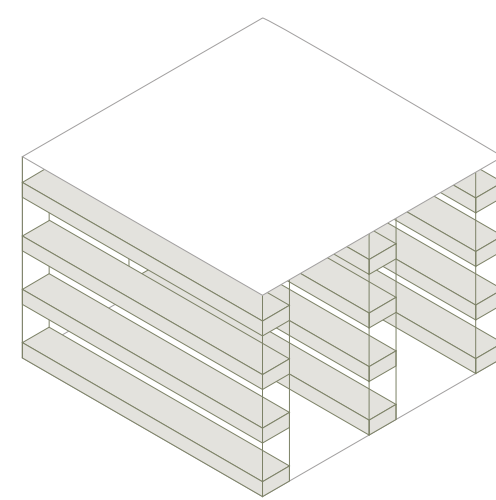
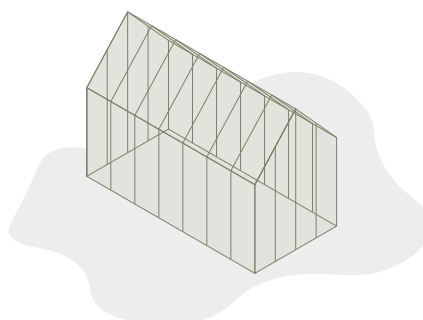
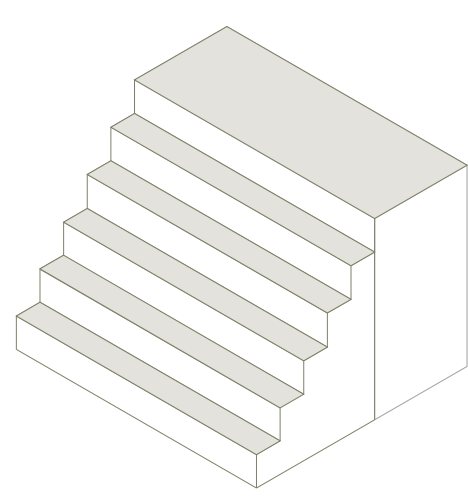
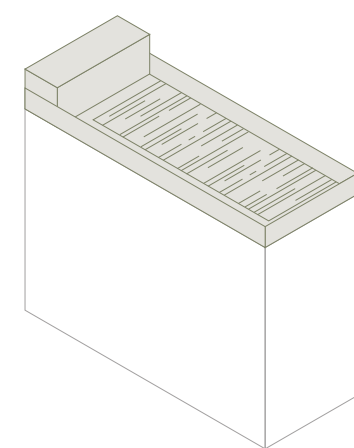
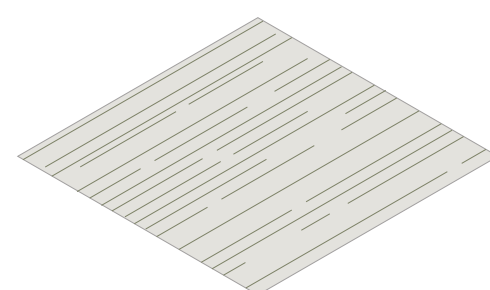
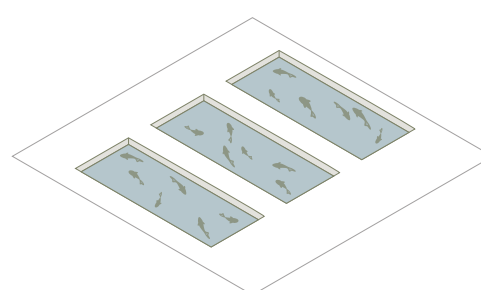
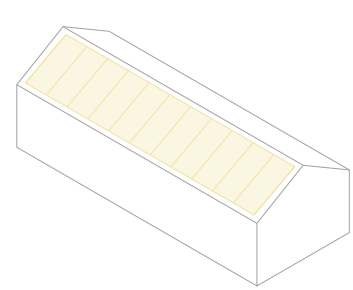
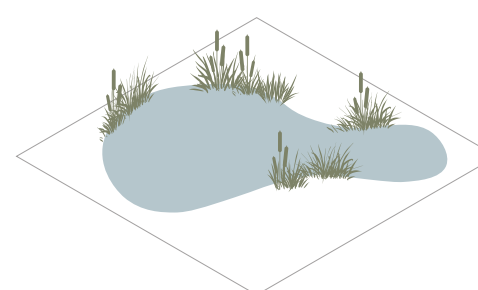
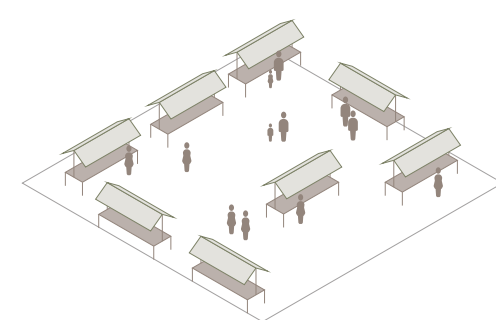
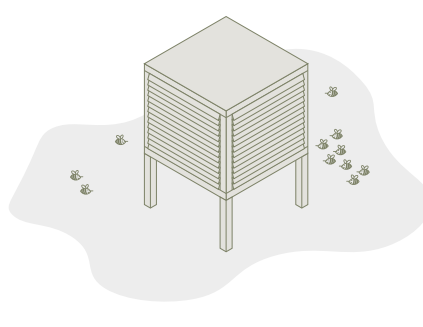
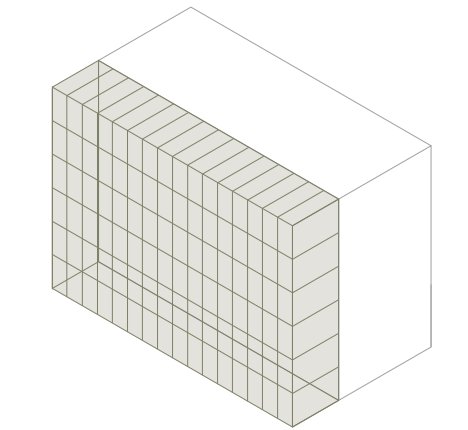
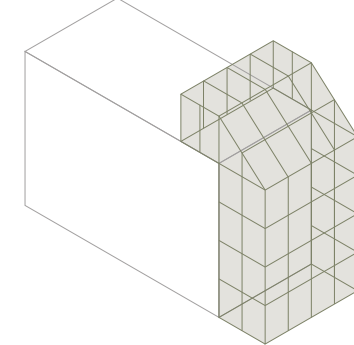
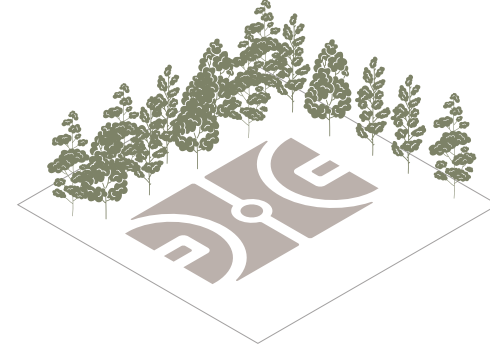
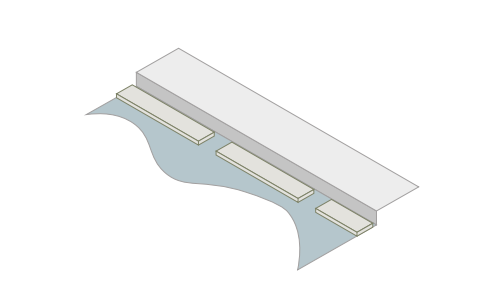
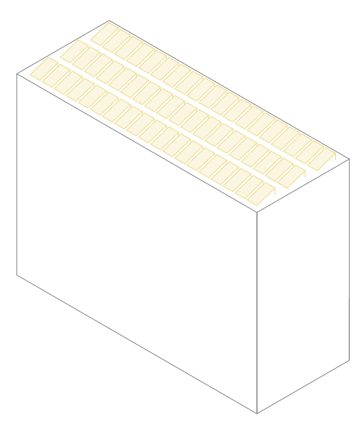
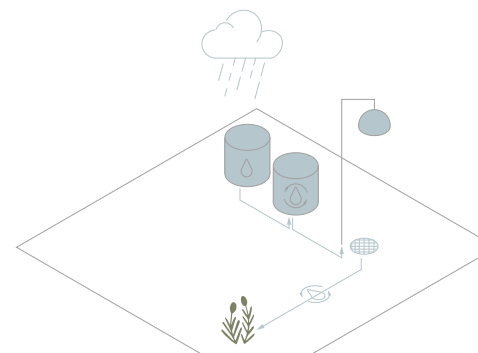
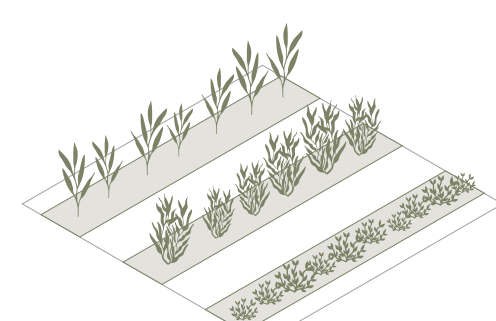
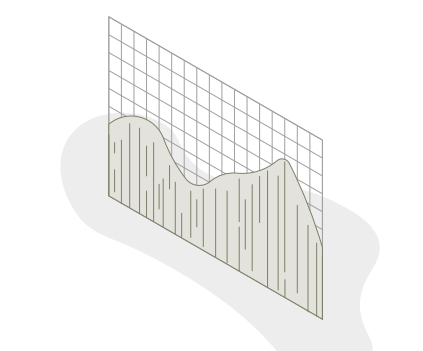
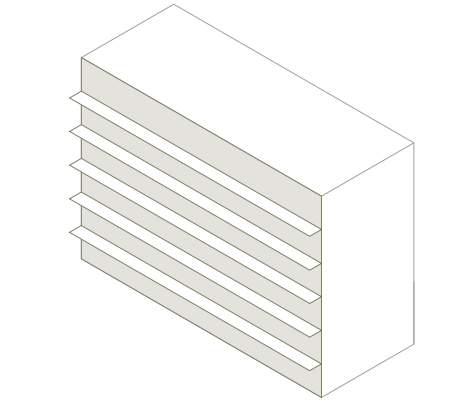
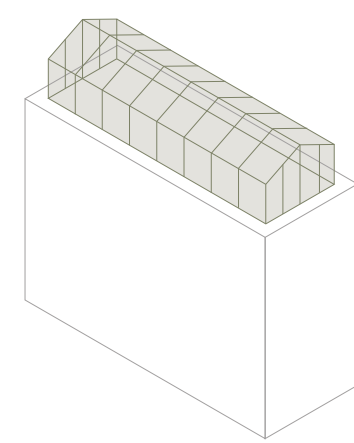
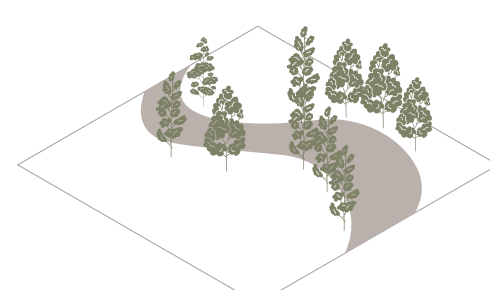
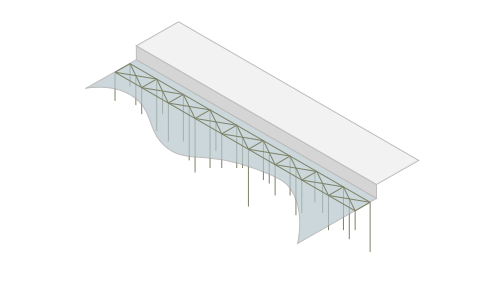
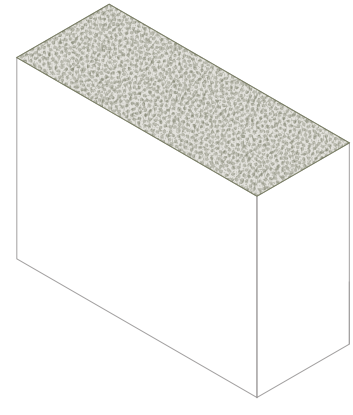
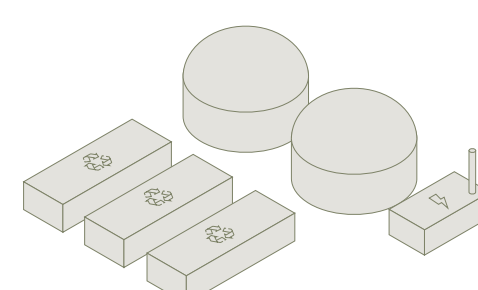
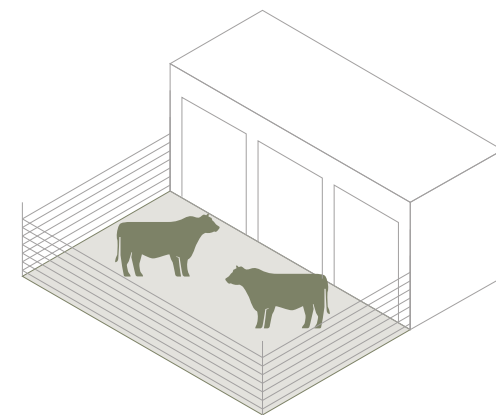
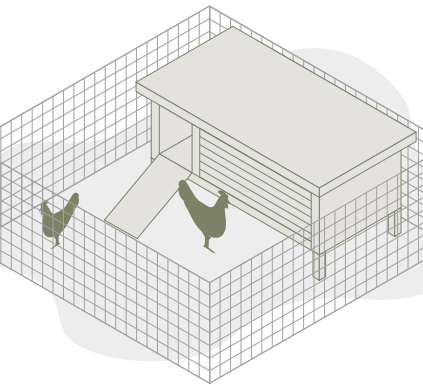
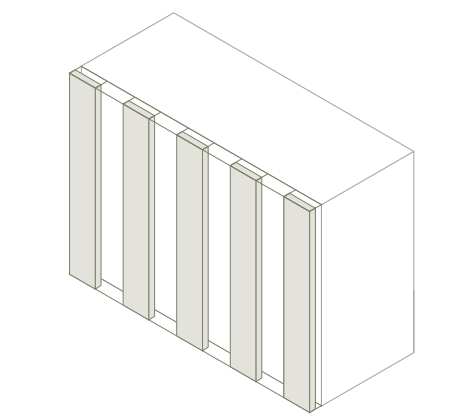
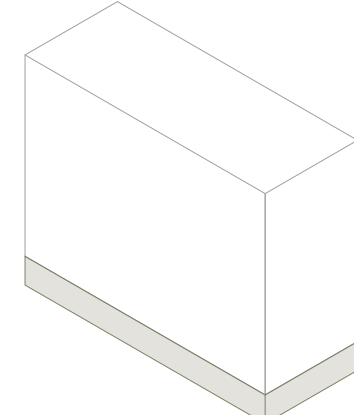
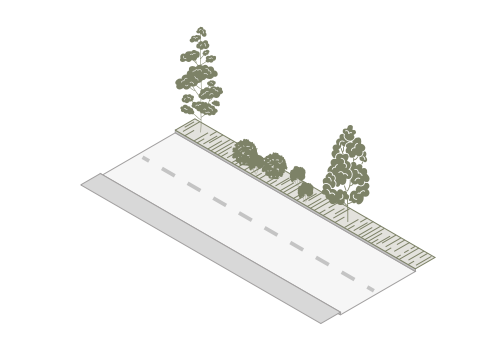
