

MASTER THESIS

CEMETERY FOR THE CITY

CREATING AN URBAN INTEGRATED CEMETERY
FOR THE CITY OF MAASSLUIS (THE NETHERLANDS)

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TU DELFT – FACULTY OF ARCHITECTURE

MSC4 URBANISM

STUDIO: URBAN REGENERATION - OCTOBER 29th, 2009

1st MENTOR: dr. E.D. HULSBERGEN (SPATIAL PLANNING)

2nd MENTOR: ir. F.O.T. DE JOSSELIN DE JONG (THEORY & METHODS)

3rd MENTOR: ir. S.I. DE WIT (LANDSCAPE ARCHITECTURE)

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PREFACE

This master thesis is written as part of the graduation track of Urbanism for the Technical University in Delft, The Netherlands.

The cemetery was chosen as a subject because it struck as me as a place with a lot of almost movie-like images. For me, these images contain a large range of expression, varying between an almost soothing quietness, but also the macabre or an overpowering sense of grandness. Looking back after a year, for me the cemetery is still a place that deserves to be seen instead of being hidden. But it's not only a personal thing, as when speaking with fellow students and teachers there seems to be quite a large interest in the phenomenon of the cemetery. A lot of people describe it as a really weird place, but also one that they are very curious about. Considering this seemingly large interest, it is very remarkable that a lot of Dutch cemeteries are not easy to visit. They are in fact often very hidden and not well integrated in our urban networks. And still new cemeteries are built in the same way, while municipalities have the chance to do this differently and make them into more visible places: places that make a whole city proud. Maassluis is such a municipality where a new cemetery is needed, but where a redundant old-fashioned design is being made: a design that brings nothing special to both the city and the cemetery.

During this project I have attempted to come up with a different kind of cemetery for Maassluis: not only a place that is perfectly suitable for having funerals, but a worthy place for city life most of all. A place that has a large effect on the whole municipality of Maassluis and is talked about, because of the use of innovative interventions.

The process of research and reasoning that took place throughout the project has not been without struggle. Nevertheless, now this project is finished there are solutions that have much to offer to municipalities that need to design a new cemetery.

Finally I would like to use this space to thank some people, who were at some point involved in this project. First of all I would like to thank my three mentors, for taking things not for granted, and pushing me further. Also, I would like to thank some of my fellow students and friends for the critical discussions, which were helpful for new ideas. Also, I would like to thank Dennis Jong, as the project leader of the cemetery of Maassluis, for taking the time to let me interview him.

JESPER MOONEN, OCTOBER 29TH, 2009

PROJECT SUMMARY

INTRODUCTION

Many cemeteries in The Netherlands cope with space problems, resulting in the need for new space for cemeteries. However, projects for new cemeteries are usually not treated in the same way as other, more prestigious projects such as the overhaul of city centres, new large housing areas and most other economy boosting developments. Cemeteries are more often than not treated as lower priority projects, and thus municipalities rely on the same traditional design model, instead of thinking out of the box.

The municipality of Maassluis (located in the province of South-Holland) needs a new cemetery, but their policy on new cemeteries is typical of the way cemeteries in The Netherlands are treated. This present graduation project shows why a so-called 'urban integrated cemetery' would be a good choice not only for Maassluis, but also other municipalities in need of a new cemetery.

Therefore, the position taken in this project is that the design of urban integrated cemeteries is a positive contribution to our cities. Focusing on the municipality of Maassluis, they would be served better with a recognisable cemetery that has a significant advantages for the whole city, now but especially in the future.

THE URBAN INTEGRATED CEMETERY

The traditional model of cemetery design can be traced back to early 19th century Paris, when the then common model of the inside-city churchyard was abandoned and the gradual move to outside cemeteries with more landscape-like settings happened. This happened under the influence of the Enlightenment and the belief that cemeteries were unhygienic. A distance grew in the relation between city and cemetery, and the commercial funerary sector was introduced, along with the auditorium becoming a common thing. The traditional cemetery model as we know it now is one of a place that is hardly related to city life, is not prominently visible and is a target-destination (instead of being a passing-through space). While it is in nearly all cases a publicly accessible space, it does not share the same public use characteristics as the square or the park. The spatial differences are mostly found in the isolation from often-used functions, the non-transparent demarcations and single entrance, as well as a lack of integration with the urban networks.

The move of the cemetery to the outsides of the city gradually changed its image to a green and quiet place. This setting has many positive qualities: cemeteries can evoke feelings of safety, familiarity, grandness, majesty, a strong sense of time and history through tombstones and vegetation. This works well for the typical idea of the cemetery where there is just the main funerary function, so that both the deceased and visitors can be treated respectfully. However, a cemetery with a close relation to urban life could bring the aforementioned qualities closer to the city user. It is not only the location which is key to bringing these qualities to the city user. A spatial configuration more similar to the park or square, in which the cemetery truly has an open space character, is needed too for reasons of accessibility and urban network integration.

Attempts at bringing city functionality and the cemetery together have been made on some occasions in the Netherlands. Two particular examples are the cemetery in Almere-Haven (where a cycling route matches the main routing of the cemetery) and Selwerderhof in Groningen (where a tea house adds functionality besides the main funerary function). These two designs work twofold: for the city extra recreational and landscape value has been created, while the cemetery's social safety and urban integration have increased. The higher activity and social safety in the cemetery are welcome, since they help prevent vandalism and crime to some degree. A well designed urban integrated cemetery is not a necessary evil, but can fully function as a node in the city's open space network. Its design

can add new forms of functionality, enjoyment and variety to the city. Also, being an open space connected to urban life, there is potential in the future to respond to the 'supply and demand' of functionality that is always present in a city.

To bring the cemetery back into the city as a prominently visible space, there are bound to be sceptics, who would question the acceptability of such an idea. When an urban integrated cemetery is compared to a forest cemetery or dune cemetery the dislike of the city cemetery is not so much related to the character and the location. However, a visible cemetery in the city is more close to daily life, making it a more recognisable place, able to possibly upset more people. The important thought is to emphasise the more positive qualities of an urban integrated cemetery rather than solely put focus on it being a burial ground. These qualities are certainly there, as has been mentioned earlier. Seen as a new node in the larger network of open spaces in a city, a new cemetery can be a positive, unobtrusive contribution to it. That is, as long as the burial grounds are not put offensively close to the city user. Then an urban integrated cemetery design can provide the same framework of spatial and functional networks that another type of open space can provide to the city as well.

Remembrance is the central theme of the cemetery. It should be guaranteed at all times, in any type of cemetery. The cemetery as open space in the city may form a potential threat to the privacy of funerals or grieving visitors. In this project's design this is however prevented by separating the main and secondary routing. While the main routing coincides city routes, the secondary routing of the burial grounds is lifted in height a bit.

AN URBAN INTEGRATED CEMETERY FOR MAASSLUIS

53% of Maassluis' inhabitants want to be buried in the municipality, a significant amount of people. It is interesting to see that many of these inhabitants of Maassluis were very vocal about the new cemetery project. One of the possible locations, Stormbos (the most likely option for the municipality) was received as an unpleasant location by many inhabitants, not containing any spirit. The municipality's choices for a cemetery suffer from car-only accessibility, characterless places, and no good possibilities for integration with urban networks. Also, the considered locations would be much better suited to other types of functionality. Maassluis is missing out on the possibilities of an ideal placement of its new cemetery as well as other functionality.

Therefore, alternative locations have been considered in this project. The main conditions for these locations were: the chance to improve open space of the city, the type of functions in the near surroundings, the adjacency of pedestrian activity, as well as the consideration of other potential future functions. Of these, a location along the dike was chosen, as there were opportunities there to improve open space conditions. Furthermore, by choosing the dike location, there is an incentive to develop the unbuilt zone next to it into a high-key business/retail area, which is fitting with the other high-key functions around it. Developing both the dike zone and the zone next to it does not only provide the dike location with adjacent pedestrian activity, but can also have large effects on the attractiveness of Maassluis.

For a city that is located next to the river Maas, the river is surprisingly hidden and not a large part of the city's experience. Although there are a few recreation routes on the dike, there are few connections to the city behind it. Therefore, the river and the dike are hardly accessible. Also, a train track separates the dike and the city: this weakens the relation between the two even more. A new open space network can incorporate the view and potential functionalities of the Maas into the city. When this new open space network is also well-integrated with the city, the accessibility of the dike zone is much higher. Since such a project is a costly operation, other projects should be combined with it. A combination of several projects would also result in a greater integration and synergy between various different functions, as well as a higher space use efficiency. Since Maassluis

is in need of a cemetery, the proposed 'urban integrated cemetery' is a logical function to include in such a plan. In this present graduation project, the cemetery fulfils the function of a node in the city's larger open space network. The design connects the river, dike and the city through the use of three large axes, one of which incorporates station Maassluis-West, the cemetery's auditorium, as well as the existing shopping centre and city hall. The cemetery's burial grounds are divided in four hills with a lot of open space around. In these open spaces, recreation routes are located, as well as small additional (future) functionalities.

While a cemetery is an option to do this, other functions could be located on the dike to improve the spatial and functional networks of Maassluis. However, the dike and the Maas sight are such characteristic images. The dike should retain its image as a plain landscape area where only public functionality is located (including recreational routing and cemetery use), as well as a few small spots of assigned additional functionality related to the water. Buildings, including industry or housing would form a barrier, while the cemetery is an open space that forms a bridge between city and river. In this design the highest part of the dike, more close to the city is used for building projects, including housing and business areas, with sights over the Maas, while the lower parts of the dike, close to the Maas, are reserved for functioning related to nature, recreation and water: the cemetery, recreational routing as well as small additional functions. This way, the character of the dike and river landscape is kept intact. This is also shown in the way the changing water levels have been used for the design: the safe height of 3,5 meters has been moved so that the dike forms around the four cemetery hills. The lower area is flooded circa 50 times a year when water levels are high. This way the character of the river has been made even stronger.

The municipality of Maassluis is in quick need of a new cemetery: it needs to be ready by 2012. Their intention is to re-evaluate after 2050, which is also the length of time the cemetery's capacity is based on. There are some disadvantages with this time planning. The first of these is the problem of space shortage happening again around 2050, when the cemetery will be full and the same dilemma of how to go further presents itself again. The municipality have two options in 2050 that are both not ideal. One option is searching new space for a cemetery, which is not only even harder then as it is now, but also means for planning and designing another new cemetery which costs time and money yet again. Another option is the clearing of graves, as is common in most cemeteries. Clearing is however generally not done so easily because of administration struggles, and the hesitance in digging up human remains. Therefore, it would be better to deliver a design that is able to last for many more years than the 38 years of the municipality's vision. The municipality's decision making is short-term, compared to the long-term timeline this project proposes. In this project the idea is to build a cemetery where after 48 years tombstones are removed, yet the caskets remains and a new layer of earth with new graves is constructed on top of it. This way no new space needs to be sought and history is not erased but slowly builds. Furthermore, this project proposes to build in phases, during the initial construction. The four hills in the design are thus built one-by-one. This is convenient as funding of smaller parts is easier to spread out over a longer time. Also, with limited time soil preparation, transport and construction are easier when only one segment is concerned rather than the total in one go.

The municipality's choice for a traditional cemetery with just the main funerary function has disadvantages on the longer-term when looking at the financial side of things. While this project's design needs more space and is a more costly procedure, it is able to exist for an almost permanent time, compared to the 38 years of the municipality's proposal. Also, the urban integrated cemetery on the dike is a boost to the city because it can host other functionality in it besides the cemetery function and can dynamically add new or different functionality in the future. While the cemetery will not contribute any money to the municipality on the short-term, due to its permanence it could be considered

a wise investment. Also, the design contains zones assigned for housing and company/retail buildings: these functions are located in strategic places and will produce additional money on a shorter term. The overhaul of the dike zone will contribute positively to the image of Maassluis, by emphasising its strongest landscape element: this image-boost makes Maassluis a more attractive place, with a successful new part of the city that is talked of in the whole region.

SUMMARY CONCLUSION

While Maassluis chooses for a typical cemetery outside the city, it would be much better to create a cemetery on the dike next to the river Maas. One of the advantages for the city is the possibility to upgrade the dike zone and make the experience of the river stronger and create a stronger integration between river, dike and city. Here, the cemetery fulfils the role of a node in a larger open space network to connect many things: routes on the dike, train station, shopping centre, city hall, as well as newly added housing, retail and business zones. The cemetery is an ideal choice for the dike zone as it is able to leave the character of the dike and river intact, even emphasise it. This is possible because of the public character of the design, and the emphasis on landscape rather than a built environment, which would close the river off. Maassluis is able to use this alternative proposal as a permanent solution for a new cemetery, instead of having to search for new space again in 2050. The image boost for Maassluis and the newly added building zones will be able to produce money for the municipality. Furthermore, the phasing of this proposal makes logistics and construction of the cemetery easier than in the traditional model.

As can be seen in Maassluis, the urban integrated cemetery is an attractive alternative the traditional cemetery model. With space not readily available anymore and more people becoming interested in the qualities of a cemetery again, the cemetery is ready to return to the city again. The urban integrated cemetery differs in that it is not a target-destination anymore, but allows passers-through. This can be done by combining the cemetery's main routing with the city's pedestrian and cycling routes. Also additional functionalities related to the location and the cemetery are possible additions. While some of this has been done before in existing designs this was still at unimportant places of (or outside) the city or at small scale. But as the Maassluis design showcases it is also possible to use the cemetery as an open space with such a large scale that it becomes a framework to host various types of functionality in. The larger scale urban integrated cemetery is therefore also much more able to work in unison with several adjacent building zones. The urban integrated cemetery can be considered an equal contribution to the city, like any other successful open city space.

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PART A

PROJECT DESCRIPTION

This part is the project description. First, a short background is given of what is happening currently with cemeteries in The Netherlands. In the problem description that follows it is described what problem is found when looking at the cemetery. After this, the aim of this project, as well as the research questions are described. This part ends with a short description of the used research methods.

1 INTRODUCTION

1.1 BACKGROUND

40 years later than now, the amount of deaths in the Netherlands will have increased severely: the expected yearly mortality will be around 225.000 in 2050, compared to the number of 145.538 in 2007 (CBS, 2006). Assuming similar ways of taking care of dead corpses as currently happens, a rise of the mortality will put a lot of pressure on existing cemetery space.

The amount of cemetery space differs throughout the Netherlands. At the moment, the amount of cemetery space in South-Holland is 1,6 m2 per resident compared to 5,7 m2 in Groningen. These are respectively the lowest and highest amounts of the Netherlands (Van Steen & Pellenbarg, 2006, p. 628). As a result, expansion within existing cemetery space only has limited possibilities in provinces such as South-Holland. This means that a new task has presented itself: solutions need to be found for those areas where the existing cemetery space shortage is the biggest. Here, either new cemeteries will have to be constructed and/or new concepts for maintaining the deceased will have to be adopted.

1.2 THE URBAN DESIGNER'S DISCIPLINE AND CORRESPONDING TASKS

One can look at this new task not only from a functional viewpoint, but also from spatial or social viewpoints. However, the urban designer's discipline is rooted in the spatial viewpoint, with links to the functional and social. This could be translated into a model, to aid the description of the project. As time and context are central to any design task the internal and external dynamics of the cemetery have been added to the model (see Figure 1).

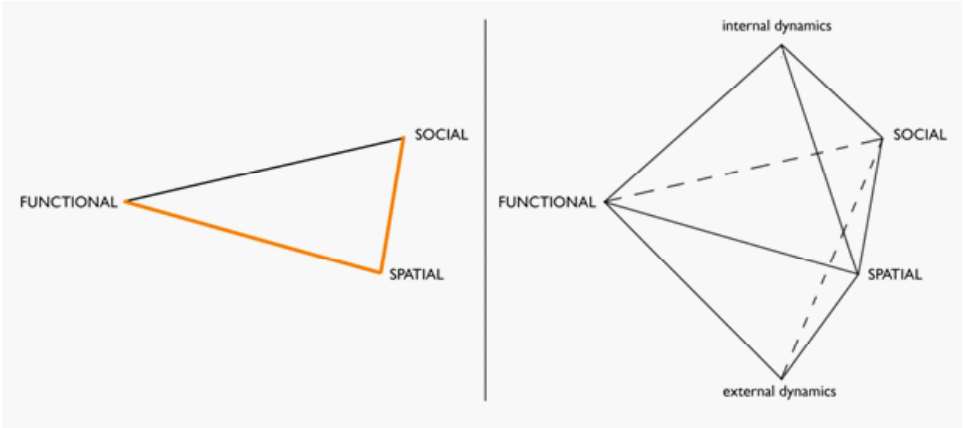


FIGURE 1: THE URBAN DESIGNER'S DISCIPLINE IS ROOTED IN THE SPATIAL VIEWPOINT, WITH LINKS TO THE FUNCTIONAL AND SOCIAL. TO DESCRIBE THE PROJECT BETTER THE MODEL HAS BEEN EXPANDED BY DIVIDING THE INTERNAL DYNAMICS OF A CEMETERY AND ITS EXTERNAL DYNAMICS.

Using this model four main topics can be identified (see Figure 2):

- The space use within the cemetery over time, that has resulted in a shortage of space in certain cemeteries (internal/spatial-functional)
- The significance of the cemetery itself (i.e. the graves) for people (internal/spatial-social)
- The cemetery as a used space within a changing city (external/spatial-functional)
- The significance of the cemetery for (a changing) society and city (external/spatial-social)

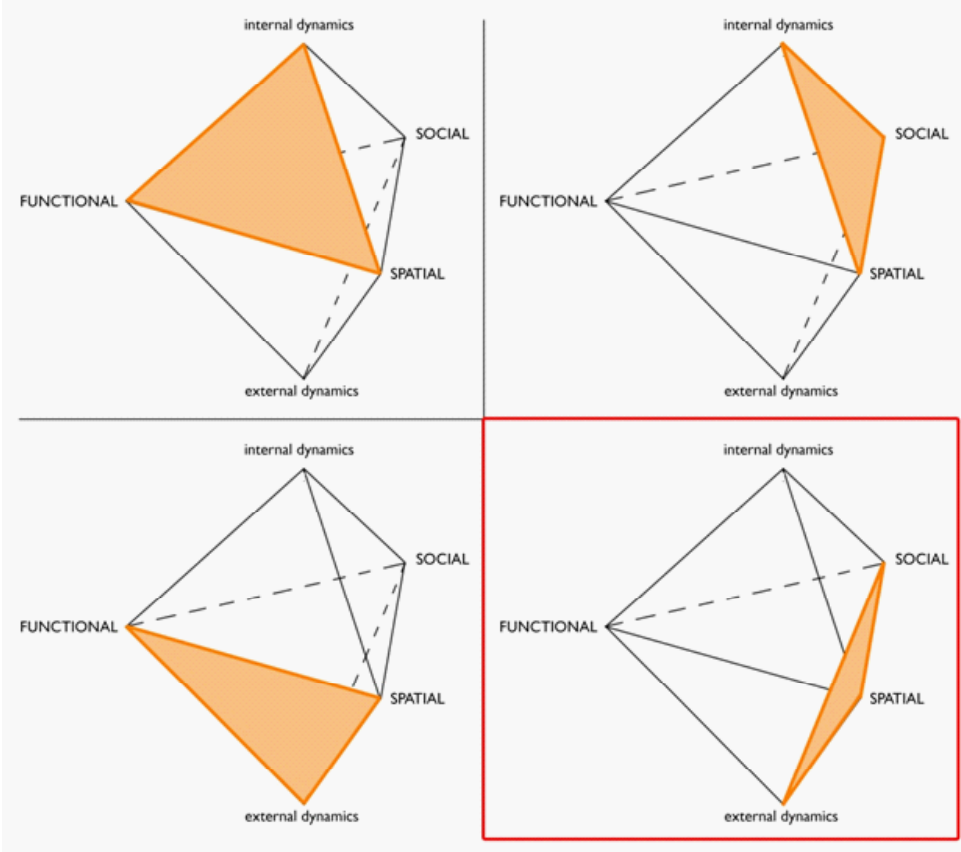


FIGURE 2: THE FOUR MAIN-TOPICS OF INTEREST FOR THE URBAN DESIGNER WITH REGARDS TO THE CEMETERY. TOP-LEFT: SPACE USE; TOP-RIGHT: SIGNIFICANCE FOR INDIVIDUALS; BOTTOM-LEFT: THE CHANGING CITY AROUND THE CEMETERY. BOTTOM-RIGHT SHOWS THE SIGNIFICANCE FOR SOCIETY, WHICH IS ALSO THE TOPIC THAT IS SEEN AS MOST RELEVANT (SOCALLY AND SCIENTIFICALLY) AND IS BEING FOCUSED ON IN THIS PROJECT.

1.3 PERSONAL MOTIVATION

A particular personal interest in this project is based in the idea that every city, and even most small towns, have cemeteries, yet they are most of the time unknown to the city user. This has caught my attention and forms the basis of the whole statement and vision made later during this project.

1.4 SOCIAL AND SCIENTIFIC RELEVANCE

While all of the four 'urban tasks' discussed in 1.2 are of interest to the urban designer (and need to be addressed in some way), there is especially a large relevance to the task of looking at the cemetery in relation to its external social dynamics (see also Figure 2).

Whenever expansion, creation or closure of cemeteries is mentioned, debates are being started. These debates are based on various factors, including space use, competition with other city functions, the cemetery's spatial and functional role, but also others. The interplay between these various factors results in conflicts that make cemetery design a

THE CEMETERY IN
RELATION TO ITS
EXTERNAL SOCIAL
DYNAMICS

difficult task.

SCIENTIFIC RELEVANCE

It can be argued that the subject of the cemetery is influenced a lot by many people's discomfort with death and the cemetery (see also 2.1.3), making it a subject that is much rather avoided than embraced. As a consequence the subject is perhaps also not understood completely and modern cemetery design (from circa 1920 on) has suffered from it, resulting sometimes in uncertain, confused and meaningless designs (Cappers, 2002, pp. 50-52).

It is here that the urban design discipline is able to add to the debate, thereby giving this project social relevance. Providing a well-researched design alternative, which is considering all the factors (especially the relation to the external social dynamics) behind the conflicts, could serve as one exemplary point from which to follow on. Through this project, an alternative position in the field of cemetery design might be shown.

While the subject of the cemetery has been researched by some, very little is actually to be found when compared with i.e. the park, the courtyard, the square. With a focus on these other types of city spaces, cemeteries have been somewhat neglected in research during history. The task of new cemetery design can therefore be considered a chance to do further research with regards to cemeteries, giving it scientific relevance. This research is aiming to find new insights into the cemetery's role in the spatial and functional structure of the city.

SCIENTIFIC RELEVANCE

1.5 LOCATION

The municipality of Maassluis (in South-Holland) is, as this is being written, reviewing options for a new cemetery, as one of its' two existing cemeteries (the Municipal Cemetery located at the Willem de Zwijgerstraat (see Figure 3 and Figure 4)) is experiencing space problems (Algemeen Dagblad, 2008). The pressure on this old cemetery is so high that in 2012 it is considered absolutely full; therefore the creation of a new cemetery as soon as possible is wanted (Jong, 2008).

MAASSLUIS CEMETERY IS FULL



FIGURE 3: THE CITY OF MAASSLUIS. THE ORANGE SPOT INDICATES THE LOCATION OF THE OLD CEMETERY AT THE WILLEM DE ZWIJGERSTRAAT.

Several locations have been under consideration, and are being studied for feasibility currently. Interestingly, all of these locations are outside the city, a sign that the new cemetery is rather wanted out of sight of the city. The case has already produced various discussions, not only in the city council, but also among the public and press. As can be seen here, location proposals are met with criticism from several actors.



FIGURE 4: THE OLD CEMETERY AT THE WILLEM DE ZWIJGERSTRAAT. THE PLACE IS EXPERIENCING A LARGE SPACE SHORTAGE AND THE CITY IS IN HEAVY NEED OF A NEW CEMETERY.

This project looks at the Maassluis case from different viewpoints as those taken by the Maassluis council. This means that the chosen location in this project might differ from the locations as considered by the municipality. Also, the role of the cemetery is looked at carefully, especially its relation to the surroundings. These surroundings could be the city of Maassluis; however, this project researches the criteria of a location too. The target range is being looked at as well: is one cemetery enough, are multiple smaller cemeteries an option, or could a new cemetery perhaps serve other municipalities within the region as well?

While this location offers an interesting design task, this project's main focus is on solutions for cemeteries in general, where the case of Maassluis is used as an application of the various research.

SOLUTIONS FOR CEMETERIES IN GENERAL

2 THESIS STATEMENT

2.1 DESCRIPTION OF THE PROBLEM

As described previously four main topics of cemetery design can be identified. As explained, this project’s relevance is based especially on the investigation of the task within the spatial domain, as affected by external social dynamics (without excluding the other three main topics). This chapter describes the problem found within that particular domain.

2.1.1 SPATIAL AND FUNCTIONAL EXCLUSION: FORCED BY A DILEMMA

Cemeteries are among the more unusual, less known about parts of the urban fabric. One of the things that is striking is that a lot of cemeteries (in Holland) are hardly visible when passing through the city. Sometimes they are very close to well-used routes of the city, but are at the same time unknown to most of the city users. Other examples have been very deliberately tucked away in unused areas of the urban fabric, destined never to be found by the city user.

What has been described just here concerning Dutch cemeteries could also be formulated as spatial and functional exclusion from the urban fabric. The hiding of the cemetery can be seen as a problem, but is it really? It is therefore wise to look at the causes behind this exclusion. What we find is a dilemma. On the one hand there is the need of burial (spatial-functional effect); on the other hand society is not at comfort with death and therefore not with death or any memory attached to it (spatial-social effect). Let us look closer at the two phenomena.

2.1.2 THE NEED TO BURY

The first of these phenomena is concerning the way(s) we have chosen for dealing with the dead. Throughout history this has most commonly been dealt with through the method of burial. But is there a need still, since we do have the technique of cremation available today? Although cemeteries traditionally have their origins in burial, cremation has certainly become more popular over the years in the Netherlands. While in 1950 the percentage of cremation was around 10% in the Netherlands, in 2003 for the first time the number of cremations was higher than the amount of burials. Does this make cemeteries obsolete? Although the absolute number of cremations in the Netherlands has been rising massively, the absolute number of burials has not seen such a drastic change in the last 50 years (Van Steen & Pellenbarg, 2006, p. 634). It can therefore be concluded that ‘the cemetery as burial ground’ will continue to exist if society retains a similar mindset. In this project this is assumed, although cremation and various forms of burial will not be overlooked.

2.1.3 THE TABOO

The second cause behind the spatial and functional exclusion of the cemetery is easily identifiable, but is very complex as it has rooted deeply in Western society. It will not come as a surprise that death is not easily talked about in Western society. Views on this have changed during history, but a central turning point that forms a basis to the way we look at death and design our cemeteries can be found in the creation of Père Lachaise, Paris in 1804, when the cemetery was first moved to the outside of the city. A more complete overview of the history of cemetery design will be given in the paper that is a result of the literature study within this research. For this short description, it will suffice to say that from 1804 on gradually a larger distance grew between life and death, and with that a decreasing relation between city and cemetery (Cuyvers, 2002, pp. 23-24). It was during modernity that this gradual process was caught in a slipstream when a growing emphasis was put on the earthly existence. Death was rather not thought about anymore

and a taboo was created. With the taboo something got lost along the way: the traditional meaningful associations that were attached to death (Plumwood, 2007, p. 57).

Now that the two phenomena have been described the aforementioned dilemma can be defined more precisely. Society has adopted the model of the ‘cemetery as burial ground’, meaning that space for burial needs to be reserved somewhere. However, this is rather not done in such a way that our society is disturbed by it. Society is still largely uncomfortable with any connection made to death. The dominant association that is present with regards to death is that of a hard and definitive ending to life (which is a thought that was fuelled by modernity during the early 20th-century). Society has not been able to embrace any other association with death ever since. As a result today, most of our cemeteries are invisible: the taboo makes us fool ourselves and exclude the cemetery from the urban fabric, which can be equalled to excluding death from our lives.

2.2 PERSONAL VISION

2.2.1 FINDING QUALITIES: CEMETERY OBSERVATIONS

Even though we might not visit cemeteries a lot, due to their hidden nature, there are many qualities embedded in them. A sample from personal observations in various cemeteries done for this project:

“This place has a resemblance to a (big) garden belonging to your own house, feeling safe because it is shielded from the rest of the public and has a private feeling to it.” (visit to Jaffa, Delft, September 30, 2008)

“This cemetery almost feels like the secret garden so often found in novels. A large part of the surface has been covered by moss, even some mushrooms are popping up here and there. The surrounding water stream is covered with a thick green layer of duckweeds, hardly in motion, while the wind is severe today.” (visit to a Roman Catholic Cemetery at Kanaalweg, Delft, October 1, 2008)

“Above all a dominant feel is present here, produced by the nature that has been here for ages and has now almost become something like a higher force, evoking feelings of grandness and majesty.” (visit to a Roman Catholic Cemetery at Kanaalweg, Delft, October 1, 2008)

Others might mention different aspects that can be seen as positive within the idea of a city, such as: quietness, different types of flora and fauna, valuable landscape design, history showing in old trees and tombstones.

2.2.2 NOT A PROBLEM FOR EVERYONE

The invisibility of cemeteries that has been described is obviously not a problem for many people, who see the cemetery as something that should be kept out of the city. If however the various qualities of a cemetery are taken into consideration, it raises the question if a cemetery which is integrated in the city is also a possibility. This then also means such an ‘urban integrated cemetery’ should also be designed in such a way that sceptics are also able to find value in the place. In other words: the cemetery has not been able to return to the city because there is no good ‘counter idea’ to the taboo regarding death.

2.2.3 WHY AN URBAN INTEGRATED CEMETERY?

An urban integrated cemetery, placed near the daily city life, is not necessarily better or worse than a forest cemetery or an isolated cemetery in the dunes. Fact is, that it is has some different qualities of its own, not found in other types of cemeteries. The largest difference here is that a city cemetery attracts passers-by as well as specific visitors, while the cemetery outside of the city only attracts the latter.

TRADITIONAL
MEANINGFUL
ASSOCIATIONS GOT LOST

TABOO AND NECESSITY
TOGETHER RESULT IN
INVISIBLE CEMETERIES

SPATIAL AND
FUNCTIONAL EXCLUSION
FROM THE URBAN FABRIC

‘CEMETERY AS BURIAL
GROUND’ STILL VALID

GRADUALLY A DISTANCE
BETWEEN LIFE AND
DEATH GREW

URBAN INTEGRATED
CEMETERY ATTRACTS
PASSERS-BY AS WELL AS
SPECIFIC VISITORS

A counter argument to the taboo regarding death is needed to integrate the cemetery into the city again. While some possible qualities of the cemetery have been described, this does not mean a cemetery within an urban context is immediately approved. Something more is needed for larger acceptance and appraisal: like any other valuable city function the cemetery should also be seen as a place that is of benefit to the city, not just to itself.

This project tries to find the tools that are needed to ‘form this counter argument’ and make the cemetery an attractive place for city users, while at the same time still successfully fulfilling its’ traditional funerary functions.

2.3 AIM OF THE PROJECT

The main aim of this project is...:

...to construct an overview of the current debate on cemetery design with solutions for the future and requirements for the design of Dutch cemeteries

2.4 RESEARCH QUESTIONS

2.4.1 MAIN RESEARCH QUESTIONS

The main research questions for this thesis are:

1. How and why should we (not) make cemeteries visible and functionally valuable parts of the urban fabric?

2. What are the requirements for the program, design and placement for such a kind of cemetery, located in the larger region around Maassluis (The Netherlands)?

2.4.2 OPERATIONAL RESEARCH QUESTIONS

Several research questions that will help in solving the main research question are:

1. What ideologies and beliefs form the historical narrative behind the present definition(s) of the spatial form of cemeteries and their invisible role in the city?
2. What are various definitions of ‘meaning’ for the cemetery and in what ways is design able to attach meaningful associations to the cemetery?
3. What are the different types of cemeteries and what necessary and optional characteristics, as well as trends of burial and cemetery design can be identified in them?
4. How are different design solutions making cemeteries (not) a part of the urban fabric?
5. What are the policies and regulations related to cemeteries and how do they limit design and planning?
6. How do the needs and wishes of involved actors limit choices for a cemetery design within Maassluis and how large is the user range it is aimed at?
7. What are the spatial and functional possibilities and restrictions when designing a cemetery within the existing surroundings of Maassluis?

2.5 USED RESEARCH METHODS

Several methods are used in this project to research the subject, some to find direct answers; others for a general understanding of the project. Here follows a short summary of used methods

2.5.1 LITERATURE STUDY

In this project, a literature study is undertaken (in the form of a paper) to compare different authors’ positions on the history of cemetery design. Scientific literature as well as other urban design literature is used. The goal here is to attain an overview of the historical development and current state of society towards death and the cemetery, as well as an understanding of how to design in current times.

Furthermore, literature is used to get a larger general understanding of several aspects of cemetery design.

2.5.2 COMPARATIVE INVENTORY OF EXISTING DESIGNS

A comparative inventory of existing cemetery designs is carried out in order to classify themes in the design of a cemetery. These themes are then used to find out what design choices can be reused for a new cemetery. This is done through an analytical look at the same subjects for different (Dutch) cemeteries. The analysis looks at both the internal organisation of the cemetery, as well as the morphological conditions that define how the cemetery is rooted in the context.

2.5.3 INTERVIEWING

An interview has been done with the project leader of the new cemetery for the municipality of Maassluis. This was done to find out about interests and wishes of involved actors, to be able to compare the relevant actors’ positions. The most important factor in this interview was to learn more about the vision of the municipality.

2.5.4 OFFICIAL DOCUMENTS

To get a better understanding of existing Dutch policies and regulations, in such a way that they are able to be used in practical way, official documents have been looked at. These regulations have mostly been used to determine aspects such as measuring, as well as time frames for burial.

