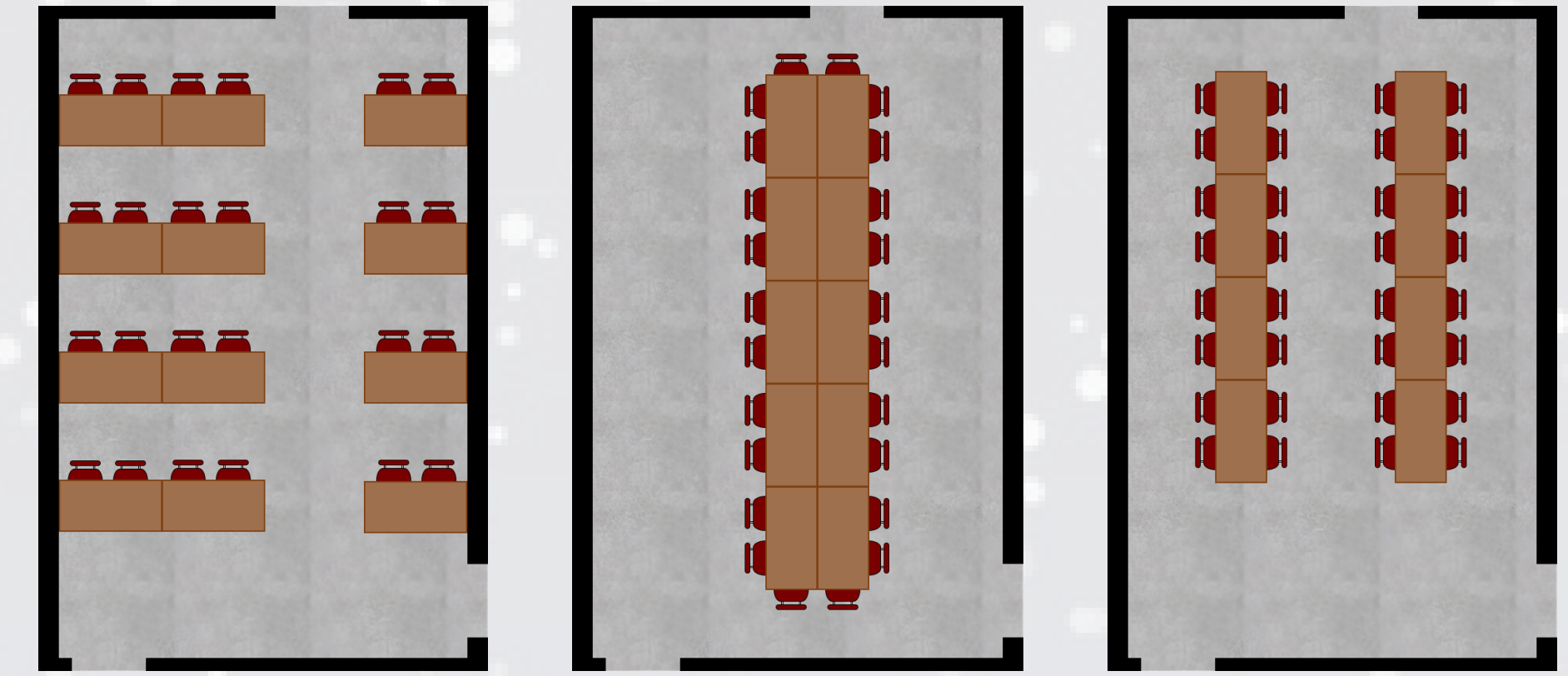
- Physics Department will have a new space for educational and research purposes
- Allow for the campus to host large events and create connections across multiple disciplines
- Increase public knowledge about our universe.
- Allow for future Astronomical Events to be viewed without worry of high light pollution, low accessibility, and greater space for more people to learn about our universe.
- Connect the University and the Community through the Observation of Our Universe

