10 PEOPLE

Rebecca Murray

Human centered design

Human centred design is developing and finding solutions to problems by involving the human perspective in all steps of the process. It works by focusing on understanding human needs and interests in order to fuel the creation of products that resonate more deeply with an audience. When designing, there are 5 steps of human design to consider: **Empathy** (where you get under your target audiences skin and find out their values, wants and views) **Define** (a mission statement to show what you are trying to convey) **Ideate** (brainstorming ideas, regardless of how logical they are) **Prototype** (testing your idea) and **Test** (presenting your idea and listening to feedback)

Why environment design matters

A study by The Commission for Architecture and the Built Environment and The British Council for Offices found that 24% of people in the workforce felt that their **workplace environment** was responsible for their job **satisfaction** and that 91% of mid-senior level managers believed that the **layout** of their space affected staff performance.

Designing and creating space that **inspires**, **challenges** and **informs** a workforce may sound like an easy task, but the world of interior is tricky and there is no 'one size fits all'. The layout needs to be **tailored** to both the industry and the organization (Smith, 2014).

How design affects the mind

One example of how design can affect people's minds is that if a room contains an island, it should have rounded edges instead of sharp edges as anything within your vision **demands** more brain action and something sharp, however **subliminal**, would cause anxiety as you view it as something you would want to avoid.

A key recommendation is 'sociability' and that any activity happening in a space should be facing into the room rather than facing the wall as it goes against everyone's instincts since certain activities stimulate certain hormones. One prime example is that activity going on behind us **increases adrenaline** and that should you need to work facing the wall you need to have some 'cover for your back' to give you a feeling of **safety** and **security** (Barbieri, 2008).

How colour affects design

Interior colour is is experienced quite differently from any other colour use. Colour in interior design has the most **powerful** and the most **mysterious** influence. As no one can encounter it and stay neutral and react either **positively** or **negatively** as soon as we perceive colour. These reactions to colours or colour combinations are **rooted** through conscious, **subconscious**, and **unconscious** processes of our behavior. There have been numerous studies on the effect on how colour affects mood and have established a set of rules. Though **reactions vary** based on **culture**, **age**, **trends** and **personal preferences**. (Reddy, 2012)

How design affects health

Since the arrival of "mechanistic" buildings in the mid-twentieth century, building inhabitants have become **increasingly disconnected** from the outdoors. This and the combination of only considering human **psychology** wound up creating the 'one size fits all' thermal comfort. While this idea is technically correct, it is too narrow to be **tolerated comfortably** for design **standards** to actually improve human **health** and well-being. in order to improve on this variables (health, productivity, satisfaction) within **sustainable** technologies need to be **considered**.

There are 3 different ways a person's ability can be affected within a space. When a person's **physical functions** are compromised by a buildings structure, it can affect a person's heart, their respiratory systems, vision, sleep and daily cycle which can then affect healthcare costs and absenteeism. And when their **psychological functions** are affected by a buildings layout, that in turn affects their **well being** and reduces satisfaction and **engagement** within their **environment**. Finally, there is **neurocognitive functions** to consider. When those are affected, they can impact a person's concentration and memory which will have an impact on their productivity (Sorrento, 2012).

Critical design and disabilities

Design isn't just used to solve problems, they are also used to **spread awareness** of any issues as well as make them **tangible** which in turn generates **discussion** and **decision making** between designers and users about the social and ethical implications of technology. Critical design serves as a healthy challenge to an already comfy resourced status quo and has been used in tackling several social issues.

Despite this, there is tension between being sensitive to the subject of people with disabilities but also taking the subject seriously to tackle and **challenge ingrained opinions**. Several disability groups and researchers have began to exploit critical design as a tool in order to generate discussions about issues that could very easily go **unaddressed**. These include talking about unspoken **assumptions** about already available technology for the disabled such as : should hearing aids be invisible? Or should prosthetics look more realistic? (Newell, 2011).

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USER PROFILE

PERSONAL

Name: Ayumu Oshiro
Aprox age: 29
Occupation: Game Developer
Lifestyle: Likes to be out and about and is a decently organized person.
Hobbies: Laser tag, going for walks, online gaming, going to the gym
Home life: Born in japan and moved to sheffield with his parents and two older brothers, who work in website designing and illustration, when he was young. He studied games development at Sheffield hallam university where he worked on a project he called ' HAYWIRE' which was an RPG game where charecters explored a virtual world which caught the attention of game company square enix who took him onboard and he worked in london for 3 years before becoming the head of their latest project after opening up a new office space in sheffield. He currently lives on his own in an apartment in sheffield but keeps contact with friends, including those he has back home over the internet. Sometimes playing online games with them.

WORK

Working Hours: 9am - 7pm Mon-Fri
Daily Routine: Wake up at 7 am, eat breakfast then take a bus over to the game studio. Since he is the leader of the project he makes sure he arrives before anyone else. The other workers tend to arrive at 9 where the heads of each task discuss work including what's been done, what needs to be done and any potential issues before going about their tasks. At lunch they tend to go to nearby restaurants for food rather than stay at the building. the staff there work flexibly so they can start and leave as please. Ayumu is the project manager as well as the head programmer so tends to stay until 7 at the latest before heading to his home apartment
Essentials: Computers/laptops, testing area, fridge, toilet, group working space, tablets, water fountain, sink
Non-Essentials: plants, tv screens, whiteboards, paper

PLAYER SELECT

Head Artist

Anabela Chandrakanta

Level Designer

Scot Thad

Head Designer

Tyrone David

HOW GAME DEVELOPMENT WORKS

Part 1: Roles

Game developers may range from a single person a team dispersed across the world. While pc and console games are normally funded by a publisher and can take several years to be completed. Indie games, which are games that are created without the support of a publisher, can take less time to develop by a smaller team at a smaller cost. There has been a rise in the indie game market over the years due to the ways games can be distributed online such as steam, uplay and app stores. There are different tasks that need to be completed in order to make a full game so there are different roles that are needed to be filled. These include:

Producer - also known as the project manager/lead or director. They oversee the games development and manage budget as well as schedules. They also reports progress,as well as hire and assign roles to staff.

Publisher - a company that responsible for distributing the final product. They are also responsible for marking and manufacturing the game as well as financing development of the game. Not all games are created with a publisher and games that are created without one tend to be distributed digitally instead.

Development team - the number of people can range in size depending on the scale of the project. They can also take on or be assigned more than one role The main roles are artists, followed by programmers, then designers, and finally, audio specialists, with two to three producers in management.

Designer - a person who designs gameplay. As well as the rules, structure, narrative, dialogue, mechanics and writing. This usually consists of a team which normally has a lead designer who coordinates the work of the other designers.

Artist - a visual artist who produces artwork for the game. Weather it be concept art, sprites or backgrounds for 2d games and animation, cutscenes and models for 3d games.

Programmer - a software engineer who primarily develops the games codebase. Tasks include: programming the game's engine, the games AI, graphics, sound, gameplay, scripting, option menus, help and feedback systems, input processing, network communications and game tools.

Level designer - a person who creates levels, challenges and missions for the game.

Sound engineer - technical professions who are responsible for sound effects and sound positioning. They also often oversee voice acting and other sound asset creation. Composers can also be part of the sound development team but any work usually done by them is outsourced.

Tester - someone who tests the quality assurance of the game in order to make sure it is both functional and entertaining.
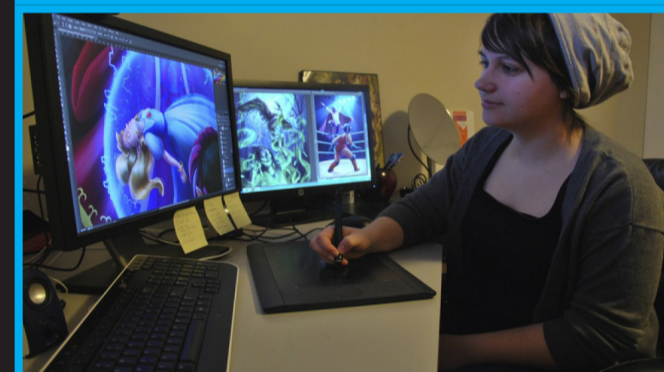
Part 2: Development process

One way games are developed is by using agile development. This method depends on feedback and refinement as the game development progresses, its a method that works because most projects don't start with a clear requirement outline. Another method is personal software process which is programmers learning to understand their performance by tracking their predicted and actual development of code. However, this method is more expensive.

Developing a commercial game usually involves these steps:

Pre production - the planning phase of the project which the goal is to produce a clear and easy to follow design documents which describe all the tasks, schedules and estimates for the development team

High concept - a brief description of the game. usually one or two sentences on what the game is about.

Pitch - a short summary showcasing the games selling points and why it would be profitable to develop

Concept - a more detailed version of the pitch. Which discusses game's genre, gameplay description, features, setting, story, target audience, hardware platforms, estimated schedule, marketing analysis, team requirements, and risk analysis

Game design document - a document that incorporates all or most of the material from the pitch to show the concept and major gameplay in detail. these include primary sketches and functional prototypes.

