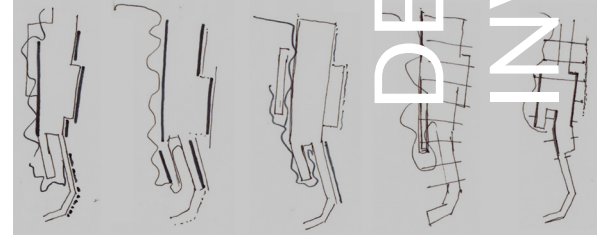


Chapter 6:
Creation of space



DESIGN INVESTIGATION

6.1 Intuitive models

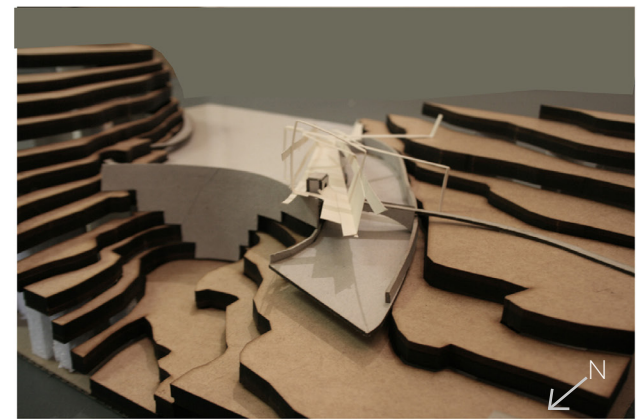
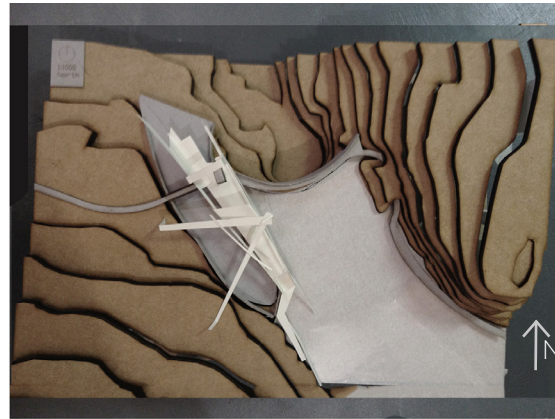
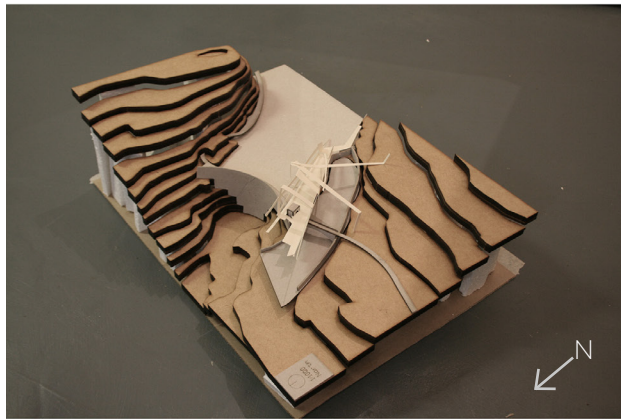
The initial design strategy was to create intuitive models to explore the opportunities on site as well as look for different site choices. These models show a multitude of different site investigations such as creating a new bridge, working upon the dam wall and digging into the existing scarred landscape.

Both models, A and B, explored the site directly on the crest gates/infrastructure. They both looked at creating a journey from the proposed floating boardwalk across the infrastructure and terminating around the historical artefact of the arch. They look at different ways of connecting from the crest gates, across the spillway, to the scarred landscape. Both try to emphasise the new paradigm by wrapping the

arch by the building. The models both terminate with a viewing platform looking back to nature.

Model A has structure that directly links back to the scarred landscape, with large arms that overhang the spillway. Compare to model B that the form actually twists to connect to the other side with a zigzag plan.

A



B

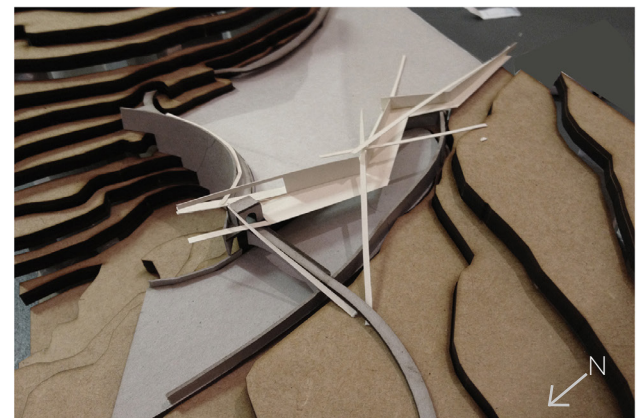
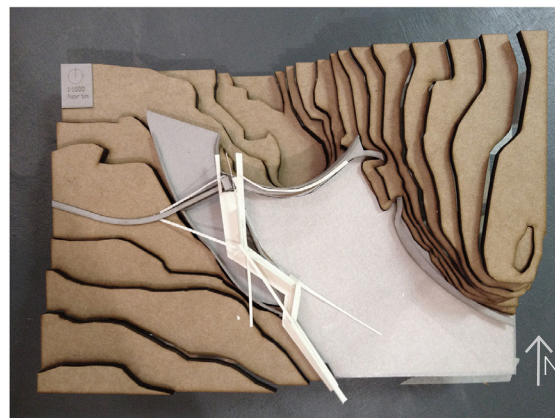
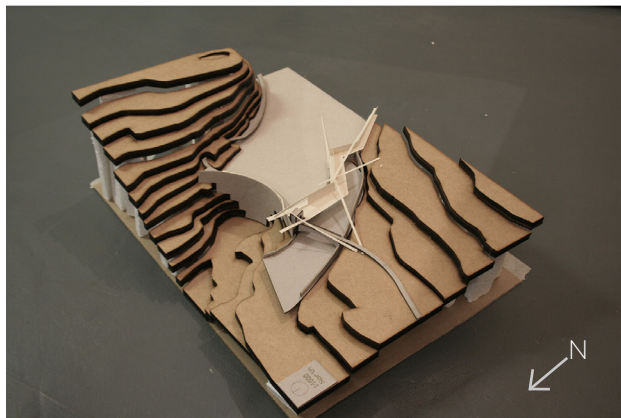
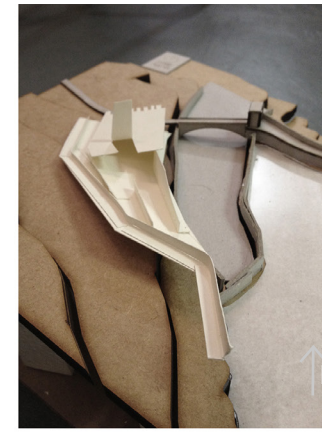
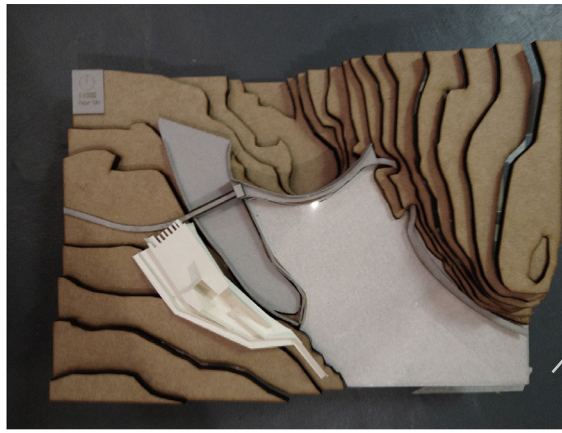


Fig 6.1 Intuitive models (Author, April 2016).

Model C made use of the existing scar and sunk the building into it in order to not disturb any more of the site. The idea of elevating the vermiculture process in order for it to be in public view was important. Creating a series of walls that lead you into the space thus revealing and concealing the dam and the site.

In model D the idea of creating an entirely new bridge was explored, that represented the new paradigm. The structure would be suspended from the two sides of the poort with ramps that connected with the infrastructure. Neither of these models dealt with the infrastructure enough which is one of the architectural problems set out for this dissertation.

C



D

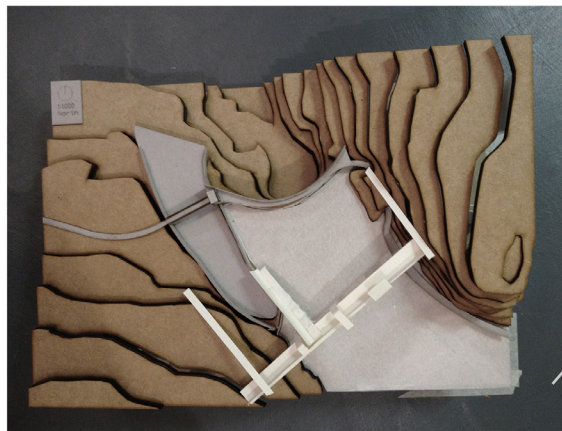
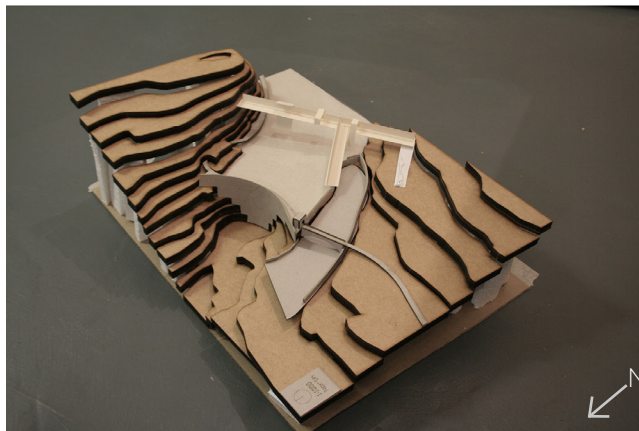
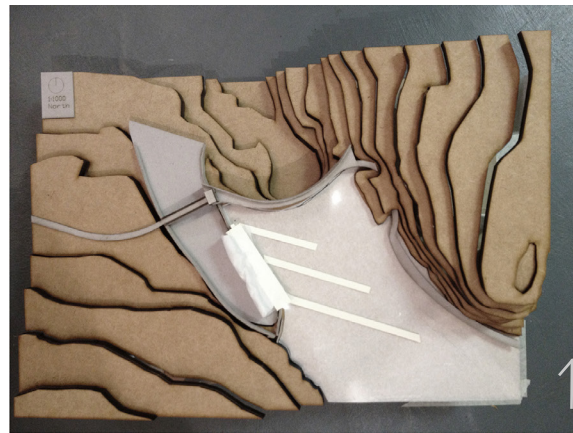
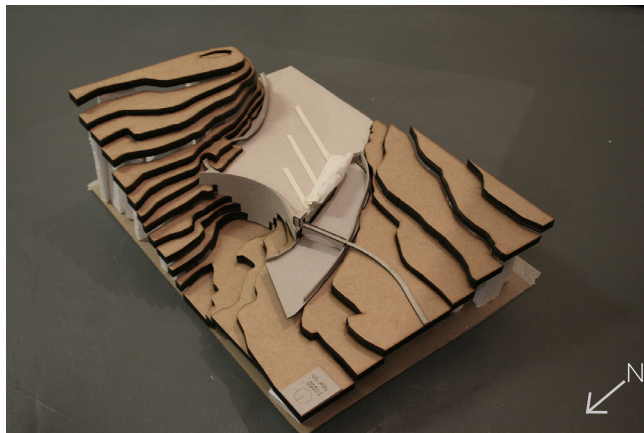


Fig 6.2 Intuitive models (Author, April 2016).

Model E was again situated on the crest gates but had arms that branched out into the dam, for the collection of the Hyacinth. It did not deal with the connection to the scarred landscape or the historical artefact of the arch.

Model F explored a variety of small interventions on site that could be linked together through a larger building on the infrastructure. This was to investigate a combination of all of the other models and explore the idea of synthesising them into one cohesive intervention.

E



F

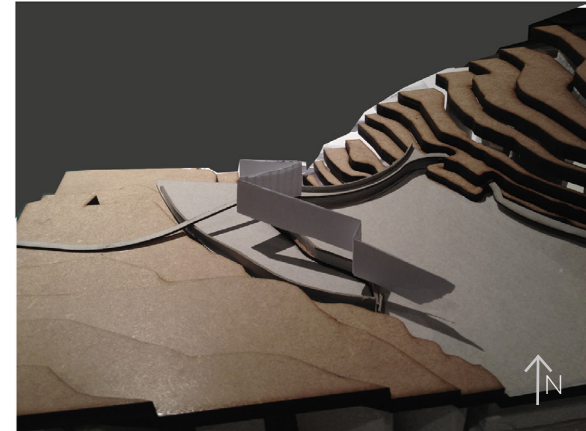


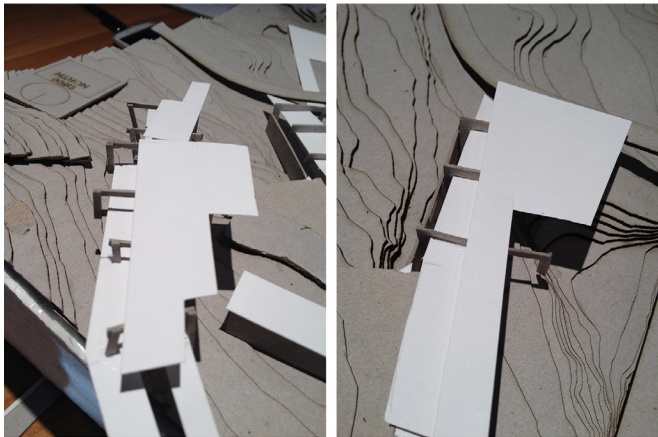
Fig 6.3 Intuitive models (Author, April 2016).

These models were used to explore the roof plan and structure, how at certain times it could be revealed and at other times be concealed underneath the roof. This then became an expression of how there was control of water on one side and the release of water on the other side of the building.

Throughout this investigation two opposing ideas were explored. One was to create a building that reads as the same language as the existing infrastructure; a building that has always been there. The second was to create a new building that contradicts the existing language of the infrastructure.

Remnants of each one of these intentions or design drivers are actually evident in the final design. The final intervention became a combination of many of these models and became a more synthesised design.

G



H

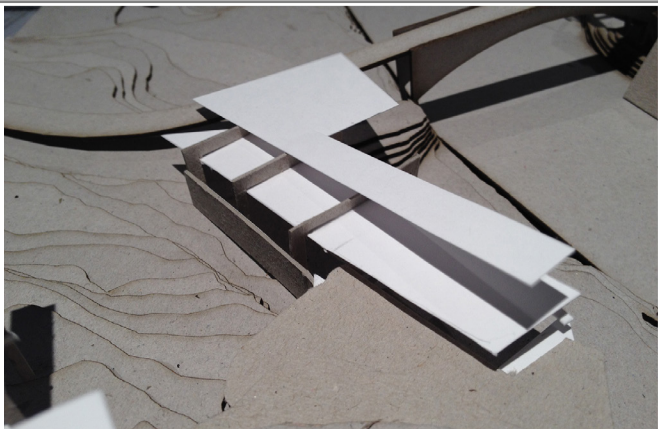
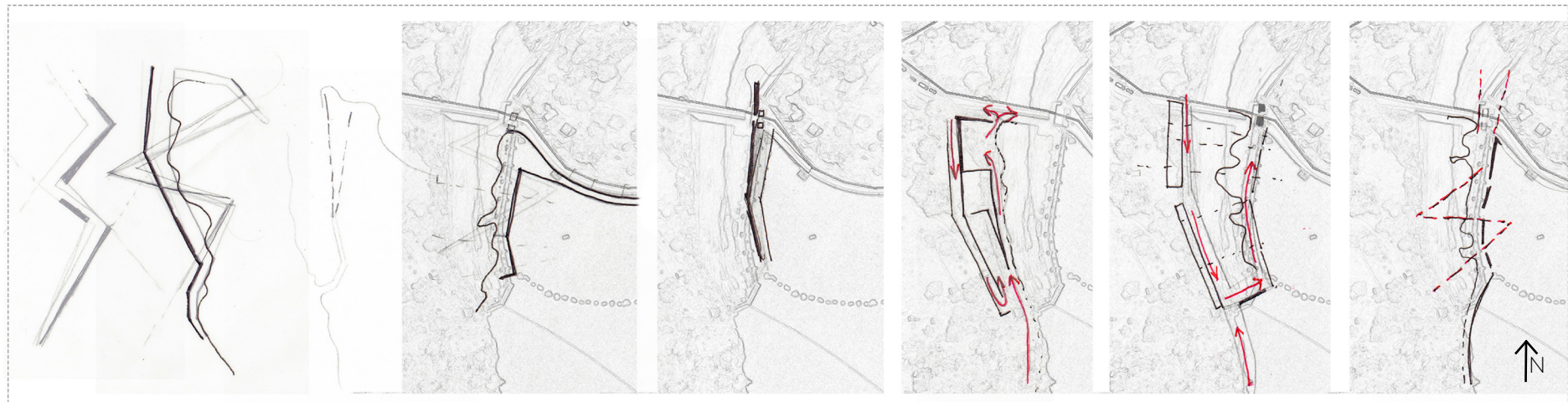


Fig 6.4 Intuitive models (Author, April 2016).