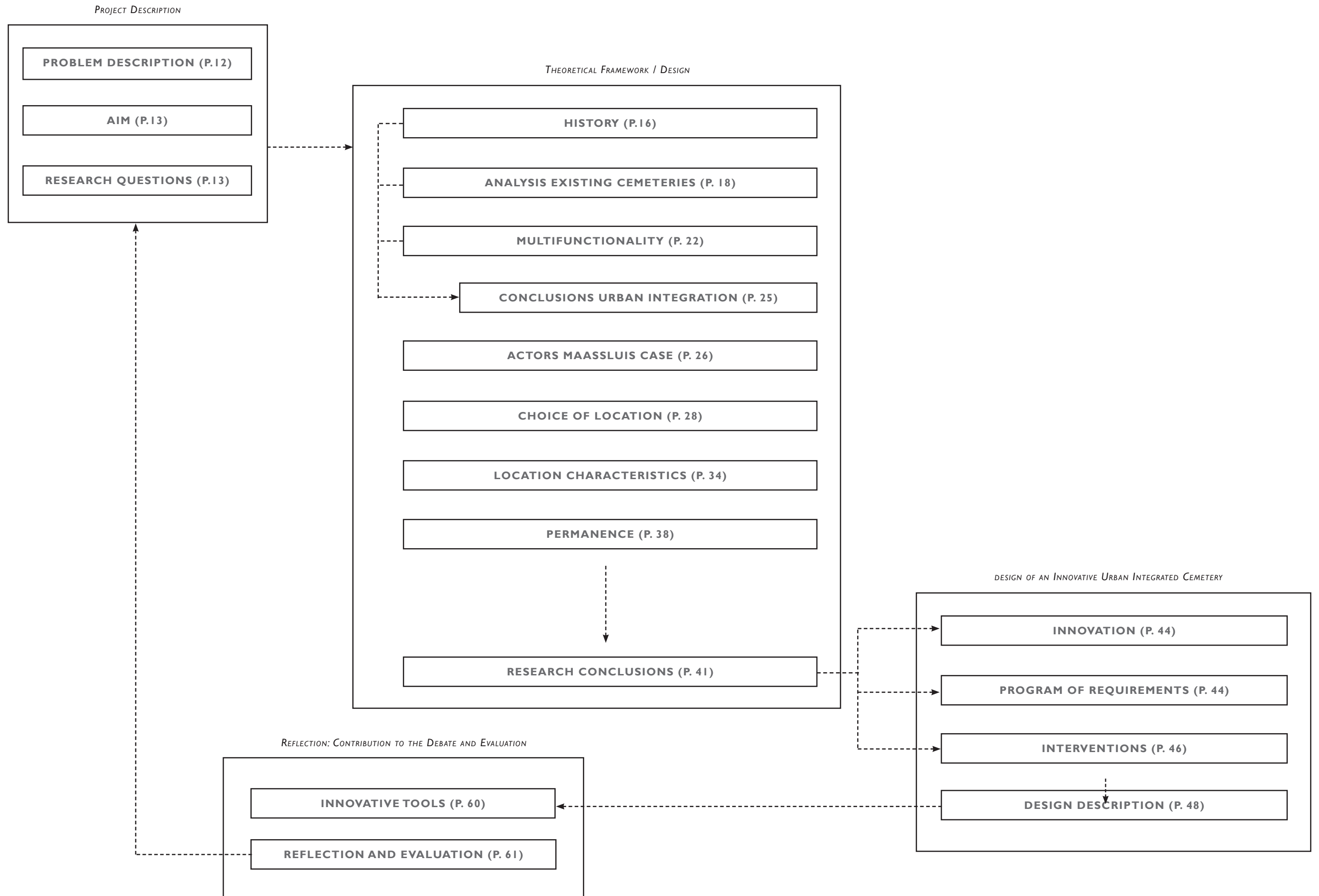
Other documents that were looked at include feasibility studies by the municipality of Maassluis for their choice locations.

2.5.5 DEMOGRAPHY

Important for not only the (future) size of a new cemetery, but also to identify trends in dealing with the dead (burial or cremation for example), demography has been used. Data was obtained from both scientific literature and valuable, respected sources such as CBS. Other data was obtained from the interview with the municipality, as well as documents released by the municipality containing important data about Maassluis.

2.5.6 LOCATION ANALYSIS

For the location choice maps and data (mentioned above) were used. The chosen location was analysed with the aid of maps and personal observation.



PART B

THEORETICAL FRAMEWORK / RESEARCH

This part describes the research process. The chapters have been divided by theme. The first chapters look at what is known about the cemetery and what conclusions can be drawn from this. These chapters describe the history of the cemetery, an analysis of existing cemeteries, the theme of multifunctionality, and aspects that are important for urban integration. The following chapters deal with the choice of location and the reasoning against the policy of the municipality. First it is concluded that a cemetery only for Maassluis is what will be designed in this present graduation project. After this a look is taken at the municipality's choices for a cemetery, as well as alternative choices. The chosen location is then analysed. This research part also contains a chapter on the permanence of the cemetery, after which final research conclusions are given.

3 A HISTORY OF THE CEMETERY

3.1 'A HISTORY OF THE CEMETERY' PAPER CONCLUSIONS

A paper was written to aid this project. In it, views by different authors from different disciplines are being compared, so as to construct a 'back-story' of the (Western idea of the) cemetery, wherein the crucial moments and developments in history are being pointed out. Using this back-story it is then easier to pick a direction for current cemetery design. This has been done by drawing conclusions in such a way that a bridge is drawn between the paper and the spatial domain, thereby aiding the task of urban design. Design solutions are not necessarily given; however the paper tries to present the conclusions in such a way that it is clear what a new spatial design may try to accomplish. In other words, the multitude of approaches to the design task is being narrowed down here considerably by providing the essence of what cemetery design should be in this current state. The conclusions from the paper therefore form a starting point of recommendations, which the designer is then able to translate into a substantial design.

A timeline that summarises some of the most important changes in the history of the cemetery is shown in Figure 6.

The conclusions that can be drawn after the examining of the cemetery's history are, in summarised form:

- A beautiful image alone is not enough to remove the cemetery's frightful association. This is rooted deep in society.
- The cemetery's design should be focused around the wishes and respect of the visitor.
- There is no real difference for a location in- or outside the city, with regards to the place being seen as uncomfortable. Inside the city has the benefit of the possibility of being fully regarded as a valued city function.
- The cemetery should be treated again as a place where death is architecturally expressed. Not only within, but also with relation to the city.
- Burial is a deliberate choice (since cremation was considered equal by law). Therefore the cemetery should be seen as a worthy and nice enough place for those who choose for burial.

- The cemetery is a place that contains a unique and personalised value for individuals, however in order to be meaningful for the city and society it should try to aim at a more universal meaning as well.
- While a lot of the modern alternative techniques and thinking models are not offering an answer with regards to the role of the cemetery within the city, they are useful enough to consider as supporting techniques for new design.

(Moonen, 2009)

A full version of this paper can be found in the appendices.

3.2 WHY IS INNOVATION NEEDED FOR OUR CEMETERIES?

One of the things that is described in the paper is how cemetery design of the last 100 years, during the era of modernism, has shown an uncertainty of how to design. There seems to be an uncertainty sometimes of what cemetery design should be and for what goals, other than just burial. As mentioned in the problem description of this project, some of the early traditional meaningful associations of the cemetery have been lost, but not always replaced by others.

The cemetery that is designed so often is using a standard model that does not contain or hides additional value besides the main burial function. As the paper describes, there are many misconceptions about the cemetery that keep a redundant model of cemetery design intact. For example, these misconceptions include that the cemetery is better placed outside the city (hygiene is not a problem as was thought then) or that it is a place for individual visitors only (there are various qualities of benefit to the city).

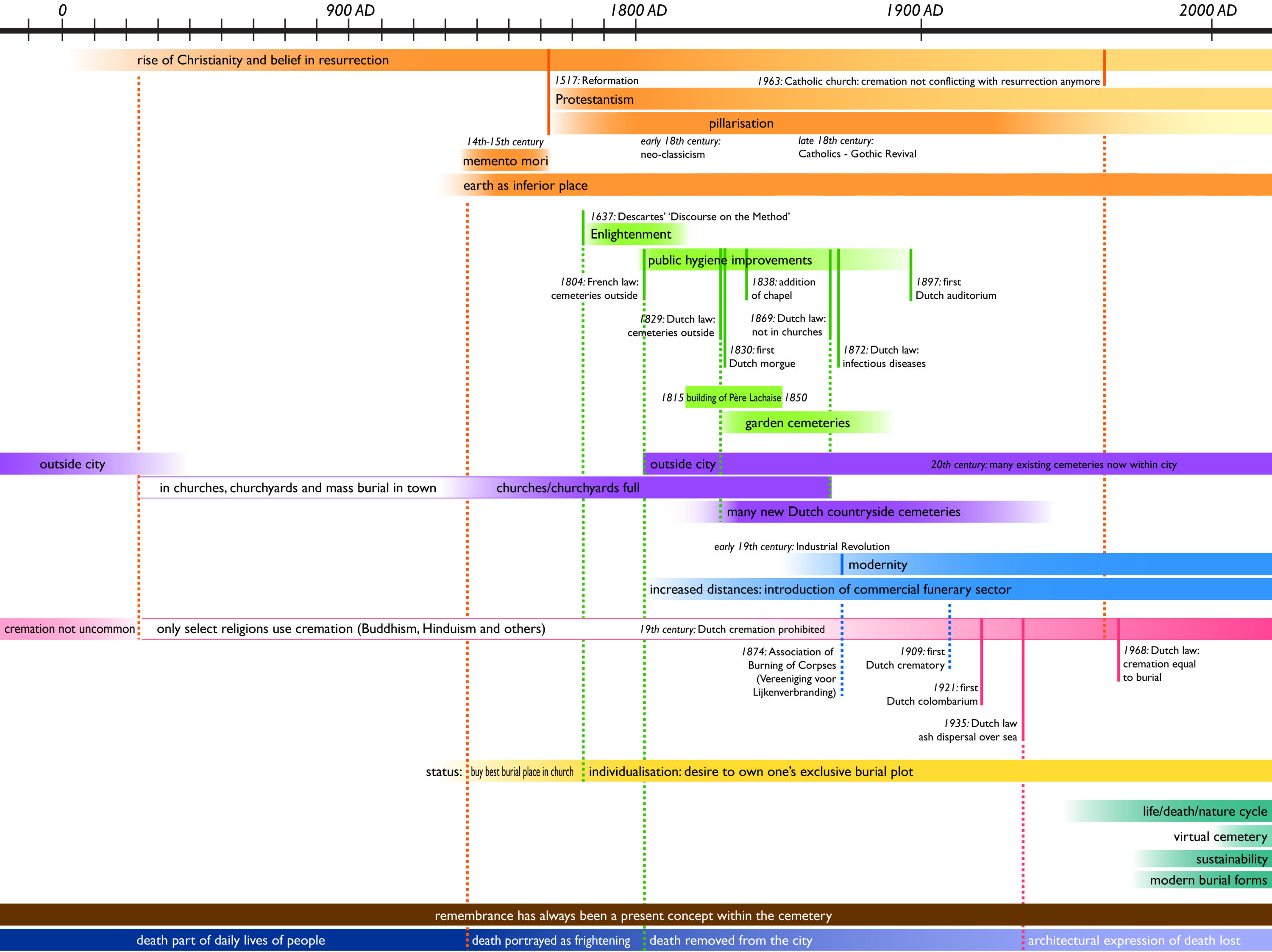
This means that cemetery design has become redundant in some of its aspects and innovation is needed to make the cemetery more valuable again, not only as a burial place but on more accounts. Looking at the history of cemeteries, there is a parallel between the very early times of cemetery design (i.e. during the Middle Ages) where cemeteries were still part of the daily lives of people and meant something to society as a whole, rather than only to the individual. While different tools, relevant to current times, are needed to achieve this again, it is a similar higher value that needs to be part of the Dutch cemetery again. This calls for a search for innovative elements, which will be described in the following chapters.

SOME ASPECTS OF
TRADITIONAL CEMETERY
DESIGN HAVE BECOME
REDUNDANT

FIGURE 6 (SHOWN ON RIGHT PAGE): THIS TIMELINE SUMMARISES THE MOST IMPORTANT CHANGES IN THE HISTORY OF THE CEMETERY, THROUGH DIFFERENT THEMES.

HISTORY AS BACK-
STORY TO CURRENT
DEVELOPMENTS IN
CEMETERY DESIGN

7 CONCLUSIONS
FROM HISTORICAL
DEVELOPMENT



4 EXISTING DUTCH CEMETERIES

There is a very large number of existing cemeteries in The Netherlands. While it is this projects' ambition to make innovative cemetery design, there is a lot that can be learned from the partly redundant cemetery. At the same time, by looking at these cemeteries, it can be determined what exactly is redundant in these cemeteries and what needs to be changed. This chapter looks at analysis of existing designs, as well as the rules and regulations that form limitations on the design of a cemetery.

4.1 ANALYSIS OF EXISTING CEMETERIES

During this project, an analysis was done of 6 Dutch cemeteries, in different locations, in different styles, but all built during the modern era of cemetery design (after 1804).

This was done by personally observing the 6 cemeteries and then analysing them based on predetermined themes (arrival, demarcation, structure of paths, building placement, monumental vegetation and other objects, size and measuring).

An example of some of these drawings is shown in Figure 7. A full version of the analysis can be found in the appendix. Figure 8 shows a matrix that summarises many characteristics of these cemeteries.

4.2 RULES AND REGULATIONS

Using the Dutch 'Law on the Disposal of Dead' (1991) and 'Decree on the Disposal of Dead' (1997) a lot of useful information can be gathered with regards to the most basic aspects of disposing the dead that need to be fulfilled, which are then of course design limits (or opportunities):

- the entrance to a grave or crypt may not be located within a building that is not entirely meant for burial
- grave rights in Holland for typical cemeteries: 1. family graves: forever; 2. at least 20 years, to be extended by 10 years each time
- urns can be placed in 1. a specific part of the crematorium; 2. in or on a grave or a specific part of the cemetery; 3. outside the crematorium or cemetery
- there is a 20 year term on the removal of urns
- urns that are removed are dispersed
- crypts and family graves: designated for all that are from the same family
- the minimal distance between graves is 30 centimetres
- above the casket there should be placed at least 65 centimetres of earth
- graves need to be located at least 30 cm above the average groundwater level
- the three points above are not applicable to family graves
- the distance between a grave and the demarcation of the property is at least 1 meter
- air needs to be able to penetrate into crypts
- there is a <45dB noise restriction for cemeteries

(Wet op de Lijkbezorging, 1991)

(Besluit op de Lijkbezorging, 1997)

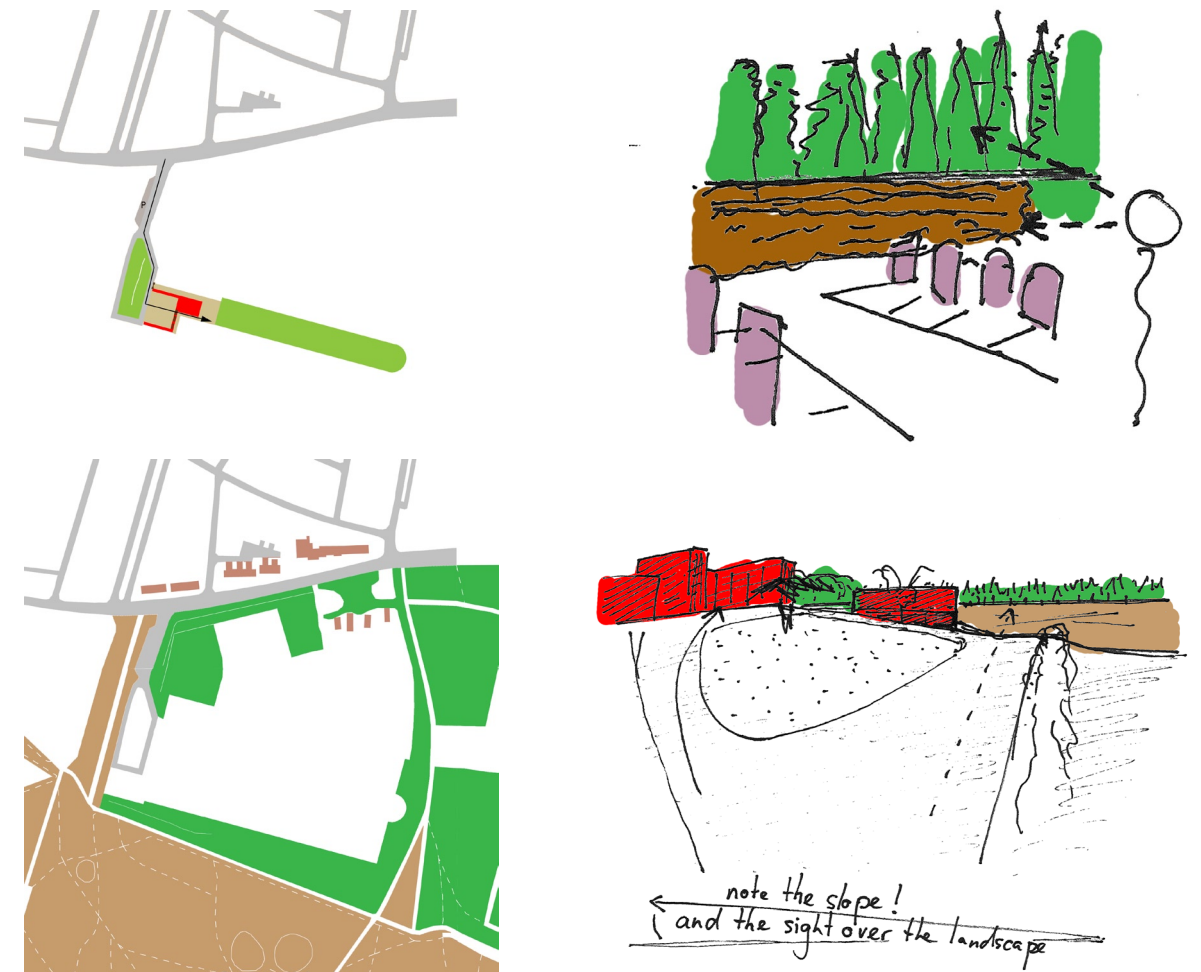


FIGURE 7 (LEFT AND ABOVE): AN EXAMPLE FROM THE ANALYSIS OF EXISTING CEMETERIES. THESE ANALYSIS DRAWINGS SHOW THE CEMETERY OF ZUIDERHOF, HILVERSUM. IN THE LEFT COLUMN, FROM TOP TO BOTTOM ARE SHOWN: ENTRANCE, DEMARCATION, STRUCTURE OF PATHS, BUILDING PLACEMENT. THE TWO IMAGES ABOVE SHOW OTHER EYE-CATCHING CHARACTERISTICS OF THIS CEMETERY (THE SURROUNDING EDGE OF TREES AND THE SLOPE TOWARDS THE ENTRANCE GIVING SIGHT OVER THE SURROUNDING LANDSCAPE). THIS LOOK OVER THE SURROUNDING LANDSCAPE WAS AN INSPIRATION FOR THE MAASSLUIS DESIGN (WHERE THERE'S SIGHTS OVER THE RIVER MAAS).

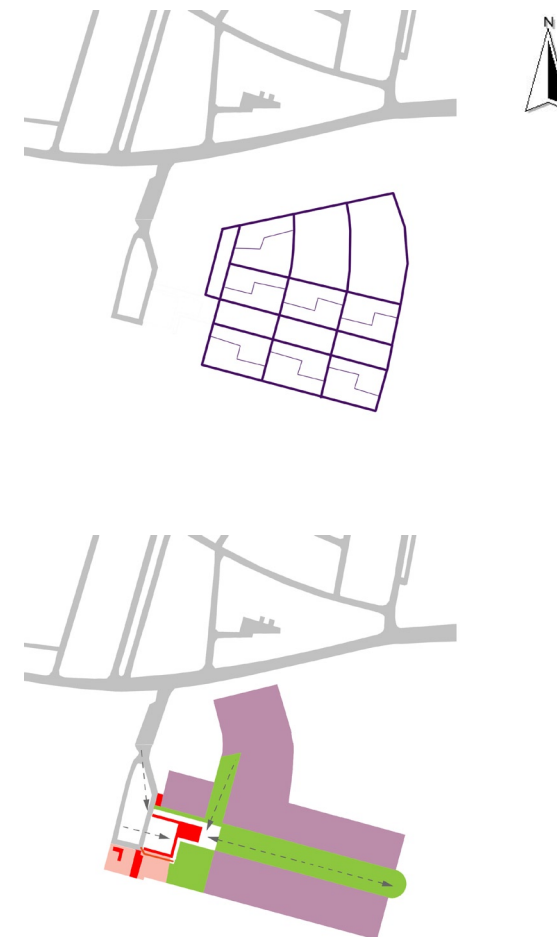


FIGURE 8 (SHOWN ON RIGHT PAGE): THIS MATRIX WAS MADE AFTER THE ANALYSIS WAS FINISHED. CATEGORISED IN CERTAIN THEMES, 'ICONS' HAVE BEEN ATTACHED TO EACH CEMETERY.

	1.1 Parking	1.2 Fences and marcations	1.3 Surrounding roads	1.4 Number of public entrances	2.1 Type of edge	2.2 Transparency	2.3 Notable edges	3.1 Structuring of paths	3.2 Access to graves	3.3 View from within sections	4.1 Position auditorium	4.2 Auditorium and burial grounds	4.3 Sight from auditorium	4.4 Service spaces	5.1 Size	6.1 layer 1: topos	6.2 layer 2: formal plan design	6.3 layer 3: spatial forms	6.3 layer 4: image types	6.4 layer 5: use
Haarhof, Gorinchem															small (< 50.000 m2)	open field, agricultural	straight and geometric	small room	rhythmic objects and hedges	cemetery
Jaffa, Delft															medium (50.000-100.000 m2)	green room in the city	radial with many variations	the coverage of green in the city	multitude of trees	cemetery / walking
Ereveld, Loenen															karge (>100.000 m2)	forest	winding forest roads	nature	trees as forest, spiritual objects, uniform choice of grave stones	cemetery / walking
Nieuwe Algemene Begraafplaats, Doorn															medium (50.000-100.000 m2)	forest	straight, without curves	spaces cut out of the forest	trees as forest, uniform choice of grave stones	cemetery / walking
Noorderbegraafplaats, Hilversum															medium (50.000-100.000 m2)	urban	straight and clear	urban open field garden	impressive vegetation, architecture	cemetery
Zuiderhof, Hilversum															karge (>100.000 m2)	forest, heathland and hills	straight and clear, monumental	'buitenplaats' in the forest	monumental forms of vegetation, architecture,	cemetery, sight-seeing icon value

Visions in analysed designs:

- Doorn and Loenen both show strongly the vision that in death we're all equal.This is seen in the strong uniformity of the stones,and the overall designs. Here no multitude of ornaments is being used.
- Other cemeteries emphasise the personal freedom a lot: most notable are De Haarhof, Jaffa & Zuiderhof. Both De Haarhof & Zuiderhof have a strong, dominant style and structure in which all the personal freedom is being 'let loose'.A chaos is not being created due to the overall style keeping the whole place together.
- The two cemeteries by Dudok in Hilversum contain monumental elements, especially Zuiderhof.This enhances the feeling that the cemetery is a significant place, a place of stature.
- Loenen and Doorn, and to some degree Zuiderhof are all very much using their forest characteristics to enhance the character of the place. In Loenen the cemetery is really the same as the forest, whereas in Doorn spaces have been cut out. Zuiderhof is completely culturalised, but contains a natural edge of trees.
- Jaffa and the Noorderbegraafplaats are urban cemeteries. The former is really a sheltered green room within the city, whereas the latter is more an open field offering views to the surrounding buildings.
- Death is approached in a very functional way in De Haarhof, where the auditorium is connected to the parking grounds, and separated from the burial grounds. In Jaffa the auditorium takes a more central place, for overview and distance efficiency reasons. Both Hilversum cemeteries place the auditorium in a larger building complex that also functions as grand entrance through which the user moves to enter the burial grounds.

Some notes regarding vision behind own design, in comparison to analysed designs:

- Own design is very much an urban design, taking the 'sheltered green room within the city' qualities of Jaffa, but using the outside recognisability from the Noorderbegraafplaats
- While subdued, the own design uses some elements of monumentality to show that the cemetery is a significant place, as well as to enhance the overview and structure of the place. Zuiderhof and Loenen are the best examples for this.This is apparent in their routing, entrance ritual and style.
- Own design is space-efficient and will therefore be dense, which means graves are rows. Intimacy is harder then to attain: examples from Jaffa, De Haarhof and Zuiderhof are being used to create shelter and a more personal feel for grave sections
- The balance between the personal and the total is important: Zuiderhof attains a great balance by always showing the grand edge as a backdrop to the more intimate sub-sections

The new cemetery in a few words:

- dense and urban, sheltered garden within the hectic city, recognisable edge and striking entrance, intimate sub-sections, a clear main space/axis with a hint of monumentality

	Haarhof, Gorinchem	Jaffa, Delft	Ereveld, Loenen	Nieuwe Algemene Begraafplaats, Doorn	Noorderbegraafplaats, Hilversum	Zuiderhof, Hilversum	connected to
recognisable from the outside	--	+	0	0	++	-	6.1, 6.3
personal freedom	+	+	--	--	0	+	
like a warm, safe home	0	+	0	--	0	0	6.1, 6.2, 6.3, 6.4, 6.5
time and history visible	-	++	+	-	+	+	6.1, 6.4
easily accessible for the citizen	-	+	--	--	+	-	6.5
affinity with style and design	0	+	++	--	+	++	6.2, 6.3, 6.4

	6.1	6.2	6.3	6.4	6.5
Haarhof, Gorinchem	-3	0	-2	-1	-1
Jaffa, Delft	4	2	3	4	2
Ereveld, Loenen	1	2	2	3	-2
Nieuwe Algemene Begraafplaats, Doorn	-3	-4	-4	-5	-4
Noorderbegraafplaats, Hilversum	3	1	3	2	1
Zuiderhof, Hilversum	0	2	1	3	-1
	6.1 gives: urban, green room in the city				
	6.2 gives: winding roads, variations, monumentality				
	6.3 gives: shelter of a green garden in the city				
	6.4 gives: multitude of trees, monumental trees				
	6.5 gives: cemetery use + walking				

	1.1 Parking	1.2 Fences and marcations	1.3 Surrounding roads	1.4 Number of public entrances	2.1 Type of edge	2.2 Transparency	2.3 Notable edges	3.1 Structuring of paths	3.2 Access to graves	3.3 View from within sections	4.1 Position auditorium	4.2 Auditorium and burial grounds	4.3 Sight from auditorium	4.4 Service spaces	5.1 Size	6.1 layer 1: topos	6.2 layer 2: formal plan design	6.3 layer 3: spatial forms	6.3 layer 4: image types	6.4 layer 5: use
Preferred use of themes for own design				alternative: multiple entrances											small-medium (around 50.000 m2)	urban, green room in the city	winding roads, variations, a touch of monumentality in the main structure	the shelter of a green garden with trees, within the city	multitude of trees, monumental trees	cemetery use + walking

4.3 WHAT CAN BE LEARNED?

As said, when analysing existing Dutch cemeteries and looking at official rules and regulations, there are first of all many things that can be learned and are useful to reuse, rather than change. These typical cemetery elements are also of importance because they help in establishing a place where the visitor of the grave is respected (as is mentioned in one of the history paper's conclusions).

For some of these things, there's a large degree of variation in possibilities. In this case, the personal vision (as described in 2.2) and the conclusions of the history paper are used to choose from the large range of variety. As an important note, depending on aspects such as the location characteristics and subjectivity of design some may still be altered or not used at all, instead using a different design solution.

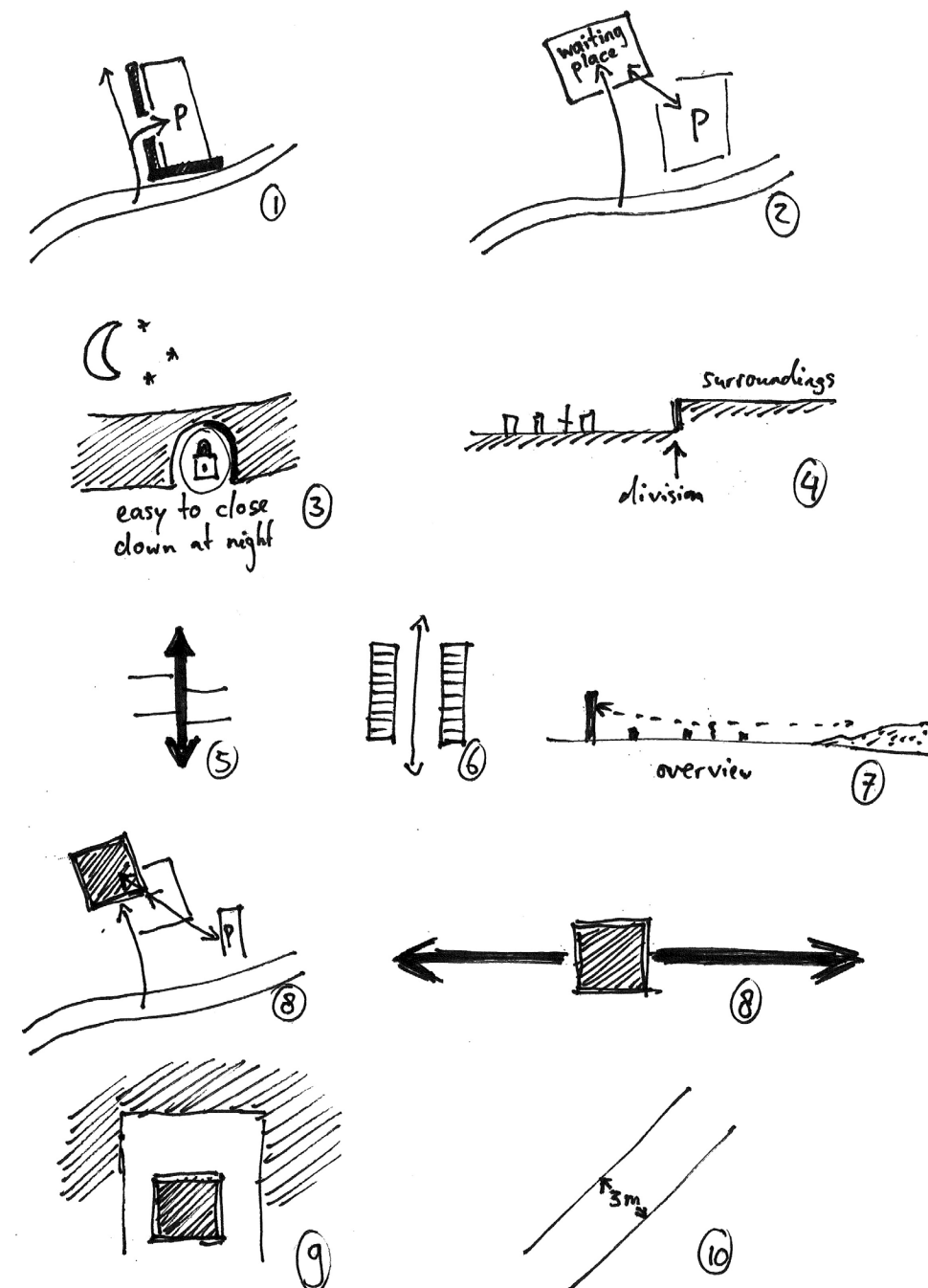


FIGURE 9: TYPICAL TRADITIONAL CEMETERY ASPECTS THAT CAN BE RE-USED WHEN DESIGNING A CEMETERY

The conclusions that can be made are (see also Figure 9):

1. **PARKING:** parking should be placed close to the entrance road, for reasons of accessibility, but should also be separated somewhat, so that visitors of the graves are not disturbed by cars
2. **FENCES & MARCATION:** a cemetery should try to feel as a welcoming place: this means that the entrance route should contain (a) well-designed place(s) where visitors can wait before entering the burial grounds. For reasons of convenience this waiting place should be close to the parking, and not divided by a gate
3. **ENTRANCES:** the entrances of a cemetery need to be designed in such a way that it is easy to close down at least the burial grounds when night falls
4. **TRANSPARENCY:** it is important that grieving visitors/attendees of a funeral are able to be in the cemetery without the feel of being watched from outside, or being disturbed by vehicles. This means that there should be some division and distance between grave and surroundings, but not necessarily a hard edge.
5. **STRUCTURING OF PATHS:** a clear structure in the path system is important for reasons of clarity. This means a clear and strong hierarchy. Also, no more crossing than through 3 compartments is recommended. Through observation, it became clear that cemeteries containing any number larger than 3 were less clear.
6. **ACCESS TO GRAVES:** in a cemetery where mixed styles and graves are important, the choice for clusters of graves is probably best: this is very similar to the typical layout of a city neighbourhood, where everyone is able to individualise their own spot within a clear structure.
7. **VIEW FROM WITHIN SECTIONS:** for reasons of overview and clarity the ability to have an orientation within the whole is important. It is therefore preferred that, regardless of the chosen smaller structures, a visitor is always able to see the outer edge/the surroundings/an element of orientation
8. **POSITION AUDITORIUM:** the auditorium should be in such a place that it is related to the entrance routing (parking and waiting place), but at the same placed so that it is a central element in the hierarchy of the cemetery: it should function as a place within the total cemetery where one is easily able to orientate from
9. **AUDITORIUM AND BURIAL GROUNDS:** while not completely inside the burial grounds, the auditorium should make some visible connection with the burial grounds, in order to feel as part of the whole cemetery. One possible way to enhance this is by having a square around the auditorium that connects clearly to the routing of the cemetery.
10. **MEASURING:** a typical path that can be used by digging machines as well is 3 metres wide. Graves are typically around 1x2 metres large, with margins around them (this excludes all the path space also needed). A workable size for calculating the total size of a cemetery is 4-5m²/grave (including all extra space needed)

REDUNDANT ASPECTS IN THE TRADITIONAL CEMETERY THAT NEED TO BE CHANGED

4.4 WHAT IS REDUNDANT AND NEEDS TO BE CHANGED?

By looking at existing cemeteries and the rules and regulations a few conclusions can be drawn, regarding aspects that need innovation. Based on what was found in the analysed cemeteries, redundant aspects are:

- the cemetery as a closed off space with just one entrance: this makes the cemetery into a place that is perceived as an ending destination and will not be used to pass through. It would be interesting to have multiple entrances so the cemetery becomes a place that can be part of larger routing systems (see also Figure 10).
- locations where the cemetery is not well connected to the rest of the city. This includes locations without many well-used surrounding roads, as well as locations which aren't reachable for pedestrians, but only by cars (see also Figure 10).
- thick non-transparent edges: although edges play a role in providing privacy as well as forming a demarcation, they also make a cemetery invisible and unrecognisable. Alternatives where the burial grounds still contain a large privacy, but where the cemetery as a whole is more recognisable and accessible would be better (see also Figure 11).
- monofunctionality: the cemetery is a monofunctional place, only used for burials and funerals. This is inefficient when looking at the use of space, but also means only visitors of graves will visit the cemetery, as they have to be there, whereas others who do not have the absolute need to be there will not walk or cycle specifically to a cemetery that is located far away.