Prototype - this step is often done manually (using paper,dice and easy to access tools) as it is easier to test and make changes before wasting time and resources in case the project is cancelled. Prototypes only act as either proof of concept or to test out ideas.

**Production** - the main stage of development where assets and source code for the game is produced.

Design - where the rules and content are created for the game. this requires a combination of art,programming and writing.

Game programming - usually handled by more than one person. this involves testing ideas, incorporating features into the game and fix any bugs during the development process.

Game art design - artistic aspects are created for the game.

Audio production - usually split into three parts: sound effects, music and voice overs. sound effects are usually created by either tweaking an existing sound effect or using real objects to make it. These elements tend to be outsourced.

Testing - testing the quality assurance of the game. this step starts once something playable is created. they test any new features added and regression test any older features.
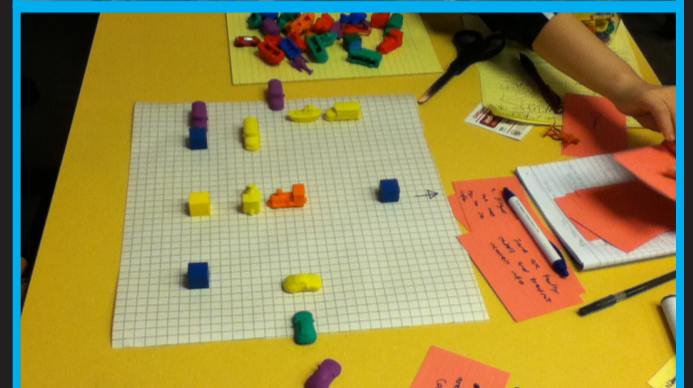
HOW GAME DEVELOPMENT WORKS

Part 3: Development tools

The tools used in the game industy for art and programming vary from studio to studio depending on what game they make, the team invovled and what consoles it's going to. Big studios tend to make their own engines for games depending on the project but there are multiple game engines out there. Common known game engines include:

CRYENGINE 3

unity

source

UNREAL ENGINE

These are programs used to create art weather it be concept or final:

Ps   Ai   Ae   Fl   MAX

AUTODESK SCALEFORM

TortoiseSVN

And these softwares are used for creating audio that isn't outsourced:

AVID

fmod®

Another software used in games is bugzilla that detects the game for any bugs and glitches before the final product is released.

Bugzilla

SITE ANALYSIS

About

Sheffield is a city known for being one of the most creative communities in the country, most of it located within the cultural industries quarter. It covers an area of 59 acres and within the triangle sits 16 listed buildings listed buildings and many more of historical or architectural significance. It's a ¾of a square mile area that's home to 300 companies that work in the creative industry such as art galleries, sheffield hallam university's northern media school, a studio space for artists known as the Persistence works and the showroom cinema which is the largest independant film house outside of london. Other buildings include: courtyards, cafes, media labs recording studios. As well as street art by Kid Acne, Phlegm and Florence Blanchard.

Location

The cultural industries quarter refers to the area between St Mary's Road, Arundel Gate and Howard Street. Located between sheffield station, city centre and the moor.

History

Pre 1770 the area was originally known as Alsop Fields. Hunting rights on this land was claimed by Thomas de Furnival from 1281 until the early 1700s where rights were passed to the Duke of Norfolk who transformed the deer park into a business enterprise consisting of farmlands, collenries and metal work foundries.

The industrialization of Alsop Fields was promoted by the Duke's agent as a location for a new large scale residential area. Plans were discussed with streets proposed as far south as Matilda street. However, the plan was scrapped due to inhabitants being unable to afford the planned properties. Instead, a grid of service alleyways set parallel to the main streets was created to allow for the expansion of the cutlery industry and workers of the area who required more modest residence that would combine workshops and home.

Porter Brook River also played a key role by feeding a number of dams relied upon by mils and metal forgers. In the 1800s the first industrialization of the area began. A considerable amount of back to back houses were built and sections of the Porter Brook was straightened to allow any further development. In the 1870s the Midland railway station opened allowing a link to the rail network for manufacturers and dams were filled in the sheaf and Porter Brook rivers.

By the 1980s the area was steadily declining as the demand for cutlery decreased and many of the traditional industries had relocated. And throughout the 1960s the large scale clearance of properties left a patchwork of clear and derelict sites with a failing area infrastructure and nonexistent investors.

In 2001 due to the sites architectural and historic interest, the quarter was designated a conservation area. It is still a home to many traditional industries but has now evolved into a key focal point for creative and digital industries in the city. Over the years the area has been subjected to a number of re-generation schemes in an attempt to re-pair and re-use some of the most historic building within the CIQ such as the grade II butcher works and sterling works. The repair of these buildings ensured the continued use and survival of the CIQ alongside future new developments.

Nearby Places

Jaywing - a data science-led agency consulting business with a marketing technology division.

Moor market - a large market space that's home to over 90 independant traders.

Sylvester gardens - derelict buildings that have now become home to most of the street art found around the cultural industries quarter.

The Holt - a warehouse space-turned independent cafe and creative space that occasionally hosts events.

Showroom Cinema - a unique cultural hub and one of the largest independent cinemas in europe that is housed in a renovated 1930s car showroom. They are also involved in nurturing local talent and have a hothouse for creative and digital industries that houses over 60 companies to work with clients from around the world.