## CONCEPTS

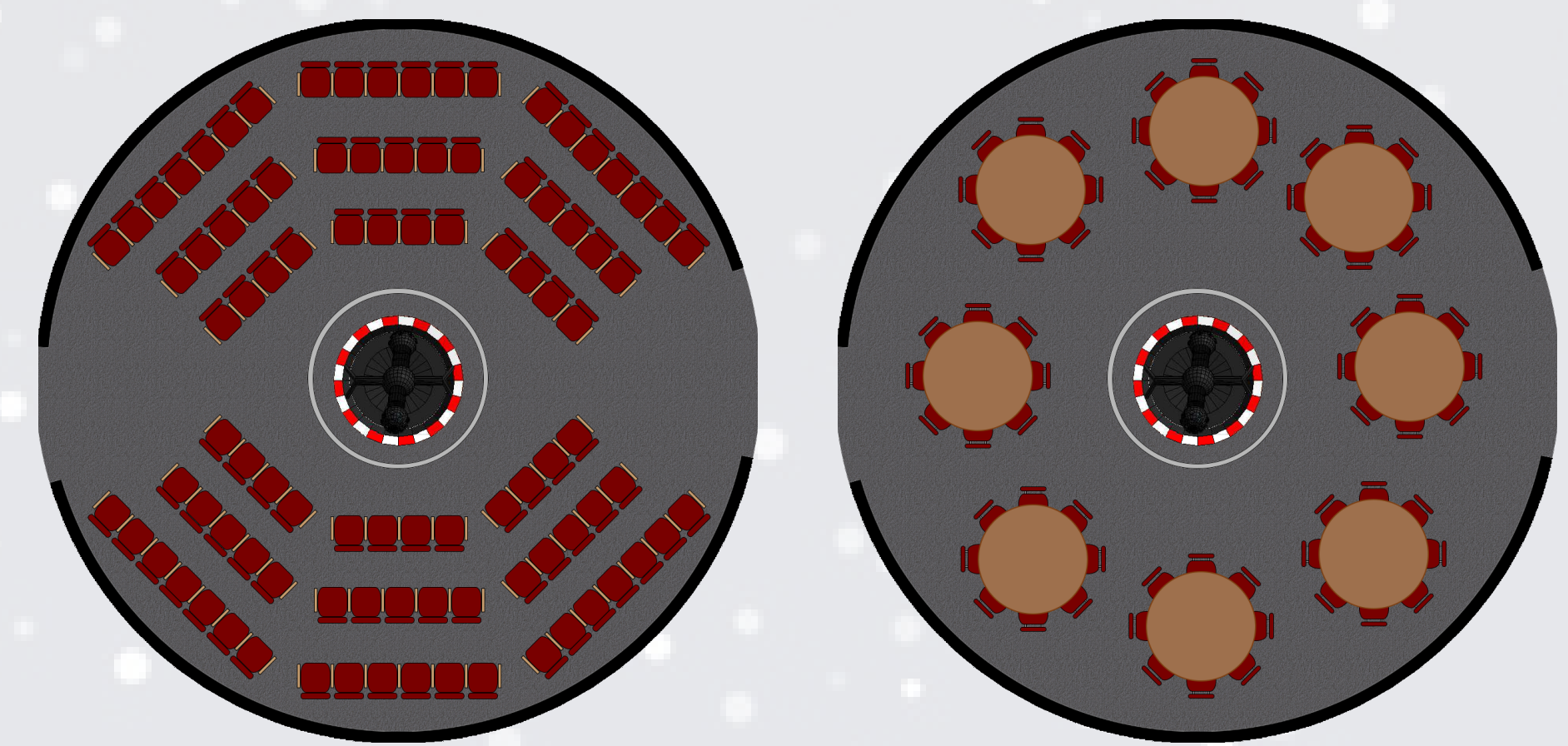
### MULTI-FUNCTIONAL FACILITY