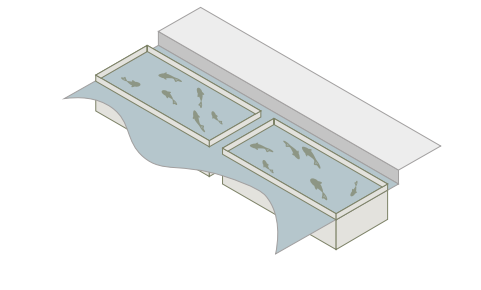
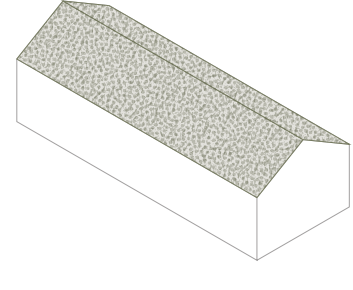
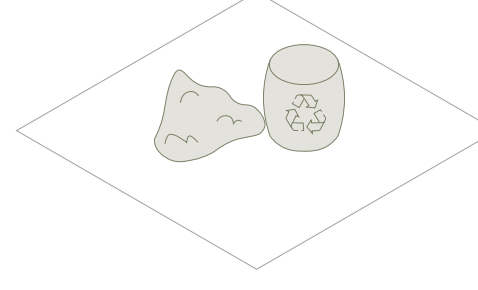
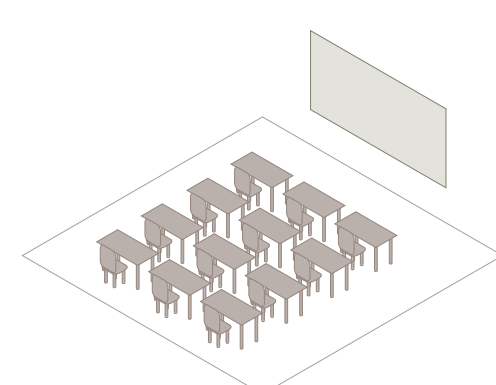
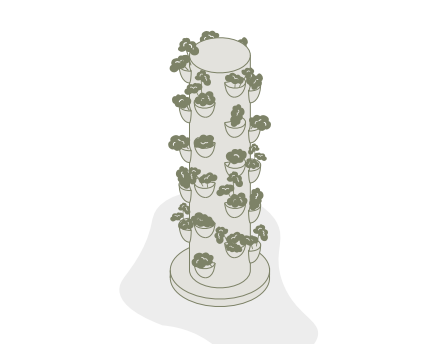
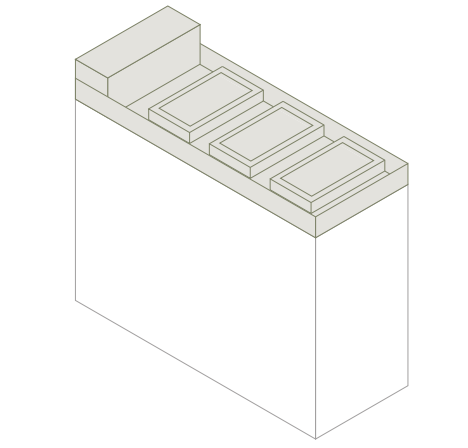
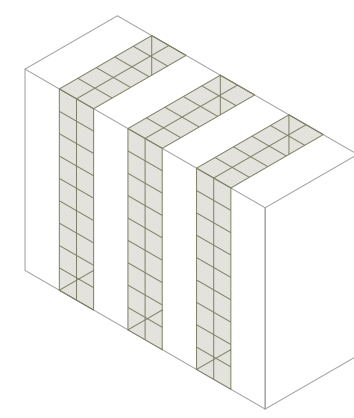
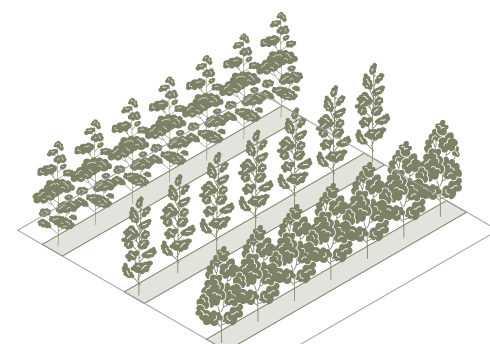
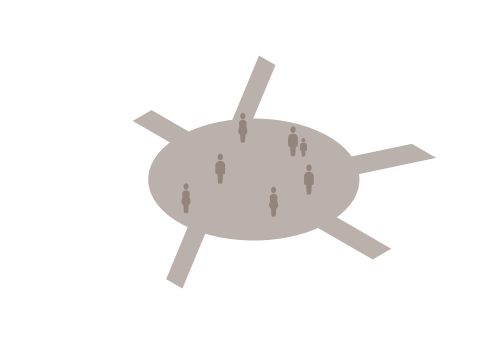
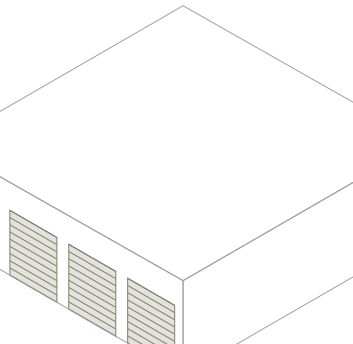
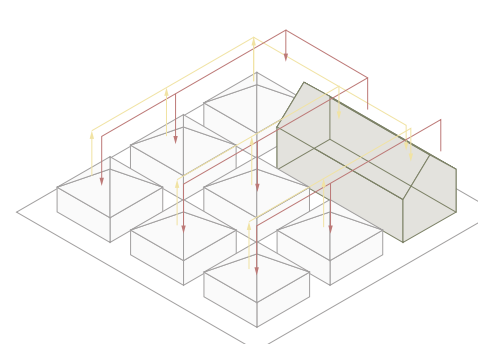
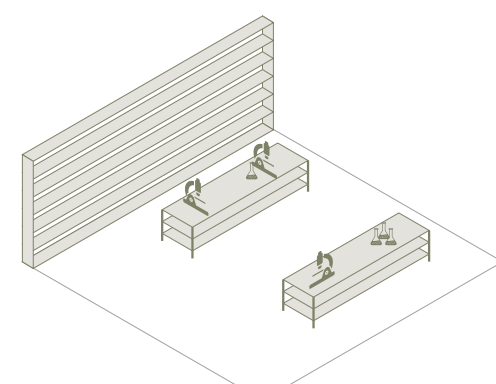
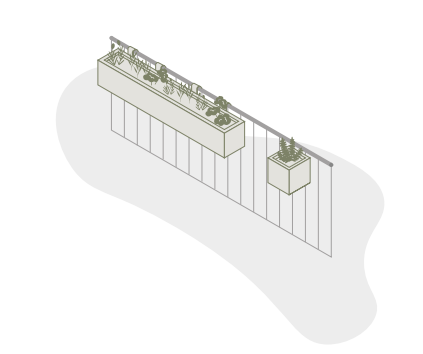
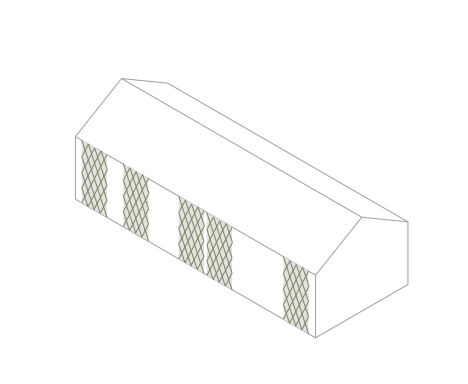
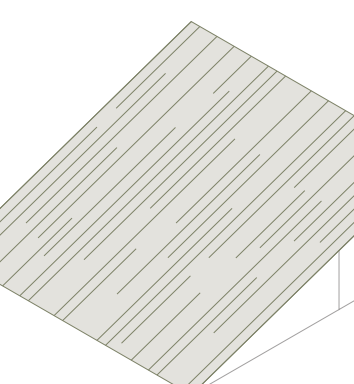
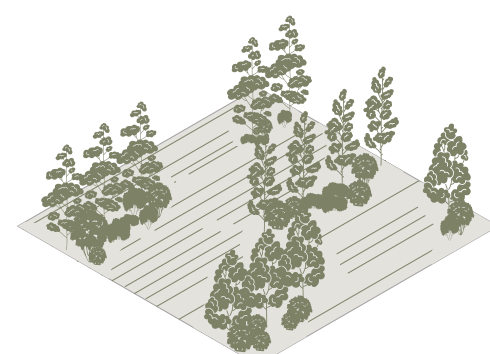
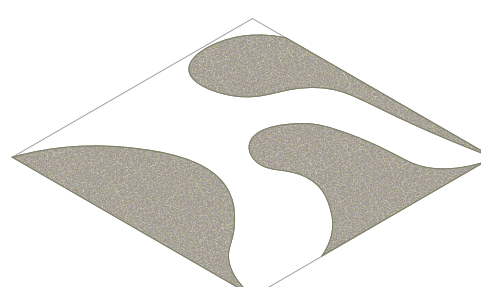
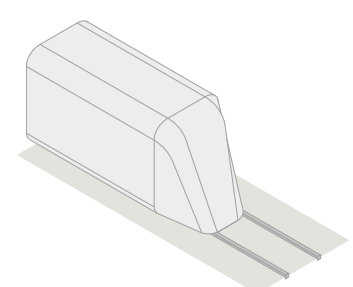
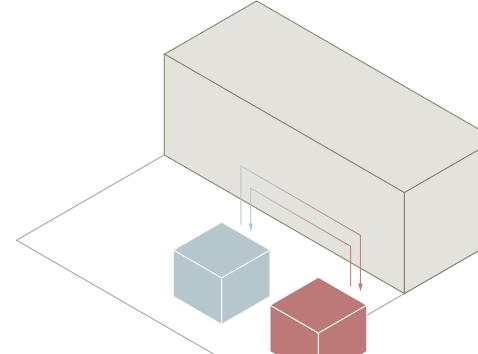
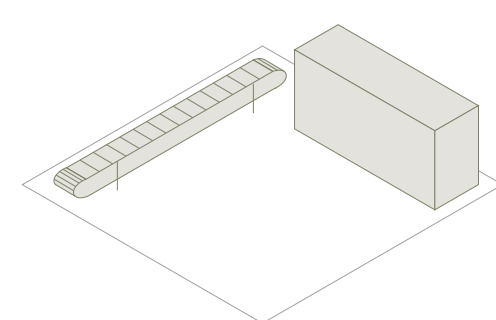
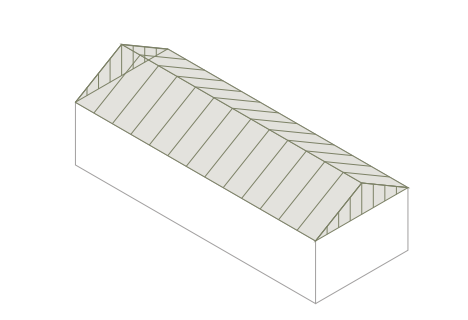
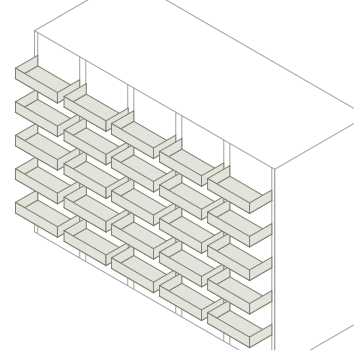
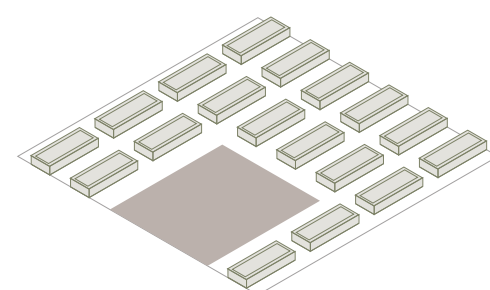
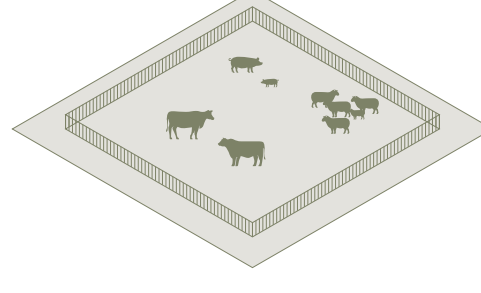
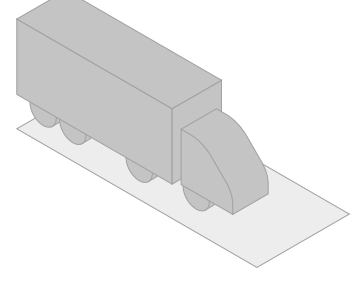
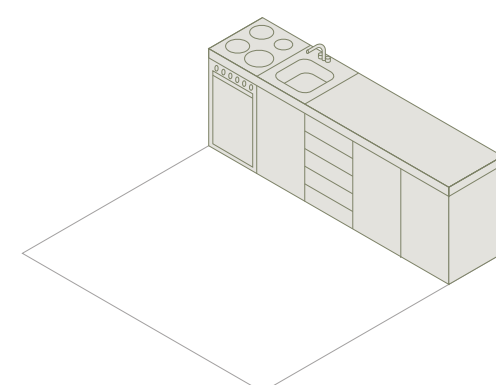
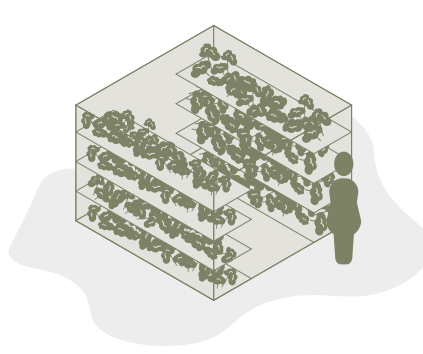
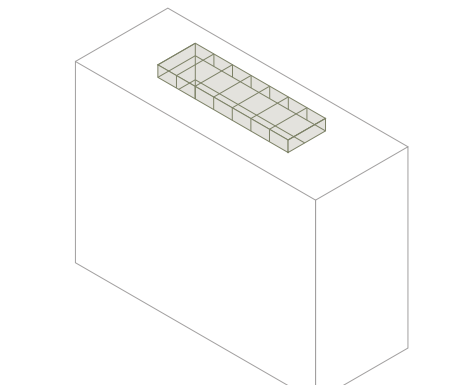
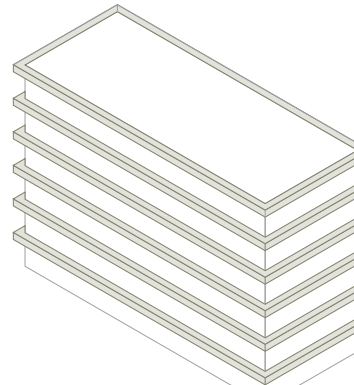