Bloc Studios - Home to over 65 fine artists and crafters. Providing and supporting a creative environment for its tenants.
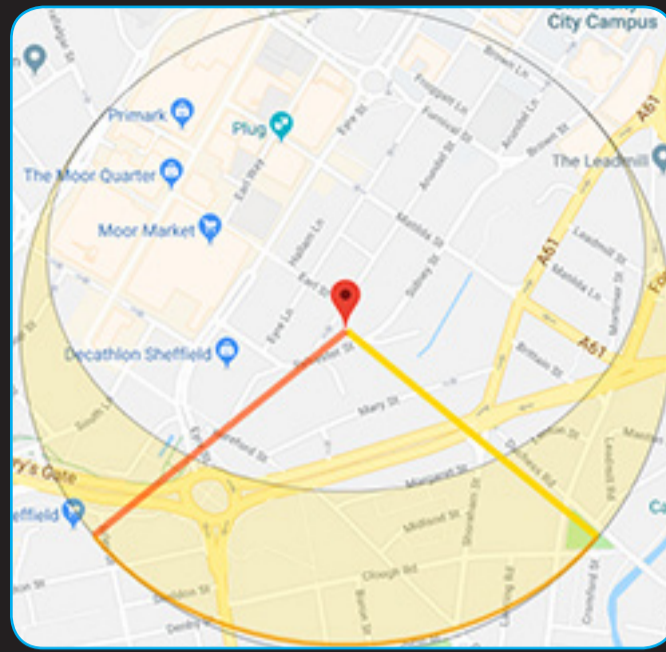
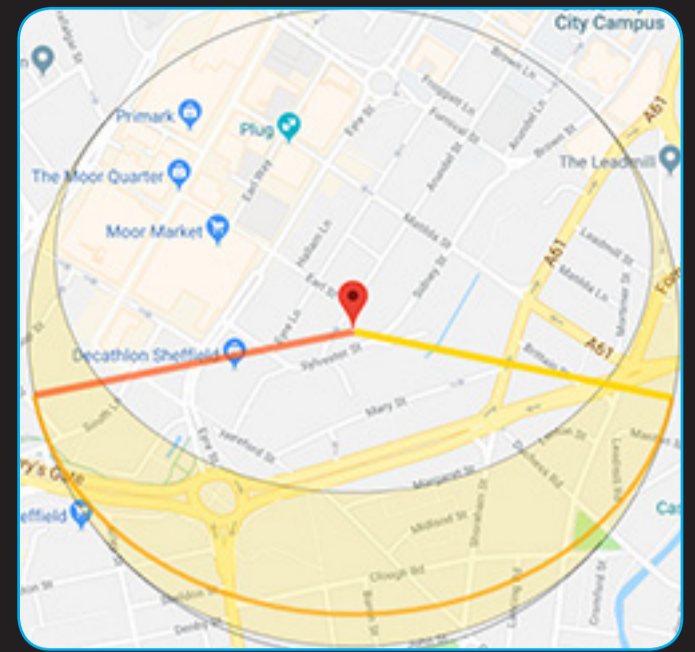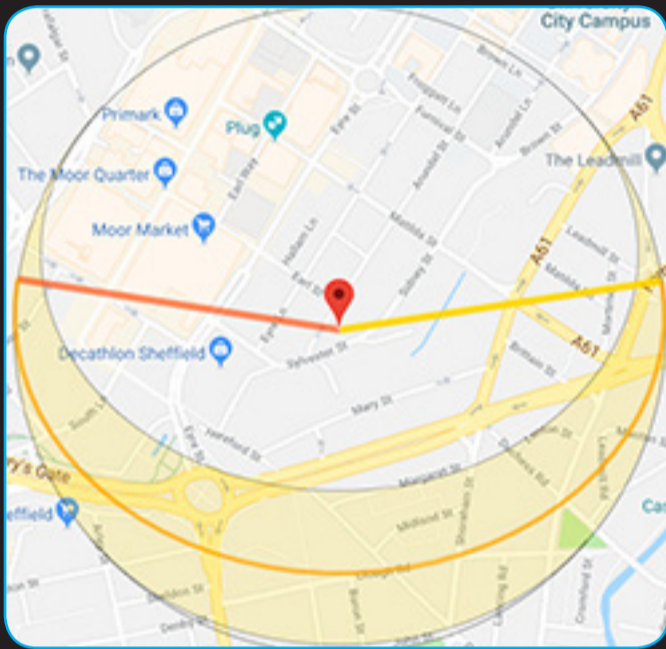**Nacro** - a charity group that house, educate and support disadvantaged young people and adults.
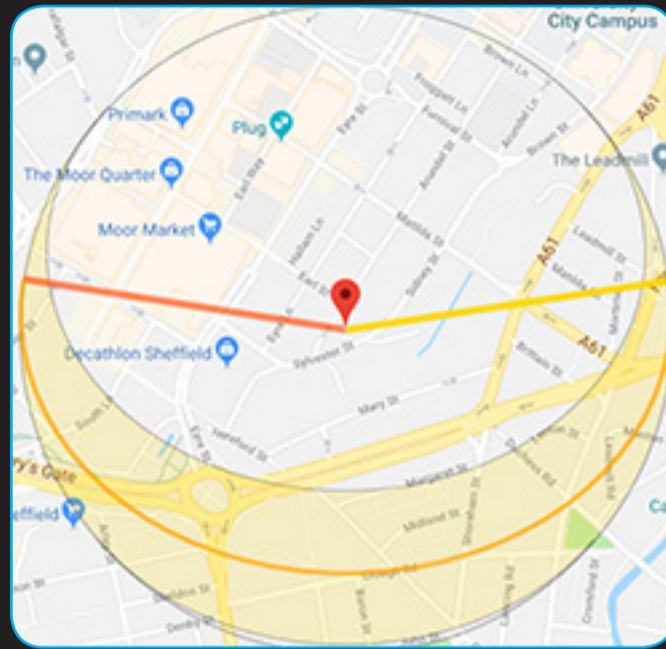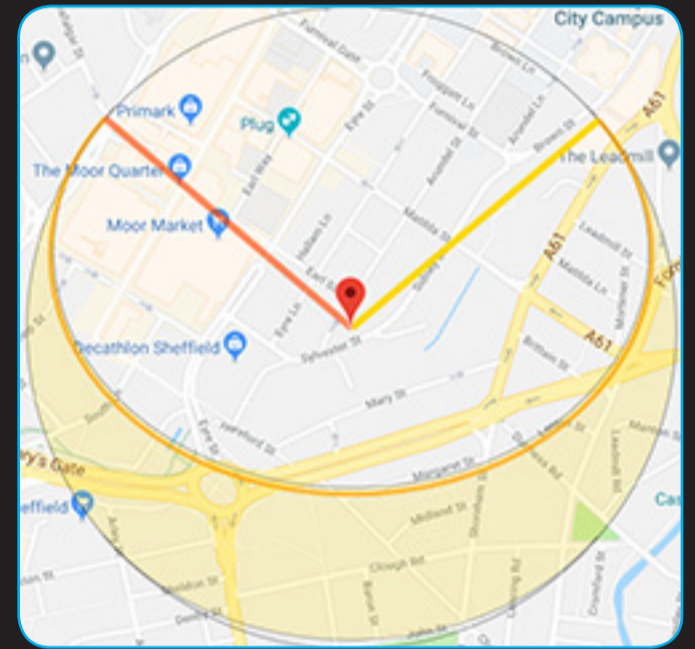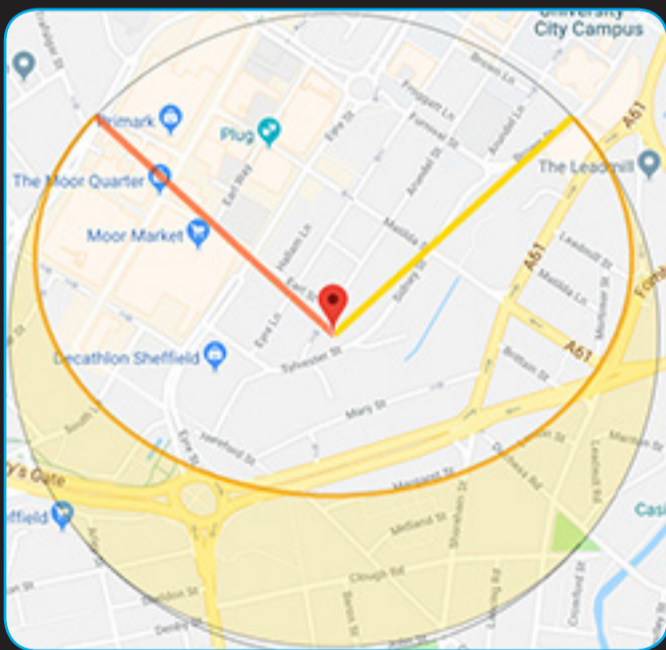
SITE ANALYSIS