Layouts for Telescope Terrace



Layouts for Domed Observatory Classroom

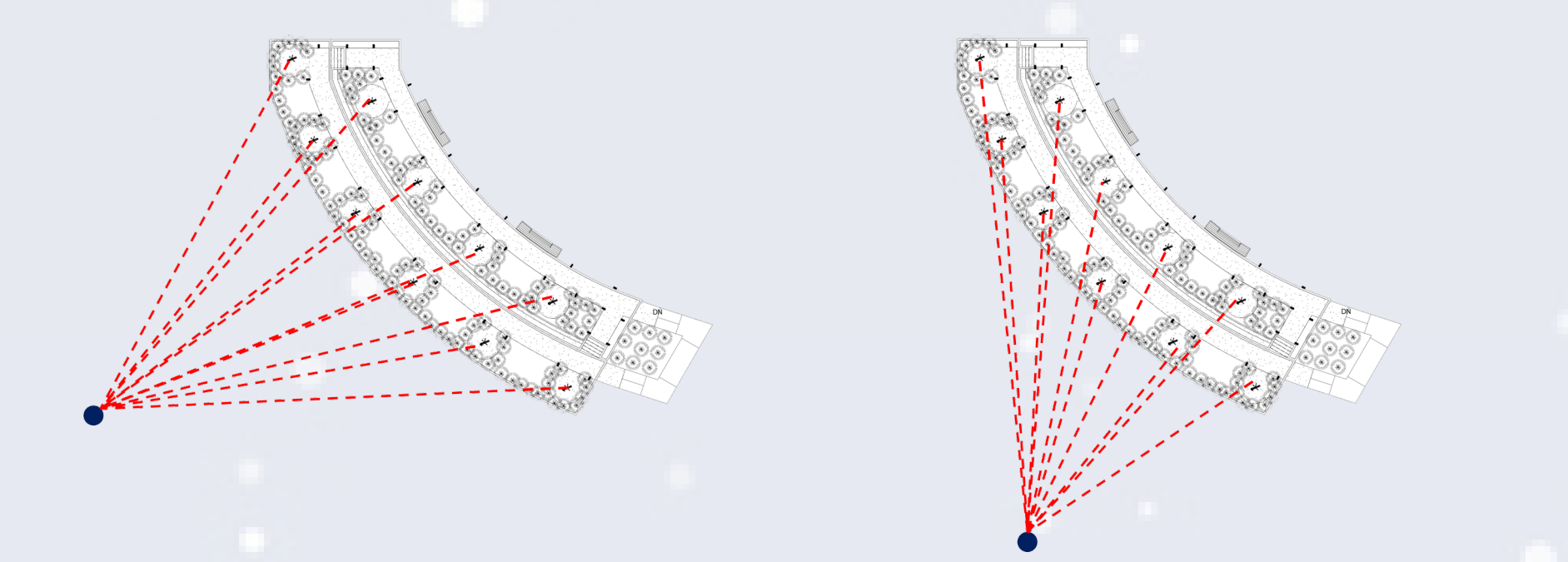
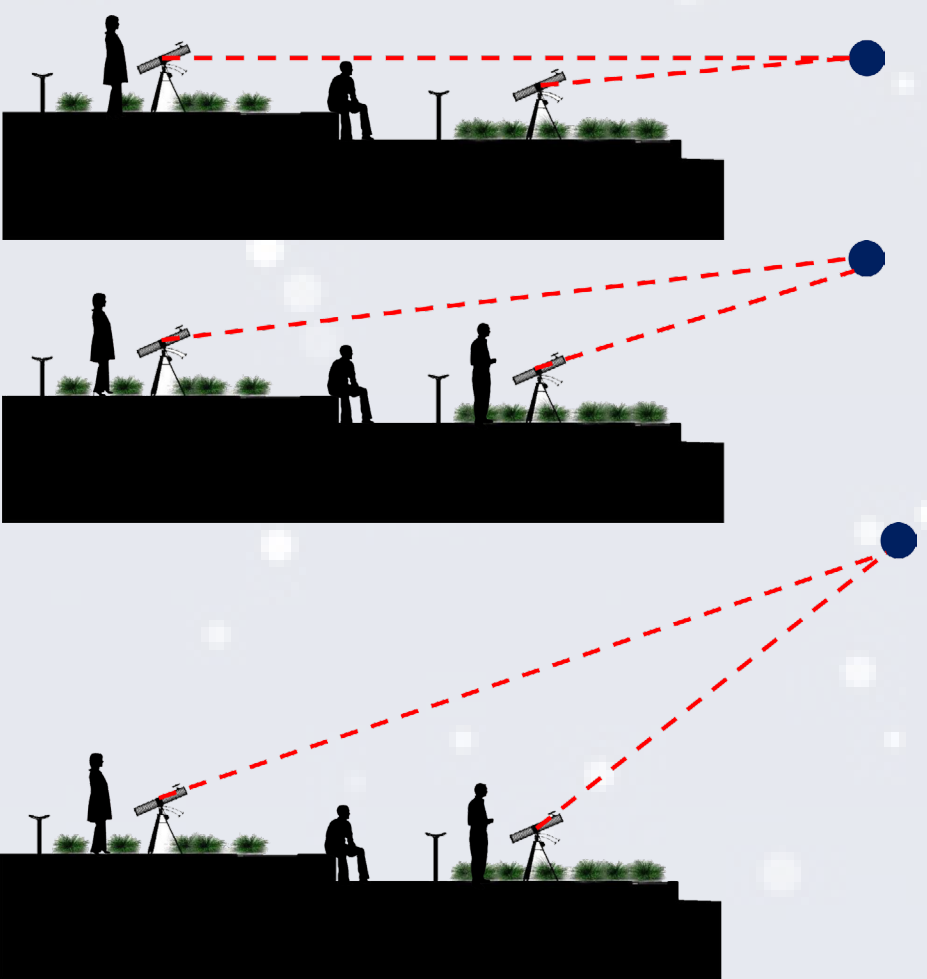