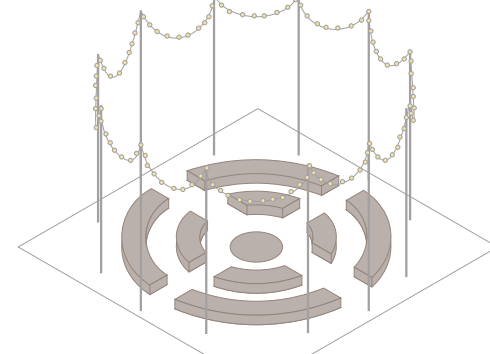
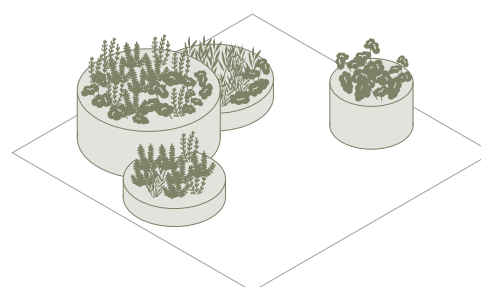
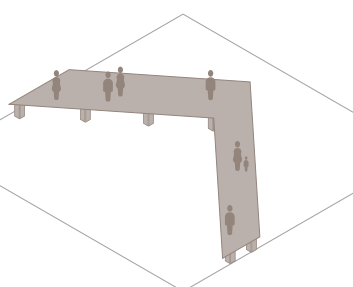
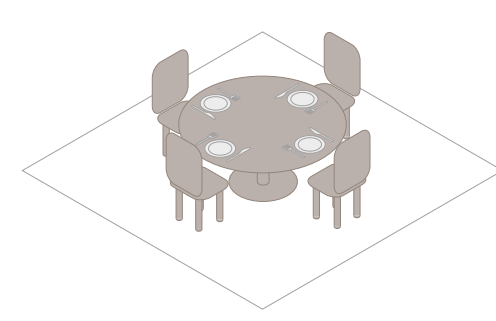
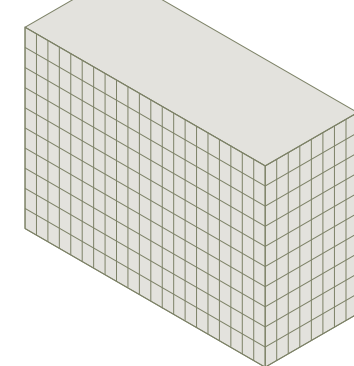
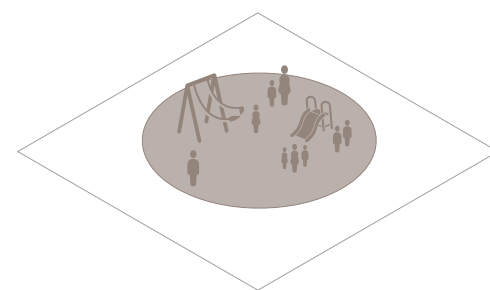


Function	Element	Architecture	Space	Infrastructure											
	Indoor farm The indoor production center is based on modern agricultural technologies and controlled (climate) conditions.		Greenhouse This is a small greenhouse which can be placed in any public space. It consists mainly of glass, and can be used both to produce food and as activity space.		Stepped In new design proposals, an extensive roofscape can be used to create different balconies or terraces that can be used by residents or a company.		Productive roof Flat roofs can be used to grow food on. The most efficient system is an intensive green roof system. An elevator will be needed. This can be maintained by a company on residential buildings.		Agriculture These are open spaces where traditional agricultural production takes place. Here regional and seasonal produce is cultivated.		Fish ponds Ponds are relatively self-sustaining and can cool down the direct environment. These are efficient more technical ponds, maintained by companies. They can be seen by residents, but not accessed.		