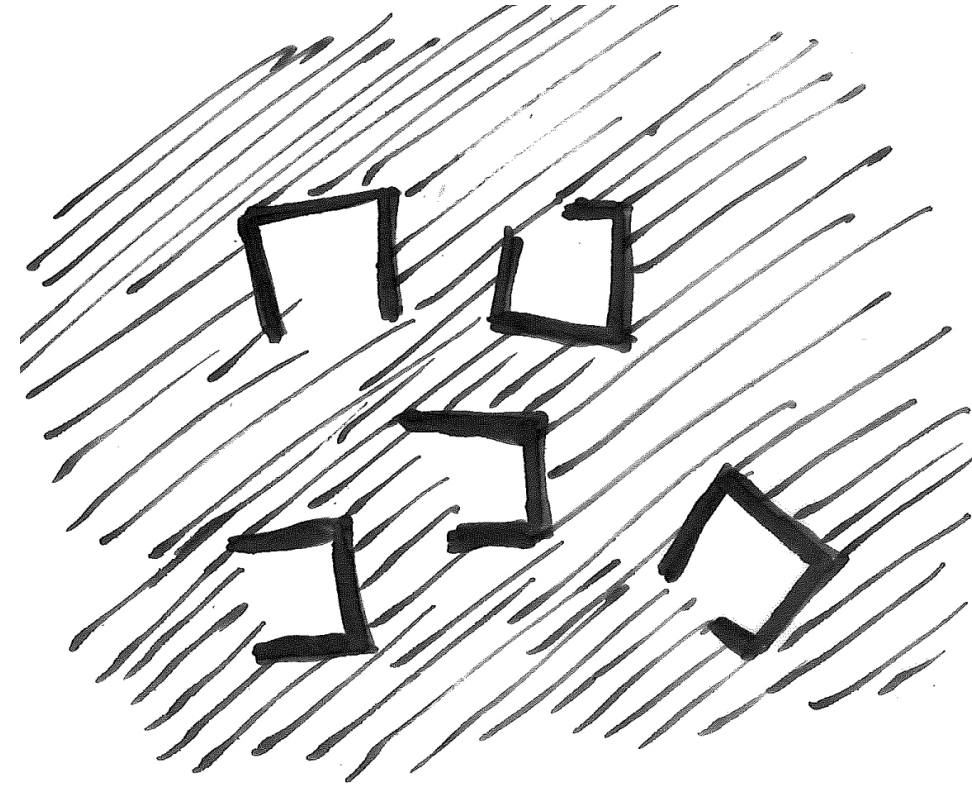
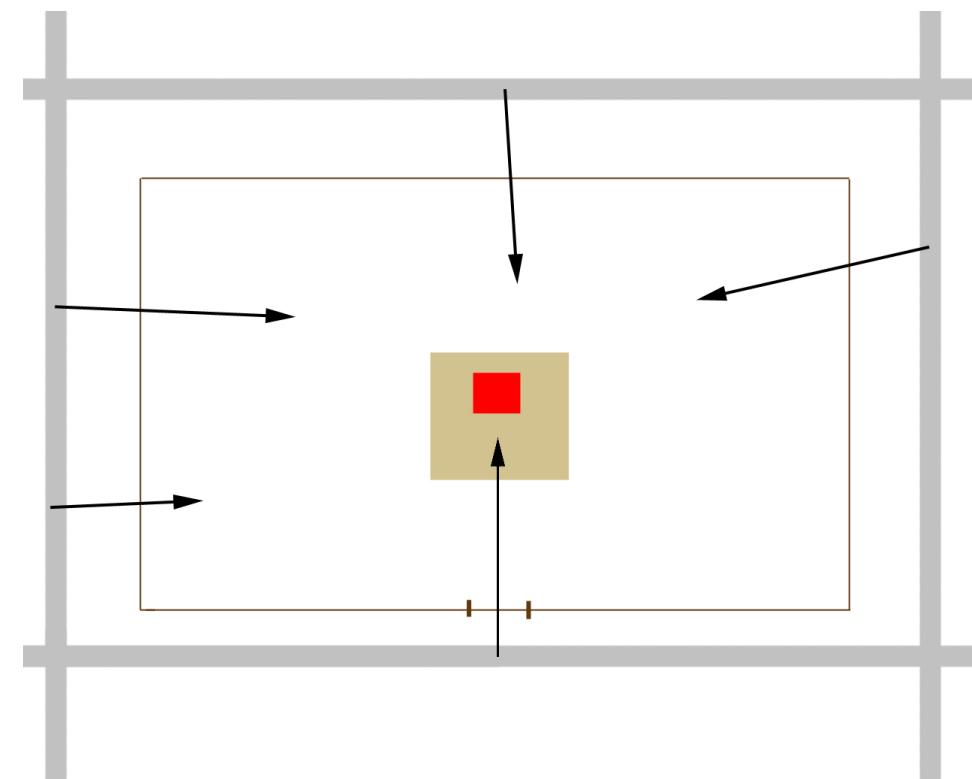
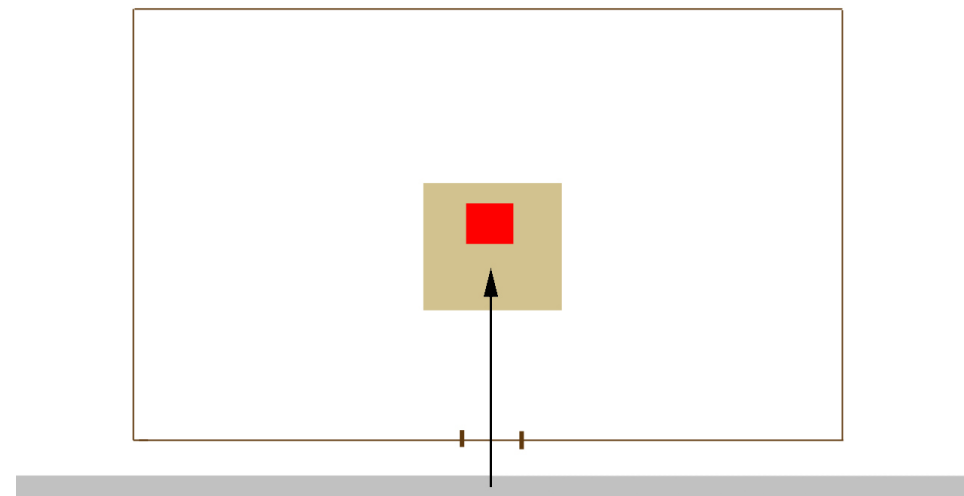


FIGURE 11: INSTEAD OF HAVING A LARGELY CLOSED EDGE, THE CEMETERY WOULD BE MORE RECOGNISABLE AND ACCESSIBLE IF ONLY THE BURIAL GROUNDS CONTAIN A CLEAR DEMARCATION, BUT THE CEMETERY AS A WHOLE CAN BE ACCESSED FROM ALL SIDES

FIGURE 10: THE TRADITIONAL CEMETERY IS REDUNDANT IN THAT IT USUALLY HAS JUST ONE ENTRANCE, IS NOT LOCATED NEXT TO MANY ROADS AND IS AN ENDING DESTINATION (LEFT). THE ALTERNATIVE INNOVATIVE CEMETERY HAS MULTIPLE ENTRANCES, IS CONNECTED TO MORE ROADS AND IS THEREFORE MORE EASILY ACCESSIBLE TO MANY PEDESTRIANS WHO CAN PASS THROUGH THE PLACE.



5 MULTIFUNCTIONALITY

As mentioned earlier, sceptics would not welcome the idea of an urban integrated cemetery, when it seems to them it is just a thing that is unwanted. As also mentioned earlier, this discomfort needs to be countered with things seen as positive: functionality that is seen as added value to the city.

5.1 MULTIFUNCTIONALITY: SOME EXAMPLES

To see how this idea of a 'multifunctional' cemetery works we could look specifically at the multifunctional aspect of a Dutch design example. In Almere-Haven a small cemetery has been created that is remarkable in that it has a very open structure, where part of the city's infrastructure (a bicycle route) coincides with the path system of the cemetery (see Figures 12 and 13).



FIGURE 12: IN ALMERE-HAVEN A CYCLING ROUTE GOES THROUGH THE CEMETERY, THEREBY CREATING MULTIFUNCTIONALITY, BENEFITTING BOTH THE CEMETERY AND CITY



FIGURE 13: THE MAIN CEMETERY ROUTE OF THE CEMETERY OF ALMERE-HAVEN IS ALSO A CYCLING ROUTE

In a different design in Groningen, by the name of Selwerderhof, the function of a 'tea house' has been added. Aside from the fact that this tea house is an additional functionality for the visitors of the cemetery, this also attracts users that are not visiting the cemetery on purpose. They might however walk through the park-like cemetery before or after their visit to the tea house, while they are there (see Figures 14 and 15).



FIGURE 14: IN SELWERDERHOF, GRONINGEN A TEA-HOUSE HAS BEEN ADDED AS FUNCTIONALITY TO THE CEMETERY



FIGURE 15: THIS TEA-HOUSE IS LOCATED ON THE CEMETERY OF SELWERDERHOF. THE CEMETERY PROVIDES AN IDEAL SETTING TO DRINK TEA.

<p>POSITIVE ASPECTS OF MULTIFUNCTIONAL ROUTING IN A CEMETERY</p>	<p>5.1.1 WHAT IS THE ADDED VALUE IN MULTIFUNCTIONALITY?</p> <p>Even though multifunctionality is present in the two mentioned examples of Almere-Haven and Selwerderhof, this does not necessarily mean its introduction is good. Using personal observation in Almere-Haven it could be said that its multifunctionality felt positive because of;</p>	<p>unwanted obviously). An urban integrated cemetery is presumably more exposed to those willing to do bad than an outside cemetery, so this makes it a theme to pay extra attention to. If possible, when designed well, physical barriers could possibly work as a prevention against crime. However, it must be said that while prevention is better than nothing, there is no guarantee a new cemetery design is crime-free.</p>	
<p>POSITIVE ASPECTS OF HAVING ADDITIONAL FUNCTIONS IN A CEMETERY</p>	<ul style="list-style-type: none"> the extra social safety it gave: the cyclists that uses the route unintentionally make the place safer, as added ‘social eyes’. The amount of cyclists is however not so large that they start to dominate the place. the added landscape design element in the bicycle route. The hedges that circularly surround the groups of graves also form a nice boundary to the cycling route and therefore form a nice diversion in the route (i.e.: something interesting to look at), which is among the more important aspects of the recreation network of a city. <p>In Selwerderhof (which was not visited due to travelling limitations, but has been studied briefly through maps and photographs) multifunctionality brought the following positive elements:</p> <ul style="list-style-type: none"> a more easily visited cemetery: similar to the way a park works, the presence of mixed functions around it attracts users, and form a node from which to enter the cemetery. (De Josselin De Jong & Van Der Mispel, 2008) Here, the tea house acts as a node from which one is more easily tempted to also make use of the cemetery as a place of recreation (or even to enjoy its surroundings as backdrop while tea drinking: while small, this is still added value!) an attractive landscape design to recreate in: Selwerderhof has very park-like surroundings and is therefore well suited for pedestrian recreation <p>In summary then, it can be concluded multifunctionality is able to add value to both city and cemetery, with some conditions that need to be taken care of. In the case of recreation it is important that the design of the place is attractive and has enough of its own character so that it catches the recreationists’ interest. Mixed functions that fit with the more low-key theme of a cemetery will work well in attracting people nearer to the cemetery, thereby working as a stepping stone to the cemetery itself, either physical or just by getting the cemetery in sight.</p>	<p>5.2 THE IMPORTANCE OF THE LOCATION</p> <p>One crucial detail of the concept of ‘the cemetery as added value to the city’ is the choice of location. When a cemetery is starting to fulfil not just one function (the funerary function) and additional functionality is added, new conditions are introduced for the cemetery. An example of this is the accessibility: when recreational functionality is introduced it should be connected to other recreational routes in the city to actually work. This has perhaps not been fully realised in both the Almere-Haven and Selwerderhof designs, but at least a small step has been made.</p> <p>At the same time, added value also means that the cemetery is not thought of as the most important function of the city and claims the best spot in the city, where other high profile functions would have been better placed. In this particular example the value of that best spot in the city is diminished, because it could have been used for a better suited function. In other words: in trying to integrate the cemetery into the urban framework, it takes away other functionality, thereby not adding value to the city.</p>	<p>ACCESSIBILITY OF THE MULTIFUNCTIONAL CEMETERY IS IMPORTANT</p> <p>COMPETITION WITH OTHER CITY FUNCTIONS: WHAT SPOT CAN A CEMETERY CLAIM IN THE CITY?</p>
	<p>5.1.2 NEWLY INTRODUCED PROBLEMS</p> <p>Multifunctionality sadly also brings some additional problems. Two aspects that are perhaps most important to address are the following:</p> <ul style="list-style-type: none"> intrusion on the respect and wishes of the visitor. When poorly designed the multifunctionality can also become a problem. Crossing routes of cyclists (or forbid: even cars!) with a funerary parade are unwanted. Therefore this is an aspect that needs to be looked at very carefully. Also, the number of visitors is crucial: a sporadic passer-by helps the social safety of the place, but noisy crowds are obviously a step too far. Therefore, large scale functions are not an ideal combination with the cemetery. Hikers are mostly unobtrusive, so they are an ideal addition to the cemetery. Cyclists are no problem either, as long they don’t cross funerary routes; however, cyclist routes are ideally placed adjacent to funerary routes, to make the decision to stop and visit the cemetery by foot much easier. vandalism and crime: this is a very valid problem as can be seen by the many news stories on vandalism in cemeteries. Even seemingly well secured cemeteries with gates fall victim to the problem, making it hard to find definitive solutions, excepting heavy solutions that turn the place into a prison visually (which is 		

6 CONCLUSIONS FOR URBAN INTEGRATION

With several elements of the cemetery already assigned as less related to exclusion in Chapter 4 (but assigned as typical elements for a cemetery), this still leaves criteria for urban integration. Using the conclusions made in Chapter 5 this chapter contains criteria for the urban integration of a cemetery.

6.1 ANALYSIS CONCLUSIONS FOR URBAN INTEGRATION

Apart from the recommendations given in 4.4 (elements that are redundant in the traditional cemetery and can be changed), in general the following conclusions could be used when designing an urban integrated cemetery:

- **VISIBILITY AND RECOGNISABILITY:** the cemetery's visibility and recognisability can be achieved in several ways, for example:
 - large and visible entrances that give the cemetery an open and welcoming character
 - the positioning of an auditorium in such a way that it is very visible from outside the cemetery
 - a notable edge/transition to the cemetery, that makes clear there is a cemetery
- **ACCESSIBILITY:**
 - multiple entrances might enhance the open character of a cemetery, and make it less of an exclusive place for remembrance only
- **INTEGRATION:**
 - the cemetery should be connected to a network that is well-used, especially by pedestrians
 - a structure of open space that runs through the cemetery and is connected to the city's open space structure makes the cemetery much more a place that citizens are inclined to use

6.2 IMPLICATIONS FOR THE LOCATION CHOICE

These conclusions mean the following for the location:

- a location needs to be chosen on the basis of the existing/newly-formed urban pedestrian networks. This means that there should be pedestrian activity, as well as a multi-functionality in functions for attracting a variety of users. This means that the cemetery needs to be placed there where;
 - pedestrians are using the network throughout (each) day
 - it can be reached easily both by car and pedestrians
 - citizens can easily recognise the cemetery when passing by
 - it adds value to the city
- with regards to multifunctionality, attention needs to be paid to connectivity and nodes, depending on the type of extra functionality chosen:
 - new routing functionality in and around the cemetery only works when it is able to be connected to other routes in the city
 - locations where certain functionality is missing and can be improved on are seen as a chance to improve something in the city
- these implications mean that the following types of locations are therefore not preferred:

- locations that are only reachable by car
- locations that are out of sight of the daily users of a city
- locations that are only able to provide the ground for a cemetery, yet are not able to give something to the city as well

**CRITERIA FOR A
LOCATION OF AN URBAN
INTEGRATED CEMETERY**

**UNSUITABLE LOCATIONS
FOR AN URBAN
INTEGRATED CEMETERY**

**IMPORTANT ASPECTS TO
PAY ATTENTION TO FOR
URBAN INTEGRATION**

7 ACTORS IN THE MASSLUIS CASE

7.1 MUNICIPALITY OF MASSLUIS POLICY ON NEW CEMETERIES

The project leader (Dennis Jong) of the municipality's new cemetery project was spoken to, to find out about the intents and ideas of the municipality. The municipality's point of view is important as starting point which can be followed (in its vision) or dismissed (then only supplying information like size and background to the situation).

A full documentation of the questionnaire and data procession can be found in the appendices. The main conclusions from the municipality interview are:

- A new cemetery needs to be finished as soon as possible, as there is a high pressure on the old cemetery. It should really be finished before 2012, but rather in 2011.
- The municipality (the council: i.e. those who make the final decision) sees the new cemetery as a necessary function to construct, rather than a valued addition to the city.
- Currently 53% buries in Maassluis at the old municipal cemetery. This could be considered a sufficient demand for burial for which to build.
- Three locations are being considered: Wipperspark, Stormbos, next to the dike (southeast location), with Stormbos being favoured at the moment.
- The new cemetery should be feasible in costs and technical terms mostly.
- The council is rather more interested in a location outside the city, which is invisible.
- No cremation is intended for the cemetery
- The cemetery should be aimed at the city only
- From studies it is clear that 30.000 m² is needed, or space for 8.000 graves, of which 3.300 are family graves.

(Jong, 2008)

When this is being compared to the personal motivation as well as some earlier research findings in this thesis, the municipality's view to see the cemetery as just a necessary function and nothing more does not comply with that.

The municipality's idea of building a cemetery brings nothing special to the debate of cemeteries. While the cemetery can perfectly function as a place for burials, it is not able to add anything to the city at the types of locations chosen by the municipality (as will be described in later chapters).

7.2 IDENTIFICATION OF ACTORS ON THE REGIONAL SCALE

There are several municipalities surrounding Maassluis, that need to be identified in order to see if a new urban integrated cemetery can cater to the wishes of more municipalities than just the municipality of Maassluis.

The municipalities surrounding Maassluis are:

- Midden-Delfland (Den Hoorn, Maasland, Schipluiden, 't Woudt)
- Vlaardingen
- Westland (De Lier, Heenweg, Honselersdijk, Kwintsheul, Maasdijk, Monster, Naaldwijk, Poeldijk, 's-Gravenzande, Ter Heijde, Wateringen)
- Rozenburg

(Sdu Uitgevers, 2008)

To determine what design will be made in this project part research and part reasoning have to be done. Due to time considerations a thorough investigation of all the cemeteries in these municipalities is impossible. Therefore, it has been chosen to work according to the following procedure:

1. research: identification of the existing cemeteries and crematories in these municipalities
2. a short inventory: a 'quick peak' on the Internet to find out if any of these cemeteries are experiencing space problems
3. reasoning: based on results from 1 and 2, and what is wanted for this group: is it needed to target other municipality as well?

7.2.1 IDENTIFICATION OF EXISTING CEMETERIES

Figure 16 shows all existing cemeteries within the surrounding municipalities of Maassluis. This information will be used for the following steps of research.

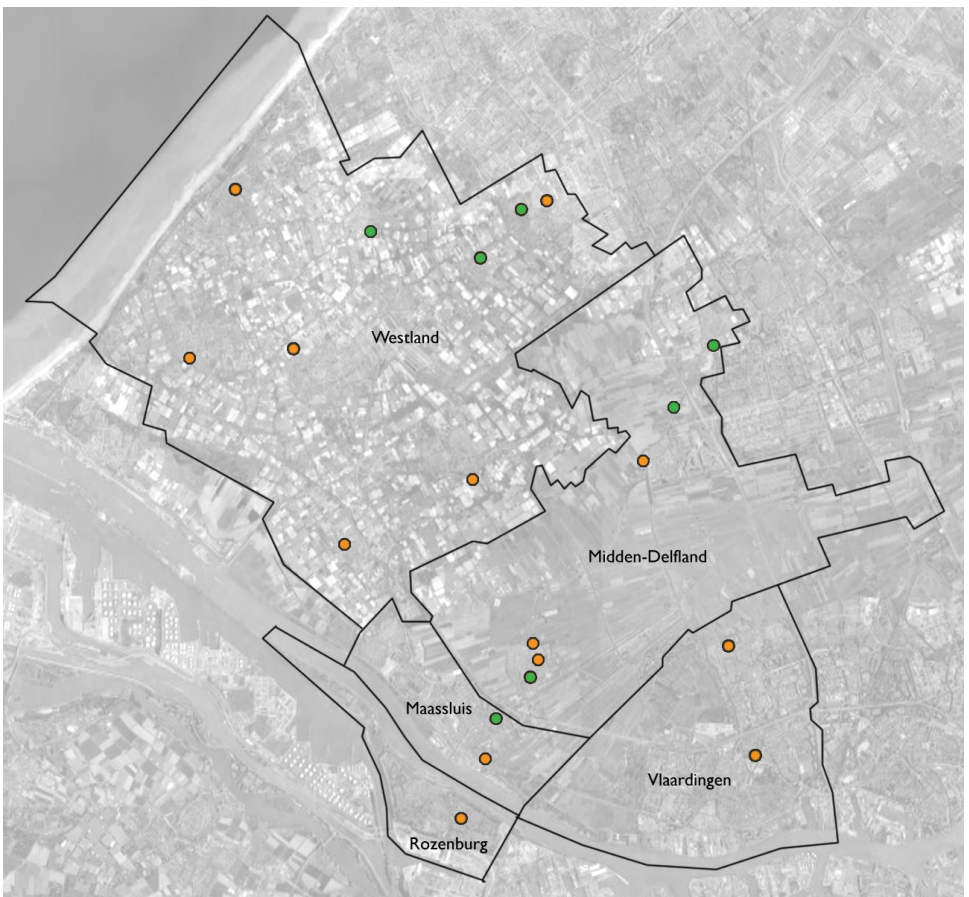


FIGURE 16: MASSLUIS AND ITS SURROUNDING MUNICIPALITIES. THE DOTS INDICATE THE EXISTING CEMETERIES: ORANGE DOTS ARE GENERAL/MUNICIPAL CEMETERIES; GREEN DOTS ARE FOR A SPECIFIC TARGET GROUP (CHURCHYARDS/ROMAN-CATHOLIC/JEWISH)

THIS MAP WAS PRODUCED USING INFORMATION FROM ONLINE BEGRAAFPLAATSEN (ONLINE BEGRAAFPLAATSEN, 2008)

THE MUNICIPALITY'S IDEA OF THE CEMETERY DOES NOT BRING ANYTHING TO THE DEBATE ABOUT CEMETERIES

7.2.2 IDENTIFICATION OF SPACE SHORTAGE

Using the Internet, an investigation into news articles and municipality publications was done on the above-identified cemeteries. This was done using combinations of the following keywords: 'city/cemetery in question'; 'begraafplaats (cemetery)'; 'vol (full)'; 'uitbreiding (expansion/extension)'; 'ruimtegebrek (space shortage)'; 'nieuwe (new)'.

What was found was the following:

- The municipal cemetery of Schipluiden is 85% full and is currently working on ideas for extensions (Gemeente Midden-Delfland, 2008)
- The city of Vlaardingen wants its own crematorium, instead of citizens going to the neighbour city of Schiedam (Uitvaartinformatie Bolink, 2007)

The information of Vlaardingen is not so relevant for this project, as they are mostly interested in a crematorium, whereas this project focuses on the cemetery as burial ground. Additionally, Vlaardingen is specifically interested in having people cremate in their own city, instead of Schiedam. Presumably, a Maassluis cemetery is then also not of interest to the municipality of Maassluis.

Interesting though is that Schipluiden is seeking for new space as well. When using the information that Schipluiden and Maassluis have near-full cemeteries and we exclude the specific cemeteries (churchyards/roman-catholic/Jewish) only certain cemeteries remain, as can be seen in Figure 17.

Trying out how this would work out for both municipalities, a cemetery catering to both Schipluiden and Maassluis can be connected to the various cycling routes present in-between, which is one positive aspect needed for urban integration. Looking further, very generally there are three options here:

1. location next to Maassluis: with the two towns being 7 kilometres apart it is out of the question that users of Schipluiden can easily visit the cemetery as pedestrians
2. location next to Schipluiden: meaning the opposite of 1
3. location in-between Maassluis-Schipluiden: this would result in a polder location, meaning a cemetery that is not integrated into the urban network. Trying hard, it could be placed next to the in-between town of Maasdijk, but this would mean an association with Maasdijk (which already contains two cemeteries, so is in no need either), rather than Schipluiden or Maassluis.

Therefore, it can be concluded that a cemetery for multiple municipalities is no option when trying to establish an urban integrated cemetery. The urban integrated cemetery needs city life (read: pedestrians) and high connectivity and accessibility to work. This is clearly not possible when trying to build for both Maassluis and Schipluiden.

**NO URBAN INTEGRATED
CEMETERY FOR MULTIPLE
MUNICIPALITIES, BUT
ONLY FOR MASSLUIS**



FIGURE 17: MAP THAT EXCLUDES ALL SPECIFIC CEMETERIES (CHURCHYARDS/ROMAN-CATHOLIC/JEWISH) AS WELL AS THOSE THAT ARE NEAR-FULL. THE MUNICIPALITIES OF MASSLUIS AND MIDDEN-DELFLAND HAVE NO TO FEW OPTIONS TO BURY WHEN ONE WANTS TO GO TO A MUNICIPAL CEMETERY.

8 CHOICE OF LOCATION

In this chapter it will be shown why the location choices of the municipality are not ideal for the creation of an urban integrated cemetery.

8.1 REVIEWING THE MUNICIPALITY'S LOCATION CHOICES

From the analysis conclusions it became clear that for the location of choice the following were not preferred:

- locations that are only reachable by car
- locations that are out of sight of the daily users of a city
- locations that are only able to provide the ground for a cemetery, yet are not able to give something to the city as well

The municipality of Maassluis have been looking (at various stages) at three locations, which they saw as possible locations for a new cemetery. These three locations are:

1. Stormbos
2. Wipperspark
3. De Dijk

These locations are shown in Figure 18.



FIGURE 18: THE THREE LOCATIONS THAT HAVE BEEN UNDER CONSIDERATION BY THE MUNICIPALITY OF MAASSLUIS: 1. STORMBOS, 2. WIPPERSPARK, 3. DE DIJK

As can be seen, the locations chosen by the municipality are all on the outsides or edges of the city. If we look at Figure 19 we see that the three locations are all connected to car-routes and therefore well-reachable, but mostly by car.



FIGURE 19: A DIFFERENT MAP SHOWING HOW THE THREE LOCATIONS ARE LOCATED, IN RELATION TO THE CITY AND THE MAIN CAR ROUTES. IN BLACK THE BUILT AREAS OF THE CITY ARE SHOWN.

8.1.1 MUNICIPALITY'S LOCATION CHOICE 1: STORMBOS

Figure 20 shows the Stormbos location. Looking at the criteria above, this is indeed a location that is tailor-made for car accessibility, but not citizen accessibility. It is in sight when designed towards the main car roads, but would never be a part of daily life, as it is a 'destination place' only, rather than also a place to pop into when walking past it. While this place could be designed as a node of cycling routes, it is also located next to glass houses and a large noisy car road.

Thinking about different city functions, this location does only lend itself much more logically to functions that thrive on close car road access, as well as are not wanted in the city. It would not be wise for Maassluis to give away this location to a cemetery, while other functionality is better suited to this place.

Balancing out, the place does not lend itself too well to add value to the city.



FIGURE 20: STORMBOS LOCATION

8.1.2 MUNICIPALITY'S LOCATION CHOICE 2: WIPPERSPARK

In Figure 21 the Wipperspark location is shown. This location is on the edge of the city, and well-connected to the car roads again. When looking positively, this location is actually close to some housing, but in all reality even the activity of the neighbourhood is happening on the opposite side of the cemetery. Connections with cycling routes are not easily made here either. This location is still somewhat isolated from the rest of the city then.



As with the Stormbos location, this location is closely placed near the main car routes (near a large node even). This makes the location an ideal place for different functionalities that need to be close to car routes and are not wanted in the city.

8.1.3 MUNICIPALITY'S LOCATION CHOICE 3: DE DIJK

Finally, Figure 22 shows the location at De Dijk. While this place certainly has some unique qualities (the secluded place in nature, next to the water, and the possibility of hooking into a recreational cycling network) it lacks any of the other criteria needed for an integrated urban cemetery. A recreational function would be better suited here.



8.1.4 WHY THE MUNICIPALITY'S LOCATION CHOICES ARE NOT THE BEST CHOICE FOR MAASSLUIS

The three locations chosen by Maassluis are not the ideal choices to build a cemetery. This is due to a few reasons:

- these locations are only accessible by car, not by pedestrians
- the three locations are much better suited to other types of functionality, such as companies/light industry/warehouses (Stormbos / Wipperspark) or recreational (De Dijk)
- the lack of possibilities to integrate the cemetery with the city when looking at the available networks
- the lack of location specific landscape characteristics that form an interesting setting. This is meant in two ways. First of all, the cemetery's funerary use would be well suited in a location where interesting features can enhance the spirit of the place. Second, an iconic image of a new cemetery based on interesting location features has an effect on the whole of the city (increase of attractivity for example). This is not a realistic possibility at the Stormbos and Wipperspark locations.

REASONS WHY THE
MUNICIPALITY'S CHOICES
ARE NOT IDEAL

FIGURE 21: WIPPERSPARK LOCATION

FIGURE 22: DE DIJK LOCATION

URBAN INTEGRATED CEMETERY TO IMPROVE THE OPEN SPACE STRUCTURE OF THE CITY

8.2 ALTERNATIVE LOCATIONS FOR AN URBAN INTEGRATED CEMETERY

It can be concluded that, when aiming to design an urban integrated cemetery, the municipality's chosen three locations are not among the most suitable ones.

Using the analysis conclusions a location needs to be chosen on the basis of its existent network. This means that the network should be active, used by pedestrians mainly and multi-functional for a variety of users.

Figure 23 shows where daily life in Maassluis is most present (this is based on the presence of supermarkets, shops and other much used amenities). Also taken in consideration in this drawing is the quality of the open space (as graded by users in surveys). The lesser the quality, the bigger the opportunity to change this into something better: here, the urban integrated cemetery can be seen as one of the valuable means to achieve the goal of well-working open city space.

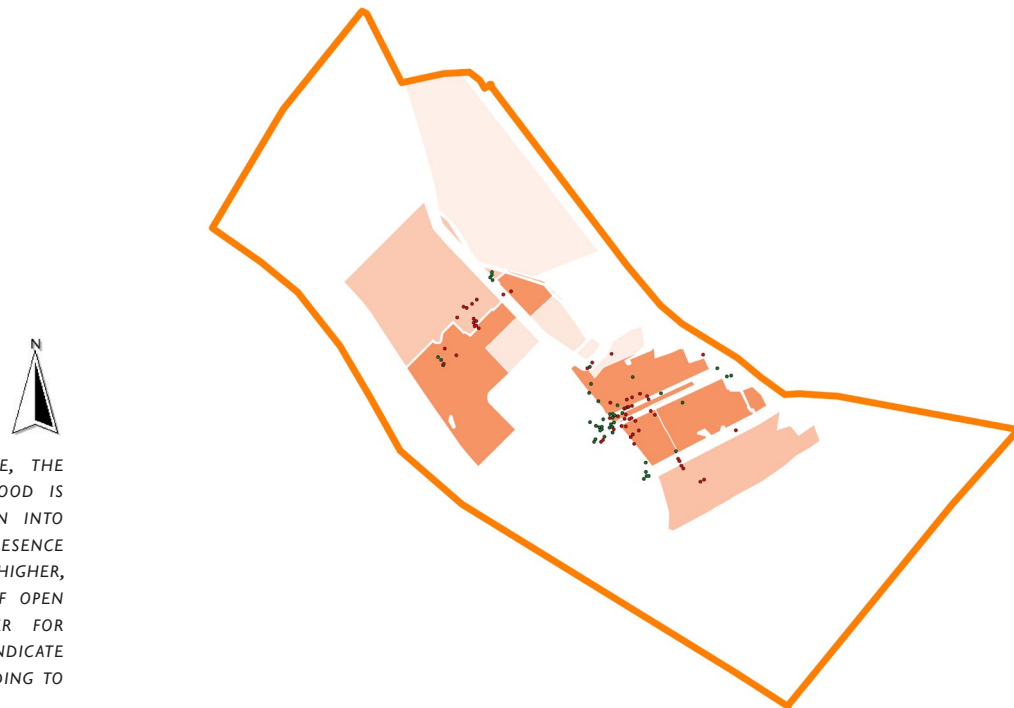


FIGURE 23: THE MORE ORANGE, THE MORE SUITABLE THE NEIGHBOURHOOD IS FOR CREATING A CEMETERY. TAKEN INTO CONSIDERATION WERE: THE PRESENCE OF PEDESTRIAN ACTIVITY (THE HIGHER, THE BETTER) AND THE QUALITY OF OPEN SPACE (THE WORSE, THE BETTER FOR INTERVENTIONS!), THE DOTS INDICATE SPECIFIC POINTS OF ACTIVITY ACCORDING TO GOOGLE EARTH.