6.2 CULTURAL INFORMANTS

The Cultural informants looked at how a viewer would move through the site and experience the architectural memory versus the infrastructural memory. Creating a better celebration of our water heritage by connecting man and water through highlighting the gateways that exist on this site, this will lead to experiencing the water in different ways. The diagrams focus on a new monument to water which celebrates how we are reliant upon water rather than in control of it as the Arch does.



These diagrams show important views from different places on the site that could possibly be highlighted, such as the victory Arch and scarred areas in the landscape.

These diagrams look at how the new monument should interact with existing architectural memory of the victory Arch. Highlighting it through framing views, moving underneath it or over it, or even covering it and giving it a new meaning

These diagrams explore different movement routes through the site to experience it in different ways such as moving from the man-made architectural memory to infrastructural to nature.

Fig 6.5 Cultural informants for concept crit (Author, May 2016).



6.3 ECOLOGICAL INFORMANTS

From the ecological informants these diagrams focus on the exchanges that could be created between the latent potential contained within the water and the landscape. How this pollution could be extracted and utilised to rejuvenate the site. The systems look at integrating humans into natural systems that are regenerative to its surroundings. Through this connection and understanding creating a better awareness of the importance of our natural resource water.



The diagram shows the experience of the viewer understanding the context and the problems on the site and how are they are trying to be solved.

These diagrams show a building that can collect energy from the water and released it to the surrounding areas to rejuvenate the scarred landscape that the dam has created.

The building reflects the contrast in conditions that occur on either side of the crest gate; A control over the water body versus the release of its power.

Fig 6.6 Ecological informants for concept crit (Author, May 2016).

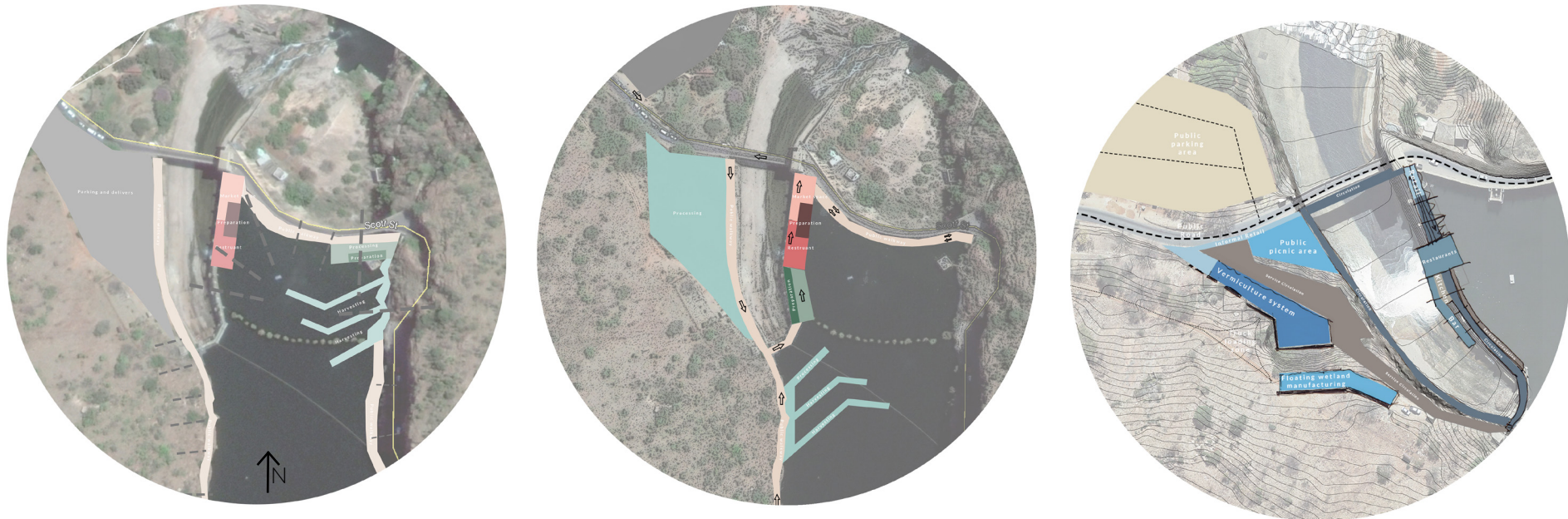


Fig 6.7 Site plan development (Author, March to April 2016).

6.4 PROGRAM LAYOUT DEVELOPMENT

There were three major site plans that changed through the initial stages of the project.

The first one looked at creating walkways in front of the dam wall that could collect the hyacinth with the main public spaces attached to the dam wall and sitting upon the crest gate infrastructure. This caused a problem as the hyacinth naturally built up on the left hand side where crest gates were situated.

The second plan looked at creating collection walkways in front of the crest gate as this was the existing area where hyacinth was collected. The public restaurant space was intertwined with the vermiculture system. This would have led to a massive structure being placed on top of the crest gates to cater for all these activities, which was inappropriate. This design did allow for a good understanding of the exchanges between the spaces.

The final site layout moved the vermiculture system on to the scarred landscape created by the dam, leaving the public spaces free on the crest gate. It was understood from the last site plan that these exchanges need to happen throughout both spaces to create a better understanding for the viewer and therefore a journey was created. The user (visitor) would have to pass the vermiculture space and then finally move onto the infrastructural and public interface. This gets the user to interact with both spaces and all exchanges.



Fig 6.8. Vision Perspective of public space next to infrastructure (Author, May 2016).

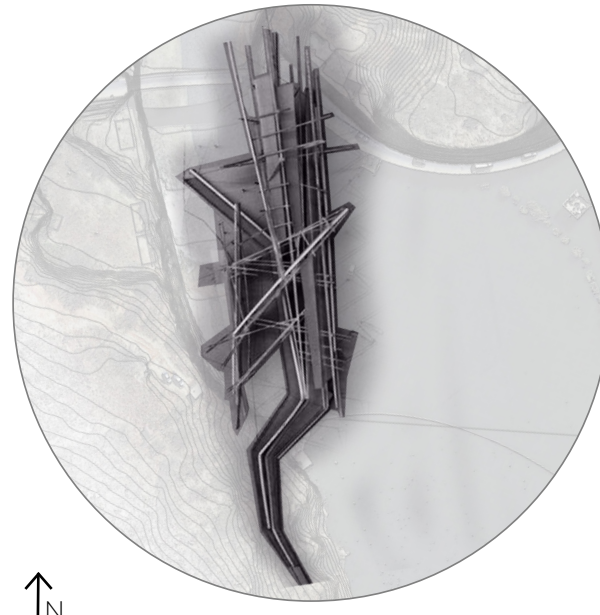


Fig 6.9. Form development (Author, April 2016).

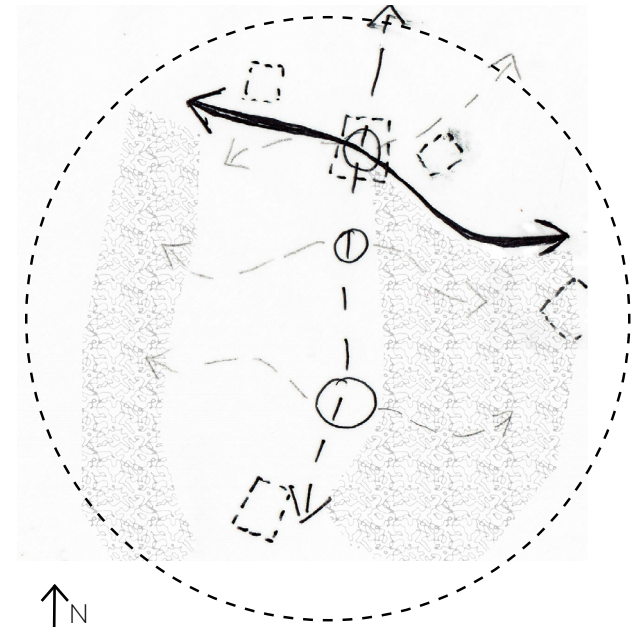


Fig 6.10. Axis of informants (Author, March 2016).

The initial driver of the form of the public interface on top of the crest gates was to reflect the stark contrast between the controlled water and the release of the water. The plan started to reflect the power of the water and the way that it was being controlled. The form looked at creating another gateway between these two experiences.

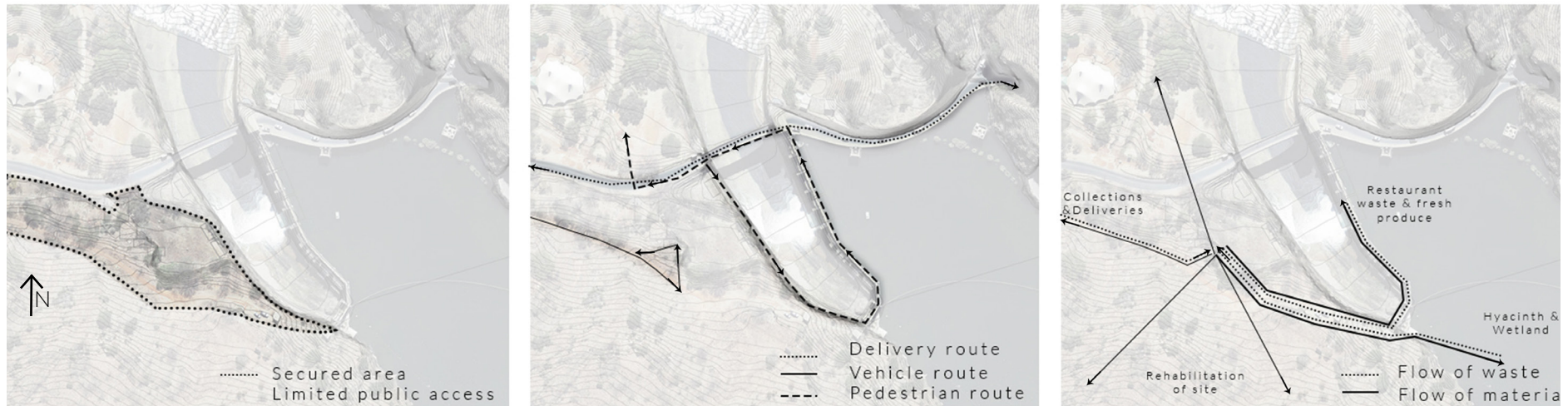
There were two primary locations to develop that were found through this investigation. The one was the infrastructure of Hartbeespoort dam which is, as

already stated, the actual crest gates that exist on site. The other option was to develop the most disturbed area of the site, the scar created by the dam.

Early designs showed how the form can create an understanding of the exchanges that are being created. A journey that is guided by the form to express the problems with our previous relationship with water and a new relationship can be created.



6.5 PROGRAM LOGISTICS



The diagram above shows the level of security which would need to be created in order to secure the vermiculture building. As already stated in the program chapter the vermiculture process was unproductive due to theft of the worms. In order to prevent theft the building could be closed on weekends when staff are not working. There would still be the public interface, with some vermiculture boxes, that would be open on weekends in order for visitors to understand the full range of exchange on site.

The next diagram shows the flow of the user (the visitor) in order for them to gain a haptic understanding of the exchanges on site. There would be a specific route that the form would encourage visitors to follow. The diagram also shows vehicle routes and delivery points.

This diagram shows the flows of different materials into and out of the exchanges, the solid line being inputs and the dotted line outputs.

Fig 6.11 Spatial requirements and view of building (Author, May 2016).



Fig 6.12 Perspective over view (Author, June 2016).

6.6 Site Layout

The layout of the site plan encourages the public to follow a specific route through the site to engage with all the different exchanges and to gain full understanding of everything that is happening on site.

Outdoor space

The existing site of the vermiculture space would be appropriated for parking as this area has already been flattened. The parking lot would be enough for 100 cars. A designated bus stop with roofed waiting area will be created alongside the road to boost public transport use. There will also be an informal retail space, where hawkers can set up their fresh produce and products. In order to allow movement across the road the texture would be changed, to direct the flow of the user along a specific route. The creation of a formal park space on the lower half of the site, next to the spillway, will encourage public to use the space.

Vermiculture space

The first building is the vermiculture which has a public interface where presentations and understanding of the system will happen. There is a covered walkway with windows that look into the vermiculture space and then finally the wetland creation space which the public can enter into the building from Monday to Friday. There are benches, tables and ablutions in front of the space for the public to use.

Public interface space

The user is then led on to the suspended walkway off the scarred cliff till they move on to the existing infrastructure next to the collection point of the Hyacinth. Next to the walk way there is a second ablution block. Once they are into the restaurant space there is a bar area on the ground floor and restaurant above and then finally the retail space as the exit. As they move around the existing arch there is a viewing platform that wraps around it. The public is inspired to view towards the natural vista. Finally moving back across to the parking lot there is an additional pedestrian bridge next to the vehicular bridge.

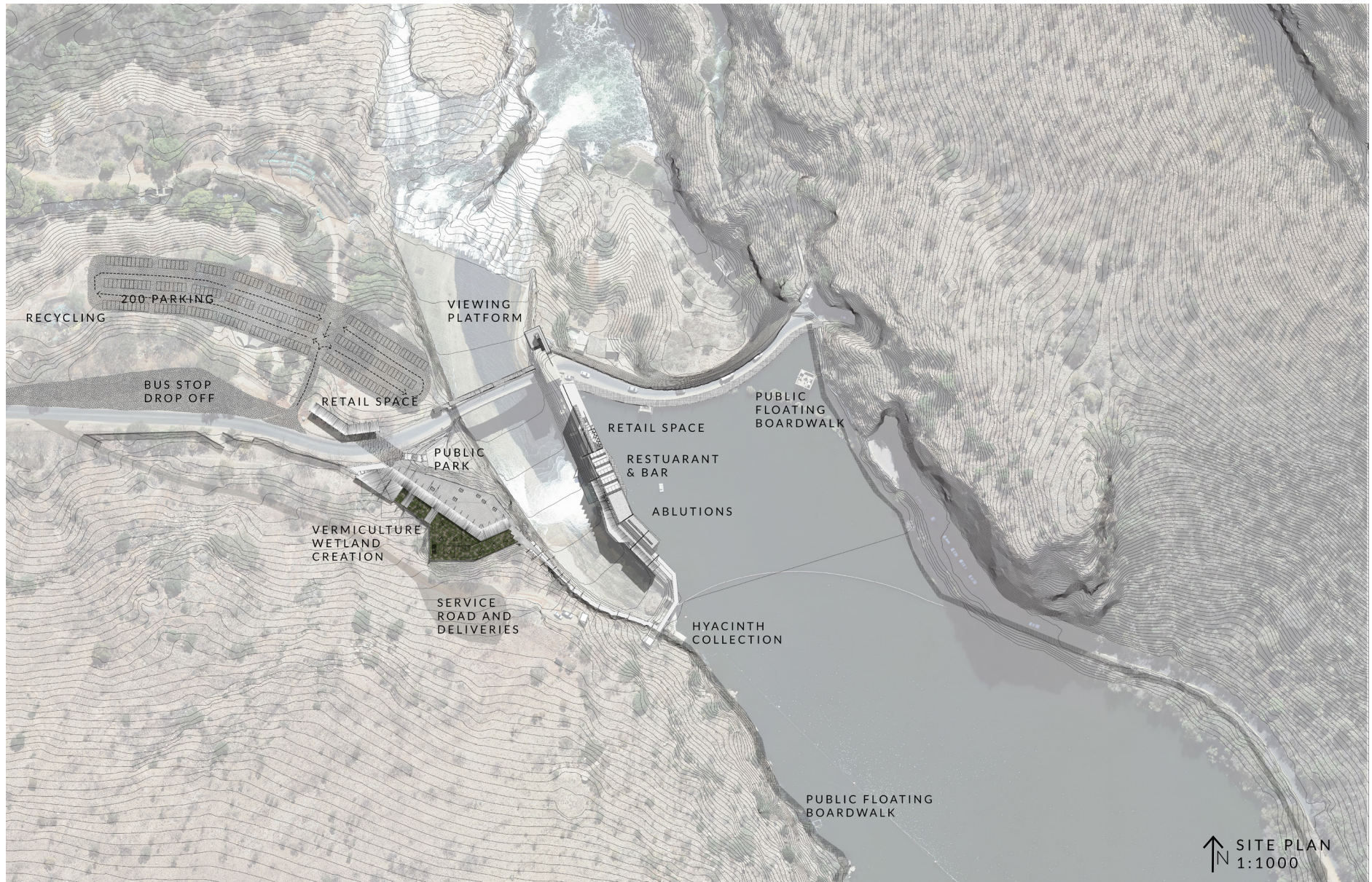
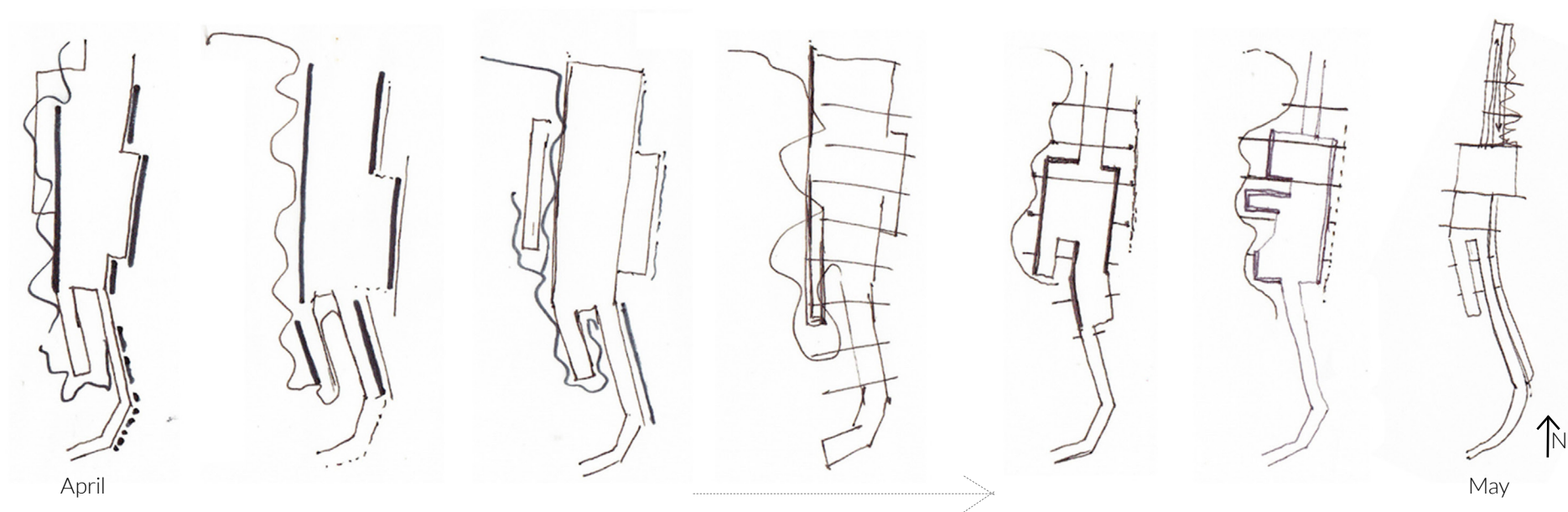


Fig 6.13 Final site (Author, June 2016).