Energy roof Adding solar panels to sloped roofs, can create a function to an otherwise unused surface.		VFCW/water retention These ponds can be used as a method to filter water, as well as retain water on site. They also help cool down the surroundings.
	Market The market can consist of an organised collection of commercial stands, or private stands used by residents to exchange goods or sell surplus.		Beehive Pollinators are the foundation of agricultural practice. Thus creating beehives (for swarms or solitary bees) is necessary. They can also form an interesting attraction point in a public space.		Facade greenhouse Suitable for transformation and new buildings. The double glass facade can form both a transport space and a production space for individual, communal or commercial use.		Greenhouse extension Existing buildings can have a greenhouse extension. Most efficiently this is maintained by a company. Blind facades on flats are ideal for this.		Shelter Forestry can take place in different forms. Instead of using normal trees, local fruit or nut trees can be used to create the same shelter effect.		Hydroponics Outdoor forms of hydroponics are possible in canals or in ponds, with the note that the water should be checked regularly for pollution. They can be maintained by individuals or companies.		Energy roof Flat roofs can be used for solar panels, but will be used less in practice as these can also be easily used for production.		Water filtration This is a mechanical system which can be integrated inside a building. It can be attached to the VFCW, but without it, water cannot be filtered on site for human use.
	Outdoor farm Outdoor farming sites can be maintained both by individuals or commercial parties. They consist of divers cropping.		Fencing/wall Existing walls or fences can be used to grow climbing plants against, such as beans. This is a space efficient method, and can create an interesting green element as well as shelter.		Productive facade Instead of a standard green facade, it is possible to grow food on a facade as well. Examples of this are, leafy greens and fungi. The choice for growth substrate and produce is critical for the design exterior.		