Sun direction
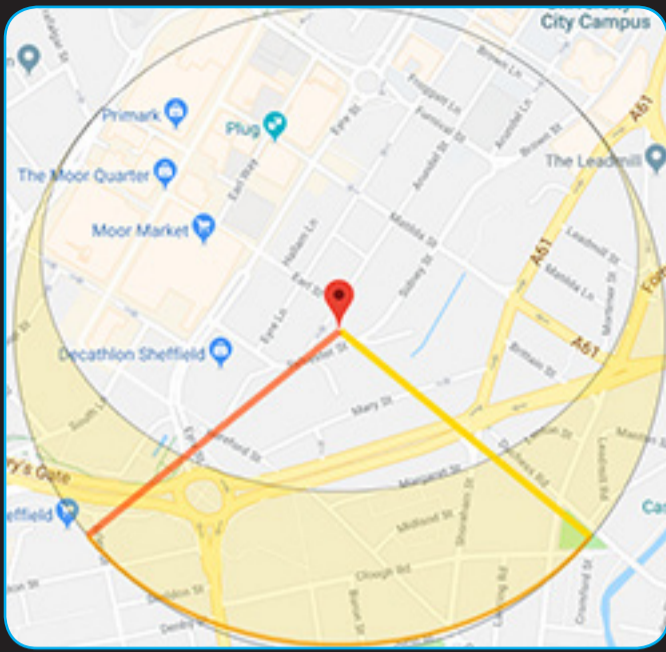
January

February

March

April

May

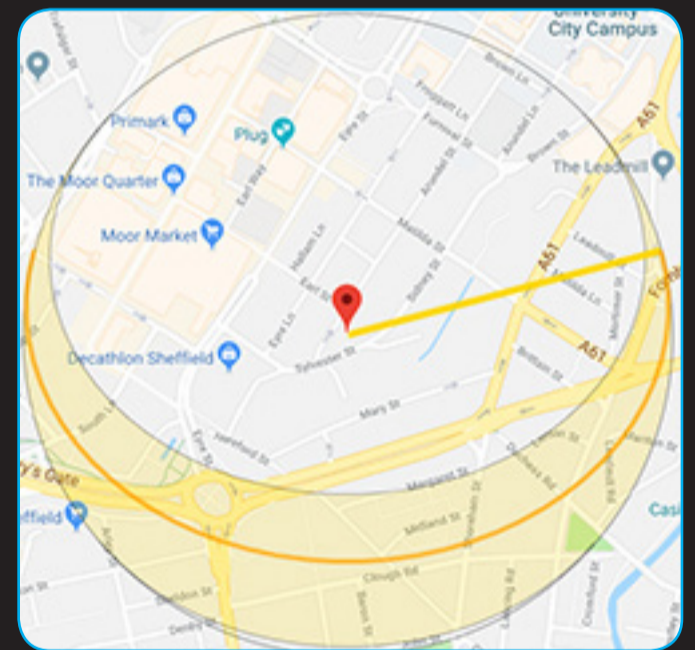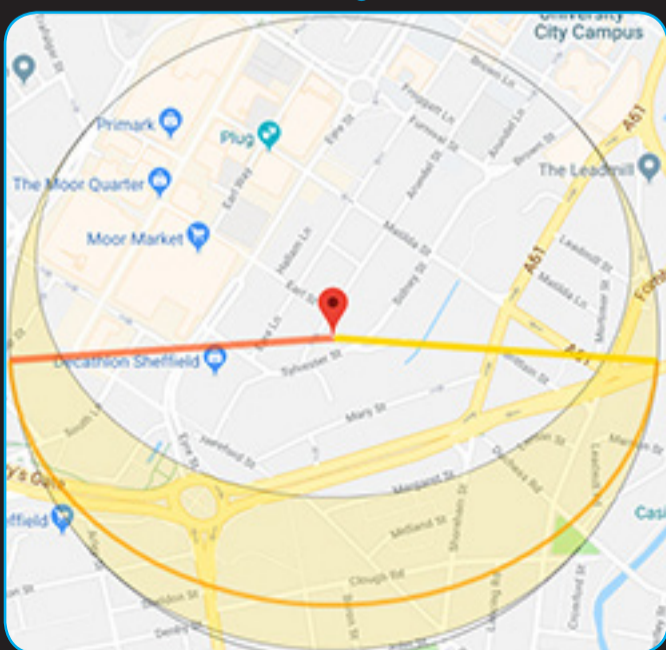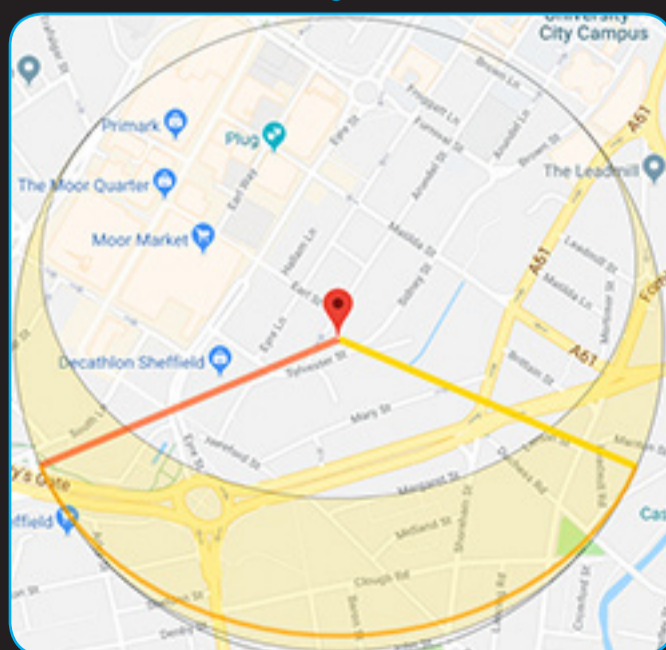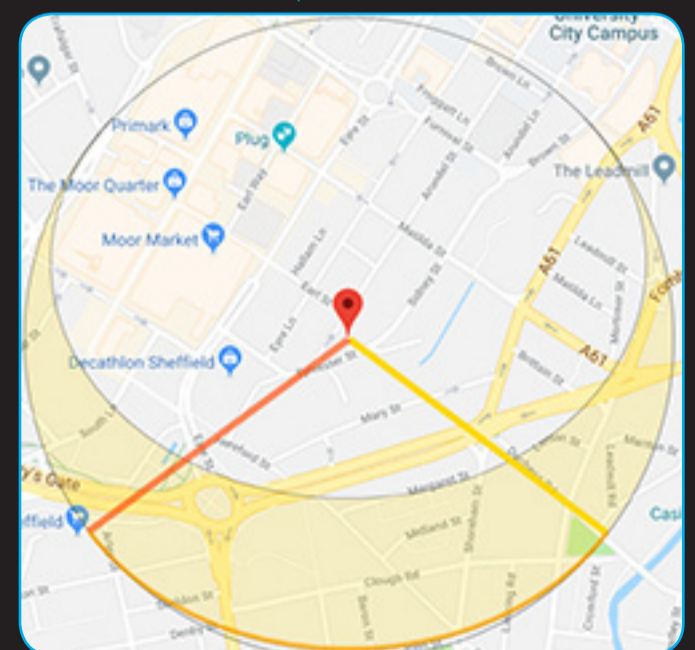
June

July
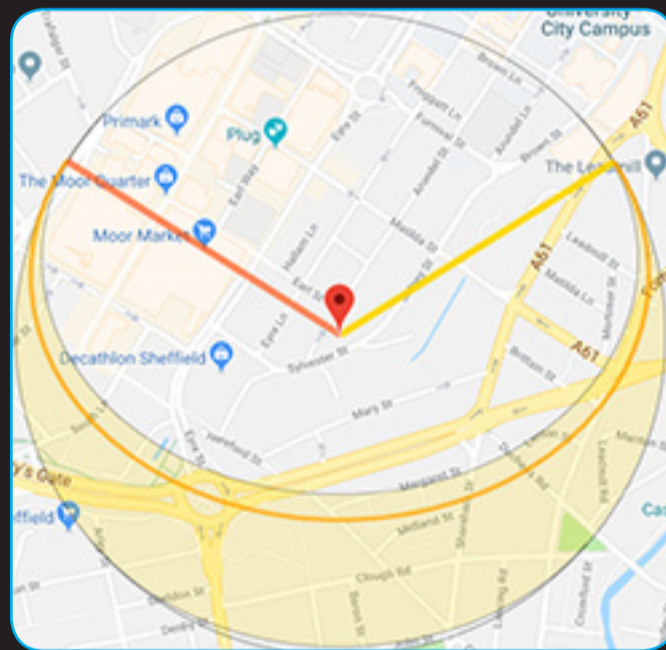
August

September

October

November

December

Key: Sunrise Daylight Sunset

SHIPPING CONTAINER ANALYSIS

Shipping containers were originally developed as a method of moving and exporting cargo. Over time their role as secure and cheap storage units led the containers to become more widely used for different purposes such as homes, offices and swimming pools.

Almost all shipping containers are 8ft wide with standard lengths being either 20 or 40ft. They are made from high quality Corten steel which inhibits corrosion and allows the containers to last for many years.

When it comes to adding insulation, there are different methods which mainly depend on the environment they will be placed in. If it's going to be located in a cold environment, it will need lots of insulation to keep the container from being freezing. If the environment is prone to rain a lot, you should use spray foam insulation to create a seamless vapour barrier. If it's in a hot environment you won't need much insulation. There are 5 different methods of insulation though most shipping container buildings use a combination of them.

Spray Foam - a quick, but expensive and messy method of insulation. But in ensures you get a seamless vapour barrier and helps prevent corrosion and mold. It can also be applied to the interior and exterior of the container and into gaps of any size.

Insulation Panels - the most DIY friendly method. It requires stud walls to fit and you can buy predefined sizes to simply fit in between the gaps of your stud walls.

Blanket Insulation - the cheapest form of insulation. It similar to insulation panels but slightly more difficult to fit in. the most common material used for the blanket is rock wool though some blanket insulation is made with fibreglass which needs to be handled with care.

Eco friendly - similar to blanket insulation but made from more environmentally friendly materials such as: wool, cotton, mud and a living roof.

Construction - designing the containers in a way that uses the natural environment to cool them down. For example: placing lots of small windows on both sides of the container so when the windows open, it allows cool air to blow across the container taking the warm air out of the container.

|		20' CONTAINER	40' CONTAINER	40' HIGH CUBE
Door	WIDTH	7' 8.125"	7' 8.125"	7' 6.00"
	HEIGHT	7' 5.75"	7' 5.75"	8' 5.00"
External	LENGTH	19' 10.50"	40' 0.00"	40' 0.00"
	WIDTH	8' 0.00"	8' 0.00"	8' 0.00"
	HEIGHT	8' 6.00"	8' 6.00"	9' 6.00"
Internal	LENGTH	18' 8.81"	39' 5.70"	39' 4.00"
	WIDTH	7' 8.59"	7' 8.59"	7' 7.00"
	HEIGHT	7' 9.89"	7' 9.89"	8' 9.00"
Capacity	CUBIC VOLUME	1,169 ft³	2,385 ft³	2,660 ft³
	EMPTY WEIGHT	4,850 lbs	8,380 lbs	8,598 lbs
	LOAD CAPACITY	61,289 lbs	57,759 lbs	58,598 lbs