6.7 PROCESS WORK

Plan exploration



With the conceptual designs the building simply contained exchanges rather than expressing them. High-tech architecture was used as a precedent to express these exchanges better in the facade as well as the spaces of the building. These precedents also helped with making the closed loop systems of the program more tangible to the user and thereby create a paradigm shift.

This also gave clues about choices of materials and how certain materials needed to complement the existing language of the infrastructure and other materials contradicted it, creating a series of exchanges between served spaces and service spaces.

Fig 6.14 Plan development (Author, April to May 2016).

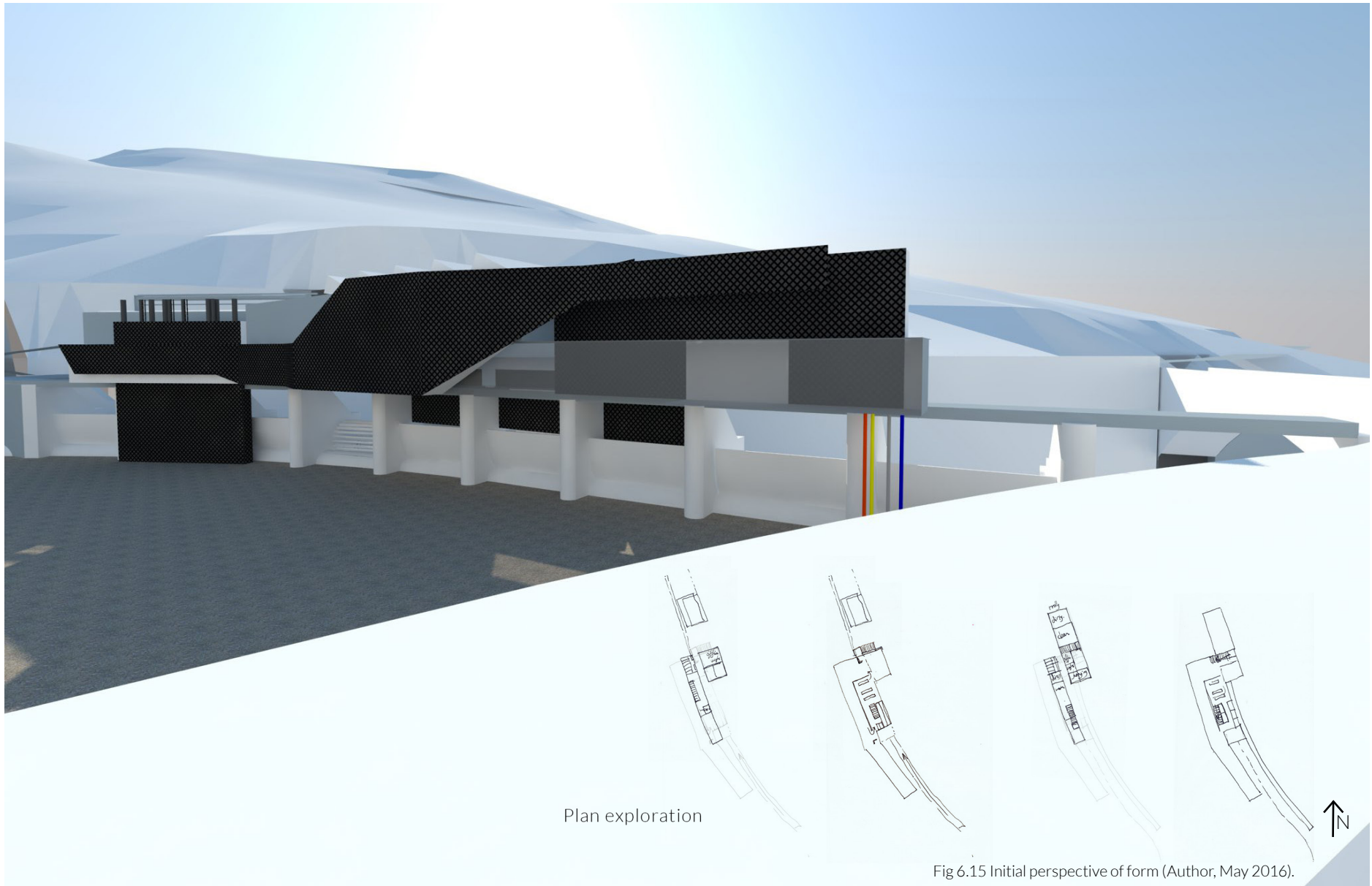




Fig 6.16 Perspective over different water conditions (Author, May 2016).

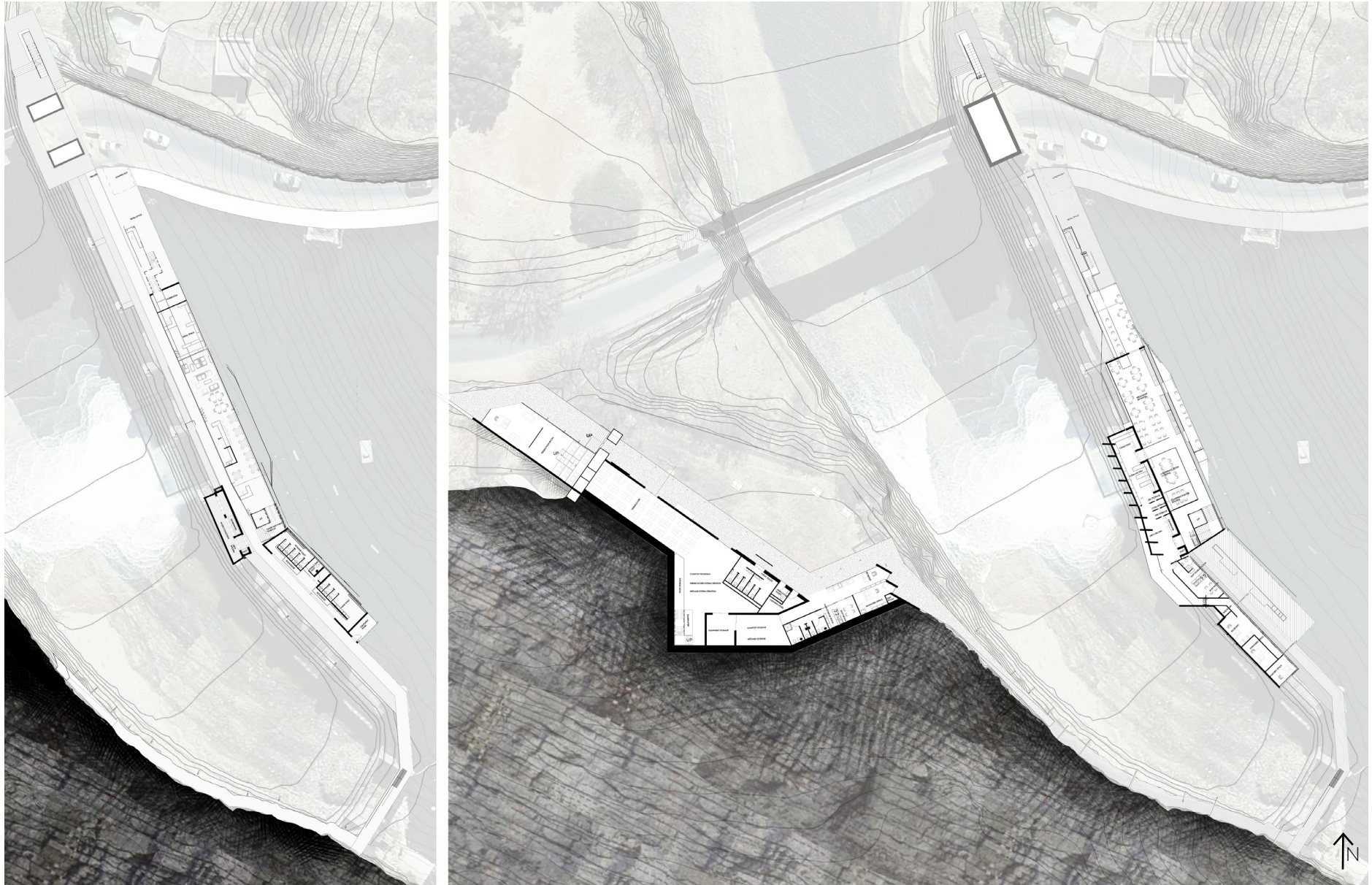


Fig 6.17 Ground floor plan and first floor plan (Author, June 2016).

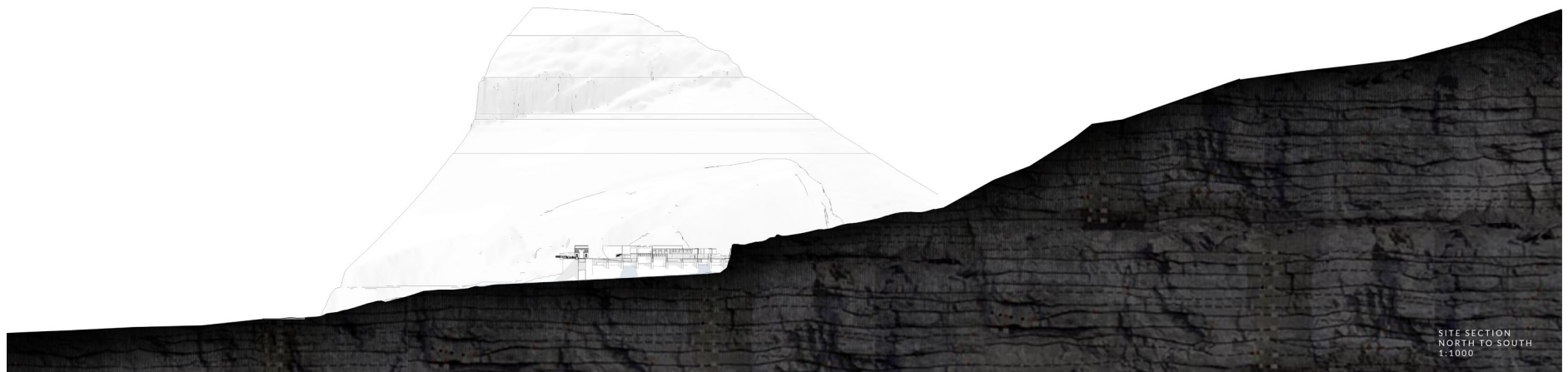


Fig 6.18 Longitudinal section North to South (Author, June 2016).

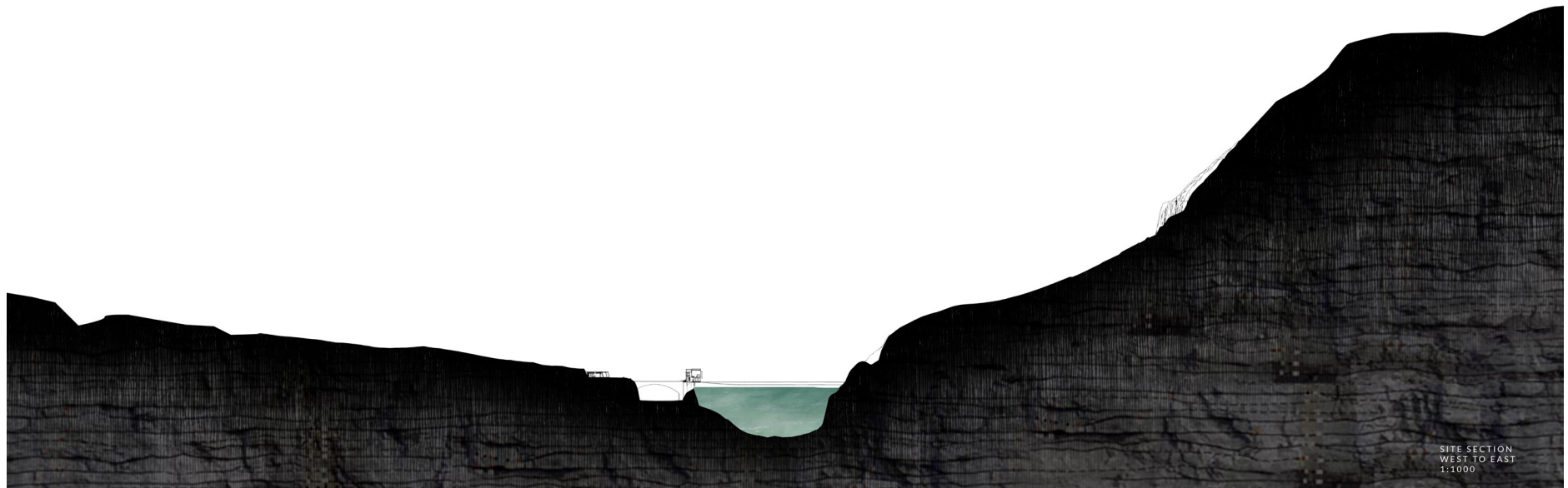
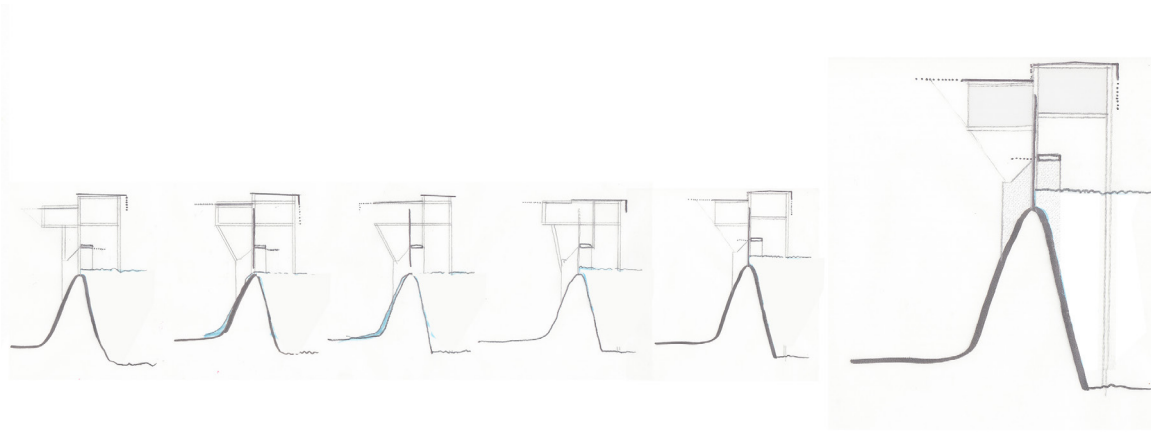


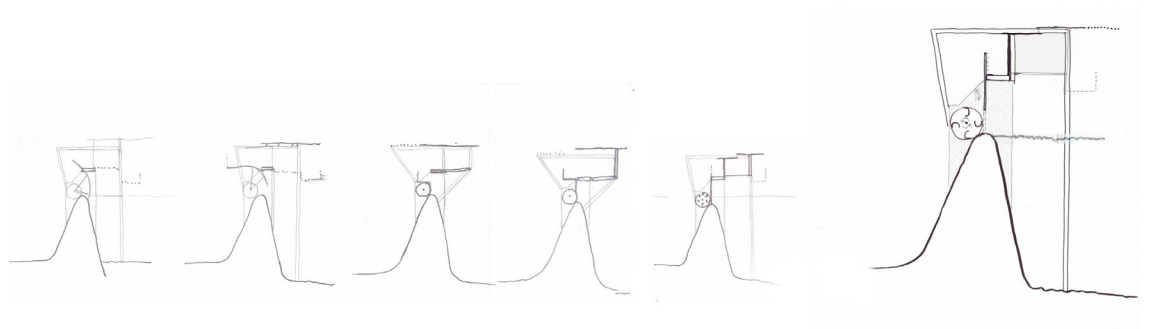
Fig 6.19 Longitudinal section West to East (Author, June 2016).