Greenhouse roof Greenhouses can be built on top of flat roofs. They are visible from the ground and can be private or communal. The greenhouse creates an optimal climate for food production and forms a climate buffer for the building.		Foodpath / park Using productive trees in parks or around footpaths creates interaction between production and inhabitants. It is a small intervention.		Seaweed farm Seaweed and algae are an important nutrient dense resource. They can be produced in water bodies (or indoors). By producing in public space, they might be integrated more in diets.		Eco-roof Part of the agricultural infrastructure is the use of eco-roofs. These roofs have an intensive green roof, which strengthens the ecosystem, and with that creates a synergy with the agricultural sites.		Bio energy The biowaste can be transformed into energy using anaerobic digestion. It is possible to create smaller tanks (2x2x2m). But there are safety risks, to integrating this in a residential building.
	Livestock keeping It is possible to keep small herds of cattle or small ruminants inside the city. This program is maintained by companies.		Pen/Coop The small housing of chickens and hens can be seen as a spatial element. It can be both educative and create interaction between children and animals.		Algae facade These facade elements are modular and can be harvested for both bio-energy as food. They give a high-tech design element to a building, and due to their clear presence, help open the conversation on the food system.		Basement Existing basements already have a climate buffer and hence are suitable for production. All daylight and heat will be done mechanically, but it is space efficient and has no effect on the surroundings.		Foodstreet Using the side of roads to produce food creates multi-use of space. However, car fumes can pollute the food. Therefore, these interventions only work around electric vehicles.		Aquaculture Aquaculture in existing water bodies, can create a multi-use of space. This intervention is less present than the creation of ponds in public space.		Eco-roof Part of the agricultural infrastructure is the use of eco-roofs. These roofs have an intensive green roof, which strengthens the ecosystem, and with that creates a synergy with the agricultural sites.		Composting Composting can be done on a larger scale or by individual residents. By using a small tank, the smell can be minimized and it can be integrated into a residential area.