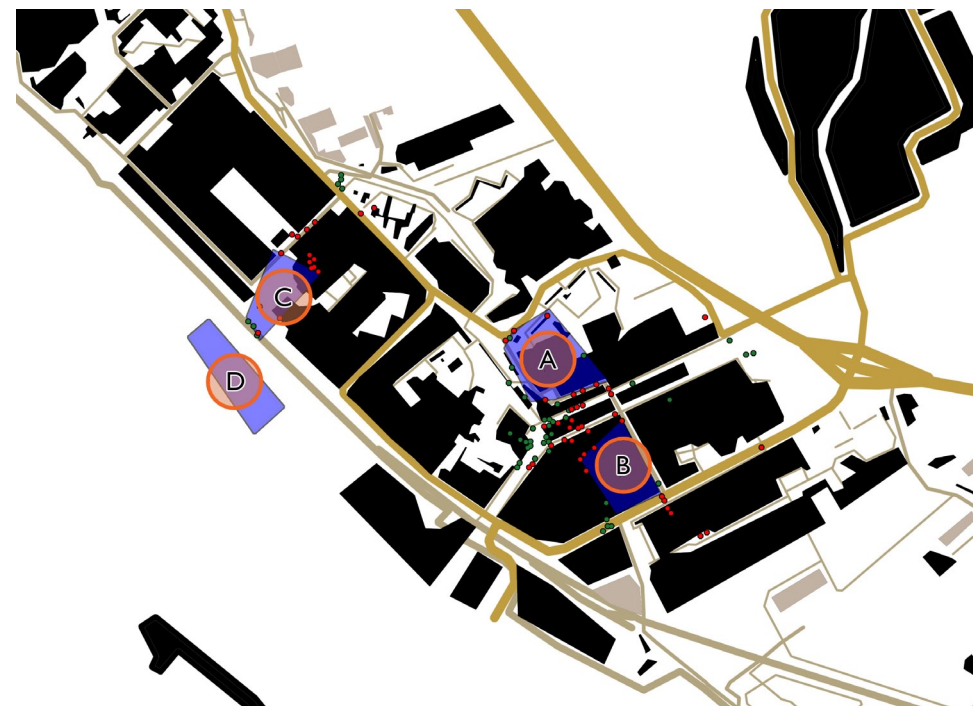


FIGURE 24: ALTERNATIVE SUITABLE SPOTS FOR BUILDING A CEMETERY, BASED ON USER ACTIVITY

Figure 24 finally then shows the suitable spots based on user activity. These are:

- a place just on the outside of the older city centre, also located near sporting facilities. Next to a large road for easy access as well.
- right within the city centre
- as of yet unused space in-between theatre, city hall, shopping centre and the station Maassluis-West
- this is a spot that does not let itself draw on the map based on analysis, like A, B and C. This location however is a possibility, based on the idea that C can also be developed into a high-key top location, with many high-profile public functions. In that case, D is close to activity and has the bonus of having a large sight over the river Maas.

Since location B would mean the demolition of part of the more valuable (older) housing in the city, this location is less suitable again for a new cemetery. Therefore the focus will be on locations A, C and D.

For the three locations a sketch cemetery design was made in order to test how much the location was suitable for this project. This means that the location needs to be able to be a worthy addition to the city, as well as be the best location to be innovative in (to contribute anything to the debate about cemeteries, as stated in the aim).

For the test designs there were some consistent elements used for every design. These elements were derived from the analysis and are both traditional (not redundant) elements and new elements that were chosen for this project to replace the traditional redundant aspects of cemetery design. These were:

- a visible auditorium, placed in a strategical position in the organisation
- a hierarchical structure of paths, dividing the burial grounds into a few clusters (for reasons of orientation)
- multiple entrances
- a strong edge, with several openings to make clear what is behind the edge
- an additional functionality or the adjacent placement of other functionalities

SKETCH DESIGNS TO TEST WHAT LOCATION CAN CONTRIBUTE THE BEST TO CEMETERY DEBATE

CONSISTENT ELEMENTS FOR THE SKETCH DESIGNS

8.2.1 LOCATION A: NEAR SPORTING FACILITIES



FIGURE 25: LOCATION A - CURRENT SITUATION

In Figure 25 we see location A in close-up. This location is suitable in that it is close to the city centre (located around the two canals in the bottom of the picture) and so is able to make pedestrian activity possible, with some slight adjustments. Particular to this location are also sporting facilities to the east and the sight (and possible activity/funeral service) of a church very nearby. Also, the location is next to main roads, making access by car also easy. A possible design for this location can be seen in Figure 26.



FIGURE 26: LOCATION A - POSSIBLE CEMETERY DESIGN

A design made for this location could take the form of a place that tries to 'open itself up' to the surroundings by having multiple entrances that connect to the routes of the city centre. Also, the green/water structure within the cemetery is well suited for use by the sporting facilities, who could use this for a training route. The cemetery blocks can be closed off at night, to prevent any security issues.

8.2.2 LOCATION C: STATION, CITY HALL & SHOPPING

Location C is most probably one of the top locations of Maassluis, that is suitable for many large developments besides a new cemetery (see Figure 27). Present at this location are a (small) train station, the city hall, a shopping centre, a theatre, as well as housing. This means that a lot of activity is present here. Also, accessibility is excellent, with car routes and train track nearby.



FIGURE 27: LOCATION C - CURRENT SITUATION

A possible design can be seen in Figure 28. What is possible here is the creation of a place that also contains valuable public open space that is of use to the many passers-by between the various functions assembled around the cemetery. The open spaces of the cemetery could even function here as a bridge between the functions and the other side of the train track, thereby giving access to the strip of land next to the Maas.



FIGURE 28: LOCATION C - POSSIBLE CEMETERY DESIGN

8.2.3 LOCATION D: ALONG THE RIVER MAAS

FIGURE 29: LOCATION D - CURRENT SITUATION



Location D is chosen on the assumption that location C is developed into a high-key top location, which arguably is a more valuable investment for the city than having a cemetery built in location C. Making location C a high-key top location then also makes the strip next to the Maas a place of interest. Various functions, both the existing (including train station, city hall and shopping centre) and the newer functions would serve as a large source of activity. This location also benefits from the fact that the river Maas is next to the location, giving an unique sight and visual quality to the place. This is a quality for the cemetery, but could also, when designed right bring the city a closer relation with the river Maas, and thus makes this a valuable investment. Furthermore, the cycling routes along the Maas can very well be connected to a new cemetery, thereby letting the cemetery function as a node in the city routing network.

FIGURE 30: LOCATION D - POSSIBLE CEMETERY DESIGN



Figure 30 shows how a design in this location is able to bridge the area behind the train station with the river Maas through development and the creation of an urban place along the Maas.

8.3 CHOICE OF DESIGN LOCATION

8.3.1 WHICH LOCATION?

Previously contra-arguments for the municipality’s choices for a location have been found, when one wants to create an urban integrated cemetery. Of the four alternative locations, one has already been dropped, due to the valuable built city present there. A choice between the other three locations needs to be made. This is partly done on the argumentation of what works best for the city, but also is partly fuelled by personal interest (as in: what makes it the most challenging assignment?).

Location A is a suitable location in that it can perfectly house a cemetery that is also able to connect and integrate into the city fabric as well as offer the sporting facilities nearby a training route. Location A is also a more low-key approach, as it is also not located completely next to high-activity functions.

Location C is an interesting case, due its many nearby and diverse functions. However, this is also a top location that is perhaps better used for other development, that is best placed at that spot only, whereas a cemetery could be placed in different places too.

Location D is therefore the location of choice. This way location C can develop into a potential top location. As a cemetery location D is perfect with the soothing quality of a grand sight over the river Maas. An urban integrated cemetery can connect to the many nearby activities. As added value to the city this location can offer a cemetery that forms a connection to the river Maas, both in sight and in routing. Aside from this argumentation, location D is also the location that is for me the most challenging and fun to work out in design.

8.3.2 SPECIFIC DESIGN TASKS FOR THE LOCATION

Looking from a spatial-functional point of view, the most important aspects to work on for a design in this location, when trying to integrate with the city, are:

- the cemetery as a place along the river Maas needs to make connections with the larger scale of Maassluis (through cycling routes for example)
- the cemetery should try to integrate with the city behind it
- the cemetery and its open spaces in and around it need to be ‘added value’ to the adjacent buildings
- the sight over the river Maas needs to be incorporated well enough, both from the cemetery and city behind it
- the cemetery itself must be easily accessible from the city network

8.3.3 WHY A LOCATION ALONG THE MAAS IS BETTER THAN THE MUNICIPALITY’S LOCATION CHOICES

As has been said already the municipality’s location choices lend themselves much better to other types of functionality than a cemetery. Therefore, a cemetery is better suited in a different location.

The choice for location D, on the dike next to the Maas also offers several advantages that cannot be achieved with the traditional location choices of the municipality. First of all, a location along the Maas is a huge opportunity to bring the image of the Maas and all the functional possibilities of this area closer to the city. A cemetery is an ideal choice to do this, as it can be designed as a very open structure that makes it possible to make strong sights to the Maas. Whereas a housing area or industry zone would be less than ideal candidates for this area, since these would only function as an edge between city and water and thus closing the sight of the river off only more. As will be shown in the following chapter the connections of this area to the city are lacking too and can be upgraded.

In further chapters it will also be explained how this choice for the dike location (that is also significantly larger than the municipality’s traditional idea of the cemetery) is also a better investment when looking at it from a long-term perspective.

CEMETERY IS A BETTER
FUNCTION ON THIS
LOCATION THAN OTHER
TYPES

DESIGN TASKS FOR THE
LOCATION

9 LOCATION CHARACTERISTICS

Design is made more founded when it's linked to the opportunities and problems of the existing surroundings and underground. Therefore part of research is an analysis of the chosen location, which is used further on to base new interventions on.

A LOT OF DIFFERENT
HIGH-KEY FUNCTIONS
TOGETHER

9.1 SPATIAL-FUNCTIONAL ANALYSIS

The location is remarkable in Maassluis because of some high-key functionality located together. This includes the city hall, a theatre, a train station and a larger shopping centre. Along with housing, also in the near vicinity a lot of companies/industry are present. This can be seen on Figure 31:



FIGURE 31: LOCATION ANALYSIS SHOWING THE PRESENT FUNCTIONS IN THE AREA; IN GREY THE LARGE UNBUILT SPACES IN THE AREA ARE SHOWN

There are three larger open spaces in this area, one of which is a neighbourhood park and is not realistically an option when space is sought for any type of development in this area. The two areas left for development are the zone in-between the public functions and the train track, which is at the moment rather inefficiently used and not a welcome 'entrance' to the area when one is travelling by train. The other open space area is the dike along the Maas, which is strongly recognisable as a visual element.

9.1.1 FUTURE DEVELOPMENT PLANS FOR INDUSTRY ZONE

Currently, in the land use plan ('bestemmingsplan') of Maassluis a large area on the dike is reserved for expansion of the company/industry zone to the north-west. There is an overlap between the ground needed for the new cemetery in this project and this industry. Looking from a landscape point of view, it could however be argued that the dike has too much landscape value to be turned into an industry zone. Also, it only closes the

view to the Maas off even further, which a cemetery would do considerably less. Also, this would not be good for the recreational cycling routes now located along the Maas, which would become far less attracting with the sight of companies and industries next to their route.

The new plan for the cemetery also includes the decision-making of the functional zoning of the surroundings: this needs to be done to fully integrate the cemetery well with its surroundings. This also includes the filling in of the open space between the public functions and the railway station. Very possible, there is space here too for companies as well. Also, along the railway track, there is the possibility of adding companies and small industry functions. This way it is still possible to achieve industry zoning at this location, albeit somewhat less.

9.2 LANDSCAPE ANALYSIS

9.2.1 AVAILABLE LANDSCAPES AROUND MAASSLUIS

Around Maassluis there are some notable landscapes (see Figure 32), which in turn offer recreational value and identity to the place. On the north-eastern side of the city are the polders of Midden-Delfland. To the south-eastern side there is the area alongside the Maas, which however is not focusing on the Maas, but is covered with trees and contains lakes with recreational options. Then there is the dike next to the Maas, which is the only landscape available to the western side of the city. This is also the best place to view the Maas, and eventually leads up to the giant waterworks.

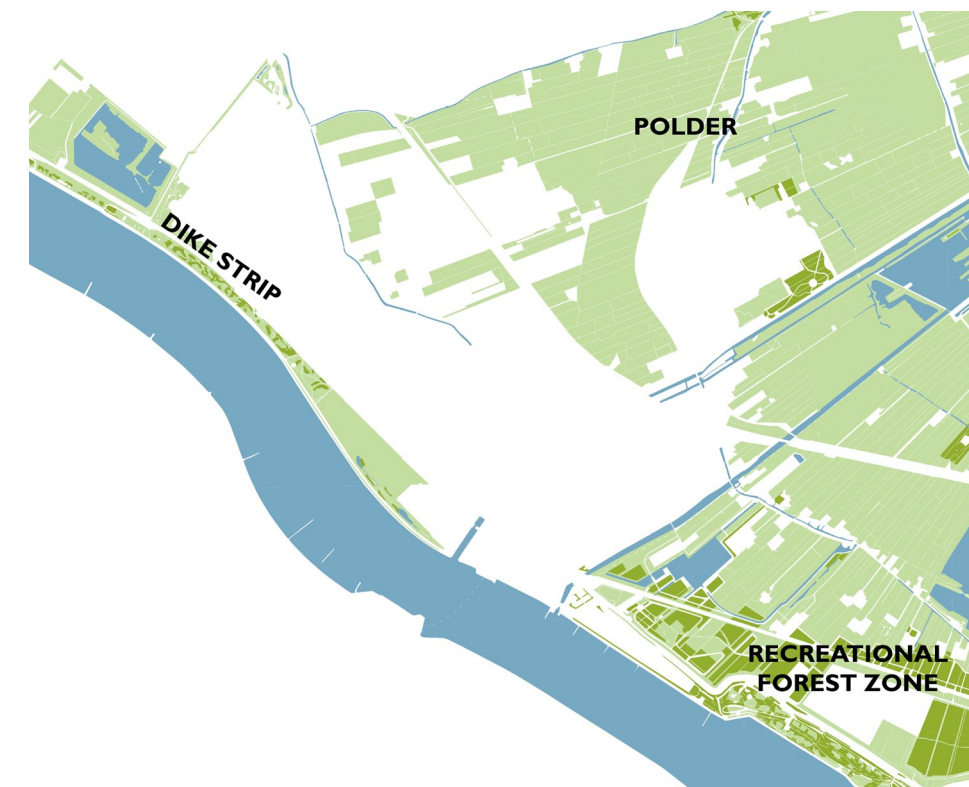


FIGURE 32: AVAILABLE LANDSCAPES AROUND MAASSLUIS

A CEMETERY WOULD BE
A BRIDGE TO THE MAAS,
WHEREAS INDUSTRY
WOULD BE A BARRIER
BETWEEN CITY AND MAAS

9.2.2 THE DIKE

With only the dike available as landscape, and a powerful one then, to the west of Maassluis, it is very surprising that it is hardly accessible. The only other significant open space close is a neighbourhood park, which while good, is not of the same calibre as the sheer scale of the river Maas (see Figure 33). Connections to the dike and sight of the Maas are missing somewhat.

The new cemetery's chosen location lies actually in a curve of the river Maas, which makes the possibilities at this location for long sights over the Maas even better.

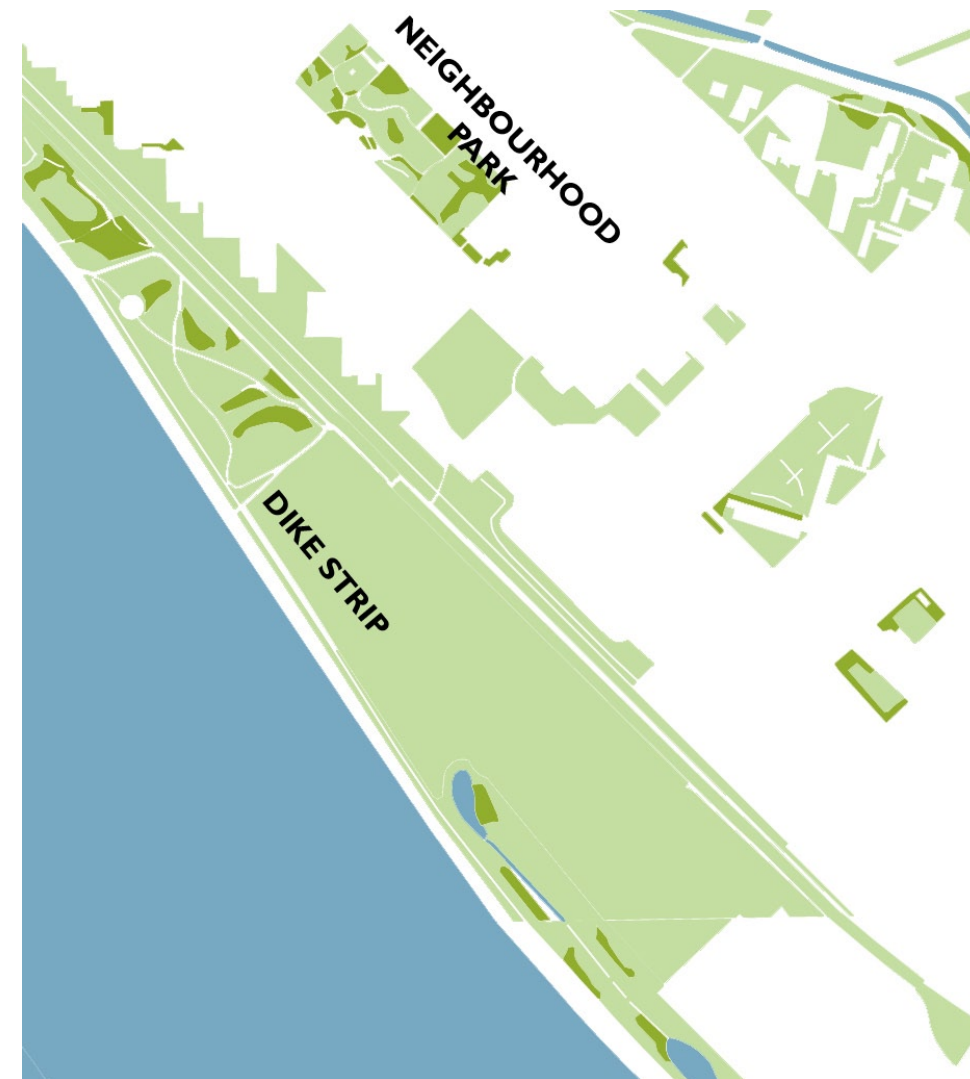


FIGURE 33: AVAILABLE OPEN LANDSCAPE SPACES IN THE NEIGHBOURHOOD

9.3 NETWORK ANALYSIS

As expected the dike itself is hardly used for car routes, excepting the traffic that uses the industry and companies on the south-eastern part of the dike. Generally car route access in this part of the city is sufficient with main routes easily reachable. Due to the small width of the city the main car road is never too far away and such is the case here too.

9.3.1 TRAIN TRACK AND STATION

One minor feature to look at is access to the railway station. This is only reachable from one side, but needs upgrading when future development takes place here.

The train station itself is placed quite isolated, which is not corresponding with the general idea of a train station near many functions. As there is still space left on both sides of the train station, this is a problem that can be resolved.

Also of importance is the train track itself. Together with the dike this forms a clear barrier to the river Maas. If a cemetery would be placed on the dike, this barrier needs to be broken in some ways to make the connection to the dike and the Maas from the city. The train track can be seen in Figure 34.



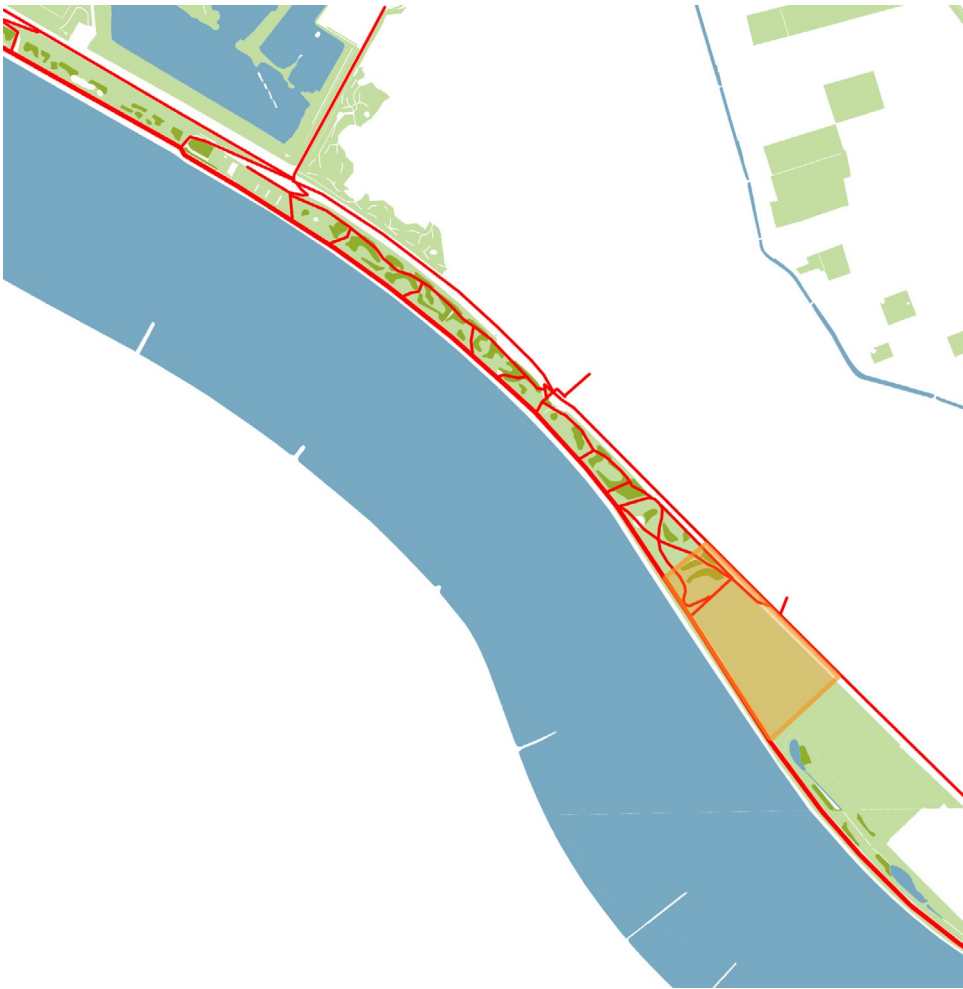
FIGURE 34: NETWORKS IN THE NEIGHBOURHOOD; RED = RECREATION ROUTES; GREY = CAR ROUTES; DASHED = TRAIN TRACK

9.3.2 RECREATIONAL NETWORK

With its strong landscape value, the dike contains a recreational network that is working especially on the north-west side, where the route is eventually continued for some kilometres until it reaches the giant waterworks of the Maaskering. To the south-east one long path has been laid out next to the water, which to be honest is sufficient

enough as the view from this route is stunning. This can be seen on the large scale image on Figure 35.

What is lacking however are many connections to the city behind the dike and the train track. This would make the image of the dike and Maas more accessible to the users of Maassluis. Presently, where the industry zoning stops a large plane of grass opens its view to the user of the route, which is then coincidentally also the entrance when coming from the city behind it. Here, a new design would help considerably in 'filling in' this large node in the route, as seen both from the perspective of the route and when coming from the city.



CONNECTIONS BETWEEN CITY AND RIVER ARE LACKING

FIGURE 35: AVAILABLE RECREATIONAL NETWORK IN THE DIKE AREA: IN ORANGE THE CHOSEN LOCATION IS SHOWN

9.4 TECHNICAL DATA

9.4.1 WATER LEVELS

The water levels of the Maas are fluctuating due to tidal movement. Over the year 2008 the following levels were measured:

Low water levels: lowest at -82 cm, highest at -24 cm, median at -50 cm

High water levels: lowest at +59 cm, highest at +141 cm, median at 110 cm

The average water level per day was not easily attainable, but using the above figures this would result in the following:

Average water levels: varying somewhere between -12 cm and 58 cm with 30 cm being the average value.

Furthermore, with the design eventually using the fluctuation as a design tool, the water level exceeds the level of +130 cm at 54 days during the year, of which 40 are times are during the second half of the year.

In the period 1970-2005 the maximum water level was +290 cm, whereas the lowest water level was -150..

(Ministerie van Verkeer en Waterstaat, 2009)

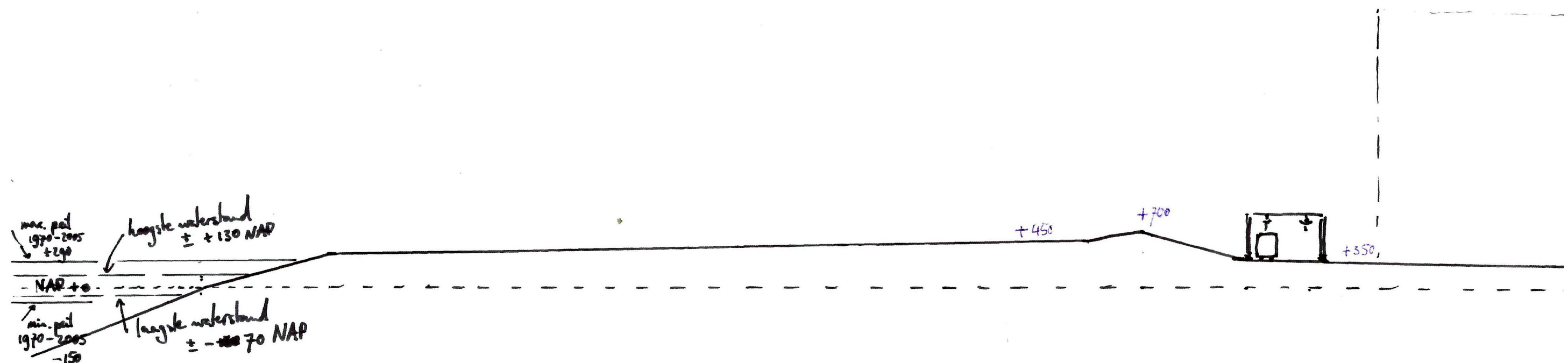
9.4.2 HEIGHT LEVELS

The height levels of the current dike profile are very usable for the new design, but need to be measured in order to be used properly. Near the river Maas the dike is +3,5 meters high, at its top it is +7 meters high, with the city behind it again at +3,5 meters high.

(Stuurgroep AHN, 2009)

An early sketch that shows how the water levels relate to the height levels of the dike can be seen in Figure 36 (with slightly different values as those found for the year 2008).

FIGURE 36: AN EARLY SKETCH THAT SHOWS THE RELATION BETWEEN THE WATER LEVELS AND THE DIKE. THE VALUES FOR THE WATER LEVELS ARE SLIGHTLY DIFFERENT AS THOSE FOUND FOR THE YEAR 2008.



10 A MORE PERMANENT ADDITION TO THE CITY

10.1 PREVENTING FUTURE SPACE PROBLEMS

Going back to the very start of this project, what fuelled the creation of a new cemetery for Maassluis was the fact that the old cemetery of Maassluis is coping with severe space shortage problems. A new cemetery is the obvious solution for this problem; however, using the same model of buying ground and starting burials will only result in the same space shortage problem after time. Considering the wider problem of space shortage in the Randstad area, where space is rare and thus valuable, it is worth looking at alternative solutions in which a cemetery lasts much longer, or indeed forever. This would prevent the event of the creation of a new cemetery happening somewhere in the future again.

PREVENTION OF HAVING
TO BUILD A CEMETERY
AGAIN IN THE FUTURE

10.2 THE CEMETERY AS AN ARCHIVE OF HISTORY

Looking at it differently, the creation of a ‘permanent’ cemetery is also important for one other significant reason. This was already alluded to in 3.1:

- The cemetery is a place that contains a unique and personalised value for individuals, however in order to be meaningful for the city and society it should try to aim at a more universal meaning as well.

Achieving ‘universal meaning’ is a very abstract idea; in more concrete words ‘universal meaning’ means that a cemetery not only built for individuals would prove to be valuable to the city. As concluded in chapters 4-6 this needed broader meaning of the cemetery is achieved through adding new functionality and choosing a fitting location where the cemetery can be appreciated and understood by the city.

An important factor that comes into play when discussing ‘value’ (in the ‘meaning’ sense, not the financial sense) of city functions is time. As can be seen with many old places in cities, the older something is, the more it means to the citizens of a city. Maybe this is due to these old places being a reminder of the rich history of a city; while other things that have collapsed or were destroyed, these places still have lasted.

A cemetery could benefit from this same idea: while many things in the city are constantly changing, a cemetery built for permanence can introduce a sense of the history of a city. In fact, the cemetery is perhaps more than any other city function an actual place that contains history. It is in a way a symbolic archive of the inhabitants of the city, thereby perhaps being the most direct connection to the history of the city. It is this reason why a cemetery should not be viewed as an erasable function, but as a permanent feature of the city.

10.3 NO CLEARING

10.3.1 THE SYSTEM

The proposed solution in this project to prevent space shortage from happening again is to stop clearing graves and stack the graves in layers on top of each other. This would mean that ground is bought based on a chosen number of years, after which tombstones are removed (or reused elsewhere), a new layer of sand is put on top, in which a series of new graves are placed. This process repeats itself after every set number of years. The result is then a cemetery forming a hill, making this type of cemetery a very expressive visual statement. Here, the cemetery not only gets more interesting just because time passes, but it gets increasingly more interesting too because it gets higher over time.

10.3.2 CAPACITY

To see how this new solution would compare to the traditional system of clearing and to find out the capacity that is included in the eventual of program of requirements some decisions need to be made and calculations need to be done.

The following data is used:

- there will be an increase in amount of deaths: mortality is 225.000 in 2050 (per year), which is 65% higher than the amount in 2004
- the average mortality (per year) in Maassluis in 2004-2006 is 258
- in absolute numbers, burial is still happening as much as it was 50 years ago
- 53% of the population of Maassluis buries at the old municipal cemetery of Maassluis: there is still a sufficient demand for new cemetery, when the old cemetery is not in use
- new program as calculated by the municipality: 30.000 m² is needed / or 8.000 graves, of which 3.300 are family graves
- Maassluis is building for the period up until 2050, then a re-evaluation is done
- grave rights in Holland for typical cemeteries: 1. family graves: forever; 2. at least 20 years, to be extended by 10 years each time

(CBS, 2006; Jong, 2008; Moonen, 2009; Wet op de Lijkbezorging, 1991)

If the mortality of Maassluis would stay constant, then the calculated program of 8.000 graves would be full after 58 years ($8.000 / 258 / 53\%$). This is in 2070, starting from 2012. This is not counting the increasing mortality with a factor 1,65 in 40 years, so in actuality this is earlier than 2070: this is somewhere around 2050 probably, which is the same as what the municipality is aiming for. However, Maassluis is using clearing, but this is not building for history! After they arrive at the 'full cemetery' stadium, they will erase history, and start building it again, which is not the purpose of this project.

Whereas the usual time for a standard grave is 20 years, this project chooses 48 years (a convenient number of years which is based on the size and segments used through research by design). This is more than the double term, however the traditional family grave is not used. Only the one system of the 48-year grave is used here. With the actual grave not erased, and physically still present in the hill this is a significant change to the system (which will need to be taken care of in the design through a central remembrance place for deleted tombstones as well).

So therefore, a larger capacity is needed that considers 48 years at least, plus an additional 6 years for the first segment to fill. If we go by the figure of 8.000 graves for the year 2050, then cemetery space for at least 16 years after 2050 needs to be added.

Assuming a stagnation of the mortality rate (it is expected the peak in mortality will drop again), we would need extra space for $(258 \times 1,65 \times 16 \times 53\%) = 3.609$ graves.

So, we're looking for an amount of space for approximately 11.600 graves, which would then correspond with the size of 50.000 – 65.000 m² for the actual burial grounds (including traffic space, but excluding open space routing and other buildings)

For the 47% of Maassluis inhabitants who do not decide to get buried at the municipal cemetery, it is not known how much choose to be buried elsewhere and how much choose to be cremated. It is however safe to assume that there are those who have an interest in room for urns to be placed in the cemetery.

10.3.3 EXPRESSION AND WEATHERING

Referring back to 9.2, a 'no clearing, but layering' system creates history and shows how old the cemetery is after many years. It is therefore important to take care in the design of both expression and weathering. It is very important that right from the start design methods and materials are chosen that will not look worse after years, but show weathering, in a similar way ruins, churches and city halls do. Therefore, it is of importance that the materials chosen are capable of lasting for a very long time, and at the same time will age in a way that they gain character, rather than become less beautiful.

11 RESEARCH CONCLUSIONS

Concluding what has been established in the research part of this present graduation project, the following sticks out.

Some aspects of cemetery design have become redundant, making the cemetery a place that has no other meaning to society other than it being a place to bury and visit when you need. What is redundant about the traditional cemetery is that it is a closed off place, cannot be passed through when moving through the city and includes only a single function. Several other aspects of traditional cemetery design are still useful for future design though, for example in providing the privacy that a cemetery needs. Multifunctionality through combining city and cemetery routing is one way to be innovative in cemetery design. Another is the introduction of additional functionality.

The location is crucial for the urban integrated cemetery. It needs to be accessible for pedestrians, recognisable and spatially integrated with the urban networks in the city. At the same time the cemetery is in competition with other city functions. This means that some locations are better suited to other city functions, and thus a cemetery should not be built on such a location.

The municipality of Maassluis' location choices are not ideal for both the cemetery and the city. For the cemetery, the locations are not inspiring enough to create a place that enhance the spirit of the place. The city is missing out on the opportunity to create a place in the city that has a larger effect on the city, i.e. increasing attractiveness or solving various problems of the city. This also means that on the longer term the cemetery is still valid for the city, plus it is able to add or alter its multifunctionality

The alternative location choices for an urban integrated cemetery in Maassluis are able to bring more innovation to the way Maassluis designs its city, by using the cemetery to construct a better city. The chosen location next to the river is able to solve many problems in the area, including better connections between dike and city, a better integrated station, and most importantly the higher visibility of the Maas. A cemetery is a better choice than the industrial zone Maassluis has in mind, because it is able to be designed as a bridge between river and city, whereas industry would form an edge between river and city. As a cemetery, the dike and river location is an ideal landscape inspiration for the cemetery design.

By choosing a different system instead of clearing, the municipality of Maassluis will not only have the problem of having to design a new cemetery in the future, but also has a cemetery that retains all its history in one place together.

PART C

DESIGN OF AN INNOVATIVE URBAN INTEGRATED CEMETERY

This part describes how the findings of research are used to do interventions on the chosen location and how this is then designed. First it is described which elements in this project's cemetery proposal make it innovative compared to the partly redundant cemetery that is still built these days. In the program of requirements it is described in more precise terms and regulations what is possible in this cemetery and what not. Specific interventions for the location are then described. This is followed by a description of the design.

12 INNOVATION

While on first sight many things will look similar to the well-known cemetery, this new design breaks with tradition. Where the common cemetery only attracts cemetery visitors, this new type of cemetery is innovative in that it functions as a worthy node in the city's open space network. As a consequence, a lot of passers-by use this cemetery as well. Although similar forms of multifunctionality in cemeteries can be seen in Almere-Haven and Groningen, this design is of a much larger scale. Also, it is placed at a key location in the city's open space network, able to function as a node between the large landscape element of the river and dike, and the various forms of functionality of city life.