6.8 Section Exploration

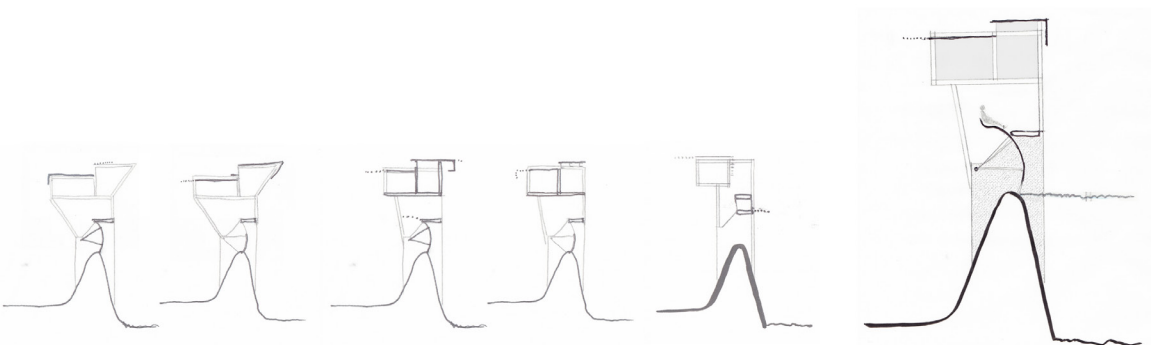
Restaurant spaces

The restaurant section explored the idea of release and containment of the water and expressing this in the space. Also considered was creating new crest gates that interact and change the space in the restaurant whether they are open or closed.



Retail space

The retail space needed to react to the existing monument of the arch as it is the leading space to it. The height ratios of the space relate to the order on the arch. The creation of power through watermills was also explored and how this could interact with the space.



Public walkway

The public walkway needs to be clearly defined as what is new and what is existing. This is done through the changing of materials of the walkway. Interaction between viewer and the crest gates were also explored. The gates could create seating when open and an edge to the walkway when closed.

Fig 6.20 Section development (Author, April to June 2016).

6.9 Spatial articulation

Figure 6.20 explores the different spatial experiences of the different programs. The volume of space of these programs grows and shifts according to the journey of the user. This is in order for them to experience certain aspects and highlight certain views which allows them to gain an understanding of what is happening on site.

The ground floor bar area is an extension of the existing walkway creating a free and unconstrained space. Facilitated by sliding/folding doors that open up the space during good weather, creating an open platform over the water and infrastructure.

This would create a more informal and relaxed environment. The western side of the building will be lined with a long counter top that people could sit and have drinks at, looking out over the water and crest gates.

The restaurant space above grows in volume as you move towards the arch. The space conceals and reveals certain views as you progress through it. The intent was that the user sees the controlled water body as they move up the stairs and only as they move out onto the lighter balcony they hear and smell the water and it brings the other senses into play. Finally they move back into the space, the service core ends, and there is a view towards the vermiculture building, exposing the spillway and the release of the water. Exit is through the largest volume of the space which changes to represent the angle of the solar panels above. The user moves down the stairs, inside the screen of exchanges of the building and finally meets with the historical artefact of the arch.

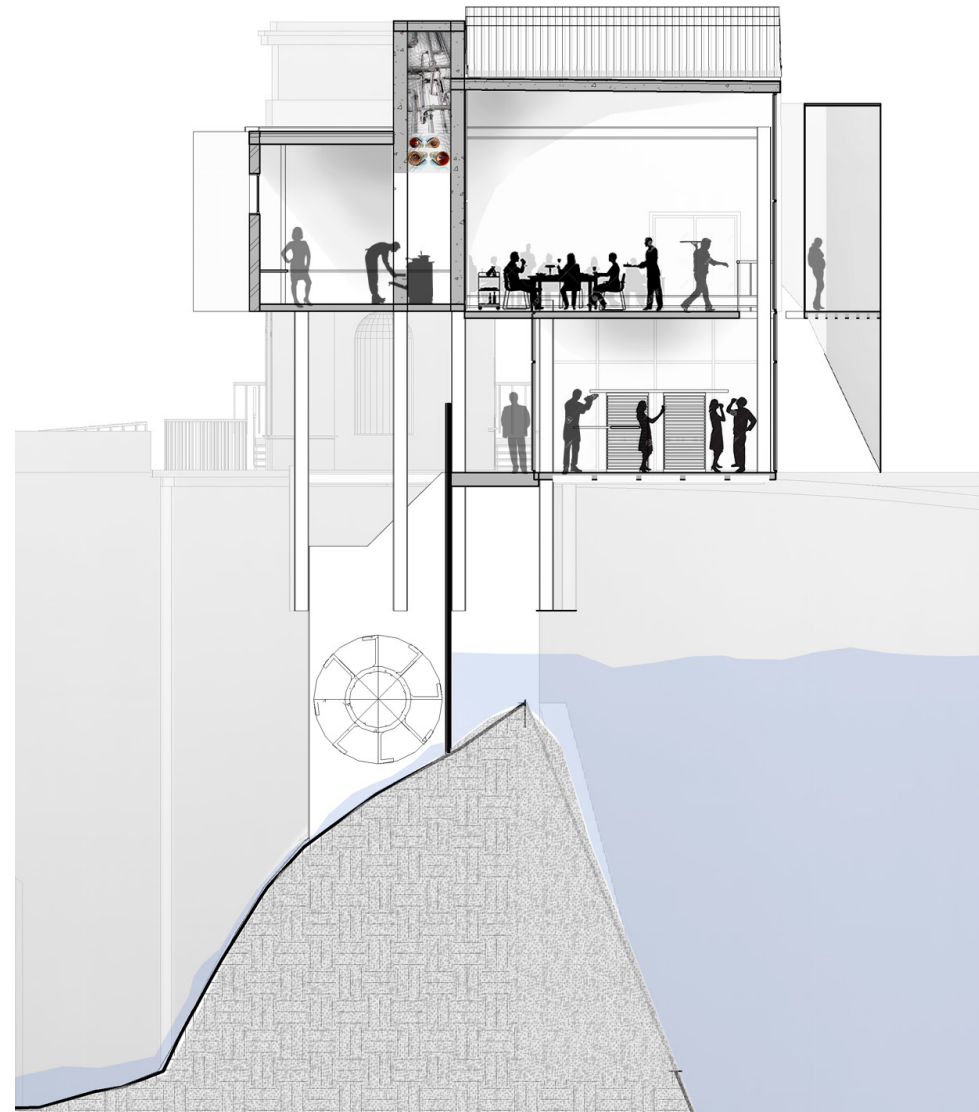


Fig 6.21 Section development (Author, April to June 2016).

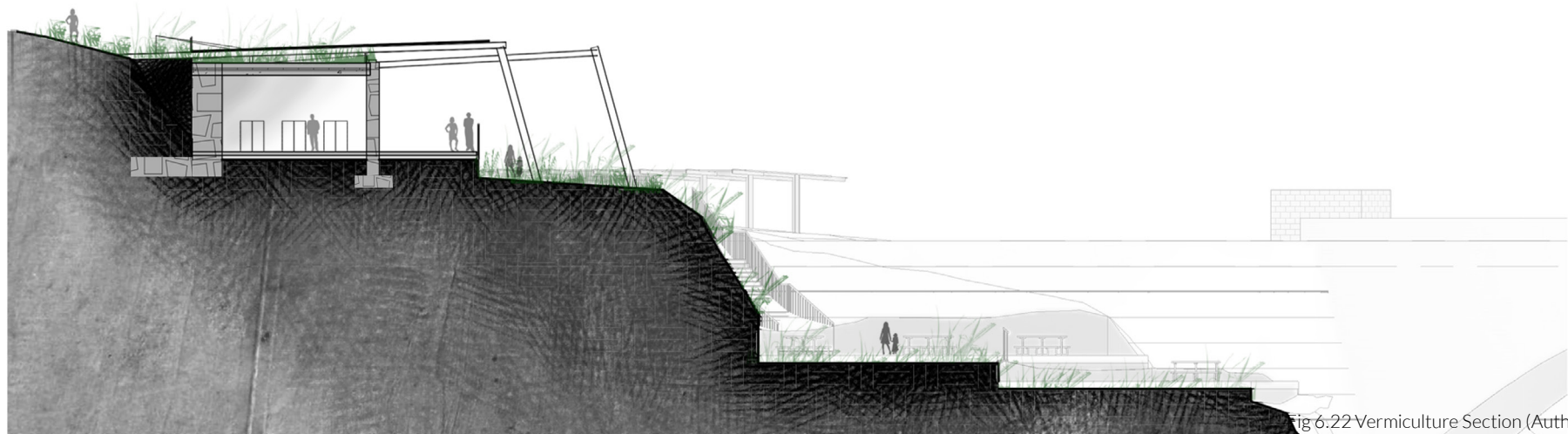
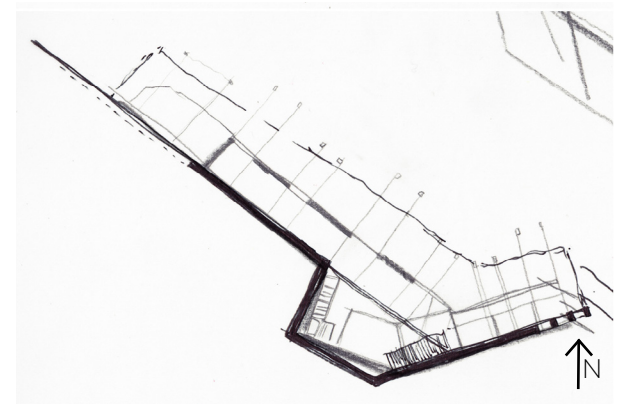
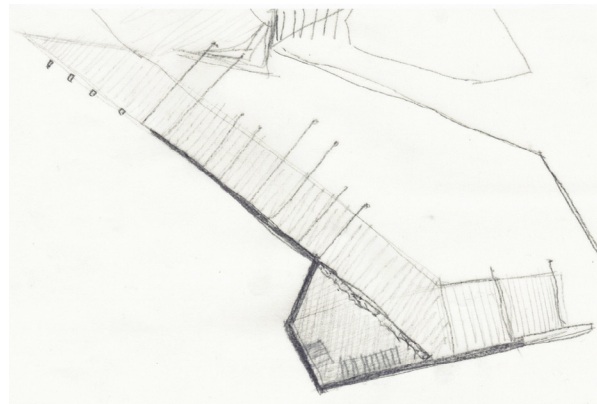
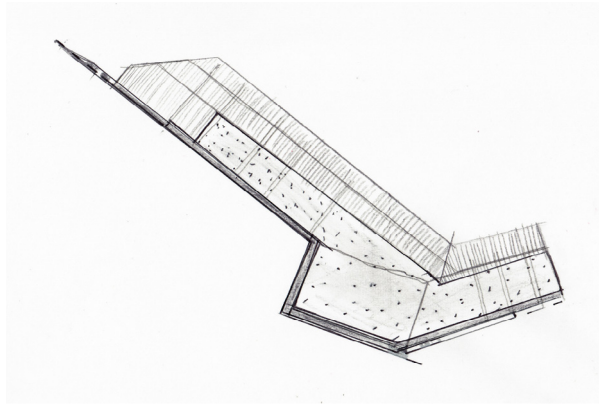


Fig 6.22 Vermiculture Section (Author, April to June 2016).

Through the separation of the vermiculture and restaurant spaces it was clear that each one needed its own design strategy. On the one hand the vermiculture building aims to develop the most scarred and disturbed area of the site, creating a new synthetic landscape that regenerates the area that it sits upon. The aim of the restaurant space is to create a public interface to the existing infrastructure that creates social and economic activities.

Through section development two very different kinds of architecture emerged. On the one hand the vermiculture building started to integrate itself into the landscape through its program and its form. A much more stereotomic building that looked like it had always been there. On the other hand the public interface and restaurant space created a much bolder, louder architecture to emphasise the new paradigm created. But these two polar strategies need to have some similar elements so that they read as they are part of the same design framework.

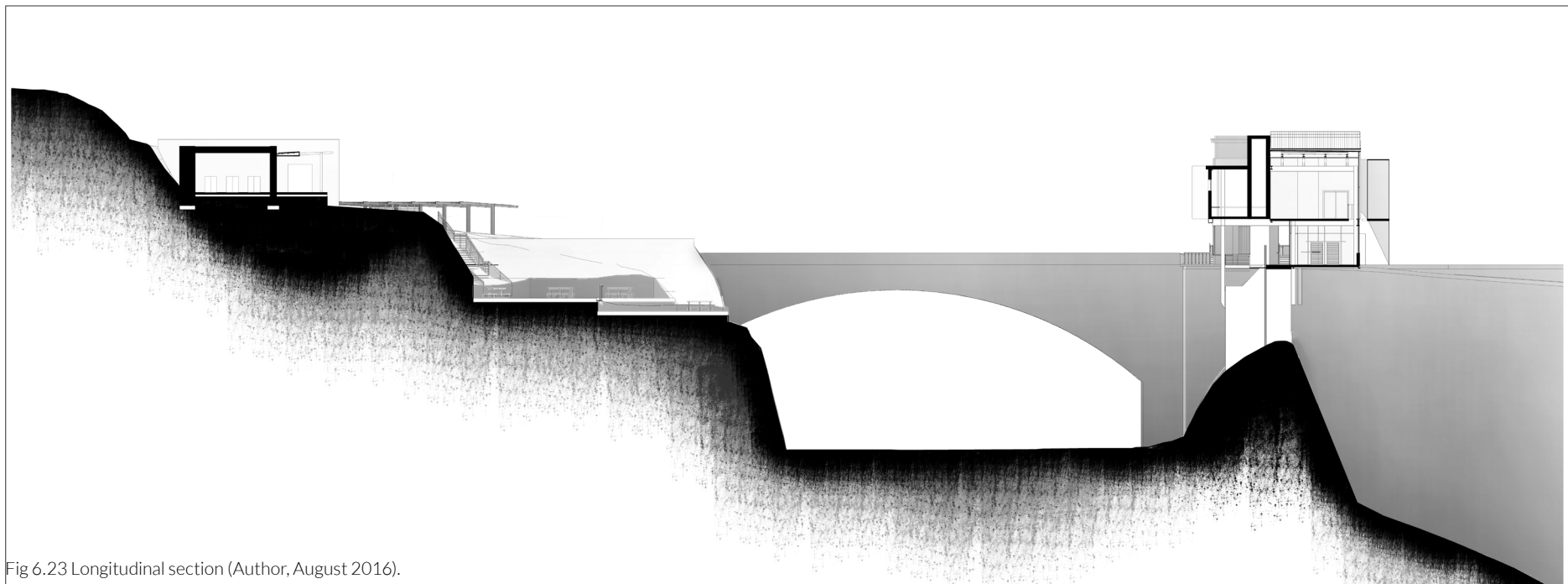
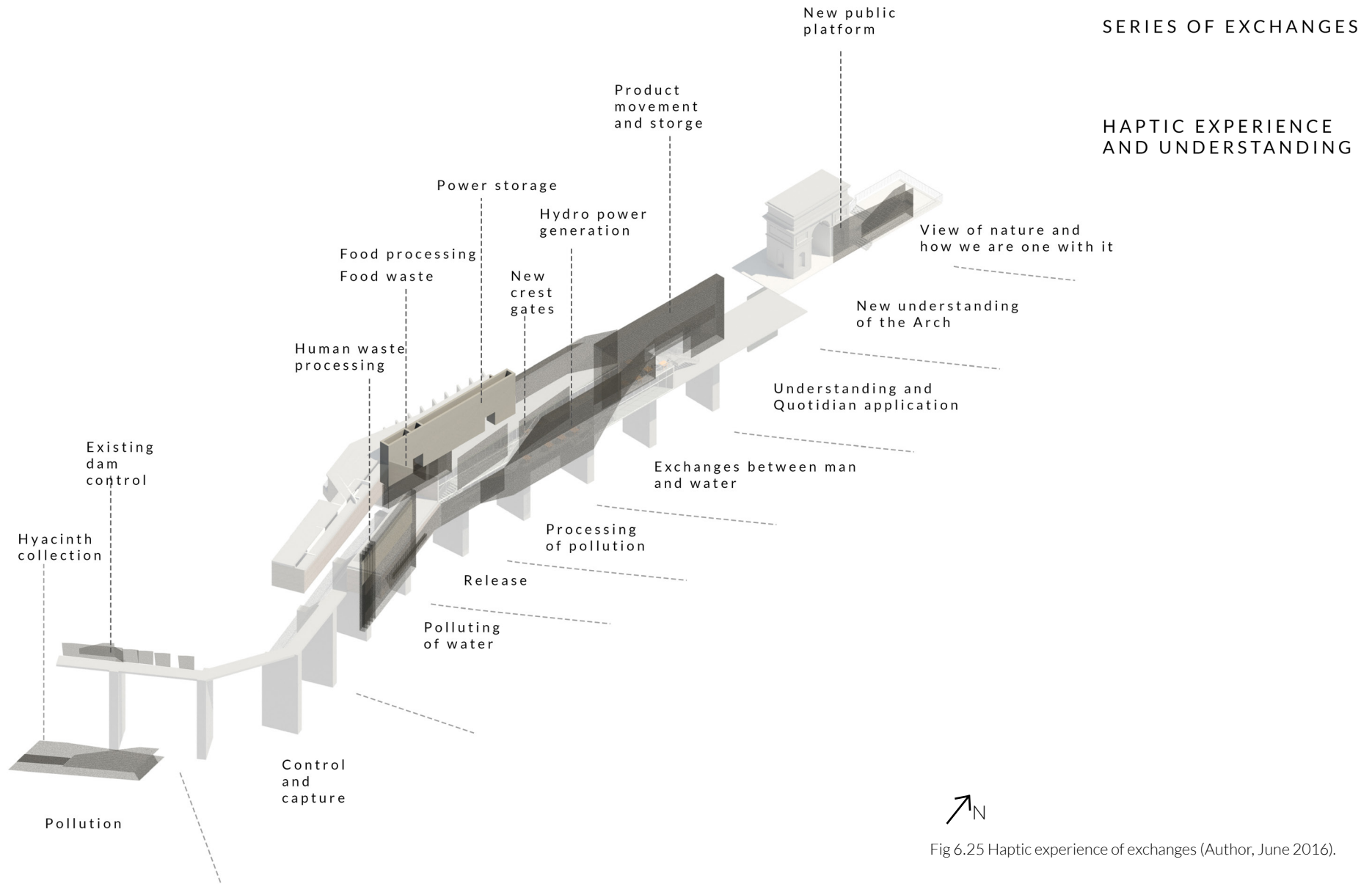


Fig 6.23 Longitudinal section (Author, August 2016).