40 Foot **20 Foot** **10 Foot**

MATERIAL CONCEPT BOARD
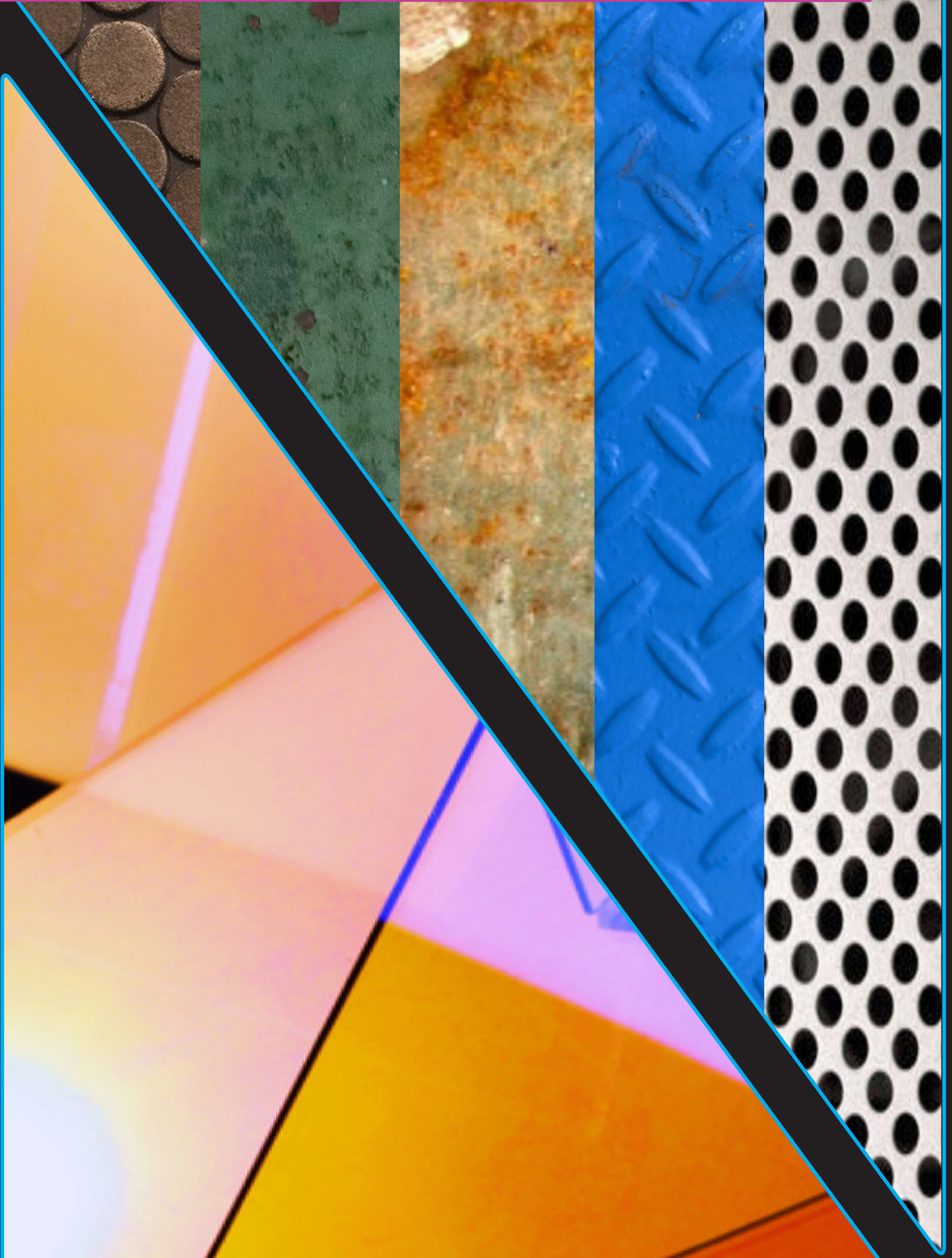
For the material palettes i mainly want to pick metal- specifically rusty metal in order to make the final structure look like a spaceship that has been there over time like a location from a game so I decided that making the metal look either rusty or covered in moss would achieve this effect. My other material palette is glass for the large window where the break room would be but also in a few other parts of the building in order to make sure no one is boiled alive during the warmer seasons. I also think that adding moss around the edges of the windows would help blend the materials together in order to make that worn-down look. Another idea involving glass is to make this windows shaped in a way so the sunlight casts down and make unique shapes from the shadows.

SQUARE ENIX

Square enix is a japanese video game developer, publisher and distribution company that is best known for franchises such as Final Fantasy, Kingdom Hearts and Dragon Quest. Their headquarters is located in the Shinjuku Eastside Square Building in Shinjuku, Tokyo and employ over 3800 people worldwide.

Square enix also owns the arcade gaming corporation Taito known for games such as space invaders, Bubble Bobble and Darius. They also owned Eidos Interactive, a british game publisher which was later absorbed into square enix europe in order to publish titles such as Hitman, tomb raider and Hitman under the square enix brand.

They also have their own cafe in Akihabara, Japan and a studio in london. The cafe features food and drinks named after characters from their games, mainly final fantasy and dragon quest. While the London Office is bright and stylish with designer Oktra wanting the space to support performance rather than presence. The office design pivots around two concept areas: a pret zone and a live team workspace and have a range of flexible and fixed desks focused around activity based working.

Since there would need to be a fair amount of people working within the space, the people would need to be seated in groups in order to make sure everyone knows what's going on and communicate with each other. So looking at the london office space, the space is rather open than sectioned off and I think that this is for the best as it makes the work environment feel more relaxed and calm. Another thing I should make sure of is that the seats are arranged so as many people are facing towards each other as possible.
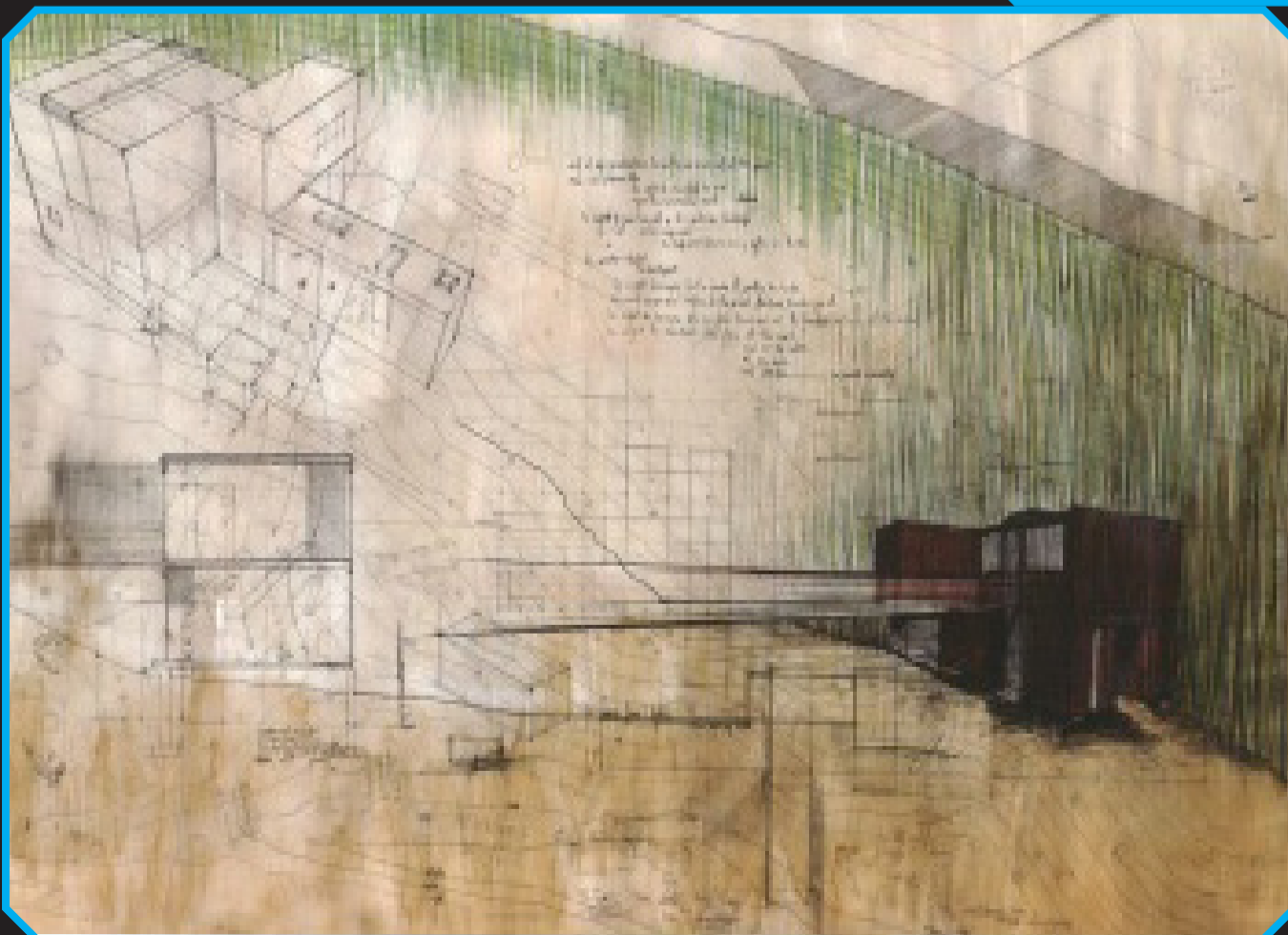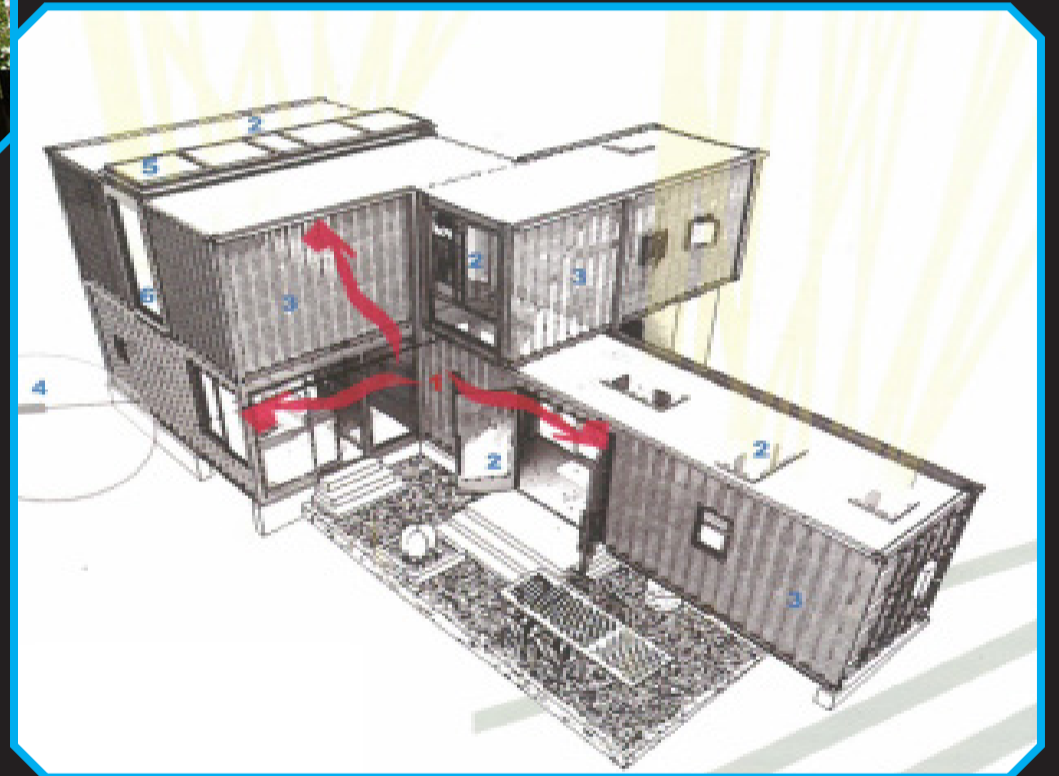
CASE STUDY