The elements that are introduced here for the first time together on a large scale are:

- the unison of urban infrastructure and cemetery infrastructure
- the open design: the single edge around the cemetery (making the cemetery an end destination) has been removed, resulting in a higher recognisability and accessibility
- the combined placement of graves and forms of city functionality together in an area that is perceived as one entity
- a much improved idea of time management (layering), which is more space efficient than in the redundant model, and in the long run less expensive too

These elements will make the cemetery a function that is much more accessible, part of the urban networks and placed close to the daily life than was previously the case. It is also becomes a recognisable and striking part of the city, that shows the history of the city in a physical form that only grows bigger over time. Still, while being innovative, the main function of the cemetery, remembrance, is not neglected and guaranteed using some of the proven elements of the standard cemetery model.

13 PROGRAM OF REQUIREMENTS

13.1 BURIAL CAPACITY

- 2012: ready for first burial
- capacity until the year 2066 (1 cycle of 48 years + 6 years start-up time to fill one segment), after which the process of re-use of space starts working
- a total capacity until 2066 of space for 11.600 graves, based on mortality predictions and actual mortality nationally and in the municipality of Maassluis, along with studies on the burial demand of Maassluis
- for the first period of 2012-2024: room for 2.900 graves
- 100% graves for set 48 years length
- recycling of first 2012-2018 graves starts in 2066
- room for urn placement

13.2 SITE REQUIREMENTS

SOIL AND GROUNDWATER

- graves to be built at least 30 centimetres above average groundwater level
- 30 centimetres of ground on top of each grave
- above the casket there is a layer of ground of at least 65 centimetres

EDGES/TRANSITIONS

- the cemetery property is clearly recognisable from the outside
- there is a distinct and carefully worked out edge as transition between surroundings and cemetery property, that is however not scaring off citizens

NOISE AND SIGHT

- <45 dB restriction of sound: applied inside the burial grounds
- visitors of the cemetery deserve the needed privacy to pay remembrance without being watched at from the outside of the cemetery

ACCESS ROADS AND PARKING

- the cemetery is easily accessible from the main car roads in the area
- the cemetery is easily accessible by foot and by bicycle
- parking places and parking for cycles are to be placed outside the burial grounds and main funerary routing system
- entering cars should not intervene/disturb the other uses within the cemetery
- amount of parking places should be able to facilitate a 'large number of cars attending one funeral + average visiting cars at one moment during daytime'

13.3 FUNCTIONAL REQUIREMENTS

REQUIRED SPACES AND DEMARCATION

- at least 1 large main visitors entrance to the auditorium, large enough for ‘a funeral car + walking procession’ to enter
- multiple entrances
- space for the funeral car to be positioned while waiting
- entrance access for service traffic, large enough for maintenance/ construction traffic to enter, connected to the maintenance service building and the temporary outdoor storage space
- an edge that is sufficient with regards to prevention of vandalism after closing time
- temporary outdoor storage/working space, out of sight of the rest of the cemetery
- several ‘spots’ where citizens and visitors are able to sit, rest, etc.

REQUIRED BUILDINGS

AUDITORIUM

- includes: main auditorium room, funeral parlour (‘rouwkamer’), refreshment room (‘koffiekamer’), reception room, mortuary, cooling room, service rooms, toilet): ‘exact size to be determined’
- 1 large visitor entrance, for funerary use
- 1 service entrance
- 1 smaller visitor entrance, for toilet use

MAINTENANCE/SERVICE BUILDING

- for service use
- including: storage space, space for tools/machines, toilet, office

OTHER REQUIREMENTS

- facilities where visitors can cover for rain
- well-accessible for the disabled

13.4 SPATIAL LAYOUT

LAYOUT OF GRAVES AND URN PLACEMENT

GRAVES

- minimal distance between graves is 30 centimetres
- clients are free to (give instructions for) design on their plot according to their own taste, when complying with the following:
 - any placed objects are not higher than 110 centimetres
 - no vegetation allowed
 - the burial plot is not of obvious disturbance to the rest of the cemetery

- design elements may not be placed or leaning over on plots of others (including trees and bushes)
- the cemetery property owner/staff is authorised to notify and order plot owners to remove designs that are in conflict with the total image of the cemetery

URN PLACEMENT

- urns can be placed in:
 - one of the designated places for urns

GROUPING

- a special section should be assigned for specific religious groups to comply with their religious beliefs (i.e. faced to Mecca)

PATHWAYS

- one central routing system;
 - that provides clarity and structure throughout the whole of the cemetery
 - large enough for ‘a funeral car + walking procession’: 300 centimetres wide
 - technically suitable with regards to weight and drainage
 - highly accessible surface (i.e. for all persons, wheelchairs, machines, funeral car)
- a subsystem that gives adequate access to all of the ‘grave plots’
 - measuring at least 100 centimetres wide
 - accessible surface (i.e. no obstacles, well walkable, large enough for a wheelchair)

VEGETATION

- no vegetation is placed on graves
- possible use of vegetation in the open space of the cemetery
- when possible selected according to:
 - soil type
 - typical location characteristics
 - ability to persist as long as possible and grow old (depiction of time)
- vegetation is only maintained for reasons of illness, or severe obstruction, but is elsewhere left intact and left free to grow

OTHER ELEMENTS

- an adequate system of information signs, indicating grave clusters, entrance, buildings, toilets
- a sufficient amount of facilities aimed at users: watering, treatment/ cleaning of graves, etc.

- benches
- high-quality sitting/resting/looking/scenery space: to be ‘further determined’: use of creative interpretation of architect
- lighting to accentuate the edges of the cemetery at night, providing a rich decor towards the city
- electricity, water, gas facilities

13.5 MANAGEMENT, PHASING AND USE

EXPIRATION OF GRAVES

- the space of graves is reused when (at least) 48 years have passed since the creation of the segment the grave is located in was created

PHASING

- the cemetery ‘builds itself’ over time, adding new layers after the expiration of graves
- the cemetery’s size is based on the capacity of the first (48+6=)54 years, extending towards the sky after this period, without having to buy new property space
- the cemetery’s size expands gradually over the first 48 years, so as to make the creation of the project more manageable, rather than having to build the total of it in one go
- the buried caskets remain untouched after expiration, while a new layer of sand is added on top, in which new caskets are buried
- grave stones and decoration elements are reused elsewhere in the walls/ remembrance memorial in the cemetery

MAINTENANCE

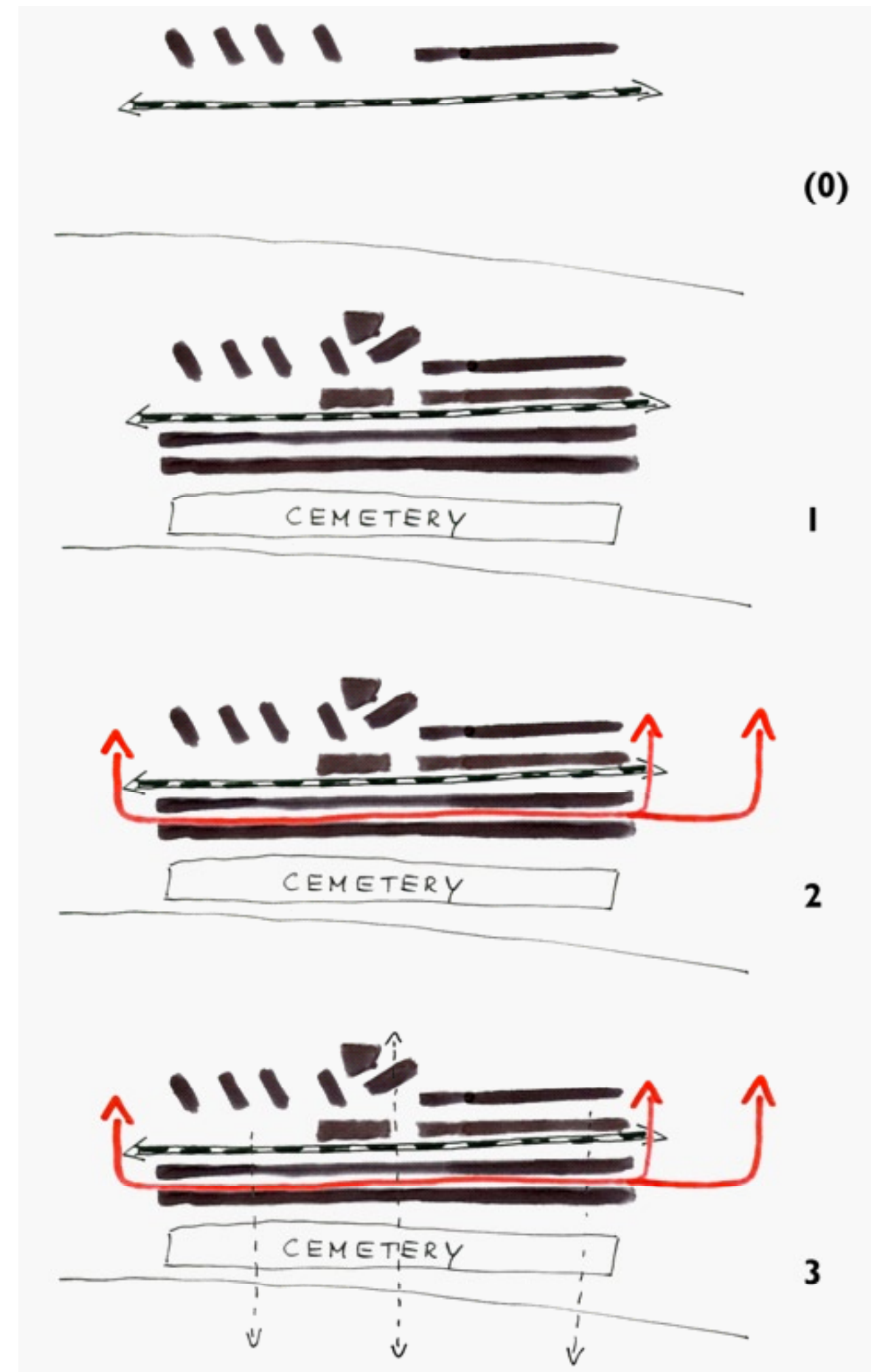
- the cemetery’s pathways and open space are to be kept litter-free
- vegetation is only maintained for reasons of illness, or severe obstruction, but is elsewhere left intact and left free to grow
- weathering of objects is not a problem, when this adds ‘character’; if objects become unusable or are giving off low-quality images they ought to be replaced
 - objects and materials should be initially chosen already on the basis that they persist in an outdoor space and grow ‘character’ when getting older

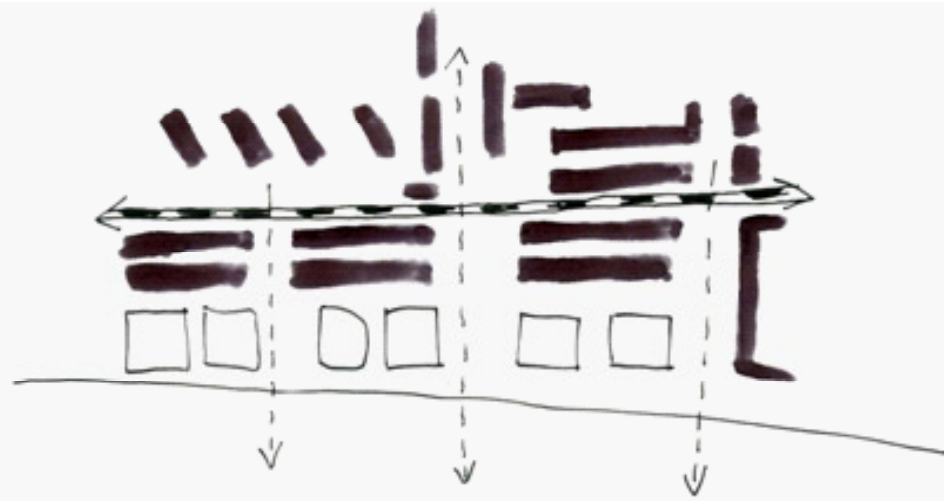
14 INTERVENTIONS INTO DESIGN

Based on the various parts of research on cemetery design, the choice of the location, the analysis of the chosen location and the elements for innovation, this paragraph describes the interventions that need to be done to create both an innovative urban integrated cemetery as well as a successful plan for the surroundings of the chosen location. The most important interventions are:

1. Create new functionality on both sides of the train track
2. Create new infrastructure to make the dike accessible
3. Create sightlines towards the Maas
4. Connect cemetery and city through the use of open spaces
5. Make the cemetery accessible by hooking in to car networks
6. Place the auditorium in such a way that it is visible to city users
7. Combine existing recreational routes with the cemetery's routing and its open spaces around it
8. Choose for multiple entrances to the cemetery, which are large and visible
9. Create a striking edge/transition to the cemetery
10. Ensure the privacy of cemetery visitors

These interventions are portrayed schematically in Figure 37.





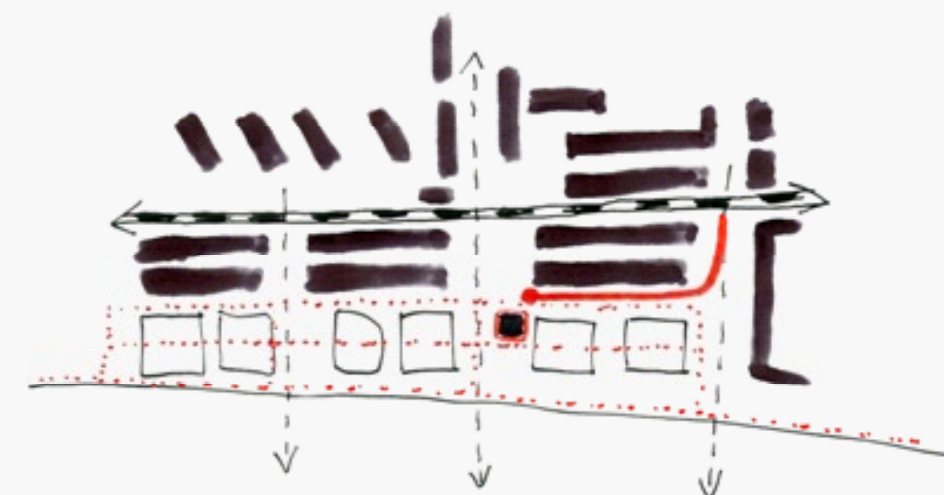
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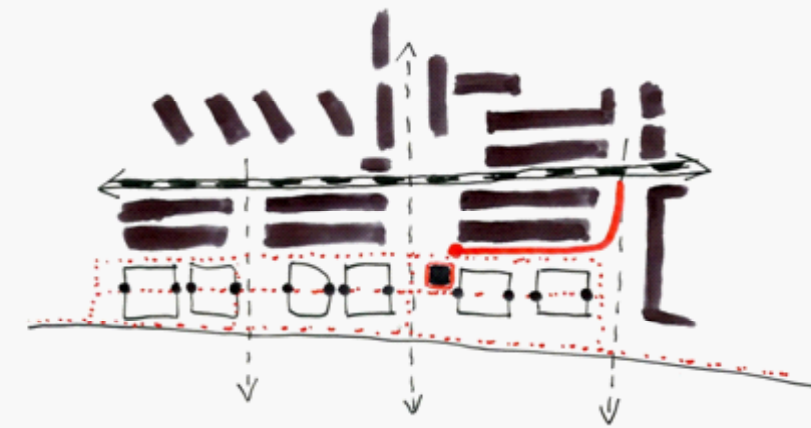
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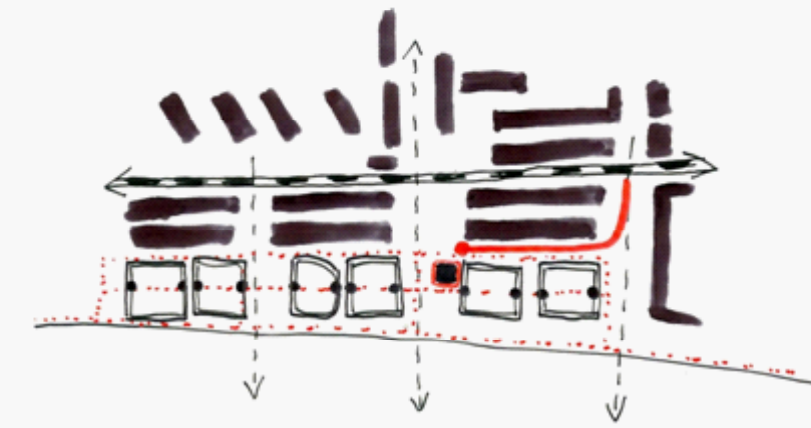
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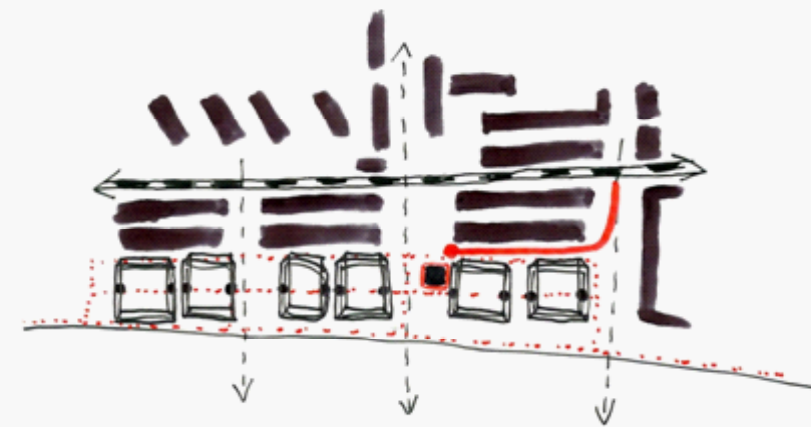
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8



9



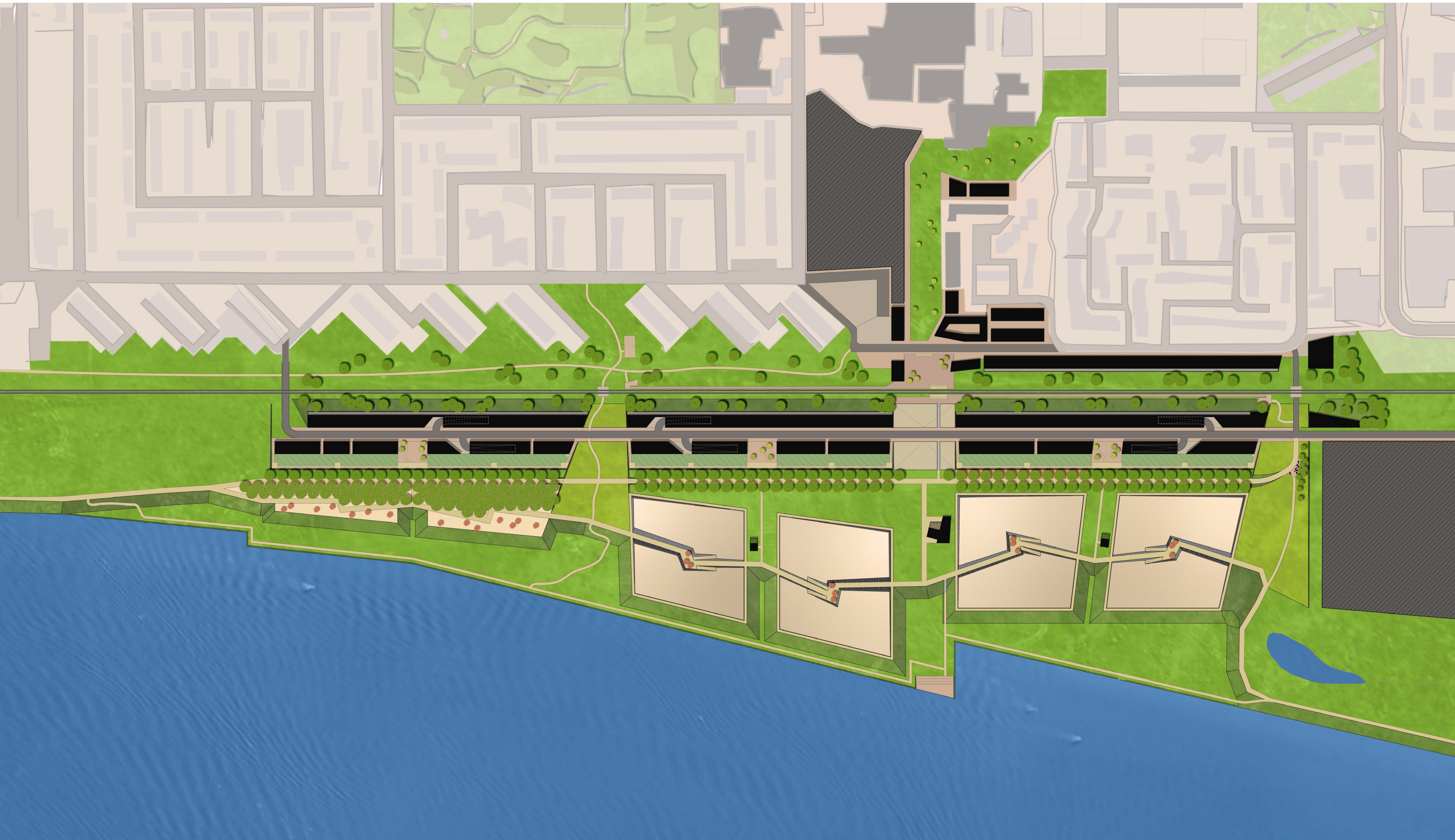
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FIGURE 37: INTERVENTIONS FOR THE LOCATION.

15 DESIGN DESCRIPTION

This chapter describes the design for the location on the dike of Maassluis next to the train station.

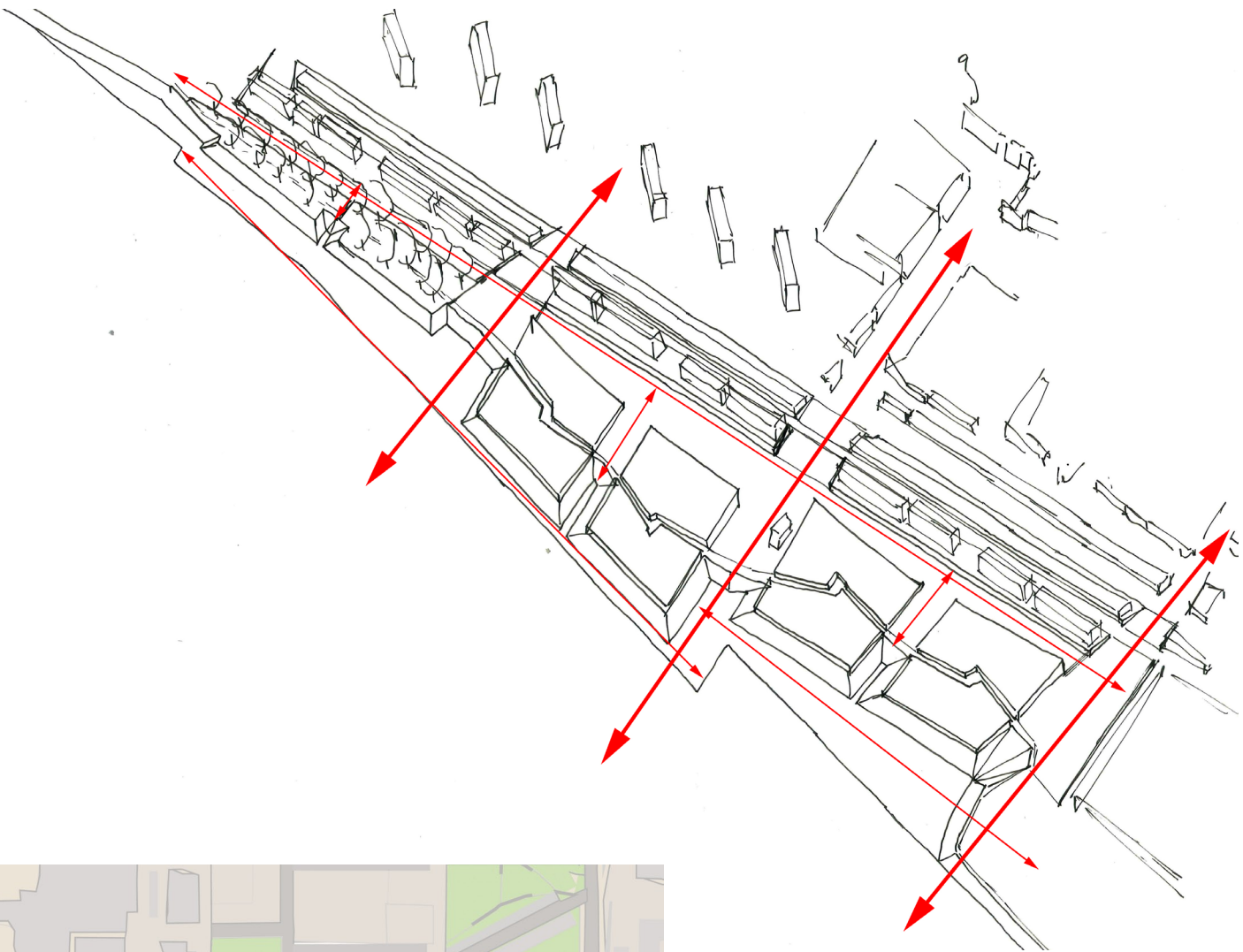


15.1 BASIC LAYOUT AND OPEN SPACE USEW

The design of the dike zone is transformed by the addition of four cemetery hills, around which three large open spaces create sights to the Maas. These three axes are connected to the city behind the dike and make the dike much more accessible for pedestrians and cyclists than previously. Deliberately, the three axes have been kept open in character, to show the sight to the Maas, as well as show the character of the dike landscape more clearly. This can be seen in Figure 40. When one walks from the city to the dike, the Maas is clearly visible as the dike is 7 metres high near the city, giving a clear sightline revealing the Maas.

The middle of these axes is the most important one, as it incorporates the train station, the cemetery’s auditorium, as well as the city hall and the shopping centre’s entrance. This middle axis can also be seen in section in Figure 42, as well as in Figure 43.

While the cemetery hills are clearly recognisable as the burial grounds it is not possible anymore to speak of a single edge that closes the cemetery off. Compared to the ‘old’ cemeteries, the whole area of cemetery and dike landscape is penetrated by open space from every side, and as such is much more open and accessible to users.



NO SINGLE EDGE,
BUT AN OPEN AND
ACCESSIBLE AREA THAT
IS PENETRATED BY OPEN
SPACE FROM EVERY SIDE



FIGURE 38 (LEFT PAGE): FULL MAP OF THE DESIGN

FIGURE 39 (RIGHT PAGE, TOP): BIRD’S EYE VIEW OF THE LOCATION, SHOWING HOW THE OPEN SPACE ENABLES USERS TO ENTER THE AREA FROM EVERY DIRECTION, THEREBY EMBEDDING IT MORE IN THE CITY



FIGURE 40 (RIGHT PAGE, BOTTOM): THREE AXES ARE USED TO CREATE STRONGER CONNECTIONS BETWEEN RIVER AND CITY

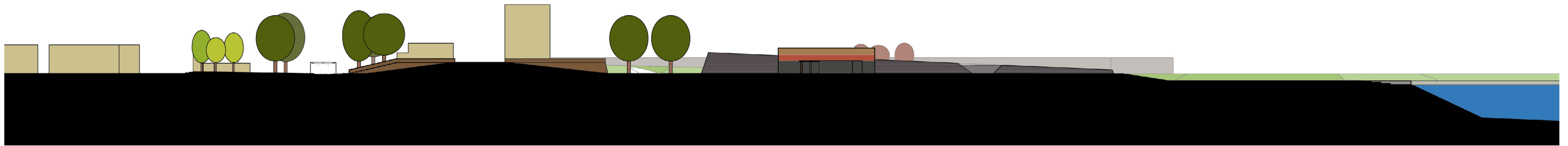
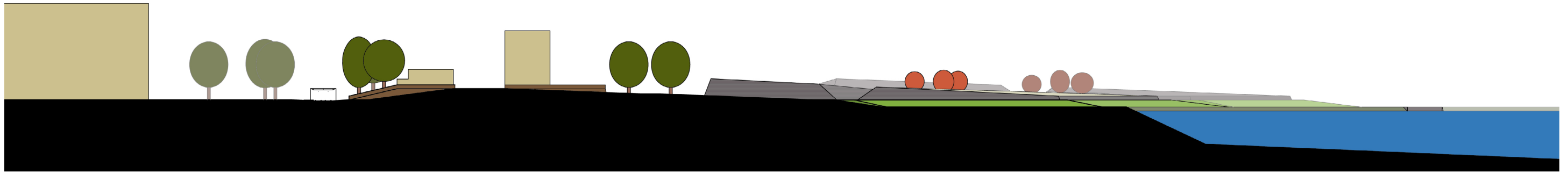


FIGURE 41 (TOP): SECTION TAKEN OVER THE WHOLE LENGTH OF THE DIKE AND PART OF THE CITY BEHIND IT. THIS SECTION WAS TAKEN THROUGH ONE OF THE GRAVE HILLS (IN ITS INITIAL HEIGHT FORM).

FIGURE 42 (MIDDLE): SECTION TAKEN OVER THE WHOLE LENGTH OF THE DIKE AND PART OF THE CITY BEHIND IT. THIS SECTION WAS TAKEN THROUGH THE MIDDLE AXIS.



FIGURE 43 (LEFT): IMPRESSION SHOWING THE MIDDLE AXIS. THIS VIEW IS SEEN WHEN DESCENDING FROM THE HIGHEST POINT OF THE DIKE TOWARDS THE MAAS. THE AUDITORIUM IS CLEARLY VISIBLE.

15.2 USING THE DIKE

The dike was originally built for safety when water rises. Although the waterworks are an important aid for these problems nowadays, the dike is still needed. Also, with the water levels fluctuating everyday and throughout the year a margin in height needs to be present.

As the quality of the landscape of the dike and the river is central to the look of this design, the fluctuation of the water has been reused for the new design of the location. It has been made more explicit through the creation of a lower and a higher part in the design. The 'safe line' of 3,5 metres has been put around the four cemetery hills. The area between the river and the safe line is at 1,4 metres and is flooded around 50 times a year. This makes the use of the open space near the river more dynamic, and lets users experience the water fluctuation much more than previously (see Figures 46 and 47). In the middle axis a terrace near the water has been placed, which shows how the water fluctuates: this can be seen when more steps are under water when the water is higher.

The cycling route (which is visible in Figures 44 and 45) next to the water is also put under water when the area is flooded. This means cyclists have to use the alternative route in-between the cemetery hills and the housing zone.

MORE DYNAMIC
LANDSCAPE THAT
INTENSIFIES THE
EXPERIENCE OF THE DIKE
AND RIVER LANDSCAPE



FIGURE 46: THE ORIGINAL DIKE HAS BEEN RE-USED, BUT TRANSFORMED SO THAT A NEW LOW-LEVEL IS CREATED. THE NEW 'SAFE LINE' IS FORMED AROUND THE CEMETERY HILLS.



FIGURE 44: IMPRESSION SHOWING THE ROUTE ALONG THE MAAS. TO THE RIGHT THE BURIAL GROUNDS CAN BE SEEN. IN FRONT THE WATER TERRACE AT THE END OF THE MIDDLE AXIS CAN BE SEEN. IN THE DISTANCE, ON A CLEAR DAY, ONE CAN SEE THE WATERWORKS.

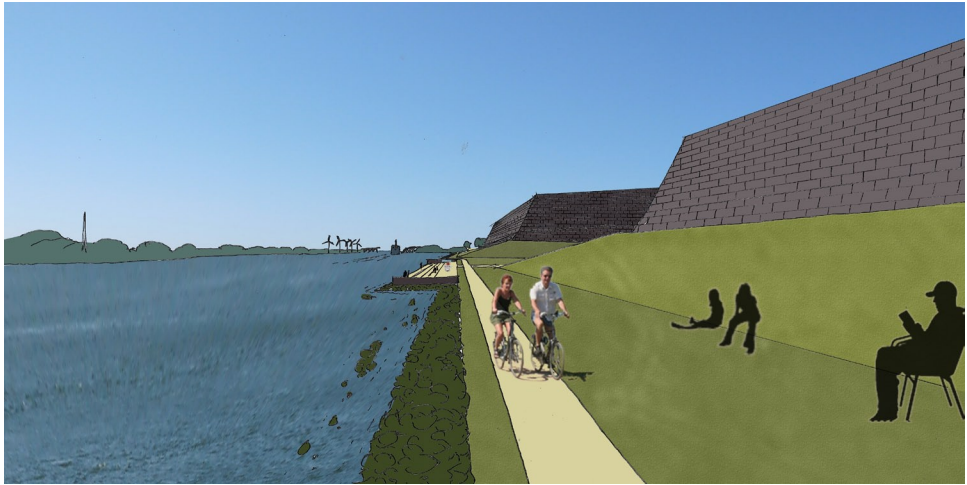


FIGURE 45: THE SAME IMPRESSION SHOWING THE ROUTE ALONG THE MAAS, BUT THEN IN THE YEAR 2306, WHEN THE HILLS ARE MUCH HIGHER.



FIGURE 47: THE DESIGN CHANGES ITS APPEARANCE WHEN THE LOW-LEVEL AREA IS FLOODED: THIS HAPPENS ABOUT 50 TIMES A YEAR.



**IMPROVED CONNECTIONS
MAKE THE DIKE A STRONG
NODE IN A LARGER
NETWORK OF ROUTINGS
AND OPEN SPACE**

15.3 INFRASTRUCTURE AND ROUTING

Where the dike zone was already functioning as an area for recreation, this has been intensified in the new design, in which many more routes for cyclists and pedestrians have been added. Furthermore, they have also been connected more clearly and more visible to the city. This means that this area is now a better functioning node in a larger network of routing and open space, as can be seen in Figure 49. This precious area of Maassluis was previously left out of the city's open space structure too much: this has been corrected with this design.

The open spaces and recreational routes are placed in a setting that still very much conveys the feeling of the dike and river. This can be seen in Figures 44 and 45. Still, this design also tries to relate better to the city. Therefore, the long lane that is located in-between the grave hills and housing blocks has a more urban feel, with platanes planted on both sides. This can be seen in Figure 48.

The cemetery's routing is clear and simple for orientation reasons. The main route is a single route that runs through the four cemetery hills. From this main route one can enter the hills and access the graves. The auditorium is placed separate from this main route, but is very visible from not only the main route, but also the main axis, as well as many of the open spaces around the cemetery hills. The entrance route for cars to the cemetery is placed in-between cemetery hills and the elevated housing zone (as apart of the same long lane mentioned above). This route is openly available to all cyclists and pedestrians. Cars visiting the cemetery can park their cars between the platanes in a designated space that's logically placed near the auditorium. See Figure 50.