6.10 Haptic experience and understanding

Initially most of the exchanges were contained in the vermiculture building rather than the restaurant space and the public interface. This diagram (see fig6.22) shows the haptic experience that one gains as they followed the route, as well as the different exchanges that happen within the building.

After the user crosses the road their first experience is the vermiculture public interface. At this point they are educated through presentations and hands on interaction with the vermiculture system. Then they can move through the main production space and into the wetland creation space. Here they are encouraged to view the works creating these floating wetlands and try it for themselves.

Once you move outside it is possible to see the gardeners that grow the plants that will later be used in the restaurant or be placed in the floating wetland. There is a large water tank that catches the grey water that is then used to irrigate these plants. This becomes a gateway for users moving into the public picnic space, forcing all public to interaction with water.

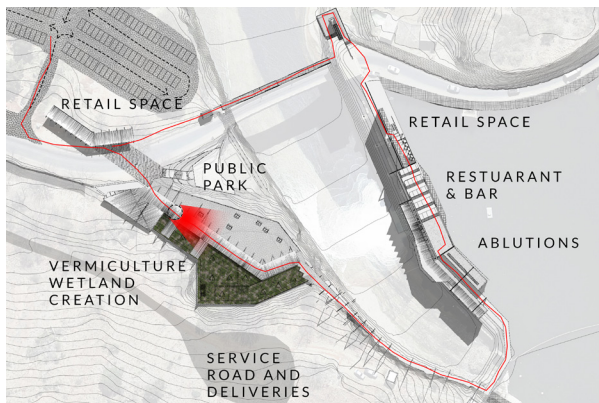


Fig 6.28. Point of view on site plan (Author, 2016).



Fig 6.26. Public walkway along vermiculture (Author, 2016).



Fig 6.27. The space for vermiculture system (Author, 2016).

If the viewer does not choose to directly interact with the systems there are still highlighted views from outside through the building to the systems. This is crucial as during the weekend, when there are large amounts of users, the space will be closed and therefore there is only a visual education at this point.

The covered walkway frames the view of the restaurant space above the crest gates and creates a sense of direction that guides the user to approach the walkway that is hung from the scarred cliff. As the user moves along this route there are planter boxes that attach themselves to the scar, allowing new vegetation to grow up and reclaim the scar over time.



Fig 6.29. Public walkway along offices (Author, 2016).

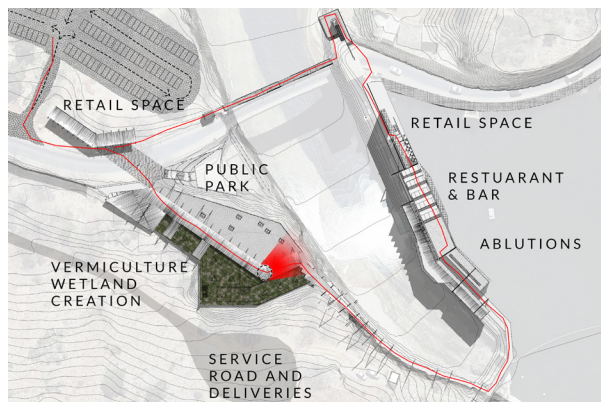


Fig 6.31. Point of view on site plan (Author, 2016).

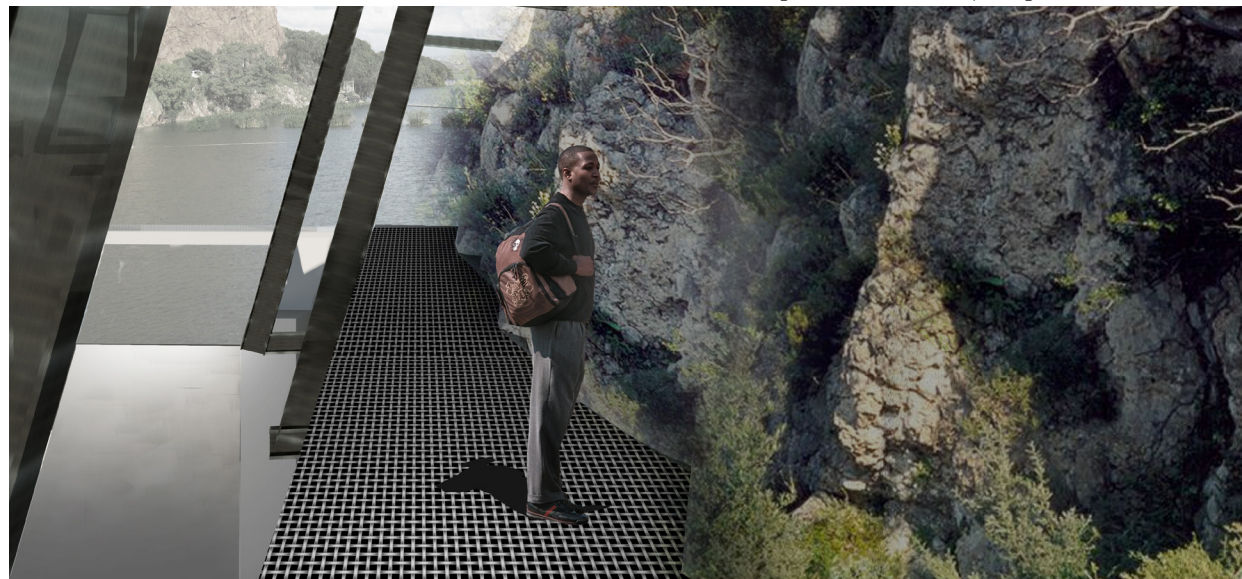


Fig 6.30. Suspended walkway along scar (Author, 2016).

Finally the user moves on to the existing infrastructure walkway, highlighted through floor material change. They are first confronted by the controlling element of the dam, which is the old pump room and the winch that controls the crest gates. This old control system has been turned into a seat where people can sit and look out over the dam, a place to contemplate and reflect.

The second sight is of the collection of the hyacinth that occurs at water level. There is an existing floating platform at the first crest gate which the workers use to remove the build-up of hyacinth. This organic plant matter is then taken back to the vermiculture space.

As they progress further they experience both types of the water bodies; the controlled on the right side and the released water on the left hand side. They gain an understanding of the forces that water can create and therefore the power needed to contain it.



Fig 6.32. Seat on old control of crest gates and view to controlled water body (Author, 2016).

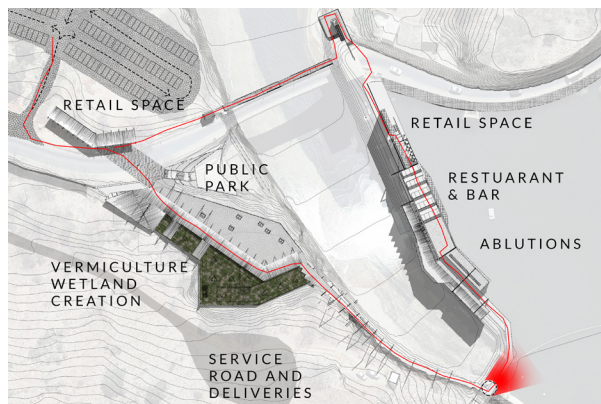


Fig 6.34. Point of view on site plan (Author, 2016).



Fig 6.33. View towards ablutions with both controlled and released water bodies (Author, 2016).

Approaching the ablutions block there is a large inlet pipe that comes out of the dam and becomes the balustrade of the walkway. This pipe sucks water into the water filtration system. It flows into a tanking system that creates the back wall of the ablutions. As they progress into the space, the user will be made aware of the biodigester that sits below the floor with a large gas bladder suspended in steel mesh.

The toilets are designed in such a way that the most private spaces are integrated into this system wall of the biodigester and water tanks. Lined with a long window looking out towards the dam, the basin is one long trough that looks as if the water flows directly into the dam, even though it is taken through the water filtration system. This is to represent what is happening every time the person uses water at home as a dam such as this is where eventually the water ends up.

All along this existing walkway there is a constant flow of material for example; the hyacinth being taken to the vermiculture space, fresh produce being brought from the planted roof of the vermiculture building to the restaurant space, the removal of organic matter from the kitchen and placing it in the biodigester, the flow of water in the pipes into the abluion block and the gas leaving the biodigester bladder and flowing into the kitchen through pipes.

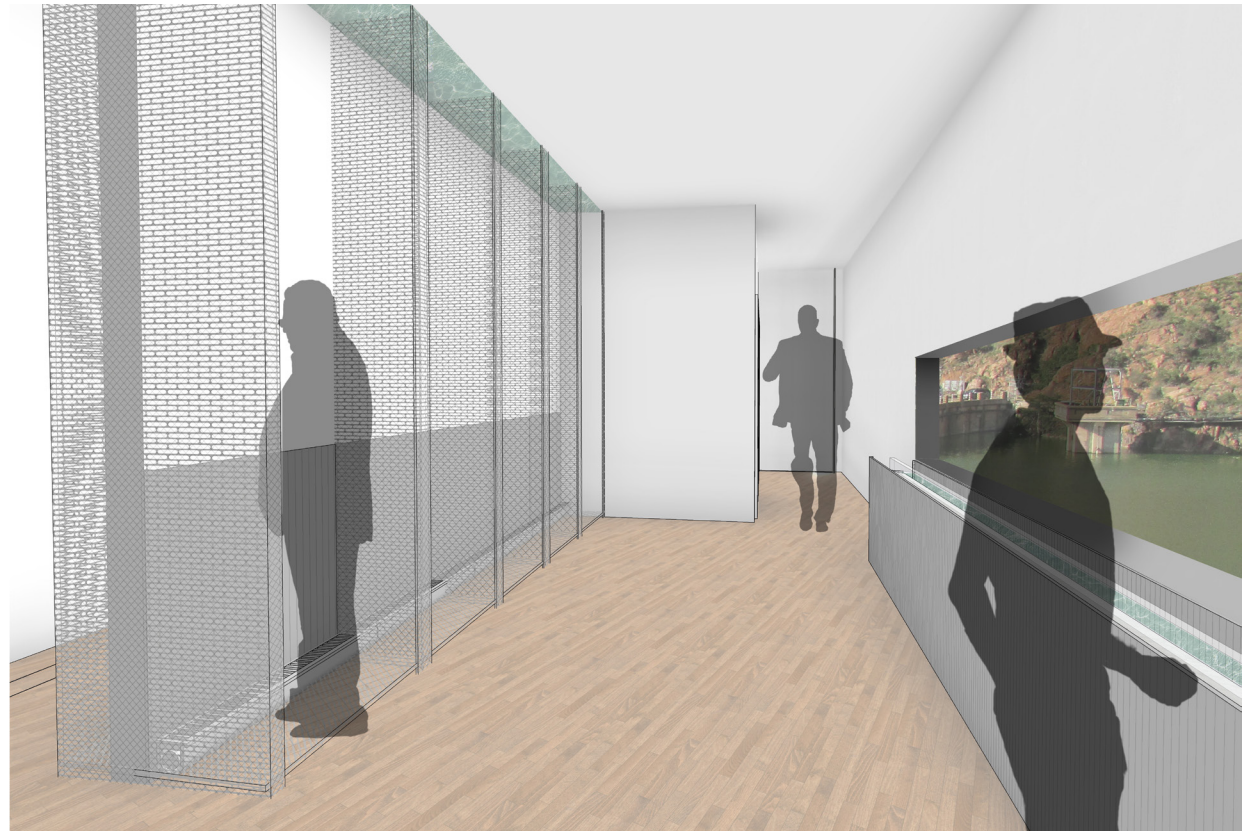


Fig 6.35. Men's ablutions with system wall and water tank above (Author, 2016).

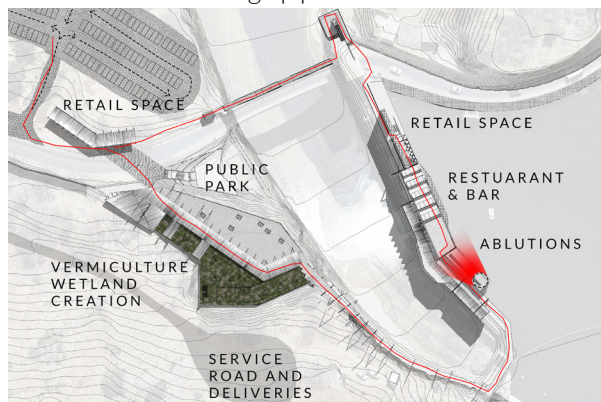


Fig 6.36. Point of view on site plan (Author, 2016).

Whether the user moves up into the restaurant space, stays on the ground floor and simply uses the bar space or even just walks along the existing infrastructure, there are exchanges that educate them. There are seating spaces that look over the controlled water body and others that hang off the crest gates over the released water. This view highlights the hydroelectricity being generated below.

From below on the existing walkway there are views highlighted up through the service core where movement happens between the kitchen and the restaurant space as well as water tanks and batteries for storage of water and energy.

As the user moves up into the restaurant space, there is still a connection to the processing of the pollutants in the water through visual links back towards the vermiculture building. The crest gates also move up, when opened, into the space, changing its dynamics to smaller separated spaces. This release of water generates power through the water wheel. When the gates open the view is shifted down towards the release of the water, but when the crest gates are closed, there is a view to the vermiculture space.

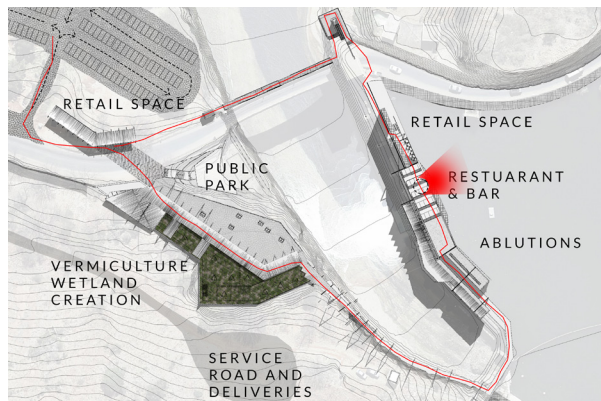


Fig 6.38. Point of view on site plan (Author, 2016).

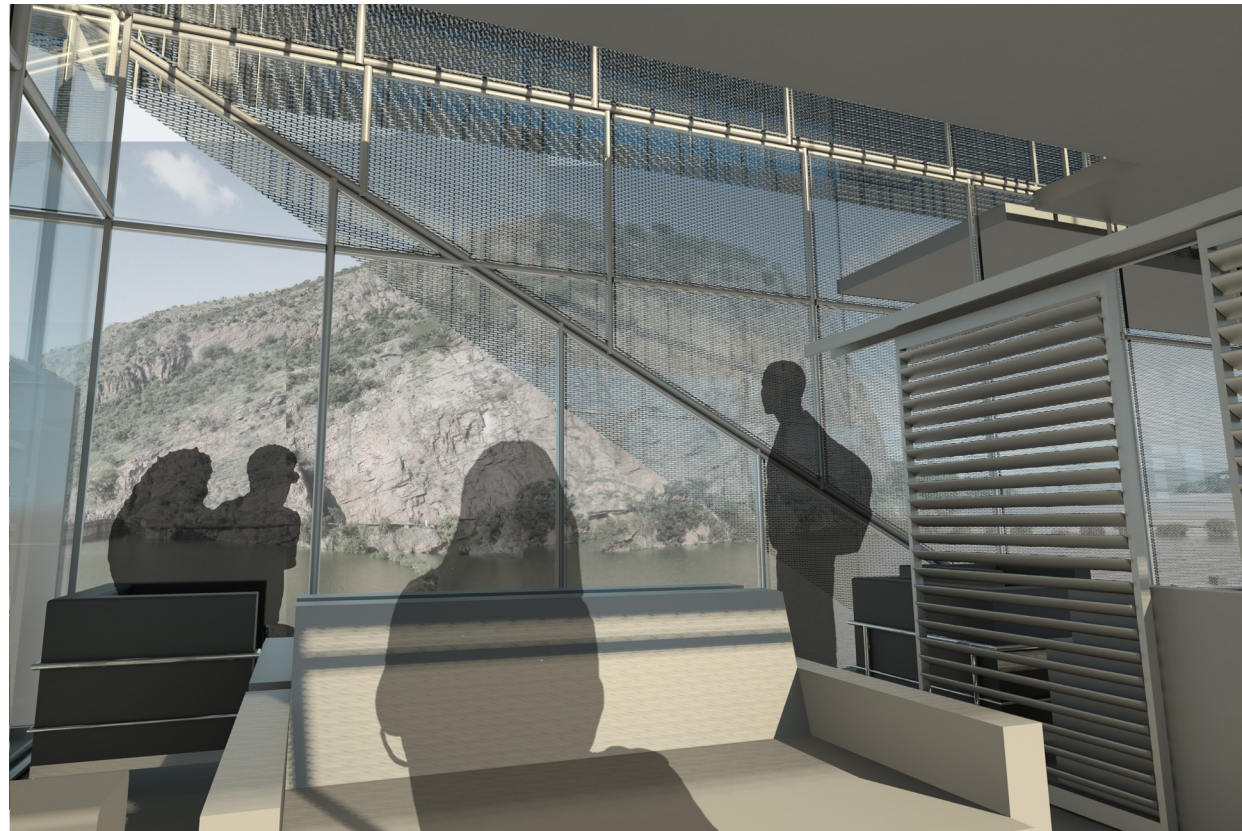


Fig 6.37. Cafe and Bar area with view to east of scarred landscape (Author, 2016).