Six Oaks

Six oaks uses 6 recycled shipping containers arranged to create a space that is exposed to the site at every turn but also create a new space from its connection to its location in california by interweaving nature and manmade materials.The Interior of the home contains a bed, kitchen, stairwell, bridge and outdoor enclosure areas as intertwined spaces crafted from the trees, light and intimate surroundings. The containers sit beside huge redwoods and are lifted slightly above one of the few areas that had opening to the sky. The containers on the earth level are separated by four feet allowing 8" x 20" containers to be used. This also created a grid which allowed the canopy level containers to turn 90 degrees and stack on top of each other which minimizes structural additives and take advantage of what the shipping containers were meant to accomplish.

There is also a central glass spine infills the container separation and becomes integral to the connection of the site. Sunlight is filtered and carried through to the earth level past a metal grate floor that bridges the module and allow the skylights to double as a vent stack during the summer and movement of warm air during the winter.

The containers are left unfaced and are treated with a closed cell polyiso insulation to maximize efficiency and depth. The gypsum board covers the interior faces and are only interrupted by high efficiency windows and doors that make the containers feel large. Sprinklers, wiring and plumbing all run with optimum efficiency and planning from the team behind it to sacrifice as little as possible of the available volumes. The floors are refinished with environmentally sensitive stains and sealants that leave the apitong plywood. Two trees were removed from the site during construction were milled into stair treads and other interior components.

This space has definitely thought about how to utilize its space, deal with different weather conditions and how to blend the space into its surroundings as well as placement of doors and windows in order to make the space look bigger.

Krynkl

A new space located in sheffield which showcases independent start up businesses from sheffield by offering a low cost office space, meeting rooms, a coffee shop and a Yoga studio. The building is also home to the highly acclaimed Joro Restaurant and the popular rooftop Inc Bar incorporating a half covered outdoor terrace adorned with fairy lights and wood burning stoves. Krynkl is constructed entirely out of shipping containers which is a low cost, efficient and flexible building solution for the site.

I took a look around the bottom floor to see how the shipping containers were attached together and noticed that they were welded together and that there is a building behind it where the stairs and lift are to get to the other floors. One other thing that caught my attention in the building was the neon arrow lights that i think would be very fitting for a futuristic looking interior.

W N S E

① 1

② 2

③ 3

④ 4

⑤ 5
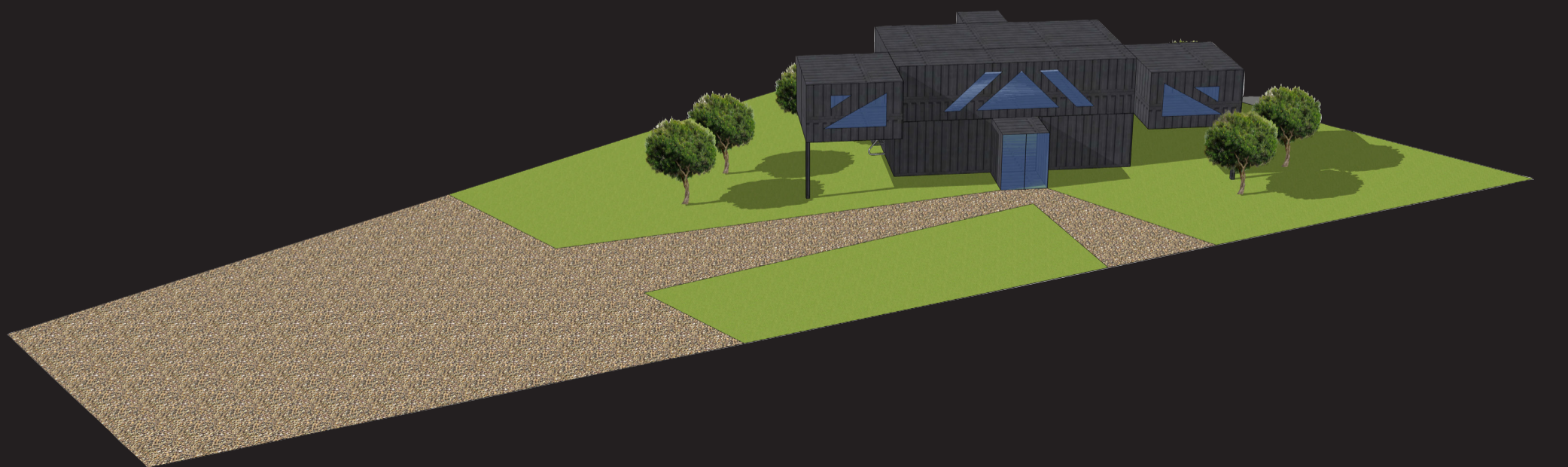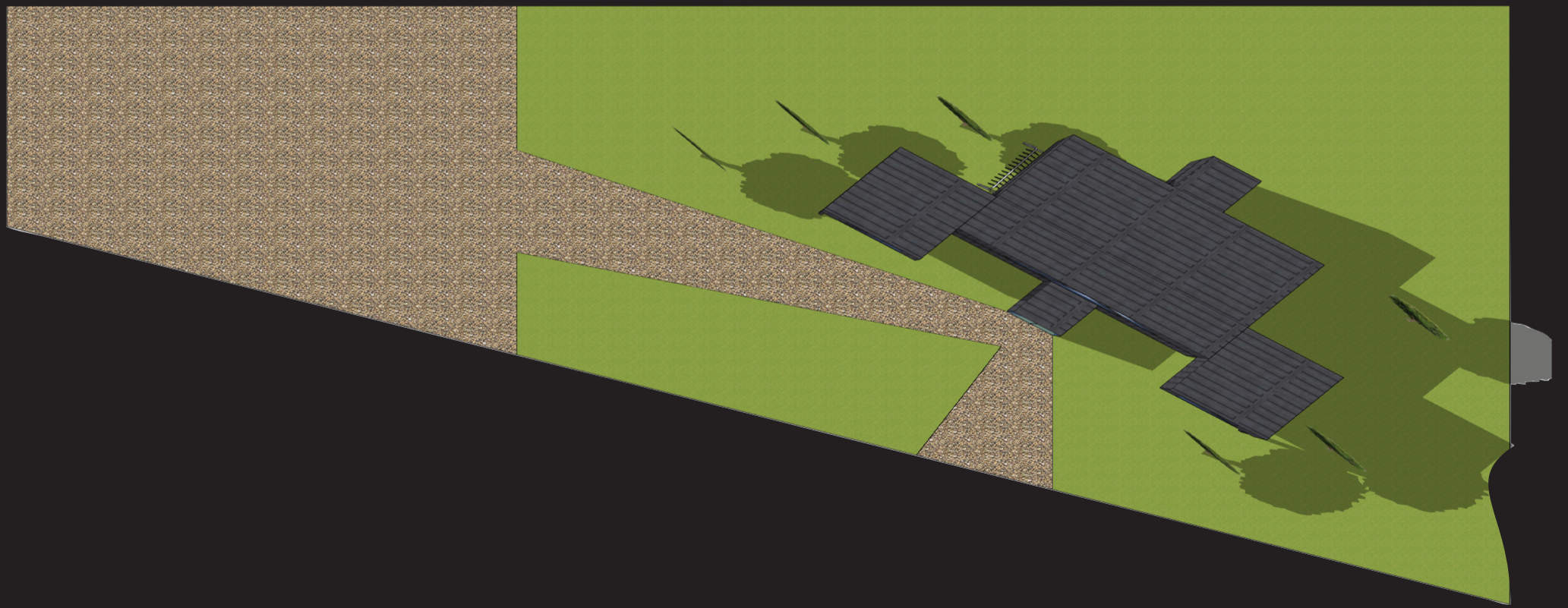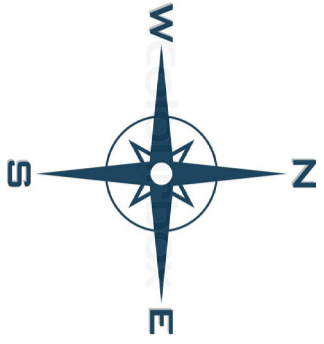
Key