FIGURE 49: RECREATIONAL ROUTING THROUGH THE DESIGN; GREEN INDICATES ROUTES FOR CYCLISTS (AS WELL AS PEDESTRIANS). PURPLE INDICATES PEDESTRIAN-ONLY ROUTES.

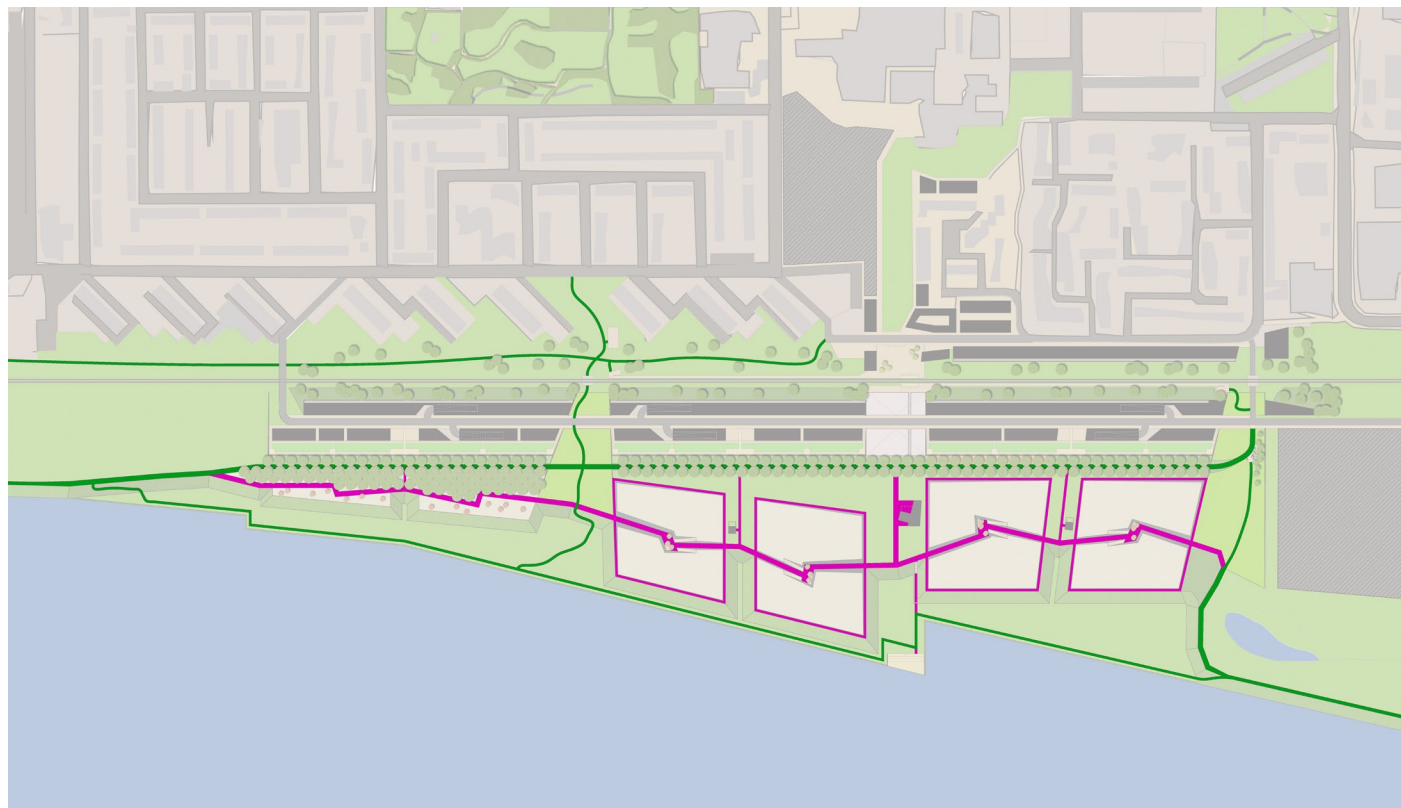


FIGURE 48: THE ENTRANCE ROUTE FOR CARS VISITING THE CEMETERY. AT THE SAME TIME THIS IS ALSO A LONG ROUTE IN THE DESIGN, THAT CAN BE USED BY CYCLISTS AND PEDESTRIANS. THE INTENTION WAS TO RELATE THE WHOLE AREA BETTER TO THE CITY. THEREFORE, PLATANES HAVE BEEN USED TO GIVE IT AN URBAN FEEL, AS A GRADUAL TRANSITION BETWEEN DIKE AND CITY.

FIGURE 50: CEMETERY INFRASTRUCTURE: THE CEMETERY'S ROUTING SYSTEM IS VERY EASY FOR ORIENTATION, WITH JUST ONE MAIN ROUTE AND ONE ENTRANCE ROAD FOR CARS (WITH PARKING ZONES BETWEEN THE PLATANES). FROM THE MAIN ROUTE THE HILLS CAN BE ACCESSED EASILY.



15.4 PHASING

The cemetery uses a system where layers are added in cycles of 48 years. This is done in steps, so that not the entire cemetery needs to be worked on at the same time.

For the initial construction of the cemetery, each of the four hills is built each 12 years until 2066. After 54 years (48+6 years so that all graves built are at least 48 years old) have passed after the construction of the first hill, one half of the hill becomes one layer (1,2 metres) higher. 6 years later the other half is heightened. After another 6 years one half of the second hill is heightened, etc. This process repeats constantly, with every 6 years one of the 8 halves being heightened.

This process of phasing is shown schematically in Figure 51.

CYCLES OF 48 YEARS:
AFTER THIS A NEW LAYER
OF SOIL IS ADDED

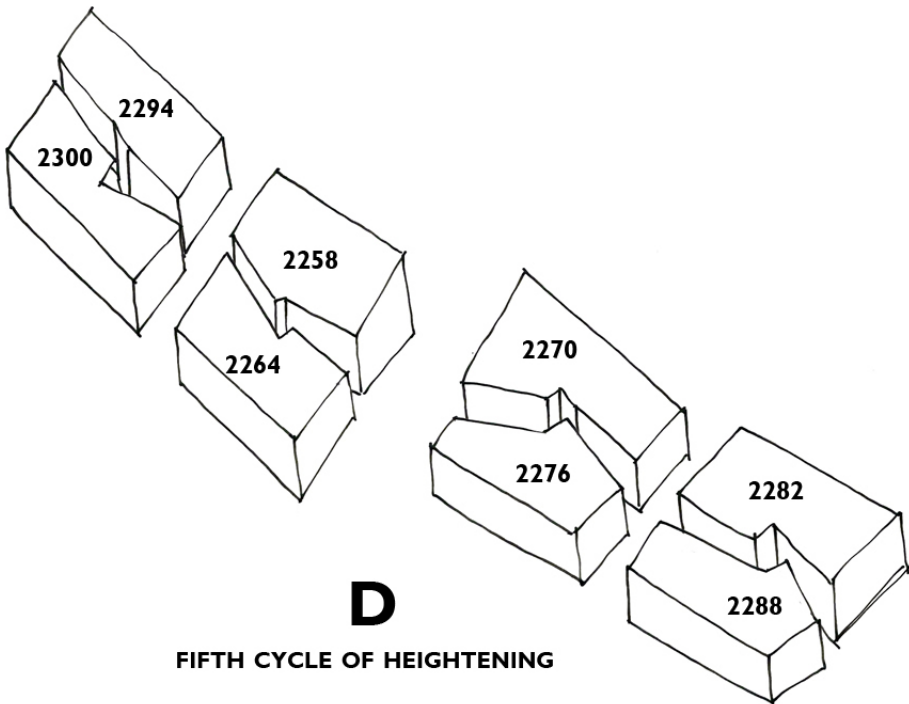
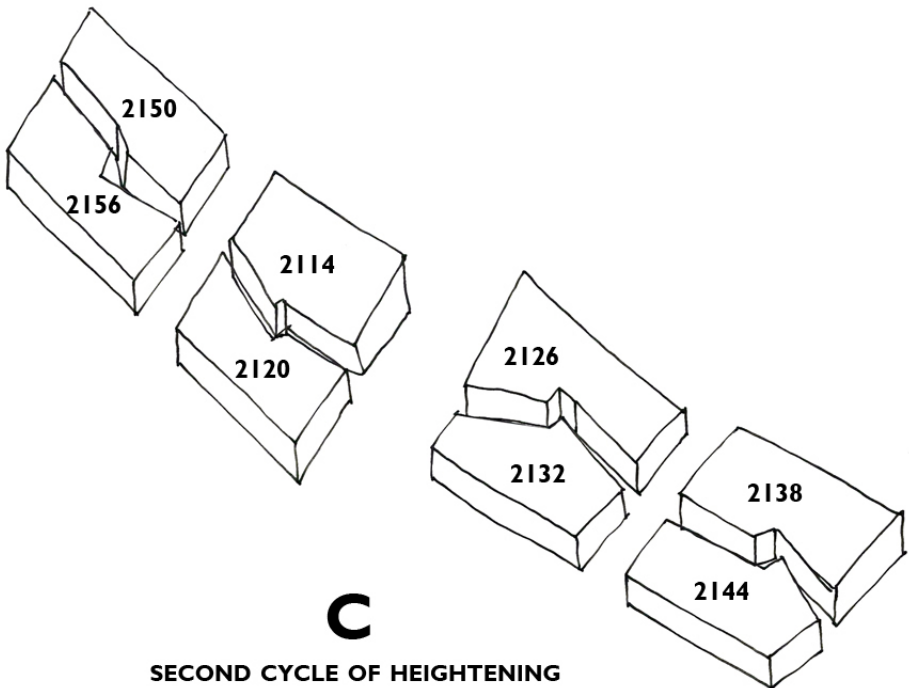
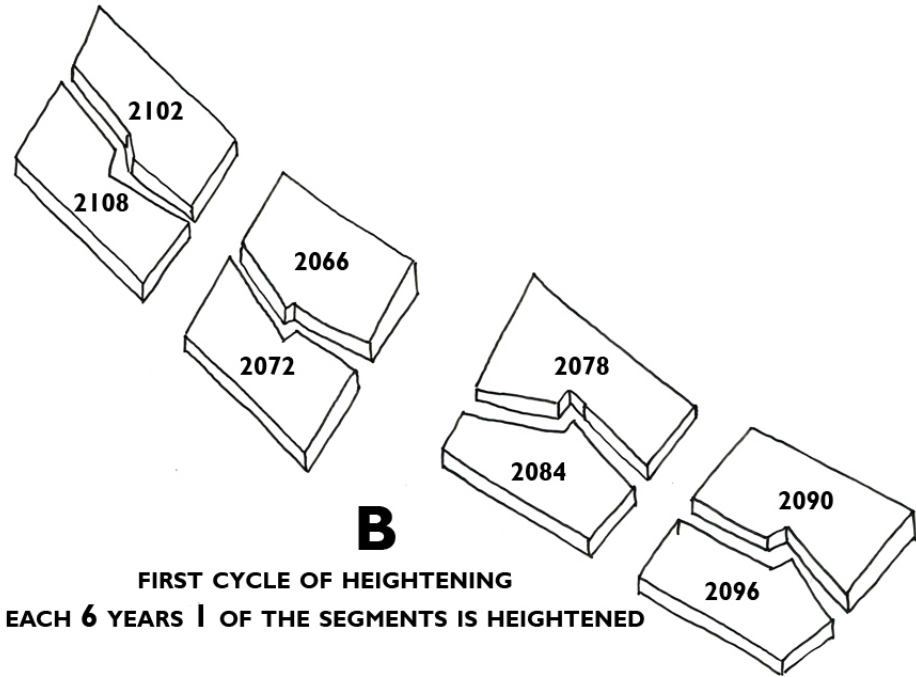
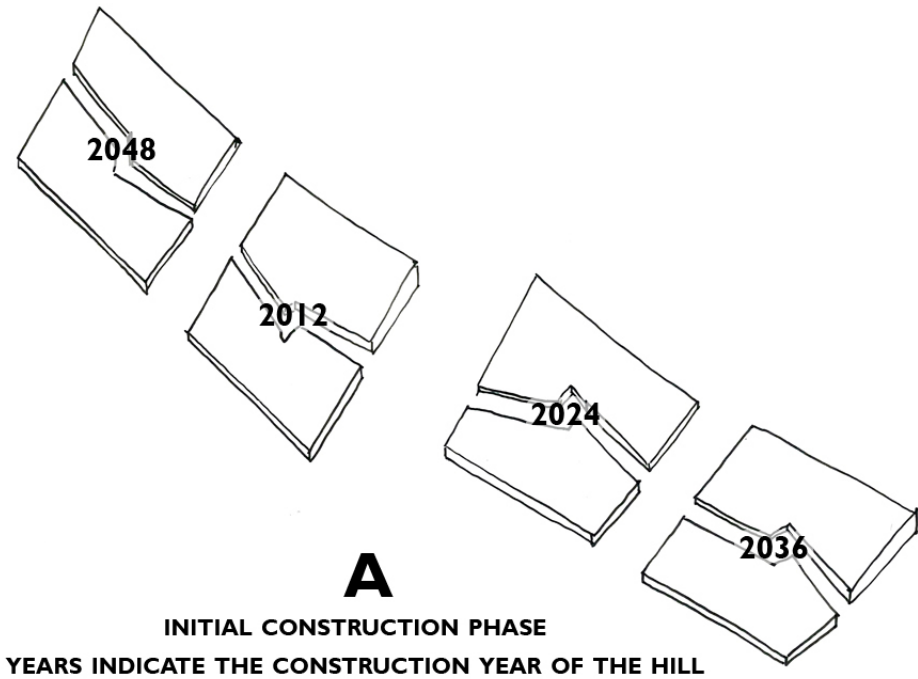


FIGURE 51: SCHEMATIC IMAGE OF PHASING PROCESS: THE CEMETERY GROWS OVER TIME. IMAGE A SHOWS HOW THE CEMETERY'S FOUR HILLS ARE SEPARATELY CONSTRUCTED. IMAGES, B, C AND D SHOW HOW THE EIGHT SEGMENTS ARE HEIGHTENED IN CYCLES.

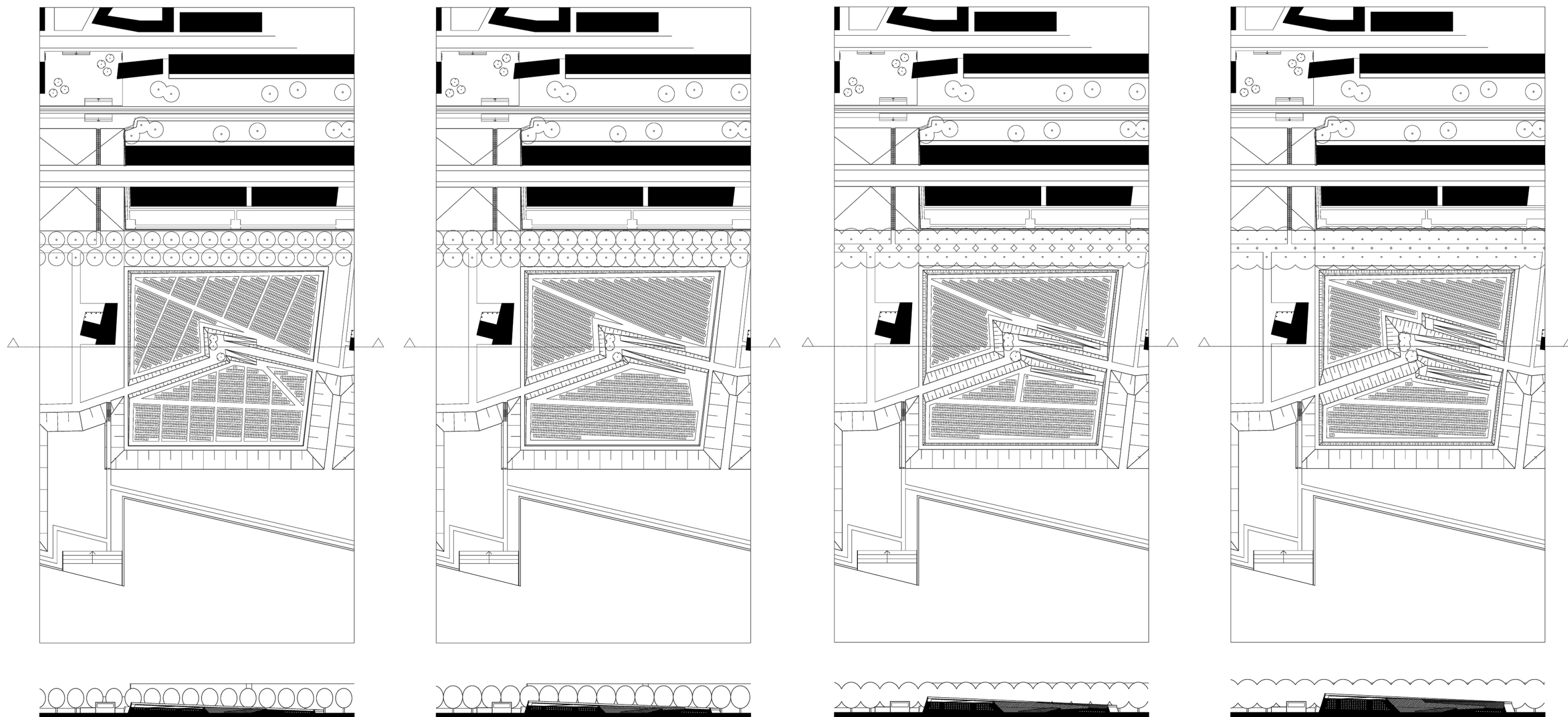
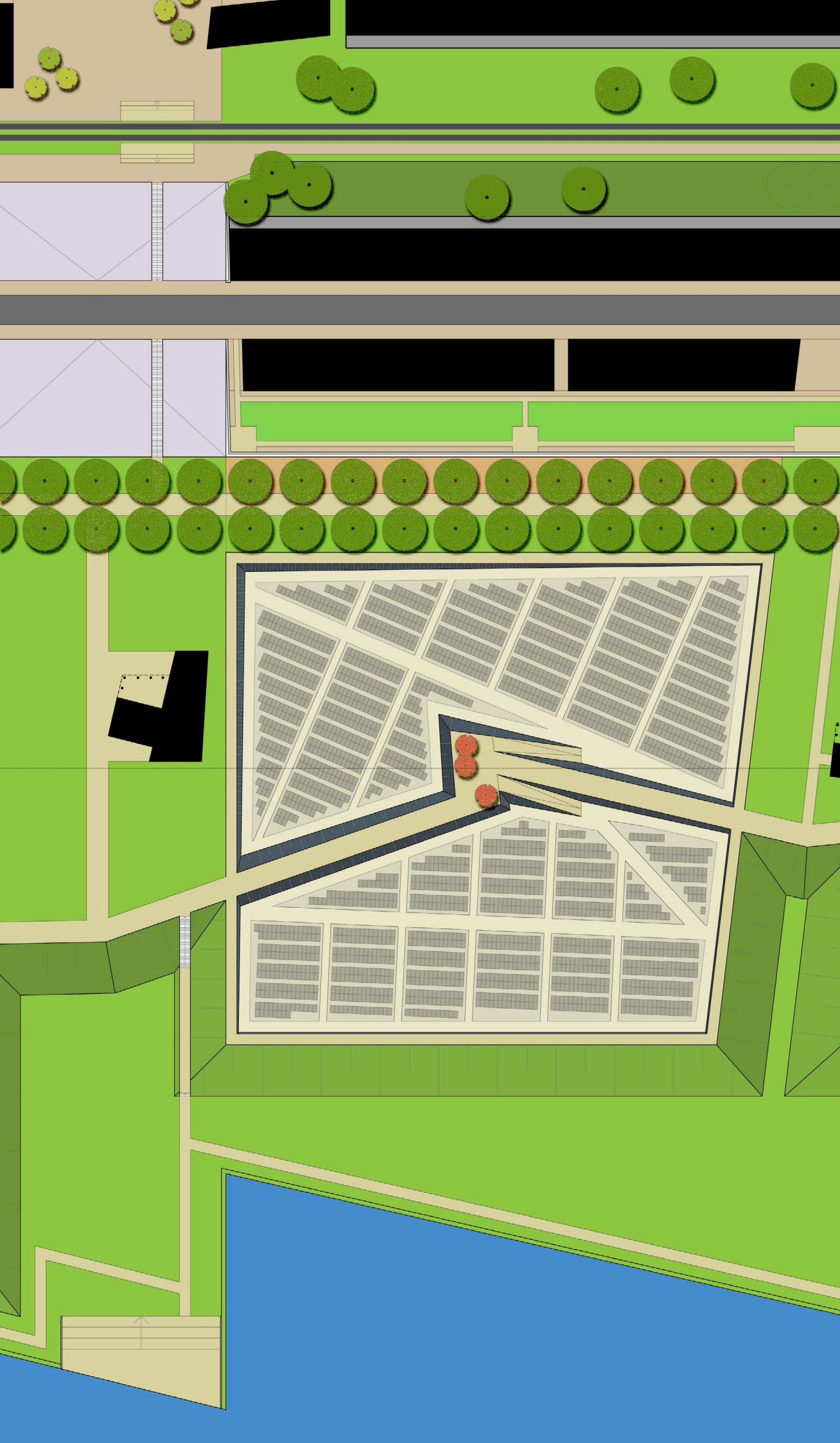


FIGURE 52 (ABOVE): ONE OF THE CEMETERY HILLS. THESE DRAWINGS SHOW HOW THE CEMETERY CHANGES OVER TIME AND GETS HIGHER AND MORE COMPLEX. FROM LEFT TO RIGHT: 2066, 2114, 2210 AND 2306.

FIGURE 53 (RIGHT PAGE): ONE OF THE CEMETERY HILLS. THIS PARTICULAR HILL IS BUILT IN 2024 AND LOOKS LIKE THIS UNTIL 2078.



15.5 USE AS A CEMETERY

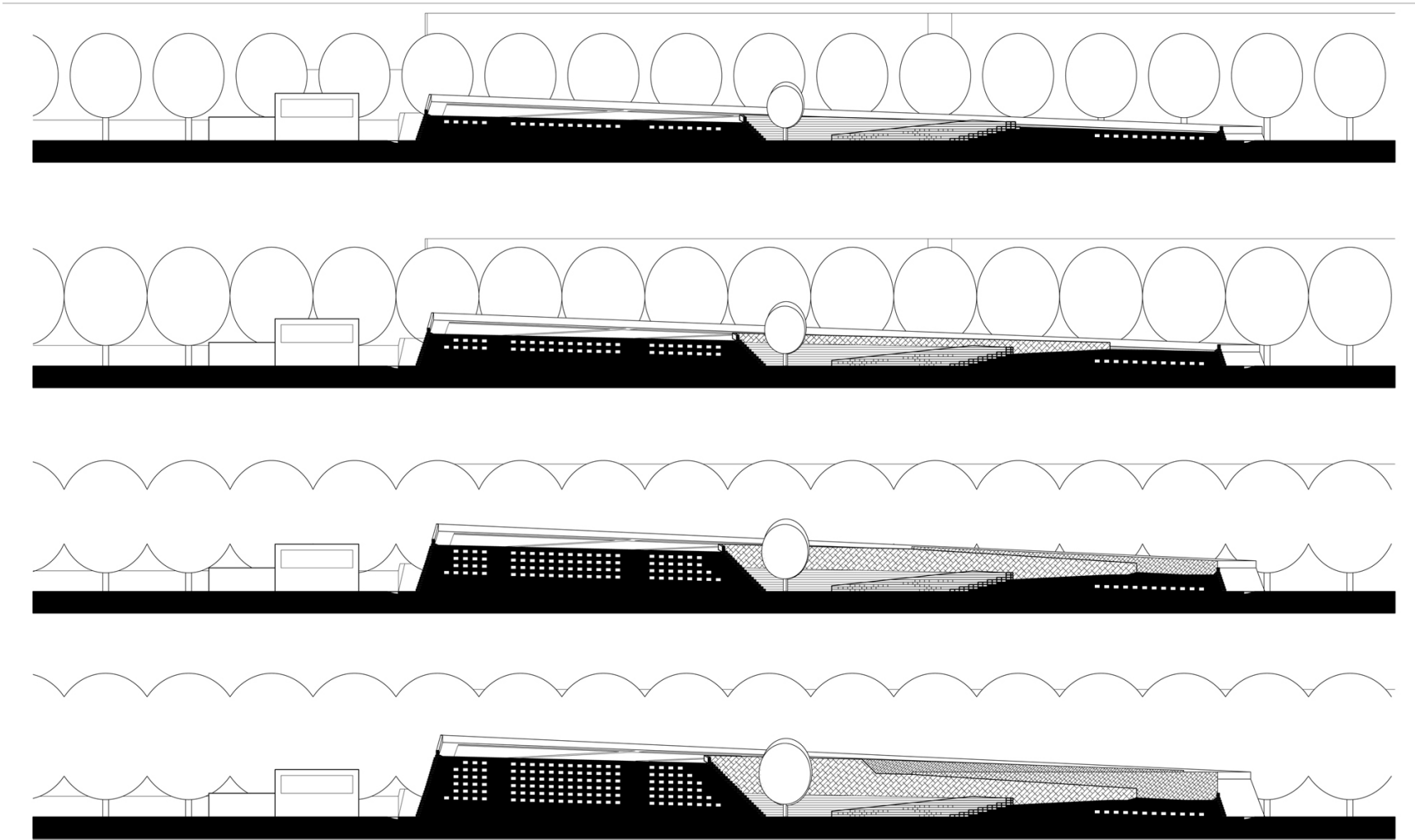
With the cemetery growing higher over time, the hills' appearance changes gradually over time. This means that especially the walls on both sides of the main route between the two halves become more complex over time. Slopes are added to make access to the higher hill still possible (in a 1:20 slope so as to make it possible for the disabled to reach the top of the hill as well). This process is shown in Figure 52. Over time, this creates the effect of a layered 'staircase' look in the walls.

When the layering process stops, the walls of the cemetery are made higher too. Specifically, the new parts of the walls along the main route are then made of the old tombstones that are removed when a new layer of soil is added on top of the hills. These pieces of tombstones are reused to keep the memory of the older buried people intact. This, along with the no-erasing concept, is much different than what is normally done in the cemetery. This can be seen in Figures 54-56.

The elevated cemetery hills provide a little distance between the open spaces and the graves. This has been done not only for visual appearance from the open spaces, but also for the grieving visitor: this way the visitor's privacy is guaranteed. The hill's maximum slope is 1:30, which makes it easy for the disabled to use these cemetery hills as well. From a visual viewpoint, the elevation of the hills has been chosen so, that the hills provide an ideal look over the river, providing a soothing backdrop to the funerary act. This is well seen in Figure 57

**RIVER PROVIDES
BACKDROP TO THE
FUNERARY ACT**

FIGURE 54 (BELOW): THE WALLS OF THE CEMETERIES' MAIN ROUTE CHANGE A LOT OVER TIME. FROM TOP TO BOTTOM: 2066, 2114, 2210 AND 2306.



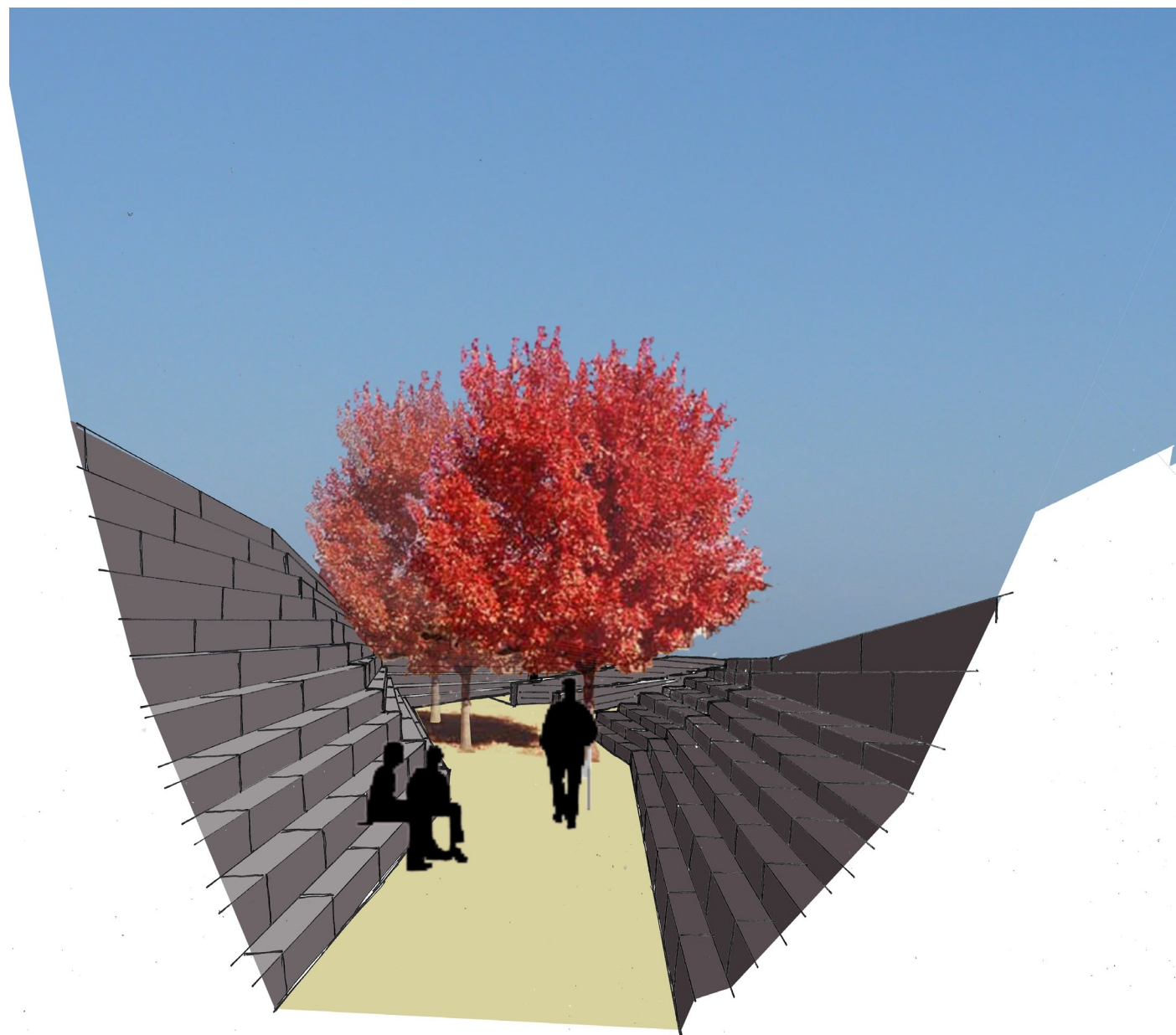


FIGURE 55: INSIDE THE CEMETERY: ON BOTH SIDES THE WALLS OF THE HILLS ARE SEEN. THE MAIN ROUTE CONTAINS A SMALL SQUARE IN THE MIDDLE OF EACH HILL, WHERE THE SLOPES ACCESSING THE HILLS HAVE BEEN PLACED. THREE RED MAPLES HAVE BEEN PLACED ON THESE SQUARES, TO MARK THE ENTRANCES OF THE HILLS, AS WELL AS FOR THEIR VIBRANT COLOUR (INSTEAD OF CHOOSING ONLY SOMBRE COLOURS).