In the restaurant space there are evaporative cooling towers that have water misters inside them which force the flow of air down, losing energy to evaporate the water and then flow into the space, as a cool breeze during summer months. These evaporative water towers create education of how water could be used for alternative methods.

Throughout the rest of space there are visual connections back to where the food was grown that the users are now consuming and how it was produced through the series of exchanges.

In the retail space there are goods that are sold to the consumers that they can take home and use to change the way that they live their lives with this new found understanding. The spaces of retail do not only consist of indoor space, but flow into the outdoor space, with metal cages that contain compost and the vermiculture systems. These cages become seating areas for passing users. The separation of these retail spaces will create more interaction with passing viewers and therefore exposure of the systems and more economic gain.

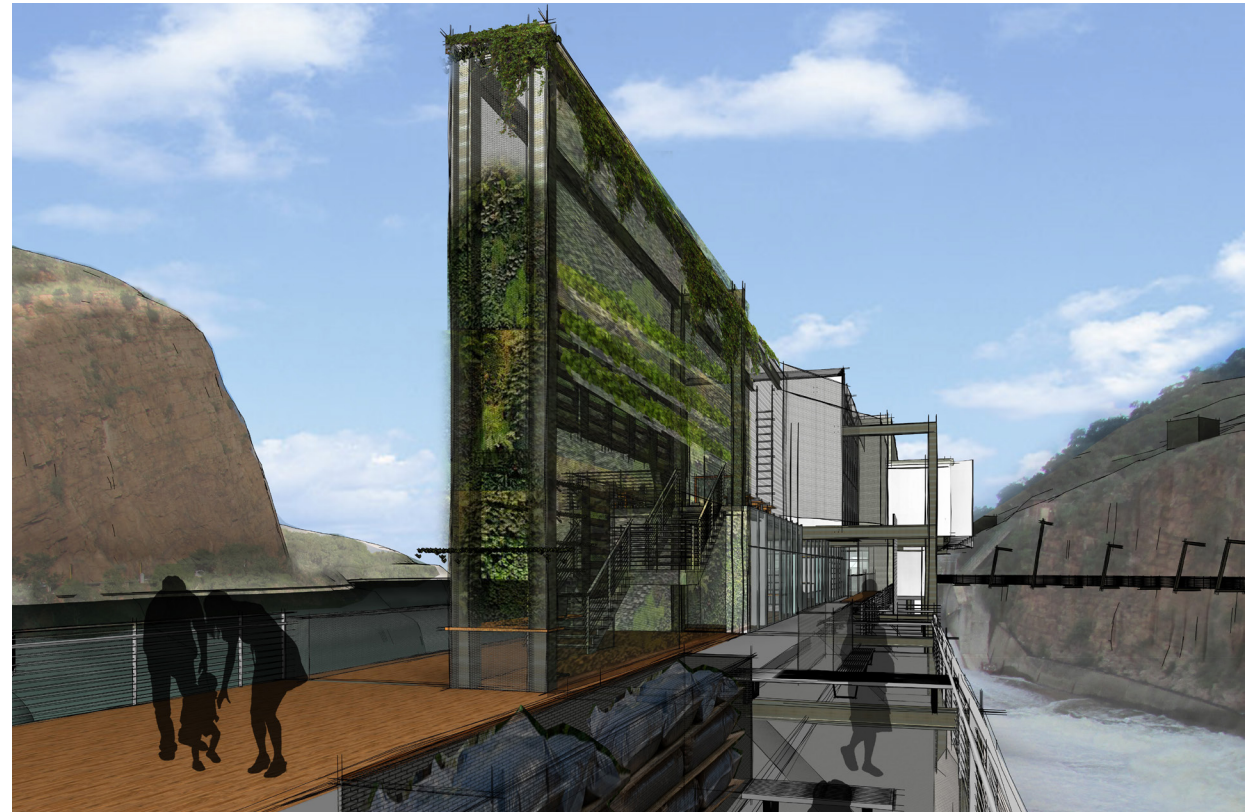


Fig 6.39. Outdoor retail and public space with vertical wetland of water filtration system (Author, 2016).

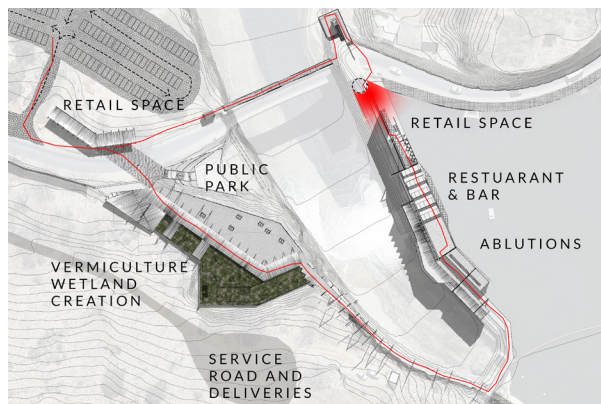


Fig 6.40. Point of view on site plan (Author, 2016).

When leaving the space they are confronted with the existing arch which represents the old paradigm. As they progress across the road there is a new public platform with a metal mesh that wraps around the structure and visually links them back to nature through a picturesque view. In this space the user is confronted with the old paradigm and how this has affected nature and hopefully with a new understanding of what needs to be done to create a better relationship with our natural resource, water.



Fig 6.41. New viewing platform wrapping around existing arch (Author, 2016).

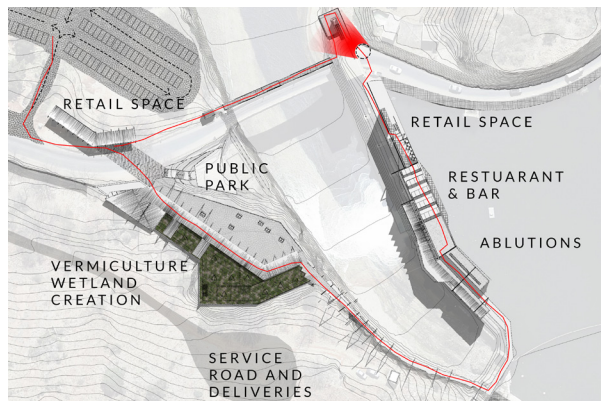


Fig 6.42. Point of view on site plan (Author, 2016).

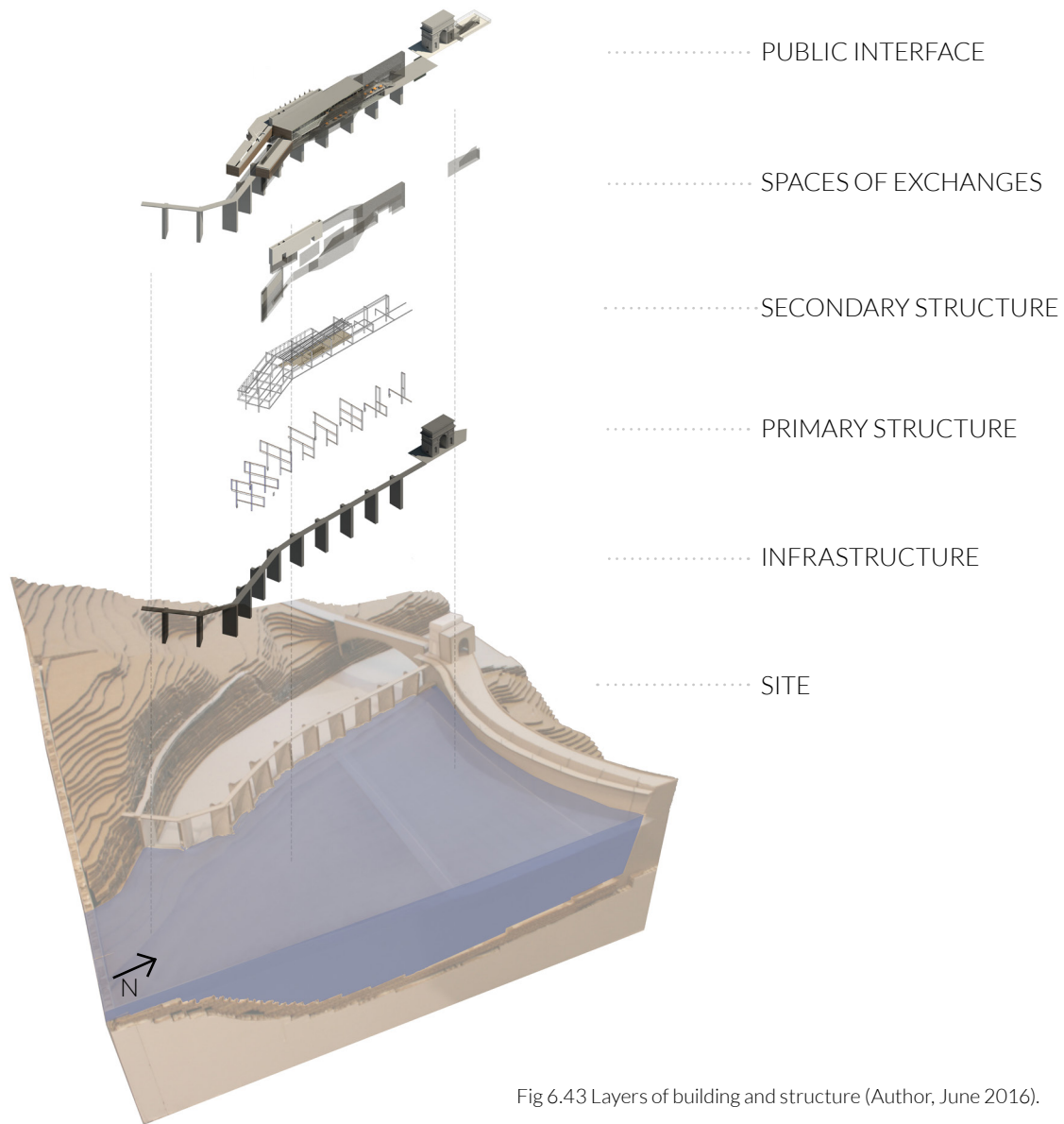


Image to the left expresses the five layers of the building. The spaces of exchange that twist through the building create service spaces for the public interface which become served spaces. The series of exchanges range from being an entire space within the building to a singular wall that plays a specific role in the exchanges.

Fig 6.43 Layers of building and structure (Author, June 2016).

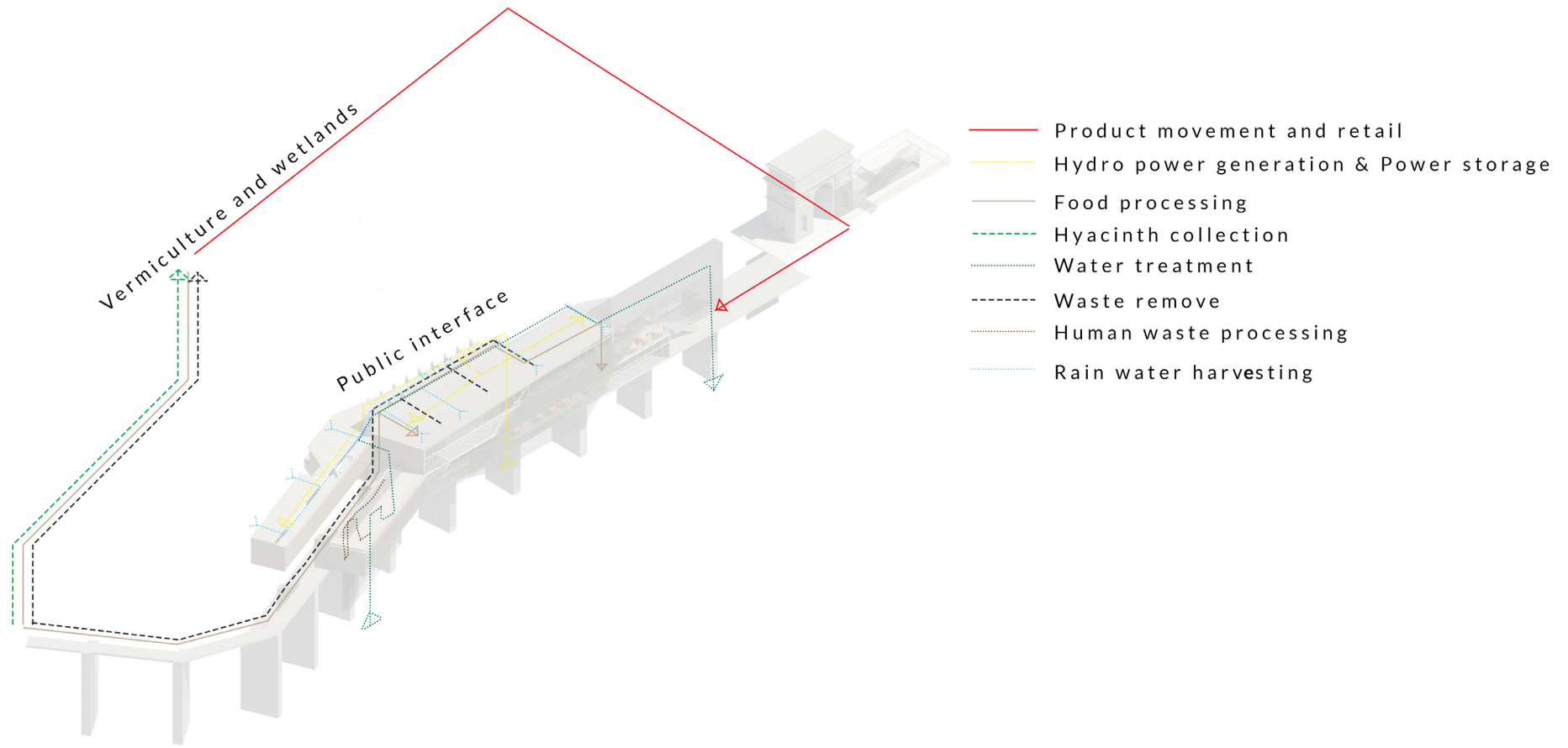


Fig 6.44. Flows of different exchanges on site (Author, June 2016).

6.11 Elevation exploration

East elevation

These sketches were done to explore the idea of the new form relating to the existing arch. It became clear that the scale could not exceed what existed on site. The new intervention had to line up and mimic the existing orders of the classical arch. Certain roof plains of the new building could slope in line with the mountain landscape behind and marry the two different scales of the site, the crest gates and the arch. The building would grow in scale as the user progressed through the space and finally ending at the arch.

The sketches also show the exploration of the shading device and the articulation of the angle of it. It grew from the ablution block up and across the restaurant space and terminating at the same height as the arch. This represented the flow of exchanges as well as movement inside the building. It directly relates to the flow of the water in the filtration system as it moves across the building and ends at the vertical wetland space.

The final sketch shows how the shading device was punctured at certain key points to highlight views either to the scarred landscape or the controlled water body.