Layouts for Planetarium

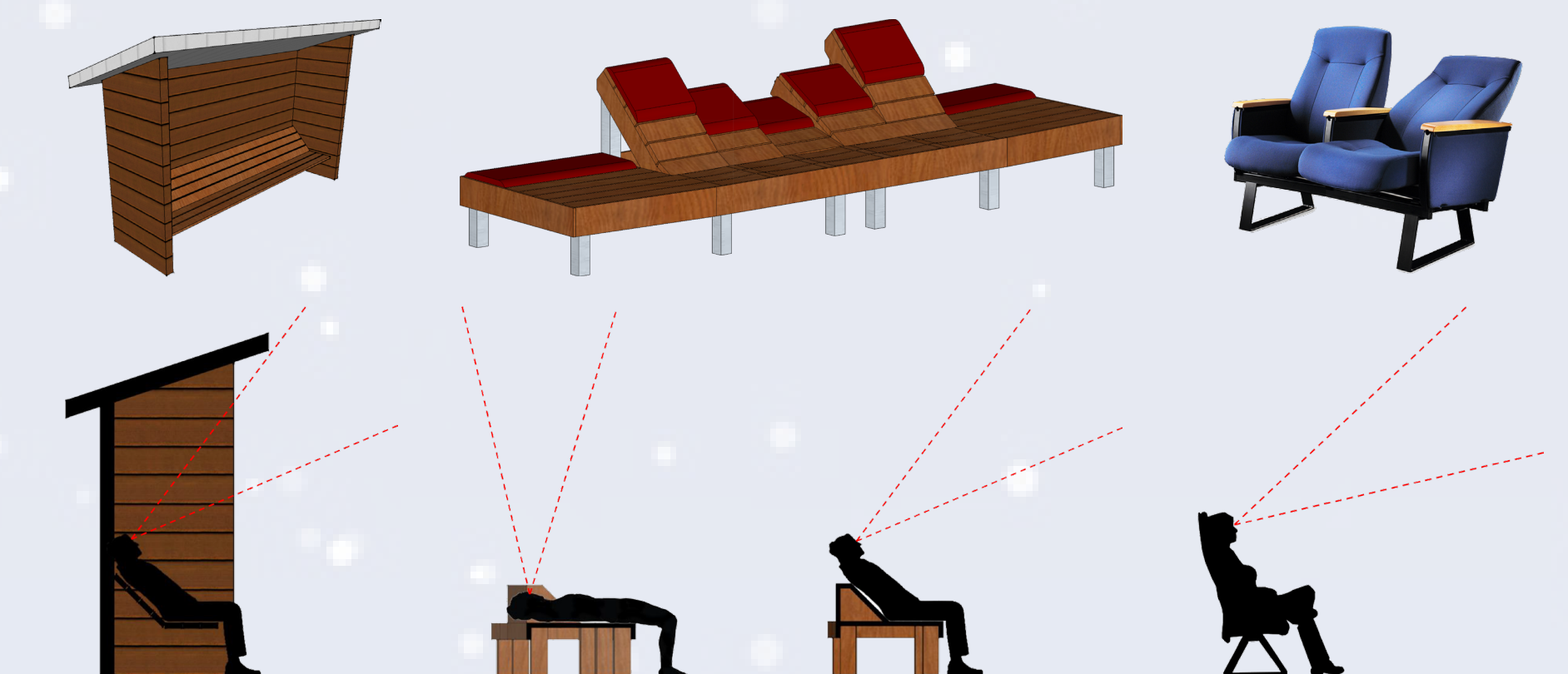
Creating a multi-functional facility will allow for the space to become a place where many other events besides astronomical events can be held. Various events such as dinners, meetings, weddings, or even opportunities to sleep under the stars can be planned. This site can host a wide variety of events for both the university and the public.