① Entrance

② Work area

③ Stairs

④ Toilets

⑤ Lift

7

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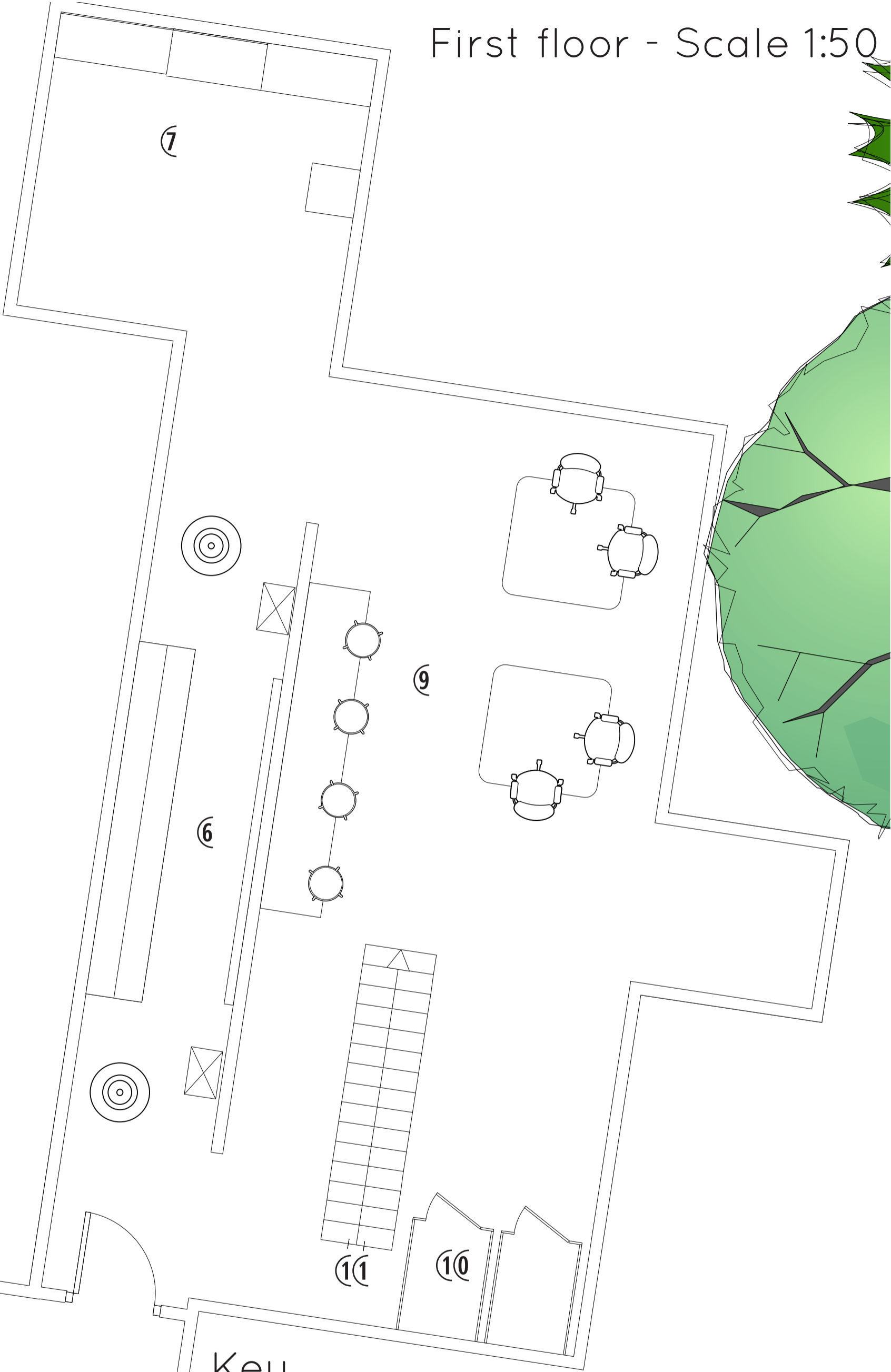
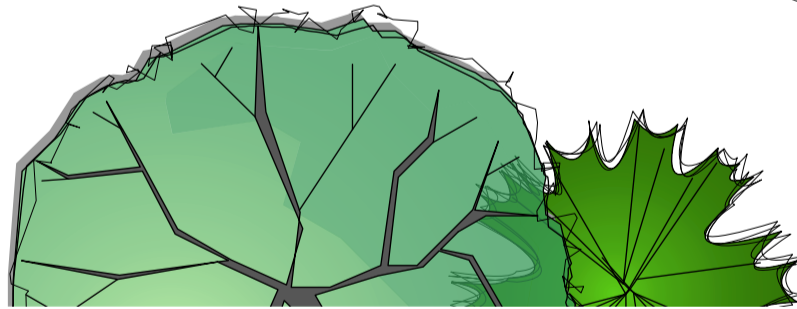## Key