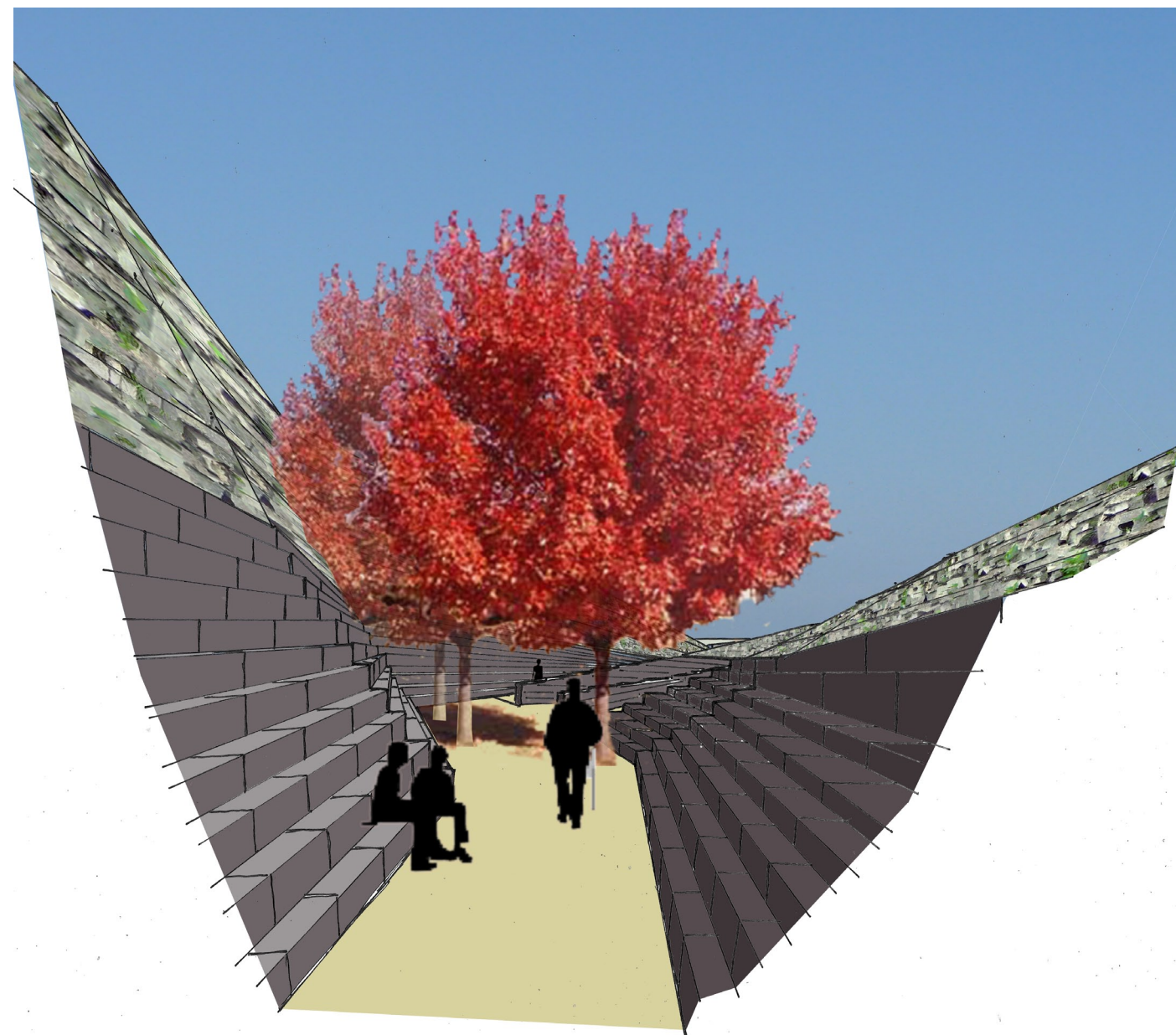
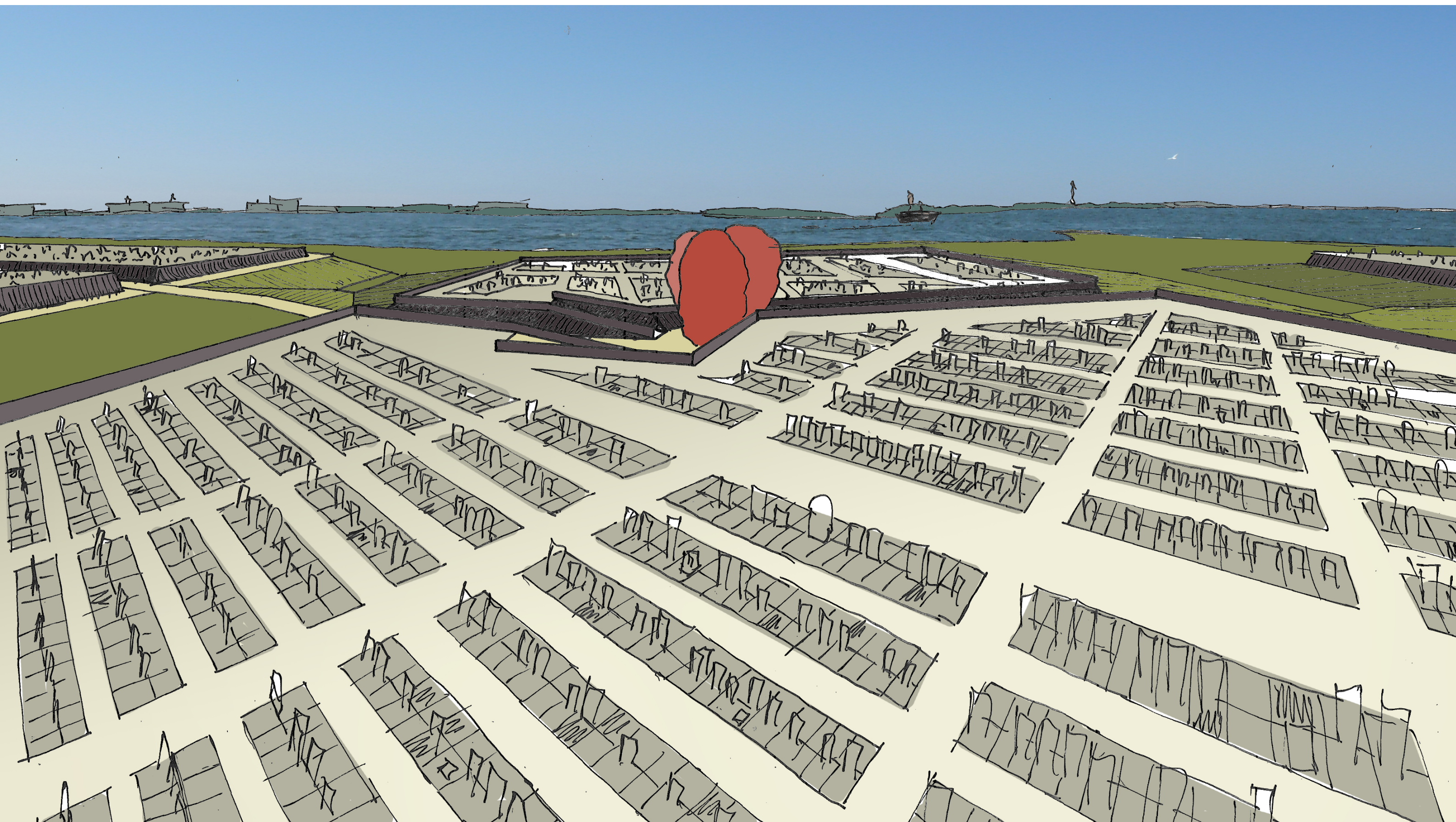


FIGURE 56: THE CEMETERY'S WALLS IN 2306: OLD TOMBSTONES HAVE BEEN REUSED TO REMEMBER ALL THE GRAVES THAT ARE STILL PHYSICALLY PRESENT, BUT ARE NOT ACCESSIBLE ANYMORE.

FIGURE 57: LOOKING TOWARDS THE MAAS FROM THE BURIAL GROUNDS. THE RIVER PROVIDES A SOOTHING BACKGROUND FOR THE GRIEVING AND REMEMBRANCE THAT TAKES PLACE IN A CEMETERY.



PART D

REFLECTION: CONTRIBUTION TO THE DEBATE AND EVALUATION

In this part a reflection is done on the complete process and results. This includes the establishing of those elements in research and design that could be seen as innovative and as significant contributions to the larger debate about cemeteries. This chapter tries to determine if the project as a whole was successful, and what elements of it were. This is done by looking at the working process as well as referring back to the original aims and research questions.

16 INNOVATIVE TOOLS FOR CEMETERY DESIGN

With the research and design parts of this present graduation project finished, it is now possible to look closely at what was done. At the beginning of the design part, a short list of innovative elements is given that are for the first time combined together on a large scale. With the design now finished this can be explained further.

It is useful to divide interventions in two categories:

1. elements based on the characteristics of the location
2. elements applicable to other locations

It is this second category (applicable to other locations) that is of most interest, as these elements of the design are not only specific to the design for the Maassluis cemetery, but can be used for other locations as well.

16.1 ELEMENTS SPECIFIC TO THE LOCATION

A lot of the elements of the Maassluis design are specific to the location. These elements are based on what is happening in this specific location. In other words, the design has taken a certain shape because of certain problems and the opportunities present at the location, as well as the landscape characteristics of the location. What this paragraph looks at closely are only the most interesting elements specific to the location. This is not the same as innovative, as innovative implies the ability to mean something broader, to have a larger effect. This is not the case with elements that are specific to the location, although they can be large contributing factors in the success of the design. Here follows a list of the most interesting location specific elements in the design, with a description why they cannot be reused for other cemetery designs:

- the use of hills and open spaces overlooking the Maas: the river Maas is only present at this location and gives an unique quality the design that cannot be done elsewhere. It is a crucial factor in turning the location into a successful design that shows the river Maas to the city again.
- height differences in dike and hills: while a very important part of the character of the design, a flat design could be equally integrated, visible and a success for the city.
- flooding of some of the areas: this is an interesting feature of the design, and while it could be repeated in other locations next to water, it is not an innovative contribution to cemetery design.

LOCATION SPECIFIC ELEMENTS IN THE DESIGN

16.2 INNOVATIVE ELEMENTS FOR CEMETERY DESIGN

What is of greater interest are those elements that can be reused elsewhere. These are the elements the project has attempted to find. The elements form solutions for cemetery design in the future. These elements can be reused to successfully integrate a cemetery in the city at a different location.

This is a list of the innovative elements for cemetery design, with a description of why they are innovative and how they have been used in the case of Maassluis:

- placing a cemetery at a location that is of strategic importance in the city's total urban structure: traditionally, the cemetery is placed at locations where the cemetery does not contribute anything to the city. In the case of Maassluis the cemetery is now placed at a crucial location where it is able to bring citizens to the Maas again, while at the same time not claiming space where other city functions are better placed.
- the unison of urban infrastructure and cemetery infrastructure: traditionally, the cemetery is an end destination, but in this project the cemetery's routes and city routes have become one. This means that people moving through the city from one place to another, can pass through the cemetery. In the Maassluis design the recreation routes overlap with the cemetery routing.
- an open design: where the traditional cemetery usually is a place that has a single edge with one entrance, this project proposes an open structure where the burial grounds are placed throughout. Secondary routing still guarantees privacy in the burial grounds. For the Maassluis design the open spaces make the place much more accessible, as well as more recognisable. It does not close the place off, but creates passage ways to move through the place, into other places around it.
- the large size: while there are many large traditional cemeteries, this cemetery is different in that it incorporates a lot more space besides the burial grounds than is traditionally accepted. For this project in Maassluis, a larger area was taken to design the cemetery in. All the space that is not occupied by the burial grounds is used not only for visual effect, but especially to make connections between city, river and new zones for housing and business buildings. This large size makes it possible to use the area for many other types of usage than just a cemetery, which would not have been possible if the cemetery would have been treated as a third-rate project.
- a single entity containing cemetery and city functionality: normally cemetery and city functionality are divided and perceived as different entities. Here, both are placed in the same area and are perceived as one large entity containing subspaces. In the Maassluis design the dike area is designed as one single area, containing cemetery, but also small additional functionality along the river and in the open spaces.
- different time management: the traditional cemetery is a relative short-term project. Here, the cemetery is thought of as a space in the city that is able to contribute a lot to the city on the long-term, by making the city more attractive and connect it more to the Maas to name just two factors. Also, on the long-term this idea of phasing is more space efficient (no need to build new cemeteries again) and is able to contribute money for the city since additional city functionality can be part of the design as well, whereas a cemetery only is always non-profit.

INNOVATIVE ELEMENTS FOR CEMETERY DESIGN / SOLUTIONS FOR FUTURE CEMETERY DESIGN

- building history at one single place: the traditional cemetery either uses clearing which erases the memory of those that were buried, or new cemeteries are built and thus scattered all over town. This new model of layering is convenient in that it contains the collective memory of the city together in one powerful statement of a cemetery and keeps it there, instead of erasing it.
- reuse of tombstone material: as a specific innovative detail for cemetery design, any tombstones that need to be removed can be reused and immortalised in the cemetery's design.

17 REFLECTION AND EVALUATION

In this final chapter the present graduation project is looked back on. It includes a reflection of the whole working process. This is done to express what was done, in what timeframe and in what manner. The aim of this reflection is to find out what worked well and what not and what could be done differently in future projects.

This chapter also includes the evaluation of the results of this graduation project. This is done to look back to the original aim and ambition and to see if (all of) this has been achieved. The evaluation tries to determine if the results are satisfying, and why. Furthermore, it tries to conclude what parts of the project are successful and are of interest to others.

17.1 WORKING PROGRESS

First though, it is useful to look at the total working process to see if and how information was found. In order to find out how to turn the invisible cemetery into a more visible cemetery, a research question with several operational research questions were formulated at the start of the project. These questions were tools to find out what the innovative elements of the new cemetery were to be.

Some of the research questions were more useful than others for establishing information. Two in particular were crucial in understanding what happens in cemeteries. These were: "What are the different types of cemeteries and what necessary and optional characteristics, as well as trends of burial and cemetery design can be identified in them?" and "How are different design solutions making cemeteries (not) a part of the urban fabric?". These questions were answered through analysis. However, while research was carried out halfway, the actual answers were not given until the very end of this project. In hindsight, this can be explained in that a clear idea of what answers I was looking for was missing. These answers I could not find, because I was not paying close attention to what I found wrong in these cemeteries. Rather, I was mostly gathering information, without drawing conclusions, until the very end of the project.

One of the most helpful moments was the analysis of the Almere-Haven design which contained one element that was inspiring in showing me what the type of design was that I was looking for to actually create.

Looking back, one question in particular was hard to answer in terms of researchability. This was the question "What are various definitions of 'meaning' for the cemetery and in what ways is design able to attach meaningful associations to the cemetery?". While the idea was to find this in a literature study, the concept of meaning was so abstract that it became a question that was hard to answer, and more importantly, was not able to contribute elements of innovation.

In hindsight, the design part was started up too late. This prevented a flow of ideas that were triggering different parts of research. When design was started up links between research and design could be made more easily. It was only then that a re-evaluation

of the analysis material was possible. This was possible, because unconsciously I started using certain aspects of visited cemeteries (such as the Almere-Haven multifunctional infrastructure). When thinking later on, these unconscious design decisions suddenly came to the front and could be traced back to earlier research findings.

Another thing that was problematic in the working process was the fact that I wanted to be 100% objective for a long time. The design helped in this, as it inevitably is subjective in style. However, objectivity became an obstacle to the point that it also meant a lack of vision of what this project was to achieve. This was corrected at the end of the project by putting all information in perspective again and seeing the information as means to achieve a goal. The goal in this case is to make innovative design for municipalities such as Maassluis that are in need of a cemetery, but choose to be unimaginative.

OBJECTIVITY BECAME AN
OBSTACLE TO THE POINT
THAT IT MEANT A LACK
OF VISION FOR A LONG
TIME

TOO MUCH INFORMATION
GATHERING, WITHOUT
CONCLUDING

17.2 ANSWERING THE MAIN RESEARCH QUESTIONS

While there were struggles in the process and some operational research questions were of less benefit to finding information, in the end enough information was gathered to answer the main research questions. Two main research questions were formulated at the beginning of this project. The first of these was:

1. *How and why should we (not) make cemeteries visible and functionally valuable parts of the urban fabric?*

This question can be answered after research and design in a substantial form. 'Why' we should make cemeteries visible and functionally valuable parts of the urban fabric, can be answered. There are several advantages for making cemeteries more visible and functionally valuable parts of the urban fabric:

- their ability to function as fully working nodes in the urban space networks: this means that they can be part of a larger collection of open spaces in the city, and routes can pass through the cemetery
- their ability to have a larger effect on a city on the longer term, for example by making important landscape features more visible or by creating a higher attractiveness of the city
- higher space efficiency: an urban integrated cemetery is multifunctional and can host several city functions besides the cemetery. There is also a larger degree of flexibility, where functionality can be altered or added in the future when the city around it changes.

'How' cemeteries can be made into more visible and functionally valuable parts of the urban fabric can be answered too. Tools to do this are mentioned in the previous chapter 'Innovative Tools for Cemetery Design'.

The second research question was:

2. *What are the requirements for the program, design and placement for such a kind of cemetery, located in the larger region around Maassluis (The Netherlands)?*

Requirements for the program, design and placement of an urban integrated cemetery for Maassluis have been concluded throughout the project. These answers can be found throughout the booklet, most specifically in:

- Specific Design Tasks for the Location (8.3.2)
- Program of requirements (Chapter 13)
- Interventions (Chapter 14)

More specifically, these requirements are based on two factors: the tools to create an innovative urban integrated cemetery and, secondly, the specific characteristics of the location (including problems and opportunities).

17.3 GOALS AND AMBITIONS

As can be read in the preface, this project's intent was to deliver a different, more innovative type of cemetery to municipalities such as Maassluis which are in quick need of a new cemetery, but choose to design a cemetery that does nothing special for cemetery and city.

Was this intent fulfilled in the end? This can be answered by looking at the results from research and the design. As was concluded earlier, there are several noteworthy elements in the design of the Maassluis cemetery. It was also possible to divide this into

elements that were specific to the location and elements that were innovative in cemetery design. Looking at just the Maassluis example, this project is a believable design that is able to give both the city and cemetery a lot of special things, in contrast to the traditional solution of the municipality which does nothing special to cemetery and city. This is because the design uses several innovative elements, but at the same does not neglect what is good and bad about the location. What is good about the location has been emphasized or made unhidden; what is bad has been (partially) solved.

In the project description, the original aim that was set for this present graduation project was:

...to construct an overview of the current debate on cemetery design with solutions for the future and requirements for the design of Dutch cemeteries

Was this goal achieved in the end? To answer this, the working process needs to be addressed. It was not until the very end that the policies of the municipality were truly incorporated into the project: up until that point the input of this project into the debate was a very one-sided affair. In the final stages of the project, two aspects were introduced. The first of these is what the role of Maassluis is in this project: what use does this project have for Maassluis and how is it of more value than what they are doing? The second of these is related to the first, but taken much broader: what is innovative about the design of this project, and how is it able to contribute anything, rather than just be any other design that is forgotten soon again? These questions were addressed in the final stages of the project and without these it would not be possible to have achieved the aim of this project.

However, the aim has been achieved after the innovative elements of this design have been decided. Then also the comparison was made between the traditional cemetery and the innovative alternative in order to be more precise about why Maassluis (and other municipalities with the same need for a cemetery) should do it different. It is these two things that form a contribution to the broader debate of what the future of the cemetery should look like. In academic terms, these elements and the reasoning why they are better than the traditional model, could be described as general knowledge.

Reflecting on the aim, an overview of the present debate has been given as well as solutions for the future and innovative elements to use in these future cemetery designs.

DESIGN DOES A LOT OF SPECIAL THINGS FOR CITY AND CEMETERY, IN CONTRAST TO TRADITIONAL POLICY

GENERAL KNOWLEDGE FORMED BY INNOVATIVE ELEMENTS AND THE REASONING WHY THEY ARE BETTER THAN THE TRADITIONAL MODEL

SEVERAL ADVANTAGES FOR MAKING CEMETERIES MORE VISIBLE AND FUNCTIONALLY VALUABLE PARTS OF THE URBAN FABRIC

PART E

APPENDICES

A CITED WORKS

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A HISTORY OF THE CEMETERY

HOW CERTAIN DEVELOPMENTS WERE CAUSE TO THE SPATIAL AND FUNCTIONAL EXCLUSION OF THE CEMETERY

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ABSTRACT

KEYWORDS: CEMETERIES, SPACE SHORTAGE, TABOO, EXCLUSION, URBAN DESIGN, RELIGION, IDEOLOGIES

With many of the Dutch cemeteries facing space shortage soon or already, the need for (re)-design of cemeteries has developed into a topic of interest. However, design for cemeteries forms a dilemma, as the necessary task of maintaining the dead has to be united with a general public disliking towards being confronted with death. As a result many of our cemeteries are characterised by spatial and functional exclusion from the urban fabric.

Urban design is able to provide alternative ways to constructing a cemetery. While the designer is not able to change society, he is able to explain when new cemeteries should (not) be visible and functionally valuable parts of the urban fabric. This can only be done right when based on the existing historical narrative behind the present definition(s) of the spatial form of cemeteries and their invisible role in the city.

For this reason, this paper examines the history of cemetery development by looking at the situation from different angles: this includes design, but also cultural and societal changes, religion, ecology and the constantly changing definitions of 'meaning'. Several sources of literature are used to incorporate the views of different authors from different disciplines, so as to construct a multi-facet view of the history. The paper aims to draw conclusions from this literature study, finding the crucial moments and developments in history that are central to understanding the role of the cemetery in our society.

This paper shows how certain ideologies have caused a changed relation between city and cemetery. Several conclusions can be drawn from this. One of these is how the visitor's wishes and respect should always be focused around in the design. Also, discomfort with the cemetery is rooted in society, not in the location. Furthermore, the architectural expression of death has largely been lost over time. Then, since the arrival of cremation we could say that burial is now a deliberate choice, making the case of good cemetery design valid. Finally, while the cemetery is a place of personalised and unique value for individuals, it also used to mean something for the larger community: something which the modern cemetery often fails to do.

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1 INTRODUCTION

1.1 BACKGROUND

Many of the Dutch cemeteries are facing a situation of space shortage or will be soon. Several of the cemeteries that were originally built outside the city have been swallowed gradually by the city and have no place to extend anymore. As the need for burial is still substantial enough, a new task for the urban designer has become available. This task is not easy though, as the necessary task of maintaining the dead has to be united with a general public discomfort with death. We can see this dilemma in a lot of our cemeteries, as they are characterised by spatial and functional exclusion from the urban fabric. In other words, the cemeteries are parts of our cities, but are virtually invisible. This tension between a necessary act and a general discomfort raises the question if this particular situation has always been like that; and if not, why and how we have arrived at this particular point with regards to looking at death and designing our cemeteries in a specific way.

For the urban designer it is not the task to ‘redesign’ society (he cannot). Yet, it is within his possibilities to provide alternative ways to constructing a cemetery (and perhaps thereby igniting different feelings and associations in society). For such a task the urban designer does need to be aware of the state of society and how this particular state was formed by certain ideologies and beliefs. For this reason, it is so crucial to be conscious of the developments of the past. Only by being aware of the existing historical narrative behind the present idea of the cemetery, we are able to provide well substantiated solutions for the formulation of the role of cemeteries within the city. Therefore the research question of this paper is:

WHAT IDEOLOGIES AND BELIEFS FORM THE HISTORICAL NARRATIVE BEHIND THE PRESENT DEFINITION(S) OF THE SPATIAL FORM OF CEMETERIES AND THEIR INVISIBLE ROLE IN THE CITY?

This paper aims to draw conclusions from a literature study, in which views by different authors from different disciplines are being compared, so as to construct a ‘back-story’ of the cemetery, wherein the crucial moments and developments in history are being pointed out. Using this back-story it is then easier to pick a direction for current cemetery design.

1.2 STRUCTURE OF PAPER

This paper chronologically tells a history of the cemetery. In succession, three chapters will tell about certain phases of cemetery developments. Each chapter goes into certain themes that are relevant to the particular phase of cemetery development.

Chapter 3 tells about Christianity’s ideology of belief in the after-life and how this was important in forming the basis of the cemetery as we know it. Chapter 4 discusses

the shift to cemeteries outside the city, under the influence of Enlightenment; a shift that was crucial for the spatial form of the cemetery. Chapter 5 looks at the past 150 years in which modernity became a phenomena, and where a taboo was created with regards to death and the cemetery. Chapter 6 then discusses a (small) selection of alternative approaches to cemetery design that can be seen in current times.

Finishing, chapter 7 draws conclusions of all that has been discussed before. Here, attention is paid more to themes (and their interrelationships), rather than timeframes. The conclusions are drawn in such a way that a bridge is drawn between this paper and the spatial domain, thereby aiding the task of urban design. Design solutions are not necessarily given here; however the paper tries to present the conclusions in such a way that it is clear what a new spatial design may and may not try to accomplish. In other words, the multitude of approaches to the design task is being narrowed down here considerably by providing the cemetery's central themes in this current state. This paper therefore aims to function as a starting point of recommendations, which the designer is then able to translate into a substantial design.

Finally, a foldout A3-format illustration can be found at the end of this paper as well, showing a convenient summary of all important developments of cemetery design.

2 CHRISTIANITY AND THE AFTER-LIFE

2.1 THE RISE OF CHRISTIANITY

In the first centuries of the Common Era and earlier, in Holland most of the dead were buried although cremations were not unusual. The dead were kept outside of the settlements, as dead people were perceived as unclean (Van Steen & Pellenbarg, 2006, p. 624). This was not uncommon and was done by several cultural groups (including the Romans) (Cappers, 2002, p. 29).

From the fifth century onwards this changed. Due to the rise of Christianity and its belief in the resurrection of the dead, cemeteries were brought back into the city again. While a lot of the ideology of Christianity and the belief in the resurrection of the dead are well-known, some further discussion of certain aspects of it will serve to show how the belief in the after-life was a major influence on the look of our cemeteries. A lot of what we see in our cemeteries today can be traced back (either directly or indirectly) to events that happened under the influence of Christianity.

2.2 BELIEF IN THE AFTER-LIFE

The rising belief in the after-life meant that there were going to be consequences for the approach in which the dead were buried. Earth was now seen as a temporary waiting room, until we transcended to heaven for the eternal life. Earth was therefore also seen as an inferior place, since the transcending ghost would only be freed from its imperfections after death. Of importance though was that the corpse of the dead would be preserved,

so that its soul would be able to depart to heaven. In order for the soul to have eternal life, all of the earthly life would have to be denied, even to the rest of nature. This explains the rationale behind the burial caskets as we know them: strong and closed, preserving the dead body for as long as possible (and thus giving the soul eternal life) (see figure 1) (Plumwood, 2007, p. 56).



FIGURE 1: THE BURIAL CASKET: STRONG AND CLOSED, BUT COMFORTABLE, IN ORDER TO PRESERVE THE DEAD BODY FOR AS LONG AS POSSIBLE (AND THUS GIVING THE SOUL ETERNAL LIFE).
DIAMOND VUES (2008).[HTTP://WWW.DIAMONDVUES.COM/GOLD%20CASKET.JPG](http://www.diamondvues.com/gold%20casket.jpg)

The tomb “intended to reassure life, amidst the flux of nature and the ravages of time, of some kind of continuity, of persistence hereafter” (Robinson, 2005, p. 1). This concept of after-life is based on a strong split between that what lives on forever (the soul) and that what stays behind (the corpse). The introduction of this concept contributed to a stronger relation between man and the way he was brought to the earth.

2.3 THE RUN ON BURIAL SPOTS

Due to Christianity's belief in resurrection, in this period it became usual that the dead were kept very close to the living. As mentioned, cemeteries were therefore brought back to the city. Burial was now being seen as something that should be done with care so as to be sure of an after-life. The dead were buried in churches when they could afford it, as these were considered the best places, giving the best chance on a ‘ticket to heaven’. If money was not available, there was space in the churchyard (which was considered inferior) (Van Steen & Pellenbarg, 2006, pp. 624-625). Mass burial also happened, in the middle of cities, something that is of course totally in contrast with our current burial practicing. From the late 14th-early 15th century on the existing phenomenon of the so-called ‘memento mori’ became common: objects like skulls and skeletons were shown publically to shock the viewer into a Christian belief of life after death, reinforcing the concept of the mind/body split (see figure 2) (Gray, 1990, pp. 8-9). As an effect, a run on good burial spots set in. During the 16th and 17th century churches had become overcrowded with many people being able to afford a more precious place inside the

churches. The churchyards also experienced a shortage of space, due to a lack of possibility of expansion (Van Steen & Pellenbarg, 2006, p. 625).



FIGURE 2: FROM THE LATE 14TH - EARLY 15TH CENTURY ON THE EXISTING PHENOMENON OF THE SO-CALLED 'MEMENTO MORI' BECAME COMMON: OBJECTS LIKE SKULLS AND SKELETONS WERE SHOWN PUBLICALLY TO SHOCK THE VIEWER INTO A CHRISTIAN BELIEF OF LIFE AFTER DEATH. THIS PICTURE SHOWS THE IMAGE OF A SKULL ON TOP OF ONE OF THE GATE POSTS AT ST. NICHOLAS CHURCH, DENTFORD. LONDON GALLERY QUIRE – CHURCH CRAWL 2007 (2008). [HTTP://WWW.LGQ.ORG.UK/CRAWL07/SKULL.JPG](http://www.lgq.org.uk/Crawl07/Skull.jpg)

3 THE 19TH CENTURY: THE BASIS OF THE MODERN CEMETERY

3.1 1804 AND PÈRE LACHAISE

During the late 18th century, the ideas of Enlightenment (which some say can be traced back to 1637 and Descartes' *Discourse on the Method*) became more widespread throughout Europe. This development has also sometimes been called 'dechristianisation', and saw an increasing focus on the human individual. Of influence to cemetery design was first of all that public hygiene was of growing importance (Etlin, 1984, pp. 5,12). This also meant that the church lost its function as focal point for cemetery design (Cappers, 2002, p. 33).

In Paris, France it was around this time that one of the central developments in the history of cemetery design took place. 1804 saw a law passed in which it was stated that new cemeteries were to be built outside the city, due to public hygiene considerations. The Parisian city council had ordered that public cemeteries for the poor needed to be designed. The results of this assignment can be seen already in 1815 and were completed by 1850 under the name of Père Lachaise (see figure 3). It is widely considered as the

prototype for the extra-muros (outside the walls; i.e. outside the city) cemetery. It is generally regarded as the first cemetery in history to look like a natural landscape. From here on the creation of natural/rural cemeteries can be seen in various countries, including the United States of America and Great Britain (Cuyvers, 2002, pp. 17-23).



FIGURE 3: A MAP OF THE IMMENSELY LARGE PÈRE LACHAISE CEMETERY IN PARIS. WHILE TODAY IT LIES WITHIN THE CITY STRUCTURE AND IS OFTEN A CROWDED PLACE (NOTE THE MANY ENTRANCES...), IT WAS ACTUALLY THE FIRST MODERN EXTRA-MUROS CEMETERY, ORIGINALLY BEING SITUATED OUTSIDE THE CITY.

VISITER LE CIMETIÈRE DU PÈRE-LACHAISE – PARIS / LE GUIDE COMPLET (2008). [HTTP://WWW.VOYAGE-WEBGUIDES.COM/PARIS/PERE-LACHAISE_FILES/PLAN_PERE_LACHAISE.JPG](http://www.voyage-webguides.com/Paris/Pere-Lachaise_files/Plan_Pere_Lachaise.jpg)

The introduction of the 1804 law and its result Père Lachaise might be regarded as turning points in the history of cemetery design. Many changes were seen from here on, in a relatively short timeframe of 200 years. Some of these are related to the developments at Père Lachaise, some more to changing ideologies; nevertheless this is a period where a wide array of ideas and ways of thinking started going in different directions altogether, laying out the basis of the modern cemetery.

3.2 THE BRITISH GARDEN CEMETERY

Before some of the fundamental changes to the cemetery model are discussed, it might be illustrative to look at one particular development that had begun when the ideas of Père Lachaise had become widespread.



FIGURE 4: HIGHGATE CEMETERY, LONDON: DURING THE 19TH CENTURY THE BRITISH DEVELOPED THEIR OWN VARIANT TO THE NEW EXTRA-MUROS CEMETERY TYPE. THE BRITISH GARDEN CEMETERY IS DEFINED BY A VERY ASYMMETRIC AND NATURALISTIC STYLE. THIS TYPE OF CEMETERY WAS ALSO SEEN AS A CIVIC AMENITY WITH DECORATIVE VALUES.

HIGHGATE CEMETERY (2008). [HTTP://WWW.COMPULINK.CO.UK/~ARCHAEOLOGY/HAMPSTEAD-HEATH/CEMETERY/ENTRANCEWIDE.JPG](http://www.compulink.co.uk/~ARCHAEOLOGY/HAMPSTEAD-HEATH/CEMETERY/ENTRANCEWIDE.JPG)

In England the new developments in France had not gone unnoticed; a similar type of progress can be found here, with its own characteristics. In the period of 1820-1834 cemeteries were set up by those who put up against church institution. These are all cemeteries placed outside the city. In a second phase until 1853, the public hygiene concerns played an important role. Later on, the cemetery also was perceived as civic amenity with decorative values. The British garden cemetery departs from Père Lachaise in that it was more in keeping with the Protestant virtues of simplicity and nature, rather than the more joyous and (as viewed by the British) artificial decoration of the French examples. More so than the French and American plans of the time the British cemeteries were asymmetric, naturalistic and define the style of the garden cemetery, as can be seen in places such as Kensal Green, Highgate Cemetery (see figure 4) and Liverpool Necropolis. On the other hand 19th-century American cemetery plans have been built in a more geometrical and rectangular style, as well as other plans in Northern Europe, which generally also show a more urban and densely packed spatial organisation than the British version (Tarlow, 2000).

3.3 A NEWLY FOUND FOCUS ON THE INDIVIDUAL

The garden cemeteries of the 19th century were in opposition to the idea of the churchyards of medieval Europe. Robinson argues that, being based in the landscape they now carried the original meaning of a place of sleep (Robinson, 2005, p. 3). The humanist visions of Enlightenment had been incorporated into cemetery design, which was now aiming to honour each citizen rather than only those who had the money for it. This resulted in images of grand architecture rather than the macabre images of death that had been seen before (Etlin, 1984, p. 51).

The garden cemetery variety of design can be attributed to two things: an emerging understanding of the body and a larger focus on the self. The former meant the desire for a more aesthetically attractive place of the dead, something which can be seen especially well in the discussed British garden cemetery. The larger focus on the self resulted in the desire to own one's exclusive burial plot, during life and after death (Tarlow, 2000). While the 'buying of status' in the Church did not happen anymore, it was still as much present, but now in a different location with the added concept of a privatisation of death.

Still using the same British garden cemetery as an example, we can see a shift towards the emotional and personal aspects of the cemetery as well. Tarlow says that by referring to an ancient past (of power, glory and grandness) as well as to an idyllic picturesque and sentimental kind of nature, an Arcadian image was constructed that would evoke emotions more easily than was the case in previous cemetery models. The visitor of the cemetery is considered here as much as the deceased, as it is the visitor who is able to indulge in melancholic reflection and personal memories in this type of landscape (Tarlow, 2000, p. 232). Plumwood's vision on the Arcadian image is of a different kind: she argues that this particular image denies human labour and hides the violence in the landscape (Plumwood, 2007, p. 55). What is important to note here is that the garden cemetery may be seen as a place that pretends to be personal and emotional, yet only evokes an image that is artificial and dishonest. It could therefore be argued that an image is constructed that actually creates a gap between the living and the dead. After all, the fake image only poses as a connection between life and death.

3.4 CEMETERIES IN THE NETHERLANDS AFTER 1804

The Netherlands had undergone a similar process with regards to cemetery developments. Here too, the church had lost its function as main catalyst of new cemetery design, as can be witnessed by two Dutch laws of 1829 and 1869. In the former, burials inside settlements with over 1000 residents were prohibited by law. The 1869 law prohibited burial in churches. The new cemeteries that were opened soon after 1829 were full quickly because of a large rise in the population. Therefore, the second half of the 19th century up until the beginning of the 20th century saw a second wave of the construction of many new cemeteries throughout the countryside (Van Steen & Pellenbarg, 2006, p. 625). Many of the new cemeteries were, like their British counterparts, often designed in the new garden cemetery style. In the Netherlands this movement was lead by the designs of J.D. Zocher jr., as can be seen in his cemeteries in Soestbergen, Haarlem, Amstelveen (see figure 5) and Zutphen amongst others (Cappers, 2002, p. 33).



FIGURE 5: ZORGVLIED, AMSTELVEEN: J.D. ZOCHER JR. WAS THE DOMINANT LANDSCAPE ARCHITECT IN THE DUTCH VARIANT TO THE GARDEN CEMETERY.
ZORGVLIED IN OKTOBER – ZUIDELIJKE WANDELWEG (2008).
[HTTP://WWW.ZUIDELIJKEWANDELWEG.NL/ARCHITECTUUR/ZORGVLIEDINOKTOBER.HTM](http://www.zuidelijkewandelweg.nl/architectuur/zorgvliedinoktober.htm)

A consciousness about the importance of public hygiene was present here too. The new cemeteries showcase a transformation, where new functions were added that had not been common before in the sector. In 1830 the first morgue was built at the Algemene Begraafplaats of The Hague. Then in the second half of the 19th century, the meaning and design of the farewell rooms changed. This was due the 1872 law on infectious diseases, which made it necessary for each cemetery to include a mortuary to prevent any infections. An event like this shows how an increasing distance was created between the dead body and the living that were in mourning. At the same time more attention was paid to the emotions of the living. 1838 saw the addition of a chapel at the aforementioned The Hague cemetery. In 1897 the auditorium was made common, as it was used in the plan for Vredenhof in Amsterdam (Cappers, 2002, pp. 34-37).