### CREATING VIEWS AND SPACE BY TERRACING

Terracing allows for people to view the same thing at the same time in the same general location. Terracing creates a way of viewing things at different heights to allow people more visibility of the sky without having interruptions of people standing in front of them. It also allows for people to use the space more efficiently by creating seats out of the levels themselves.



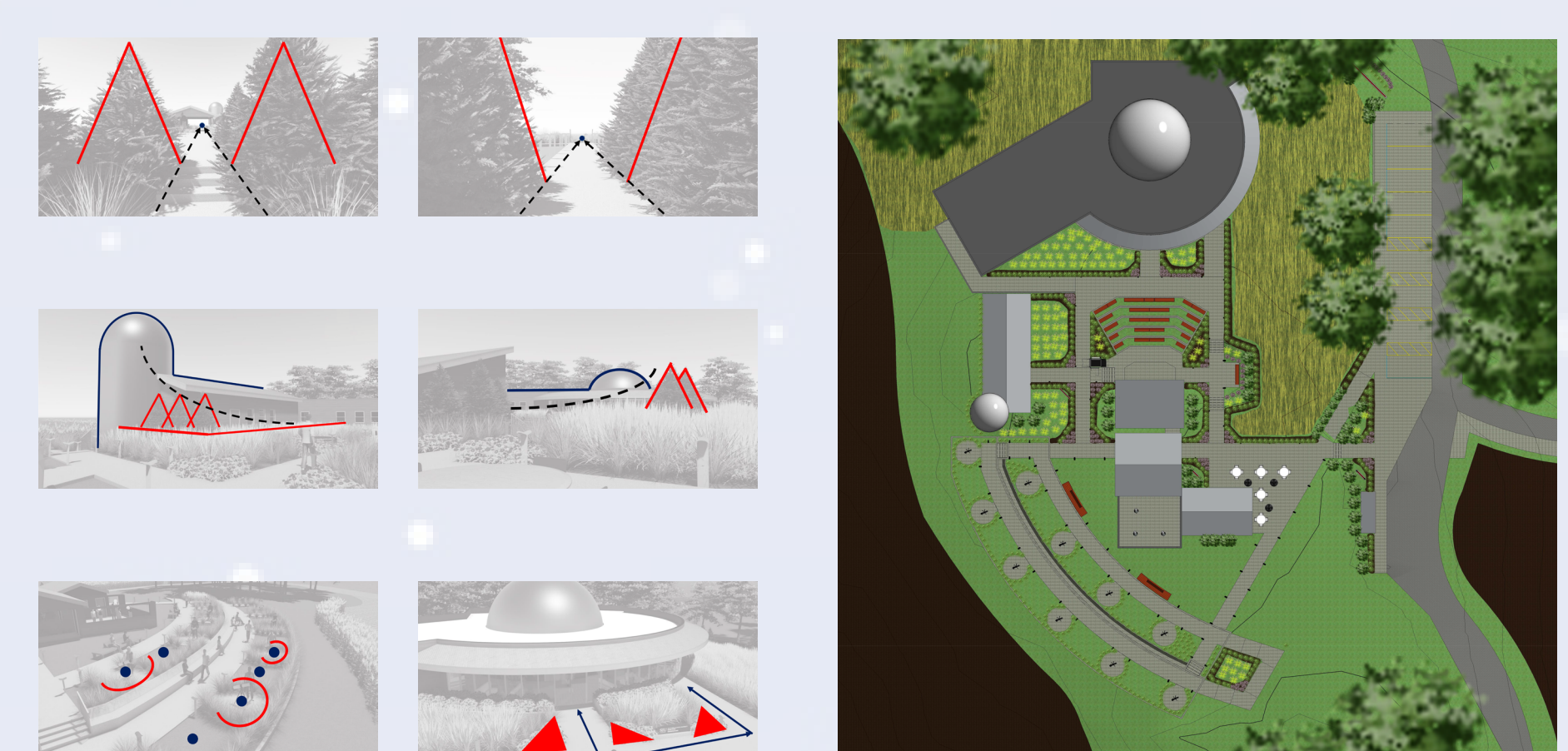
### ALWAYS LOOKING TO THE SKY



The seating throughout the site is set up for people to view the night sky whether they are sitting down or lying on the ground. This idea is very prominent when a person is sitting or lying at the terrace, in the lawn spaces, or even in the planetarium.