6   Lounge

7   Kitchen

8   Meeting room

9   Work area

10   Toilet

11   Stairs

12   Lift

AREA PLANS

N
W E
S
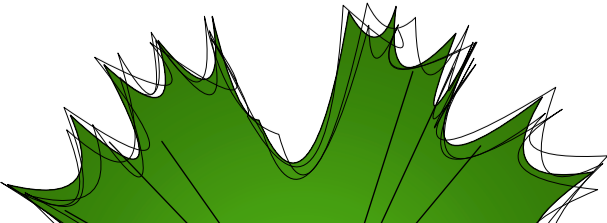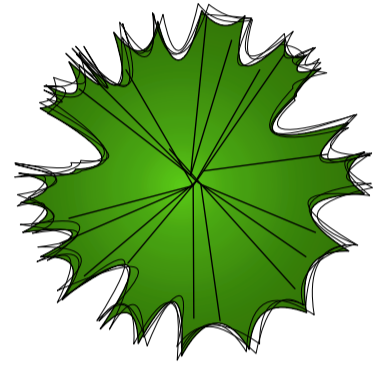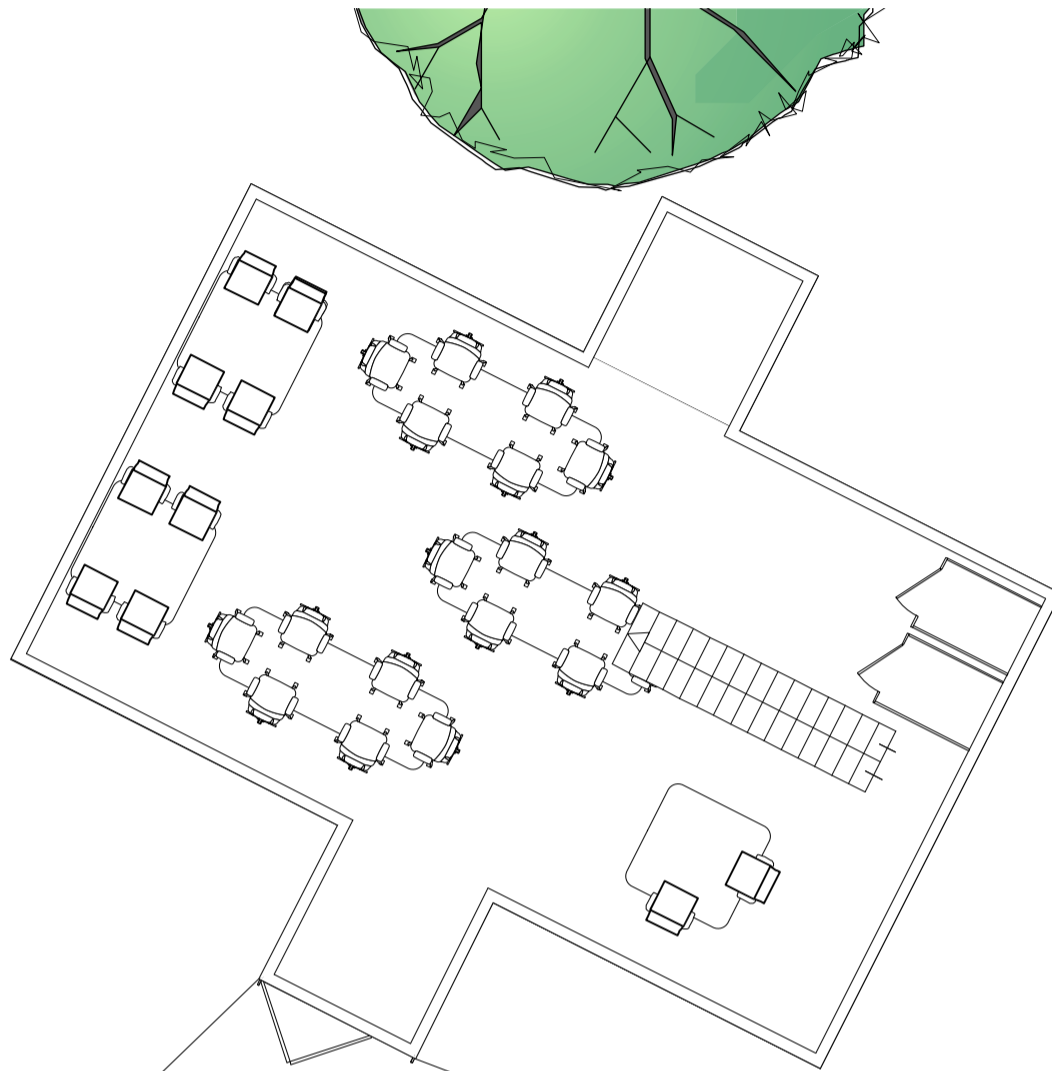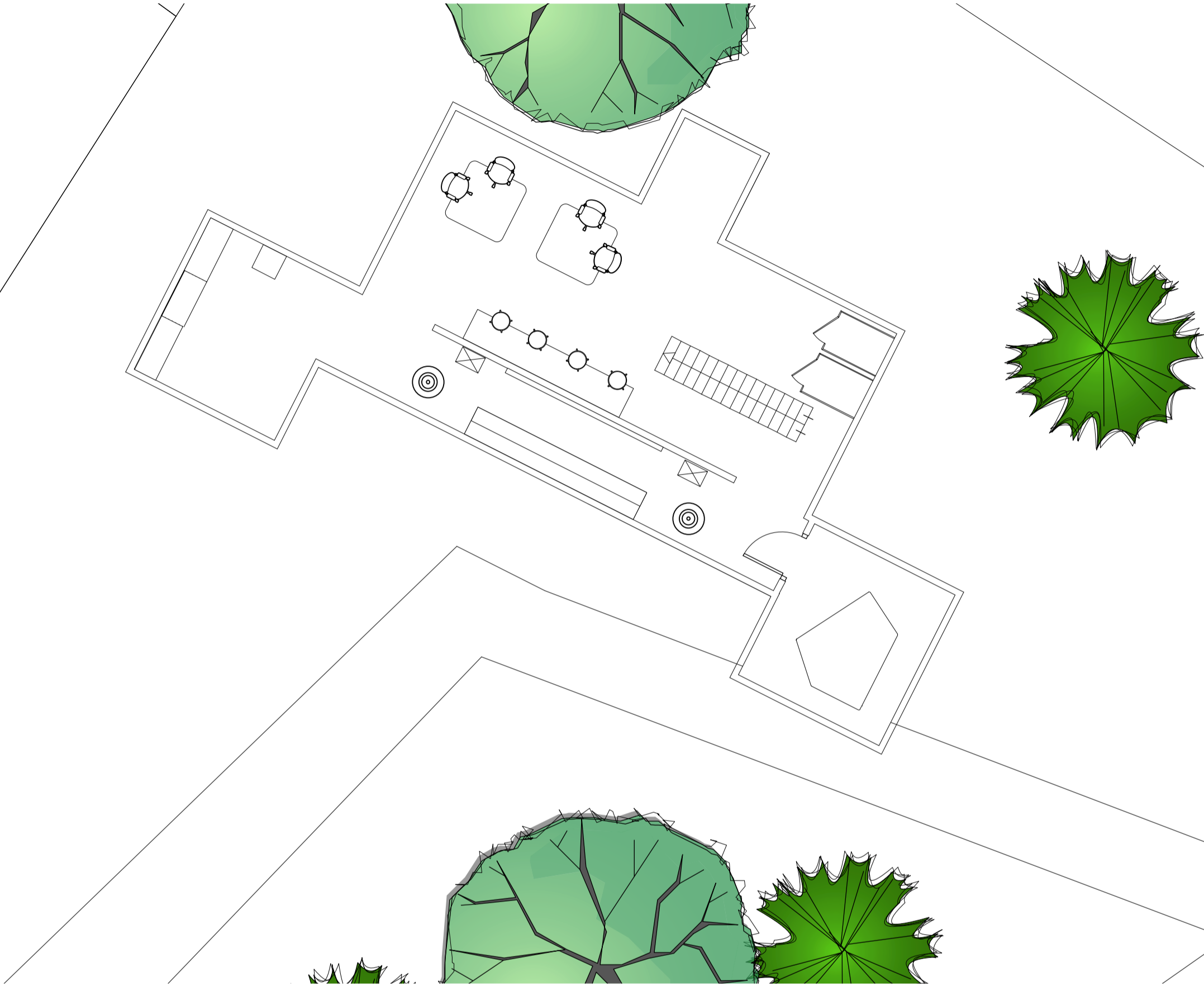
SITE PLANS

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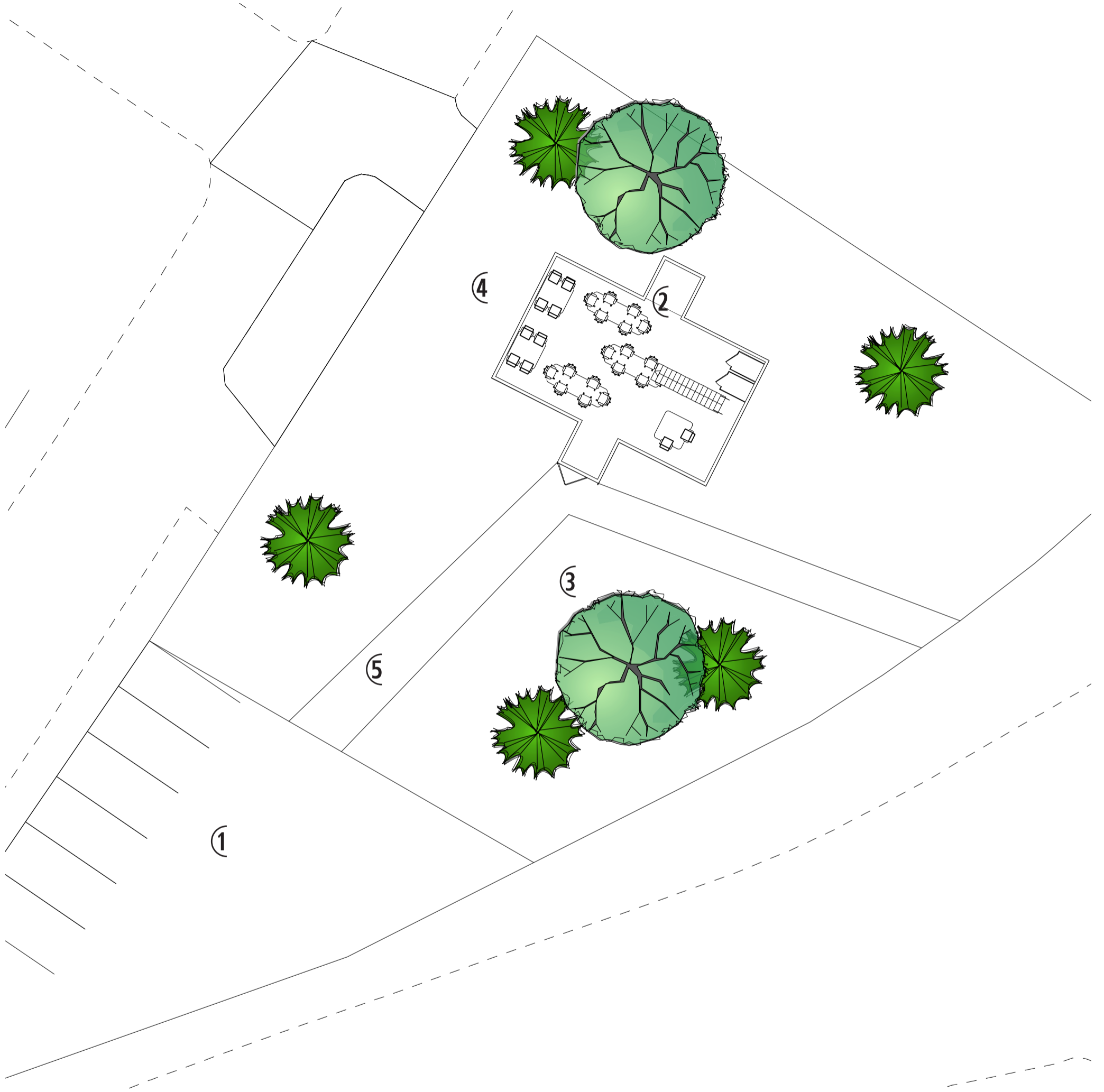
Key

① Car park

② Building

③ Garden

④ Bike Rack

⑤ Path