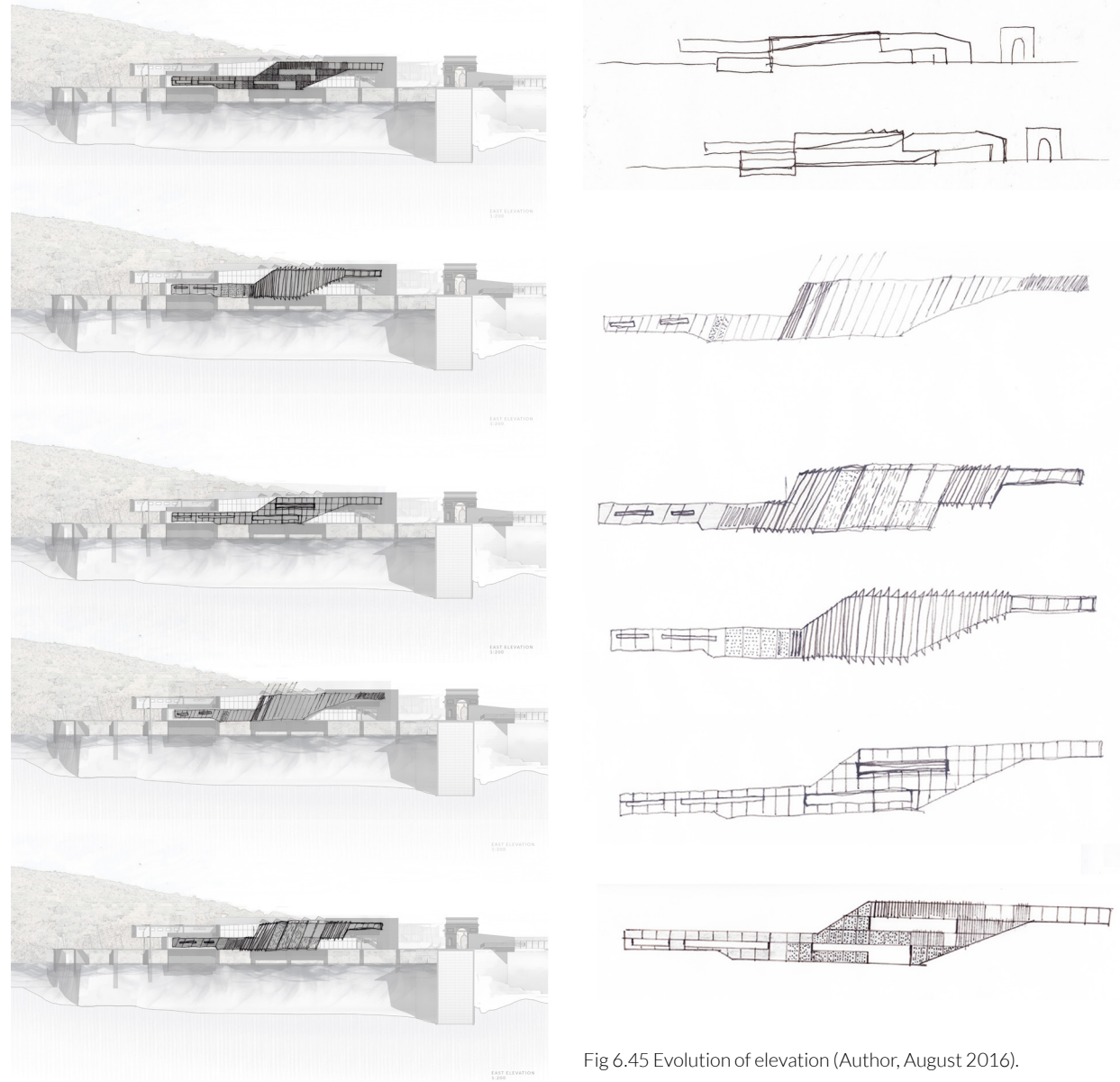


Fig 6.45 Evolution of elevation (Author, August 2016).

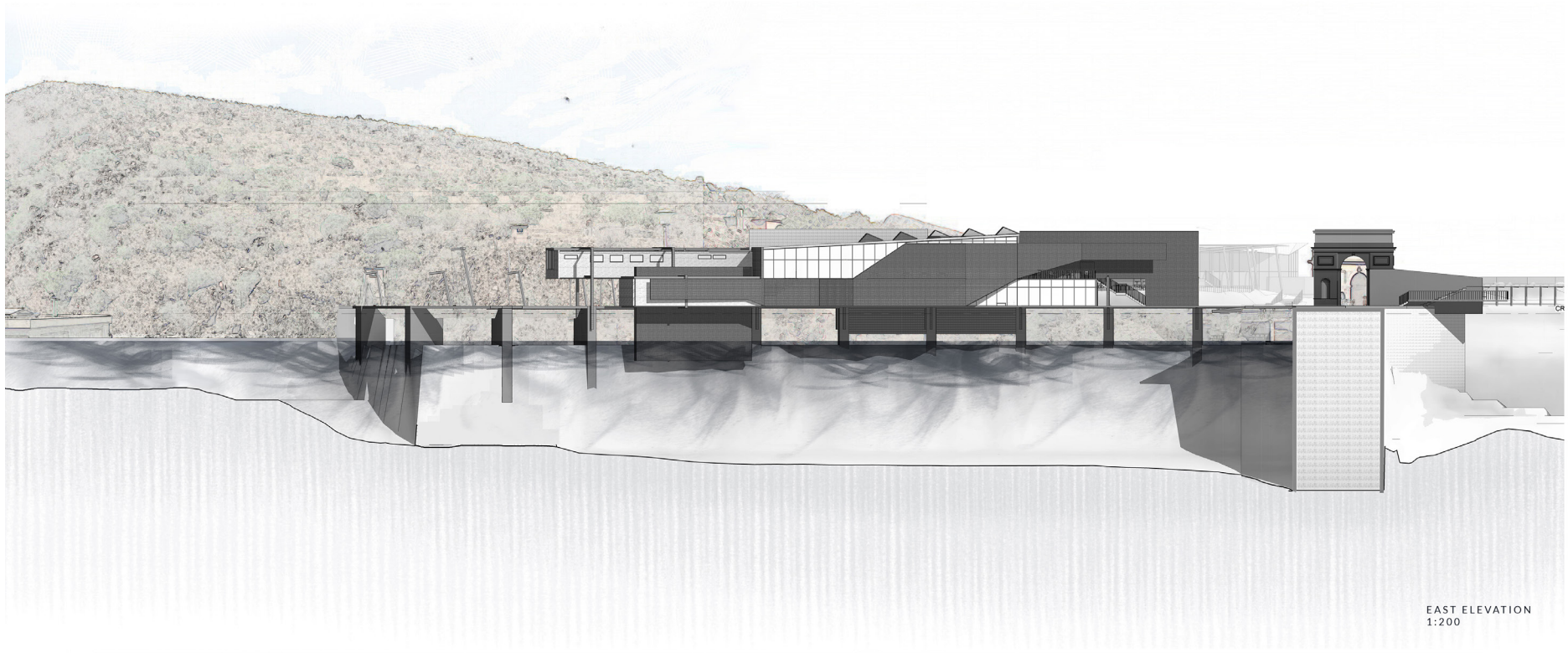


Fig 6.46. East elevation (Author, June 2016).

West elevation

The West elevation looked at connections down to the crest gates. The idea explored ways of creating new crest gates that move up and interact with the space above. The building grounding itself and blocking off some of the spillway was investigated. The articulation of the service and serviced spaces with stereotomic and tectonic languages began to emerge. The kitchen space became more fragmented as the facade started to pull away and separate from the space resembling the release of the water.

The sketches show different intentions of how the building would end with a steel mesh meets the existing arch: Should it lightly touch the Arch or leave a public space between it; should it dominate the Arch, or scale down towards the Arch. The final solution was to allow the building to form an edge to a public space between itself and the arch.

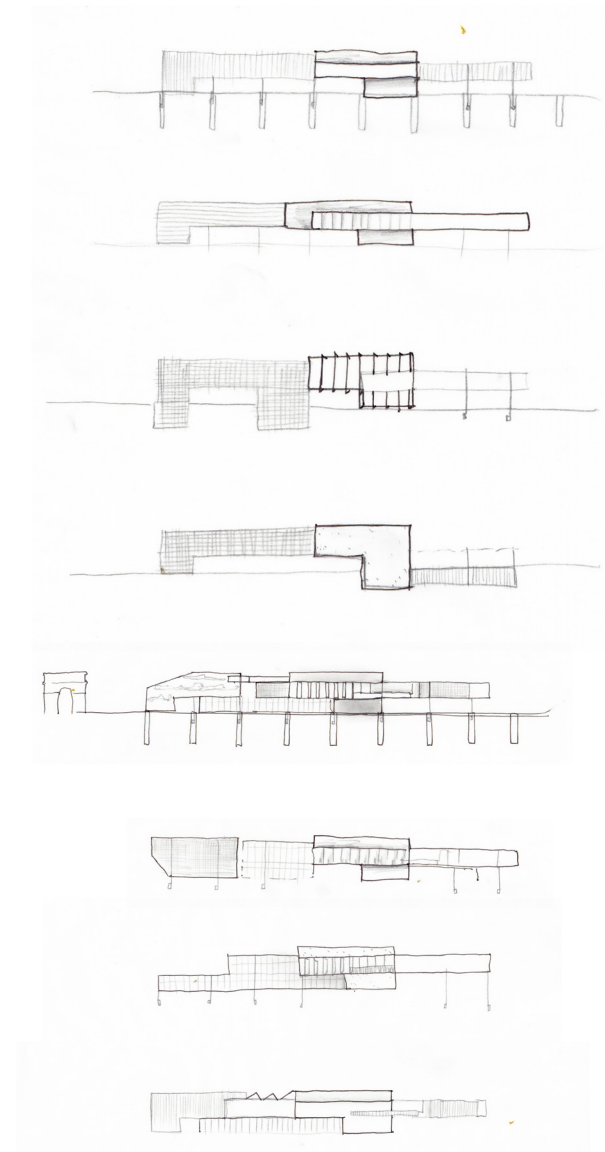
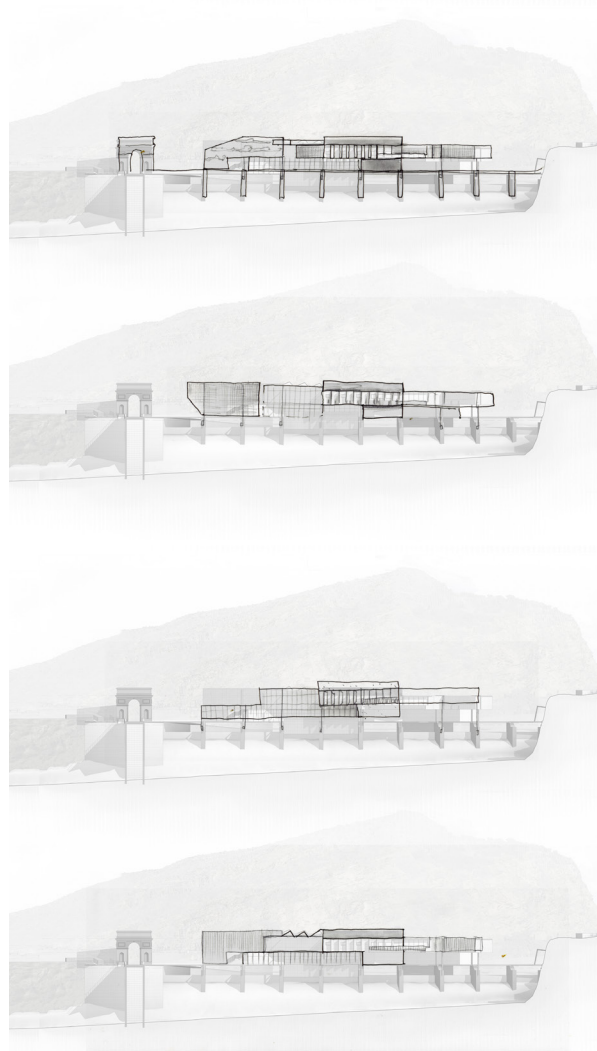


Fig 6.47. Evolution of eastern elevation (Author, June 2016).

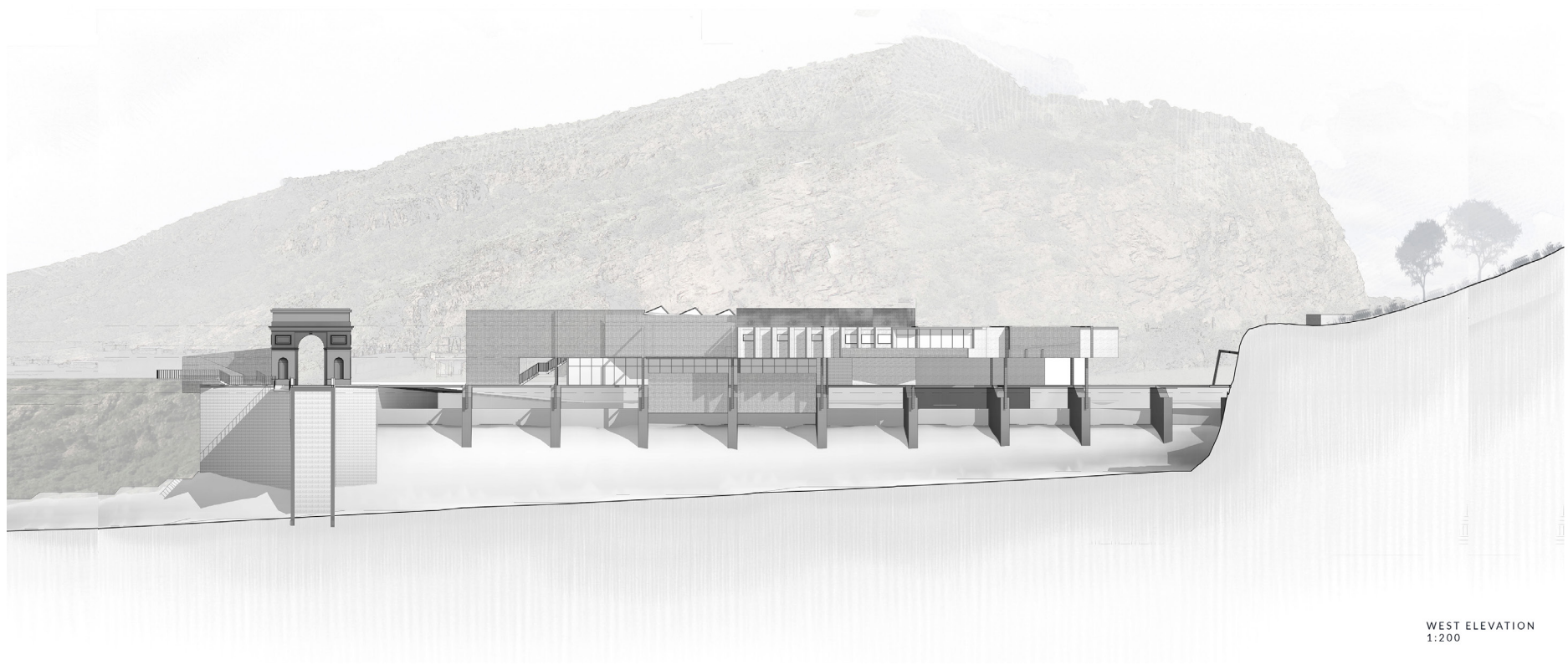


Fig 6.48. West elevation (Author, June 2016).







Fig 6.50 1:200 Model for June crit (Author, June 2016).

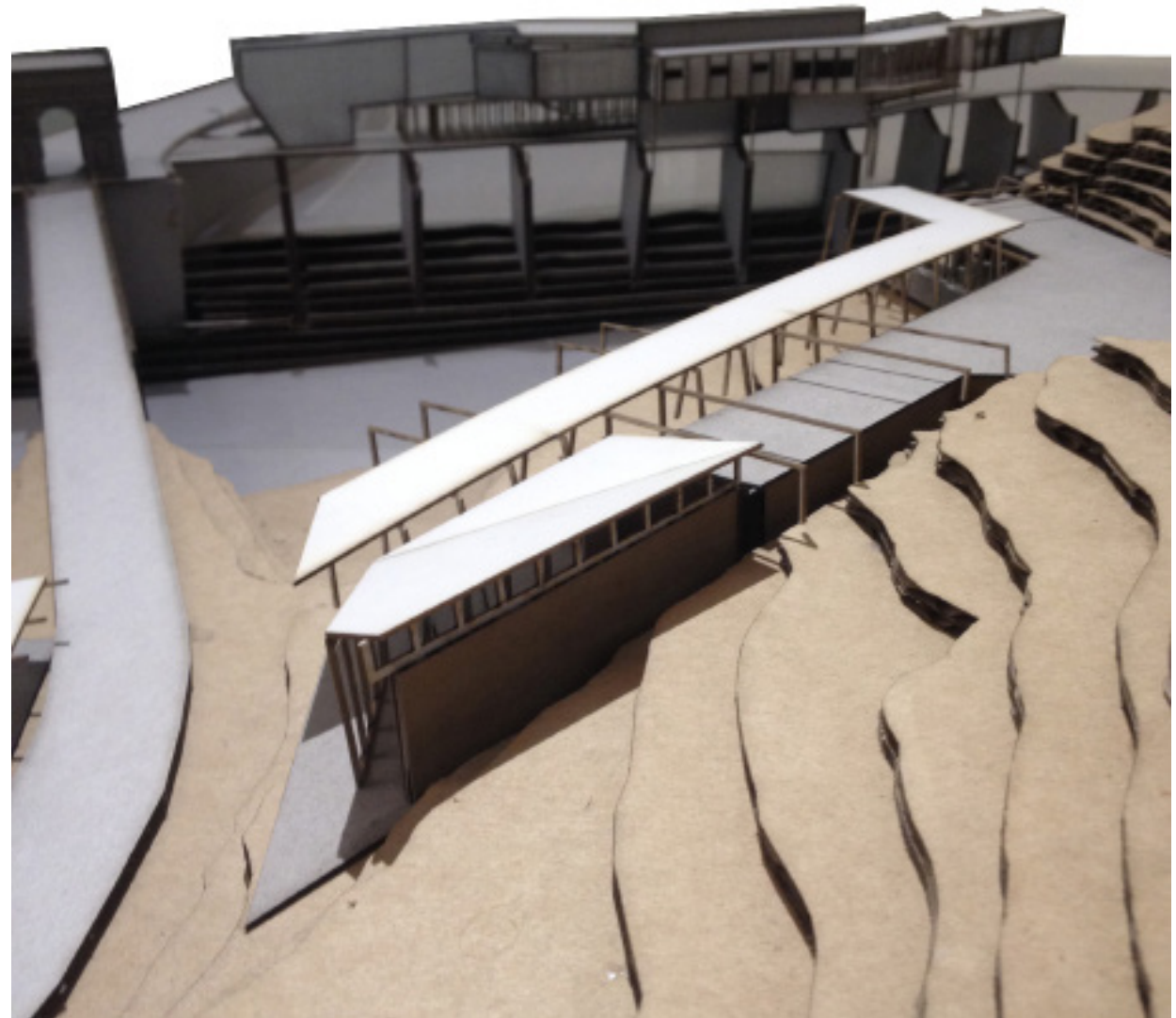


Fig 6.51 1:200 Model for June crit (Author, June 2016).