	Education center This can be designed as a training centre, cooking school, workshop space or standard classroom. The purpose of this program is spreading awareness of the food system.		Hydro planters Hydro planters can be placed both outdoors and indoors. By integrating these in public or common space, residents gain more interaction with modern production methods.		Roof allotments These can be placed on top of public buildings. The allotments are shared by different people. The addition of the boxes, creates a lot of added weight and an access point will be needed on the roof.		Shared functions Staircases or other transport spaces, are often suitable for production. Creating multi-functional spaces optimizes production space, and can create interesting facade rhythms.		Orchard Orchards are a form of forestry. They can be combined with communal gardens or agricultural land to give an extra dimension and diversity in public space.		Meeting space Not all space should consist of production. The creation of meeting spaces unrelated to urban agriculture is important to give space to other leisure and cultural activities to improve liveability.		Distribution center The distribution center is a form of program, but also key in the transport of food, materials and waste. This is the collection point and starting point of transport.		Heat exchange In large scale production sites, it is valuable to exchange energy and heat between the production centre and surrounding residences.
	Laboratory A program mostly integrated with indoor agriculture, but mainly used to test new sustainable agricultural methods. This should not be owned by commercial parties.		Balcony planters These baskets or planters can be made of any material, and can be easily added by residents. It can also form a characteristic point in a design.		Facade fencing These small interventions can be integrated in existing residential buildings. They can be used to grow climbing produce and can give a new green exterior to a home.		Roof extension Extending the roof to the ground and integrating it as part of the urban space, can create more publicly accessible production space. However, it also creates inefficient indoor space.		Foodforest This public space is focused on interaction between residents and environment. It can be seen as a communal garden, focused on production in an eco-friendly way.		Wildflowers Wildflowers or normal planting is an important factor for pollinators. These sites should have little maintenance to optimize the ecosystem. Therefore, structuring them in design is important.		Rail infrastructure The rail infrastructure focuses on small wagons of 2x2x4 m which work on an electric rail system. They rails can be integrated in green space or existing roads.		Heat storage Heat storage is necessary in London to maintain the indoor climate of production centres during summer and winter. This can be done underground, or water can be used as a heat source in winter.
	Processing This forms a small part of the program as it centers around quality control and packaging for further transport. Key in this part of the process is keeping the food waste as low as possible.		Shelter Creating small shelters, with for example water points can create common spaces and keep residents dry when they are caught off guard by rain. Or to find some shelter from the sun in summer.		Greenhouse roof Residential homes can have a greenhouse instead of existing attics or sloped roofs. The greenhouse also creates an insulation buffer as well as a heat source in winter.		Active balconies Creating production spaces on balconies, by adding substrate can allow residents of dense urban areas to produce food or maintain a garden. This can also be achieved with small scale furniture interventions.		Allotments These are individual gardens for residents to produce food, for their own households. This type already exists in London and is highly popular. Due to the different tenants, it has a messy exterior.		Livestock field Small herds of live stock can be kept on site. These will have little effect on the food system and are more key in the biowaste process as well as the education.		Trucks Trucks (land roads) currently form the main system for transport of goods. An increase in production will increase the trucks, but using this system prevents changing the existing network.		Boardwalks These are a form of pedestrian walkways which can be elevated above agricultural fields to create a more flexible and pedestrian focused network.
	Kitchen Often integrated in each individual home. However, creating shared kitchens where people can cook together also can improve exchange of knowledge and interaction.		Box The box forms a modern greenhouse based on hydroponics. It can be used as a small 'fresh' shop, or as production activity.		Atrium This can be integrated as a central place inside the building, which does not only bring light to all functions, but also forms a central meeting place. As it already functions as a greenhouse, it is highly suitable for food production.		Facade elements Creating elements in the facade, such as hydroponic, or organoponic planters can add an interesting green effect to the facade. This is mainly aesthetic and has a low yield.		Communal garden This space is focused on interaction. All plots are maintained by everyone, thus a central manager is necessary. The functioning of this space is dependent on the residents.		Herb garden These can be small elements or patches. Herbs can be easily shared and form an interesting form of planting, as well as a qualitative addition to the ecosystem.		Boardwalks These are a form of pedestrian walkways which can be elevated above agricultural fields to create a more flexible and pedestrian focused network.		Boardwalks These are a form of pedestrian walkways which can be elevated above agricultural fields to create a more flexible and pedestrian focused network.
	Eating Each home should have its own designated dining areas. However, in the case of small homes, shared dining spaces can be designed to allow residents to dine with more guests.		Tower This is a building with only food production. In its most efficient form it is glass and functions as a stacked greenhouse. Due to its size and function, it will be based on steel.		Tower This is a building with only food production. In its most efficient form it is glass and functions as a stacked greenhouse. Due to its size and function, it will be based on steel.		Playground While not directly related to food production. Creating active spaces for children near production sites, creates interaction.		Playground While not directly related to food production. Creating active spaces for children near production sites, creates interaction.		Playground While not directly related to food production. Creating active spaces for children near production sites, creates interaction.		Playground While not directly related to food production. Creating active spaces for children near production sites, creates interaction.		Playground While not directly related to food production. Creating active spaces for children near production sites, creates interaction.