### USING LANDSCAPE TO CREATE EMPHASIS

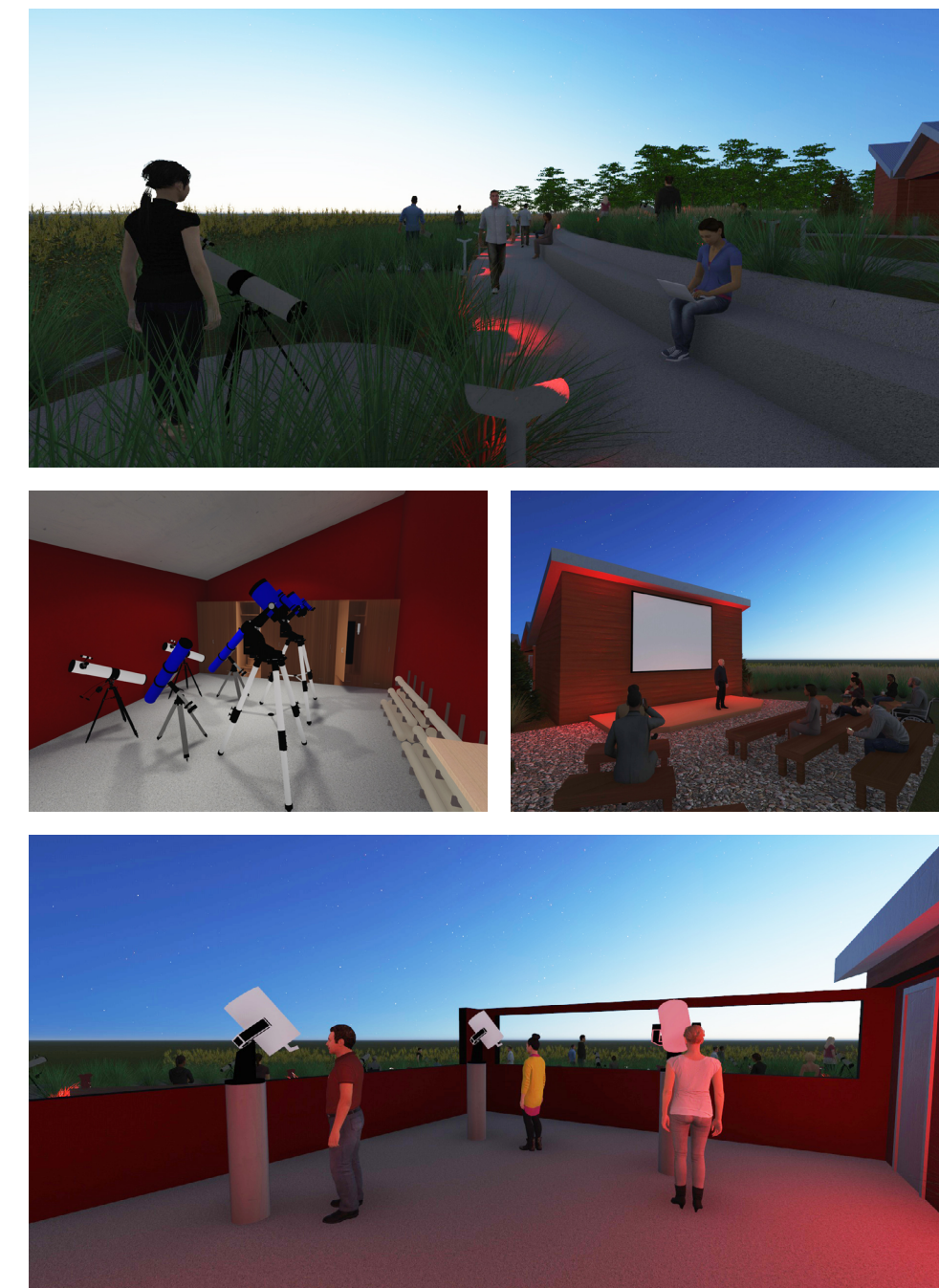
The landscaping on the site brings out the buildings on the site by how they are placed and located. The landscaping frames a space to create focal points (1 and 2), play with the buildings shape to create emphasis (3 and 4), separate spaces (5), or alert a person's eyes of a turn or change (6). Site Plan to the Right of the Images.



## PHASE 1



Phase 1 of the Site includes a telescope terrace on the West side, a roll-off observatory, which rolls to the North to create a canopy and telescope storage area with a demonstration area on the North side of it. The telescope terrace allows for multiple people to have an unobstructed view of the night sky. The terrace also creates seating for the people who are on the bottom level waiting to use the telescopes on the pads while people on the top level sit on benches that orientate their eyes toward the sky. The roll-off observatory allows for the larger, more powerful telescopes to be stored and used in a space that will protect them from the elements. The South and West walls of the structure fold down to allow the telescopes to view the Southern Sky with low obstruction. The demonstration area on the backside of the storage facility allows for people to do presentations and host events during the school year while also having views of the Southern Sky. The storage facility includes telescope racks and air-tight cabinets to prevent dust particles ruining the telescope lenses in them.



## PHASE 2



In Phase 2 a Domed Observatory, a Classroom, and another Storage Room are added to the site. It is located just to the West of the Demonstration Area. All three of these elements are combined into one building that resembles a barn and silo. The Domed Observatory is located 15 feet above the ground so that it would not be obstructed by the trees or other structures on the site. The close proximity of the Demonstration Area to the Classroom allows for lots of flexibility when creating programs at the site.



## PHASE 3



In Phase 3, another classroom is added along with an office, conference room, and a planetarium. All of these spaces are under one roof to make it easier for people to access and use this facility for a multitude of purposes and reasons. The demonstration area turns into an amphitheater. With terracing this space it makes it easier for people to see the presentation and the Southern Sky at the same time. Additional parking spaces are added to the east of the site where their is currently a concrete pile.