6.12 Landscape

The site was broken down into six different types of landscapes. From this approach the two different strategies could then be stitched together to form one cohesive design. Each different type of landscape makes exchanges with one another as well as exchanges with themselves. Understanding/knowledge is left out of this as it is an overall principle that is experienced throughout the site at different levels, ranging from passive education to formal training.

- 1- SOCIAL LANDSCAPE
- 2- INFRASTRUCTURE
- 3- SCARRED LANDSCAPE
- 4- PRODUCTIVE LANDSCAPE
- 5- SYNTHETIC LANDSCAPE
- 6- HISTORICAL LANDSCAPE



Fig 6.52 Analysis of landscapes (Author, June 2016).

Infrastructure

The mono-functional elements on site that control the water are defined as infrastructure. Included in this landscape is the pump house and control room. This does not include the dam wall as this is a multifunctional element as it also serves as a road and forms part of the historical landscape.

The infrastructure becomes the platform for the social spaces which were previously closed off to the public. The infrastructure was identified as being a key location that was a direct connection to water and has the strongest possibility to change people's perception of it.

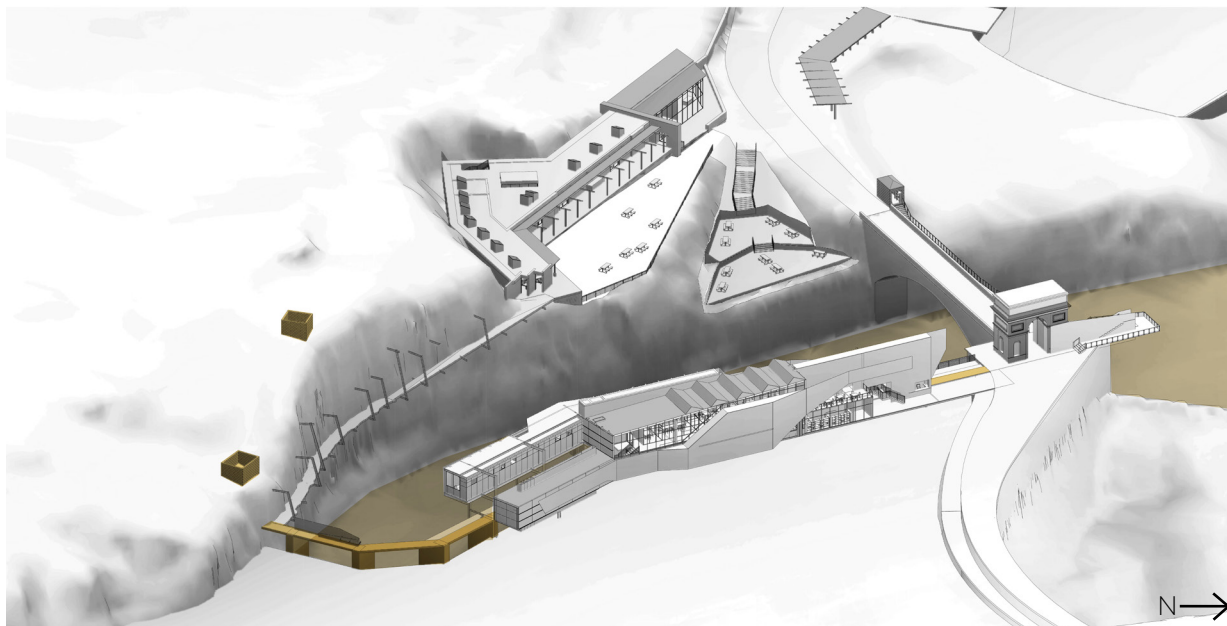


Fig 6.53 Infrastructure landscape (Author, June 2016).

Historical landscape

The historical landscape is defined as all the remnants and memories of the past infrastructure, as well as the consequences, ranging from the remaining structures to the scarred landscape. Creating social awareness of the past historical landscape and the paradigm that it represents, utilising these buildings to emphasize the change in thought. By reusing these buildings they gain a new life and continued existence as a resource- rich infrastructural artefact. How the new structure meets the arch is a key point to represent this.

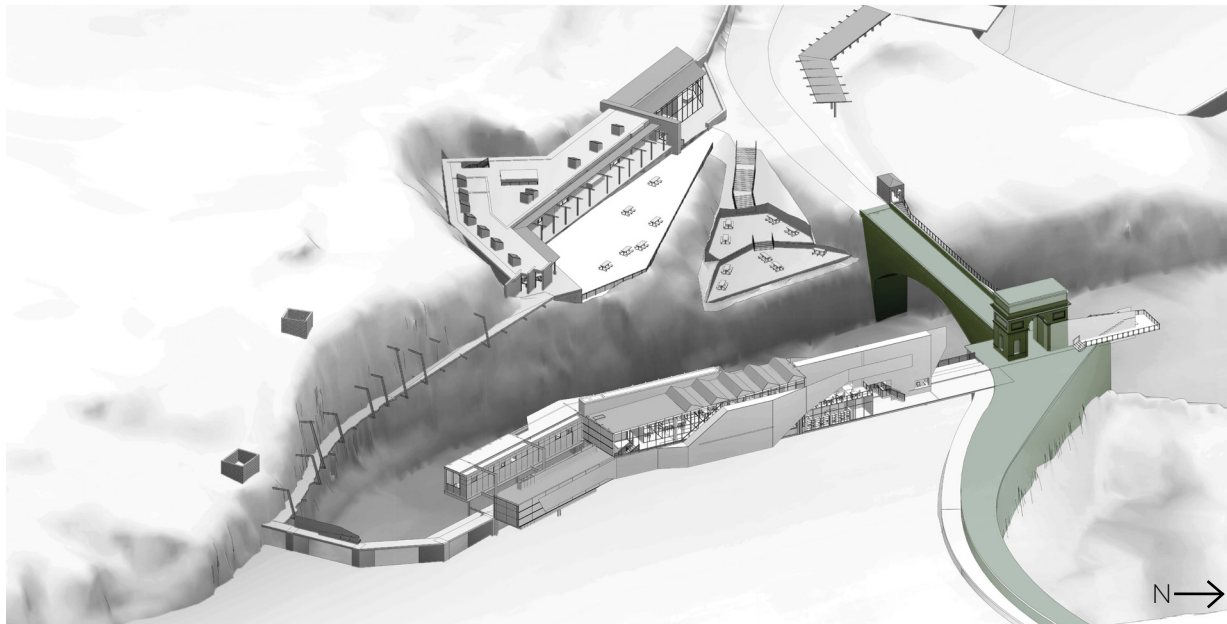


Fig 6.54 Historical landscape (Author, June 2016).

Social landscape

The social landscape was identified as all the spaces that contain human activities, ranging from the ones of visitor to the everyday labour.

The social landscape allows for social interaction between all other landscapes. People are immersed in nature and its processes experiencing life as part of nature rather than separate from it. These interactions are key to maintaining the site as well as changing the way they interact with their own landscapes.

The social landscape is specifically arranged as a journey to gain a greater haptic understanding of the site. This will be complimented through the qualities of the spaces expressed through materiality and tectonics and the expression of these exchanges.

Rather than relying on the remediation program of the dam there will be more of an effect by linking social spaces to problems that exist in and around the dam. By changing the way people perceive water, using this paradigm shift to rehabilitate the dam.



Fig 6.55 Social landscape (Author, June 2016).

Scarred landscape

The scarred landscape was created by the construction of the dam as well as the further exploitation of the water it contains. This is part of the remnant that has been created by the past paradigm. This landscape becomes the new site to build upon. All the exchanges try to rehabilitate this scar through direct influence or indirectly through changes to people's perceptions.

The vermiculture building has a planted roof, this gives back the green space that the building footprint takes up on site. Bioswales will also be introduced on the hillside above the roof to prevent run off that has been worsened due to the scar. The compost created in the vermiculture building will then be used to rehabilitate natural vegetation on the hillside above in order to recreate the condition that was there before. The platform walkway that links the vermiculture building to the crest gates walkway will be supported on steel I beams that are bolted to base plates that are anchored into the bedrock. These I beams support planter boxes to start vegetation reclaiming the scarred surface.

The water body itself is also regarded as part of the scarred landscape and through the removal of algae and Hyacinth, as well as the floating wetlands, the nutrients will be extracted slowly but surely out of the water allowing it to reach equilibrium again.

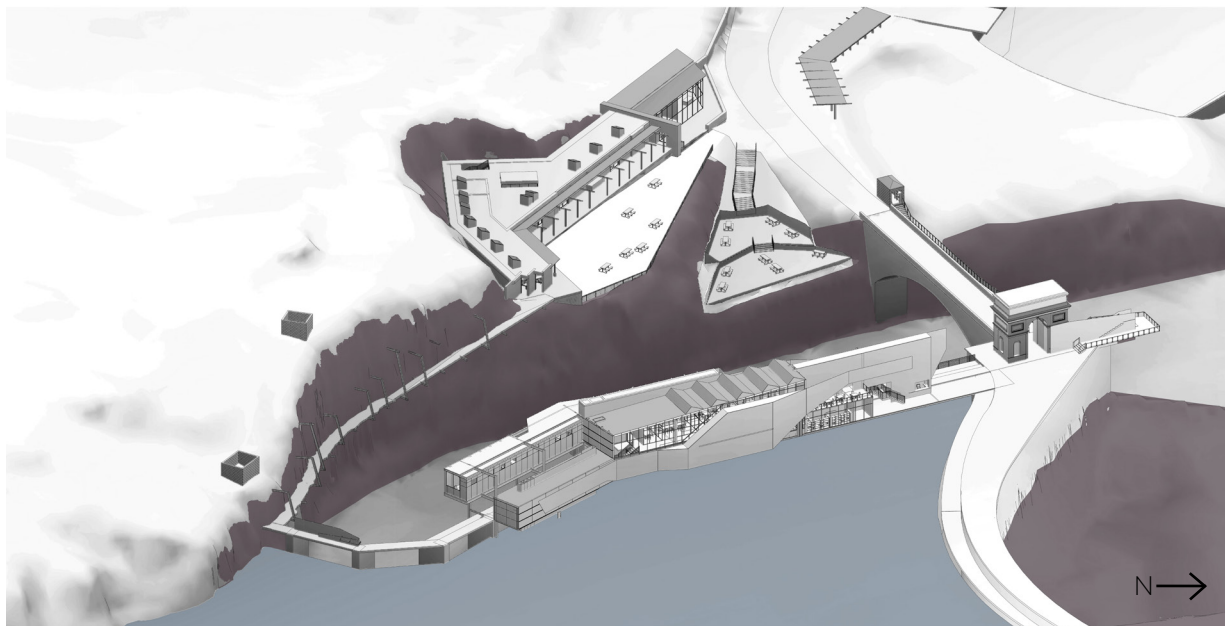


Fig 6.56 Scarred landscape (Author, June 2016).

Productive landscape

The productive landscape is all the spaces that cater for the user. These spaces aim at creating equilibrium in the scarred landscape and the dam water. In a similar way to nature utilizing the abundance of nutrients in the water and so it feeds other systems. The productive landscape contains man facilitated natural systems that aim to create equilibrium and self-healing properties of nature. The majority of exchanges happen between this landscape and another. Social and productive spaces are shared and intersect with one another and use infrastructure as a platform to do this. The productive landscape ranges from creation of energy to biodegrading of the hyacinth that is contained in the dam.

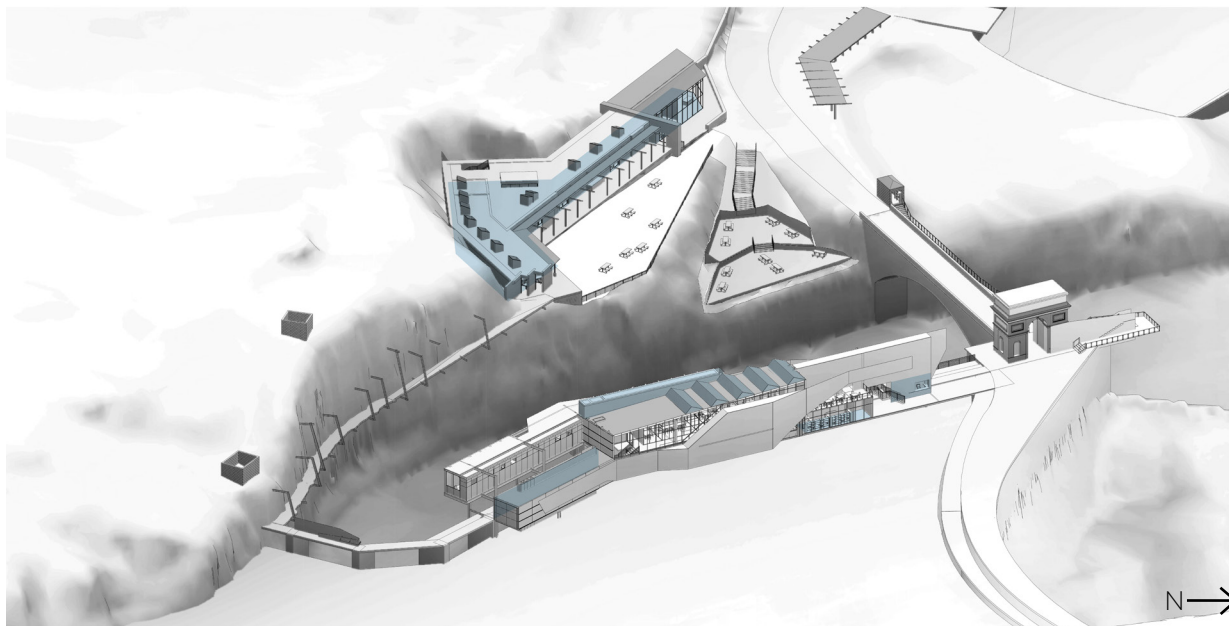


Fig 6.57 Productive landscape (Author, June 2016).

Synthetic landscape

This synthetic landscape is defined as the landscape that would not naturally occur in this environment but it has been created by man. This landscape does not try to recreate the landscape that once occurred naturally on this site but aims to create a new landscape that feeds into the exchanges on site. It is located on top of the building that is situated on the scar, that has already been created, so not to harm more of the site. Vertical crops have been placed on the solar screen to clean the dam water to potable water level.

The vertical wetland purifies the water by absorbing the minerals in the roots of the plants. Smaller plants such as the herbs and vegetables, for example coriander, basil, lettuce, tomatoes and strawberries, will be growing in the hanging water channels.

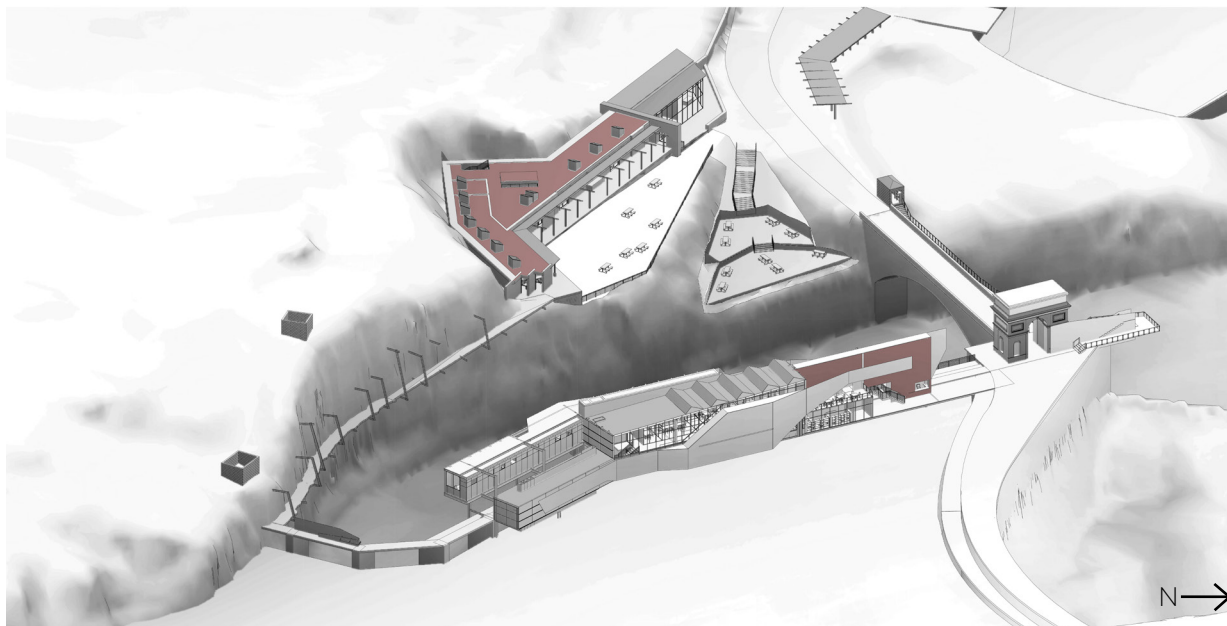


Fig 6.58 Synthetic landscape (Author, June 2016).