4 THE 20TH CENTURY: ABSTRACTION OF DEATH FROM THE CEMETERY

4.1 THE LONG-TERM EFFECTS OF PÈRE LACHAISE

Although this chapter effectively intends to deal with the events of the 20th century, first a short flashback to Père Lachaise is being presented, with an emphasis on the effects this design had and which became truly apparent in 20th century cemetery designs.

As stated earlier, Père Lachaise was something of a turning point in cemetery design. The basics of what happened during this time have been discussed already, however something else had changed. The prototype set by Père Lachaise was defined by rest and the image of soothing green. Cuyvers believes that from that particular moment on, death became synonymous with 'quiet, silence and rest' (Cuyvers, 2002, pp. 23-24). This particular idea was not pronounced as such, but remained there as an undercurrent: society increasingly focused more and more on its earthly existence and gradually on an increasing sense of taboo existed with regards to the subject of death.

While the described phenomena are very apparent in many 20th century cemeteries and in Western society in general, it is important to put the actual case of Père Lachaise, as well as some other designs, somewhat in perspective. Although the design intentions were very much based on a silent, green resting place, some of these places are currently in the midst of the cities due to city growth and are now functioning as gathering places or tourist attractions and thriving with liveliness.

4.2 INCREASED DISTANCE

By moving cemeteries to the outer areas of the city, in addition a distance was created between the place of death and the burial site that had not been present before. Gradually this set in working the commercial funerary sector: services were needed to aid in the travelling of the corpse and such (Van Steen & Pellenbarg, 2006, p. 631).

While an actual distance was created, the relation between living and death was characterised by a larger distance as well. This is not only visible in the quiet, silenced images after Père Lachaise, but also in the way dead and its corresponding funeral were treated. With the public hygiene concerns of the 19th century the whole process of 'giving away the dead to a different place' had changed: only the moment of death and the actual burial were moments where living and dead were together. The process in-between was now taken care of by a third (professional, but impersonal) party (see figure 6). However, the actual funerals were now increasingly more structured and organised by third parties too.



FIGURE 6: A CARRIAGE TO TRANSPORT THE BODY OF THE DECEASED. WHEN PUBLIC HYGIENE BECAME MORE IMPORTANT AND CEMETERIES MOVED TO THE OUTSIDES OF THE CITIES, A DISTANCE WAS CREATED. THE PROCESS IN-BETWEEN THE MOMENT OF DEATH AND THE ACTUAL BURIAL WAS NOW TAKEN CARE OF BY A THIRD (PROFESSIONAL) PARTY
HISTORIE IN BEELD (2008). [HTTP://WWW.GEO.NL/HISTORIE/LIJKKOETS.HTML](http://www.geo.nl/historie/lijkkoets.html).

Of course, similar events can be seen in other sectors as well, after the Industrial Revolution had happened during the 19th century. Although opinions widely differ on actual timeframes, meaning, causes and effects we have entered the era of modernity here. For the purposes of this paper the term 'modernity' is used here to describe events that are related to the increasing processes of commercialism and individualisation that have been going on since the Industrial Revolution. With regards to the subject of cemeteries, this commercialism can be seen in the third party taking care of burial for example. Individualisation can, for instance, be seen in the loss of the idea of the cemetery as a 'communal ground'.

4.3 CREMATION

One of the 20th century's biggest changes to the system of dealing with the dead was cremation. This is an important occurrence, as it is a totally other concept of dealing with the dead than burial, whereas all changes previously discussed were changes within one same concept. The arrival of cremation did not come easily though. While in 1869 cremation became possible by law, it was not generally accepted yet. In 1909 finally the first crematory was built at Westerveld, Velsen, in order to provoke a decision by the juridical system. The crematory was successful and a columbarium was added in 1921, followed by an urn garden in 1933. It took until 1955 before cremation was finally officially arranged by law. However, 1963 is the most important year in the development of cremation, as it was at this point that the Catholic Church decided cremation was not in conflict with resurrection anymore. From here on cremation happened more and more, as any ideological difference between cremation and burial was gone (Cappers, 2002, pp. 37-48). For illustration, in The Netherlands, in 2003 for the first time the number of cremations was higher than the amount of burials (although the absolute number of burials has not seen such a drastic change in the last 50 years (Van Steen & Pellenbarg, 2006, p. 634).

4.4 ARCHITECTURAL EXPRESSION LOST

As said, cremation is a different concept of maintaining the dead; this of course consequentially means that space is used in entirely different ways, when burial is not necessary anymore. Although urn burial is an in-between form, cremation normally does not put a claim on city space, apart from the presence of a crematory and corresponding services. Since 1935 the possibility for ash dispersal over sea was introduced. In this particular example we see that an ultimate distance has been introduced with regards to death. Death from that point on could literally be gone from life as it was missing any architectural, spatial design. The 1970's saw a percentage of 90% of all cremations as ash dispersal. It could be argued that a taboo with regards to death had grown to full proportions here (Cappers, 2002, pp. 45-50).

Modernity clearly put a stamp on burial as well. The growing silence about death that was alluded to before, can very well be seen when looking at the huge concrete slabs that above all radiate an anti-life purpose of closing off the grave (Plumwood, 2007, pp. 56-57). One of the characteristic things about modernity in relation to cemetery design is that it provided us with regulation, tidiness, cleanliness and tight rules about organisation during the 1930's. Cappers mentions that if we look at cemetery designs in the 20th cemetery what is striking is that there is a general uncertainty about how to design (Cappers, 2002, pp. 45-50). This point of view can be further explained by that, what Bodnar describes. While earlier on there was a certainty of communication with the ancestors and God, modern times projected an uncertainty of communication in the abstract space of modern rationality. Death was gradually abstracted from the dweller's life (Bodnar, 2004, p. 2). In other words, we can argue that in earlier times remembrance provoked meaningful associations to do with the significance of the community's existence. In contrast, in recent times this sense of community was lost and everything was dictated by rationality, rules and tidiness. These pretend to keep the cemetery maintained and clean, but in actuality they also prevent a community to feel attached to a space that symbolises (through architecture) a higher layer of the community: a space that symbolises the community's history, existence and their identity. By abstracting death from the city, these kinds of meaning are lost. It is no surprise therefore that some cemetery design of the 20th century projects a general feel of not having known what to design for, having been rooted in uncertainty.

5 CEMETERY DESIGN IN RECENT TIMES: A VARIETY OF DIRECTIONS

While the 1980's and 1990's were typified by a focus on aspects like comfort, wishes of the grieving visitor and new possibilities for other ethnic groups of society (all of these could be considered improvements), a true answer has not been given to the situation of uncertainty that has been present over the past century (but can be traced back to Père Lachaise) (Cappers, 2002, pp. 50-51). A lot of new (and diverse) things have gotten

attention though in recent times, of which a selection is presented in summarised form in this chapter.

5.1 ECOLOGY AS A NEW TOPIC OF INTEREST

Over the 20th century a rising concern about how to use the earth and its resources occurred. The issue of sustainability in design is a topic in itself, but in cemetery design a new interest in the geological and ecological point of view towards the cemetery can be observed in literature, even when it is just a minor movement that is just starting to operate. Dent and Knight tell how cemeteries strongly distort the local hydrologic cycle and recommend that new cemetery proposals and extensions should be properly assessed from a geoscientific perspective (Dent & Knight, 1998, p. 6).

Not only the soil, but the overall landscape of the cemetery is starting to be seen as a place of value, when it comes to a place as host of several species, both flora and fauna. In 2001, Barrett and Barrett indicated that published studies were not available on this topic; if this has changed considerably in the meantime is unknown to this author. Nonetheless, their opinion is interesting. By discussing the relationship between culture and nature, they arrive at the statement that the cemetery's significance as repository of biotic diversity might be enhanced by linking the cultural and the natural landscapes at greater spatiotemporal scales (Barrett & Barrett, 2001, p. 1823).

5.2 CYCLICAL THINKING: LIFE/DEATH, CULTURE/NATURE

Not entirely unrelated, but looking at the subject of cemeteries from a different angle there are some, who see the cemetery as a place where life and death are not only simply linked by their meaning, but form a complete cycle. Plumwood opposes to the mind/body split that is so apparent in Christian thinking and argues that it is more about the cycle of life, where life returns into nature. In the cemetery, this then materialises as death flowing on into a tranquil and beautiful landscape (Plumwood, 2007, p. 67).

5.3 TIME IN THE CEMETERY

In Igualada Cemetery, near Barcelona, Spain something akin happens: the cycle of life is a motivation here too, although the story is different. Here, a similar cycle of life is symbolised in the architecture of the cemetery. Igualada projects the image of a ruin intentionally, where nature seems to take over, giving the impression of a cemetery burying itself (see figure 7). Igualada redefines the terms of what is generally seen as a cemetery: here, nature is not the opposite anymore of culture and death is not the antithesis of life. The architecture of Igualada is all about time essentially. The image of the ruin symbolises a temporal struggle between nature and culture; the ruin is somewhere in-between the stages of decay and renewal in the cycle of life (Robinson, 2005, pp. 2-5).



FIGURE 7: IGUALADA CEMETERY, NEAR BARCELONA, SPAIN: IGUALADA PROJECT THE IMAGE OF A RUIN INTENTIONALLY. THE IMAGE OF THE RUIN SYMBOLISES A TEMPORAL STRUGGLE BETWEEN NATURE AND CULTURE; THE RUIN IS SOMEWHERE IN-BETWEEN THE STAGES OF DECAY AND RENEWAL IN THE CYCLE OF LIFE.

IGUALADA CEMETERY 8 ON FLICKR – PHOTO SHARING! [HTTP://FLICKR.COM/PHOTOS/DOCTORCASINO/2708265342/](http://flickr.com/photos/doctorcasino/2708265342/)

Where Igualada plays with the concept of time through symbolic images, others have looked at the more practical side of things. Taylor, in a proposal for a landscape architecture design for a new cemetery, discusses how time leads to change and results in the dynamics of the landscape. Her focus is therefore on the issue of time, specifically sempiternal time: a time that has a beginning but no end. Her design is for a constant duration, where time cycles have been created for the maintenance of each single element in the cemetery: for all types of materials and vegetation and the graves. Hereby she overcomes the initial assumption that, over time, the duration of the cemetery could be rebalanced by continuously purchasing more land (Taylor, 2003, pp. 1, 10).

5.4 NEW FORMS OF BURIAL

Since the second half of the 20th century new burial techniques, some quite revolutionary, have been studied. Charytonowicz and Lewandowski give a list of novel funerary rites, including difficult techniques such as carbonisation, plastination, hibernation and even burial in outer space (Charytonowicz & Lewandowski, 2007, p. 309). While these forms of burial are perhaps a nice novelty for those who have the money and fancy something different, on the shorter term these techniques are still too expensive for common use. Not to speak about general acceptance, as society is probably not ready for these new ideas. Less radical (although we can still wonder if people will generally accept) are burial in an upright position, or burial above the ground (as is actually not entirely uncommon in some of the Mediterranean countries).

6 CONCLUSIONS: HISTORY’S EFFECT ON CURRENT THINKING

This final chapter looks at the several themes that have been discussed in the previous chapters. Here a link is made to the spatial domain (the urban designer’s field).

6.1 CRUCIAL DEVELOPMENTS

First, let us define the crucial developments (and their corresponding themes) that have occurred during the history of the cemetery. These are the following:

- The shift to death being seen as something frightening, to shock citizens into a belief in the after-life
- The new image of an aesthetically beautiful place which was made for the visitor, rather than the deceased
- The removal of death from the city, through the building of cemeteries outside the city
- The increasing denial/taboo of death and its abstraction from architecture and the spatial domain
- Cremation being made common and its rising popularity
- The idea of status and the desire to own one’s exclusive burial plot becoming central aspects in the act of burial
- Uncertainty as a driver of design and a diverse search for alternatives and understanding

6.2 THINGS TO CONSIDER WHEN DESIGNING NEW CEMETERIES

Using these seven themes, we can formulate how they are relevant for new cemetery design tasks.

THE SHIFT TO DEATH BEING SEEN AS SOMETHING FRIGHTENING, TO SHOCK CITIZENS INTO A BELIEF IN THE AFTER-LIFE

The frightening idea of death that was imposed on citizens by the memento mori that were used by Christianity to shock them into a belief in the after-life is as much apparent in today’s world, as it was then. Although Christianity has lost a lot of its followers, for a large share of the Western population death still is something frightening. While this is only natural of course, any associations to death such as the cemetery or even the image of a skull produce negative associations for most people.

The urban designer might try to change this image himself through design, but it is society where these associations are rooted in. This means that even a new and aesthetically beautiful design can still be seen as somewhat frightening to users of the city, when they become aware that the place is in fact a cemetery (and, who knows, perhaps the shock is only bigger, through the contrast of beauty covering for a darker image).

THE NEW IMAGE OF AN AESTHETICALLY BEAUTIFUL PLACE WHICH WAS MADE FOR THE VISITOR, RATHER THAN THE DECEASED

Continuing what was just said about an aesthetically beautiful place, the popularity of the garden cemetery saw a new attention to the visitor of the cemetery (after the new understanding of the body and new-found focus on the self). The place was now made so that the visitor would be able to indulge in emotional and personal memories.

Less focusing first on what this type of image should be, this particular development has imprinted itself into the concept of the cemetery. Therefore it forms another crucial point that should never be forgotten in new design. Whatever changes to the model of the cemetery are made, the visitor’s wish to visit a grave is central. Considering types of image, it is not essential to use a certain style (such as the British garden cemetery); however, the possibility for the visitor to pay remembrance the way he wants to is essential. Therefore, the spatial design should form itself around this idea. In practical terms, this means the possibility for the visitor to feel as if he is in a private place, not being looked at by those, of whom he wishes not to see him.

THE REMOVAL OF DEATH FROM THE CITY, THROUGH THE BUILDING OF CEMETERIES OUTSIDE THE CITY

When cemeteries were moved to the outsides of the city, this was due to public hygiene. It was, of course, also in tune with the fact that society was starting to see death as something they were uncomfortable with.

As we know today, the cemetery is not a threat to our health (although we have to pay attention to the pollution of the soil) and public hygiene is therefore not such a case anymore as it was then. The question if a cemetery should be in- or outside the city is then only related to the idea of discomfort still. This is similar to the first theme of the ‘frightening into shock’, where society makes the association of discomfort. The choice for a location is therefore unrelated to the discomfort: it is not more or less frightening when in- or outside the city.

It could therefore be concluded that there is no problem for a cemetery to be placed within the city. It is really only the councils who consequently decide to build cemeteries outside the city, seeing the place as a mere place for burial. It is important not to forget that the cemetery also is a valuable place of meaning for many and should therefore be treated as such. Therefore, it would be refreshing to consider the view that the cemetery might be a valuable place for a city to be proud of, as it symbolises their history and connects citizens to past generations.

THE INCREASING DENIAL/TABOO OF DEATH AND ITS ABSTRACTION FROM ARCHITECTURE AND THE SPATIAL DOMAIN

The increasing discomfort with death that sometimes is called ‘denial of death’ or ‘the final big taboo’ had the effect of an abstraction of death from architecture and the spatial domain. Obviously, for the architect and the urban designer this should present a

clear case, as their discipline should aim at creating striking images for any function, including the cemetery.

Coming from a point of view that death should be paid attention to, as equally as we treat life, the task for the designer is to bring back images as well. This means that the cemetery itself should be treated as a valuable place of architecture. As can be seen in some contemporary designs, this is tried out. However, it is more interesting to look at the cemetery as part of the city, where such changes have not been seen yet. If we decide to treat the cemetery as a worthy place, its relation with the city should be accordingly. Therefore, new design solutions need to be researched for the relation between this place and its surroundings. However, it is most important this is done in accordance to ‘the visitor’s wish to remember in private’ as established before.

CREMATION BEING MADE COMMON AND ITS RISING POPULARITY

For a long time burial was the main concept of maintaining the dead in the Western world. This has changed with the arrival of cremation. With burial not having become unpopular (its absolute number has not drastically changed over the last 50 years in The Netherlands) the cemetery is still needed (Van Steen & Pellenbarg, 2006, p. 634). Moreover, with cremation being the cheaper of the two choices, it also indicates that there is a substantial group of people who deliberately choose for burial. For the designer’s task this can then only mean that the place of burial should be a place of value, for which people deliberately choose.

THE IDEA OF STATUS AND THE DESIRE TO OWN ONE’S EXCLUSIVE BURIAL PLOT BECOMING CENTRAL ASPECTS IN THE ACT OF BURIAL

A distinction between cheaper and more expensive places was introduced during Christianity. Where people then bought their ‘best place in heaven’, later on the individual became more important and people instead wanted to be remembered in a particular way. This was often done by showing the status that one had during life. In contrast, in earlier times graves or relics represented something larger, like the value of a society or community.

It is no secret that the freedom of people in the Western world has only increased over time. Therefore, it is not wise to take this away from people: their ability to personalise their grave should thus be retained.

Yet, it is perhaps more interesting to incorporate a more universal value of a society or community again, alongside the personalised freedom people like to have. By adding this ‘larger’ value the cemetery would not only be able to offer individuals a place to grieve, but it would also be able to evoke meaning to a city or a society. If we relate this to the discomfort people have with the cemetery, an interesting point arises. A citizen’s disliking of the cemetery has largely to do with the fact that he has no relation to the place (unless he knows one of the buried). This gap can be bridged by giving the cemetery an additional meaning that is more universal.

UNCERTAINTY AS A DRIVER OF DESIGN AND A DIVERSE SEARCH FOR ALTERNATIVES AND UNDERSTANDING

Recent times have seen a diversity of approaches to the topic of cemetery design. A lot of these are interesting additions that are in fact able to improve certain select aspects of the cemetery, like space efficiency or user comfort. However, a true solution to design with broader themes such as the ‘abstraction of death from the spatial domain’ or the ‘negative associations death produces’ has not been given.

Although the alternatives that have been given and studies that have been done in recent times may not form a proper solution, many of them are nonetheless very useful or thought-provoking when looking at certain smaller aspects of cemetery design and should therefore be used when possible.

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D INTERVIEW WITH MUNICIPALITY

INTERVIEW LIST FOR MUNICIPALITY

This list includes questions, based on the themes and keywords, aimed at the actor 'municipality'. Also included is a minimum level for the answer to be sufficiently informative.

This interview is in Dutch...:

ACTOREN

- Wat zijn de belangen en interesses van de gemeente als actor bij de aanleg van een nieuwe begraafplaats?
 - (positie gemeente, belangen en interesses, kansen)
- Wat zijn de middelen en het doel van de gemeente?
 - (middelen en doelen)
- Met welke actoren is de gemeente in overleg, of zal/kan overleg mee moeten worden gepleegd?
 - (welke actoren, positie, rol in het proces)

LOCATIE

- Welke mogelijke locaties worden overwogen door de gemeente?
 - (locaties, waar, kenmerken, kansen)
- Aan welke kenmerken moet een locatie aan voldoen, naar het idee van de gemeente?
 - (eisen aan locatie)
- Welke bezwaren tegen bepaalde locaties zijn er bekend bij de gemeente?
 - (overige actoren, locatiekenmerken)
- Wat is de invloed van het bestemmingsplan op het kiezen van locaties?
 - (wettelijke invloed, vrije ruimte, ruimtecompetitie)

VISIE

- Wat is de visie van de gemeente over begraafplaatsen? Noodzakelijk of een plek waar de stad trots op kan zijn?
 - (rol voor de stad)
- Is de nieuwe begraafplaats een toevoeging voor de stad, de regio, landelijk?
 - (schaal, bereik, doelgroepen)
- Moet de nieuwe begraafplaats binnen of buiten de stad liggen? En moet deze zichtbaar of onzichtbaar zijn?
 - (inbedding, context, omliggende bebouwing)
- Wat kan (naast rouw, herdenking en historie) de betekenis zijn van een begraafplaats voor de gemeente?
 - (betekenis voor de gemeente, kwaliteit van de plek)
- In hoeverre wordt er door de gemeente in het nieuwe ontwerp rekening gehouden met religie?
 - (welke religies, specifiek of breed)

ONTWERPMETHODEN EN PROGRAMMA

- Hoe kan de gemeente voorkomen dat er over 50/100/... jaar opnieuw ruimteproblemen zijn?
 - (organisatie van ruimte, beheer, hoeveel ruimte wordt er gebruikt in eerste instantie)
- Wat zijn problemen/moeilijkheden voor de gemeente bij het ontwerpen van een begraafplaats, zowel in het algemeen als locatiespecifiek?
 - (moeilijkheden algemeen, moeilijkheden locatie)
- Zijn alternatieve moderne begraafmethoden een optie voor de gemeente? Welke? Zijn er ook nadelen?
 - (welke begraafmethoden realistisch, welke nadelen)
- Hoe kan duurzaamheid een rol spelen bij het ontwerp?
 - (in welke mate, op welke manieren, subtiel toepassen of bewust uitdragen richting stad)
- Hoeveel ruimte is er nodig (in aantal graven en m²)?
 - (getallen)
- Programma van Eisen: zijn er speciale functies/gebouwen nodig? Waar moet de gemeente rekening mee te houden?
 - (inventarisatie functies, onderlinge relaties, gebruikers)

REGELGEVING

- Aan welke wettelijke eisen moet een locatie voldoen?
 - (eisen locatie, wet)
- Wat is er verder belangrijk met betrekking tot regelgeving om te weten? (in praktische zin)
 - (regelgeving, eisen, beperkingen)

DATA OUTCOME OF MUNICIPALITY INTERVIEW

This data is based on:

(Jong, 2008)

Data is ordered according to themes and keywords. Newly found keywords have been added where necessary.

ACTORS

- Interests: considered a service to the city, as well as a necessity, 53% buries in Maassluis at the old municipal cemetery
- Pro / contra: during the feasibility studies, any of these views are left out as much as possible,
- Means: payment of graves ('grafrechten')
- Goals: finish new cemetery as soon as possible (high pressure on old cemetery space), before 2012
- Other actors: engineer company (for the feasibility studies), possibly others later in the process, municipality is able to do this process totally by itself, no project exploiter involved, citizens are represented by B&W

LOCATION

- Possible locations: Wipperspark, Stormbos, Dijk
- Characteristics: all at the edges of the municipality, Stormbos next to main entrance road, Wipperspark and Stormbos have park value, Wipperspark has sport value, Dijk next to water, Dijk not near housing or functions, pipes at Stormbos and Dijk location, Dijk too expensive for municipality, Stormbos is being considered as the most feasible option currently
- Needs: auditorium cannot be built within 50 meters of pipe, heightening needed for decomposition and pollution
- Needs (municipal): feasible in costs, ready as soon as possible before 2012
- Land use plan: can be changed, due to pressure cemetery should be priority nr. 1 at the moment, if this is the case for the council is a different story, land use plan procedure started in 2007 and already finished

VISION

- Meaning: for the council necessary evil, for a lot of public servants something that should be good and beautiful, Cairo has a huge lively cemetery
- Costs: should be payable
- Taboo: innovation should not be too extreme, maybe a biking route, Hofdijk (Rotterdam) contains some park/recreation function
- Religion: Islamite part interest was studied, no interest in this for Maassluis
- Urban fabric: rather outside city and invisible, but new possibilities are welcome (opinion of project leader, not necessarily the council), consider future development: what is next to the cemetery in 50 years
- Scale: meant for the city really, no cremation either

DESIGN METHODS AND PROGRAM

- Space problem: clearing of graves, setting a design time until 2050, re-evaluation after this period, population is growing still, but this will stop in a couple of years
- Design problems: capacity, noise, flora and fauna, heightening, integral process, location challenges
- Other burial techniques: if good solutions on several aspects, yes, in Germany huge new burial pyramid project, Dordrecht cemetery functions like a factory
- Sustainability: how is a big question, perhaps in the use of materials
- Program: auditorium, maintainer, 30.000 m2, 8000 graves (of which 3300 family graves)

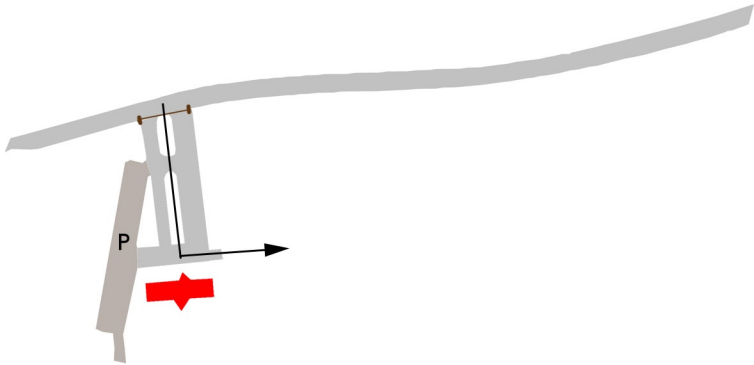
POLICIES AND REGULATIONS

- Law: cemetery is necessary by law, Wet op de Lijkbezorging can be found on the Internet, noise < 45 dB

WHO ELSE?

- Talk with Robin Lagrau (cemetery proprietor)

E STUDYING CEMETERY PRECEDENTS (AN ANALYSIS
OF 6 DUTCH CEMETERIES)



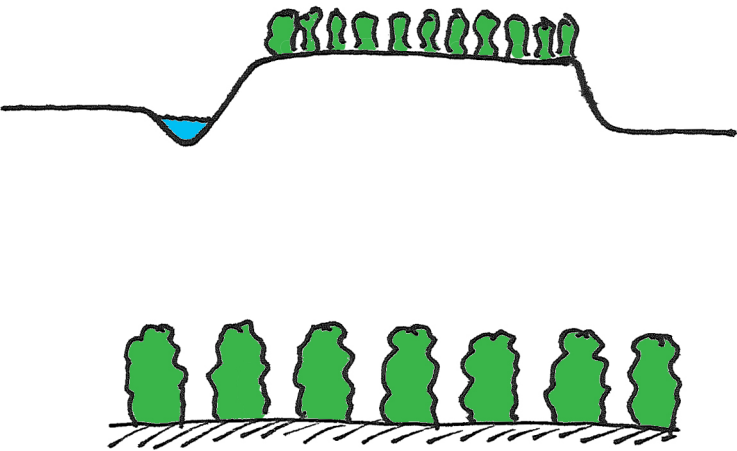
- entrance ritual is very much separated from the experience of going the burial grounds
- separate axis for entering the burial grounds



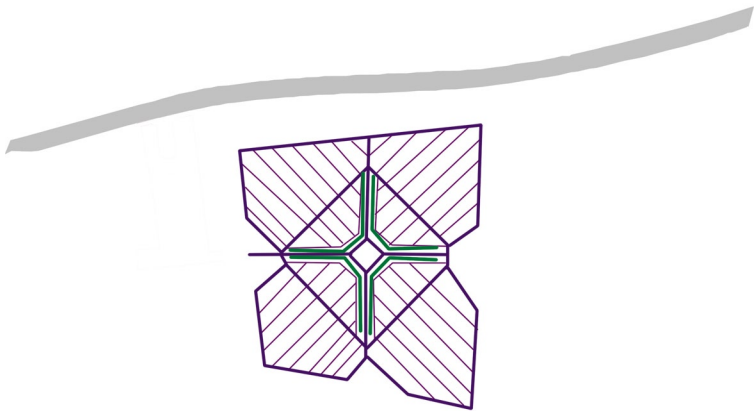
top: the entrance: sight towards the auditorium, with parking on the right-hand
bottom: from the parking there is an axis towards the burial grounds entrance, with auditorium on the right-hand



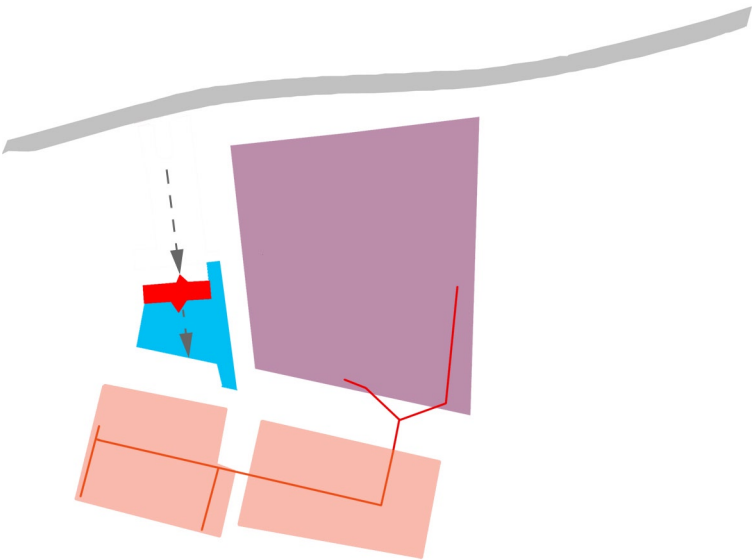
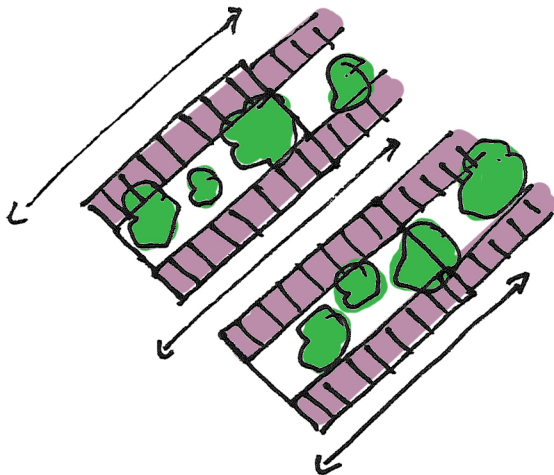
- next to a road that is not used a lot
- edge of the city
- continuous separation from the outsides
- edge is dominated by rhythm, order and geometry: equalness
- slight sight through the edge towards the outside
- as with most cemeteries, it is located higher (due to groundwater levels): when looking outside this is visible



the edge of hedges is cut in such a way that it presents a very rhythmic, ordered and geometric image



- divided in 4 compartments
- clear geometric main path structure of paths
- very uniform, and ordered
- equality
- on each side of the path a row of graves
- trees inbetween the rows of graves



- auditorium separated from the burial grounds
- small pond only visible from within the auditorium
- auditorium forms the bridge between the entrance and the burial grounds
- service routes have cleverly been hidden behind hedges



the auditorium takes a dominant place in the entrance

- size of the burial grounds: approximately 22.500 m2
- main paths: 3 meters wide
- graves: 1,2 x 2,1 meters + margins

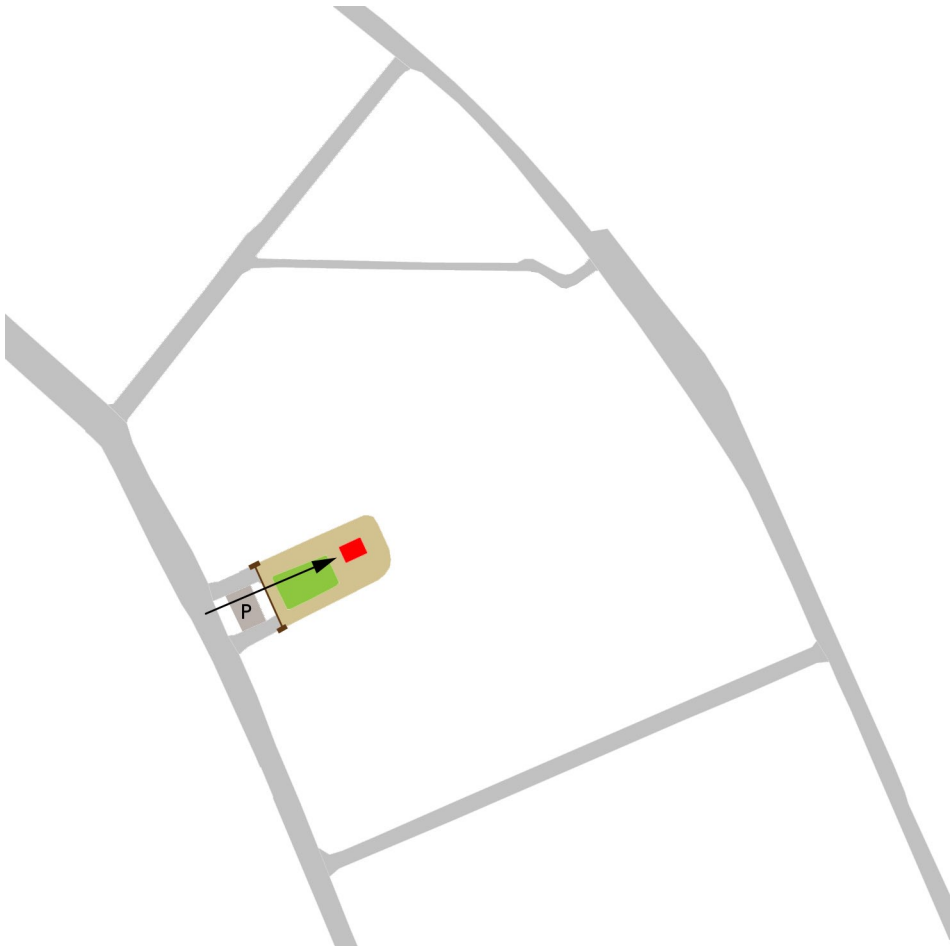
TIME AND CLEARING

- still a relatively new cemetery (1985)
- divided in 4 segments, which are filled after each other
- empty segments planted with high-growing grass
- methods of re-use: unknown as of yet, due to the cemetery being very young
- presumably no new land to be bought for extension

- continuous separation from the outsides
- edge is dominated by rhythm, order and geometry: equalness
- slight sight through the edge towards the outside
-
- in between the rows of graves trees have been planted, providing comfort and a sense of shelter
- in the future these trees could transform into monumental vegetation



top: the urn walls are striking and have been placed geometrically in the plan
bottom: the trees provide comfort and a sense of safety and shelter



- entrance opens itself to the city
- formal entrance: one leaves the car, enters through the gate, and looks at the auditorium, after which the burial grounds show themselves to the user



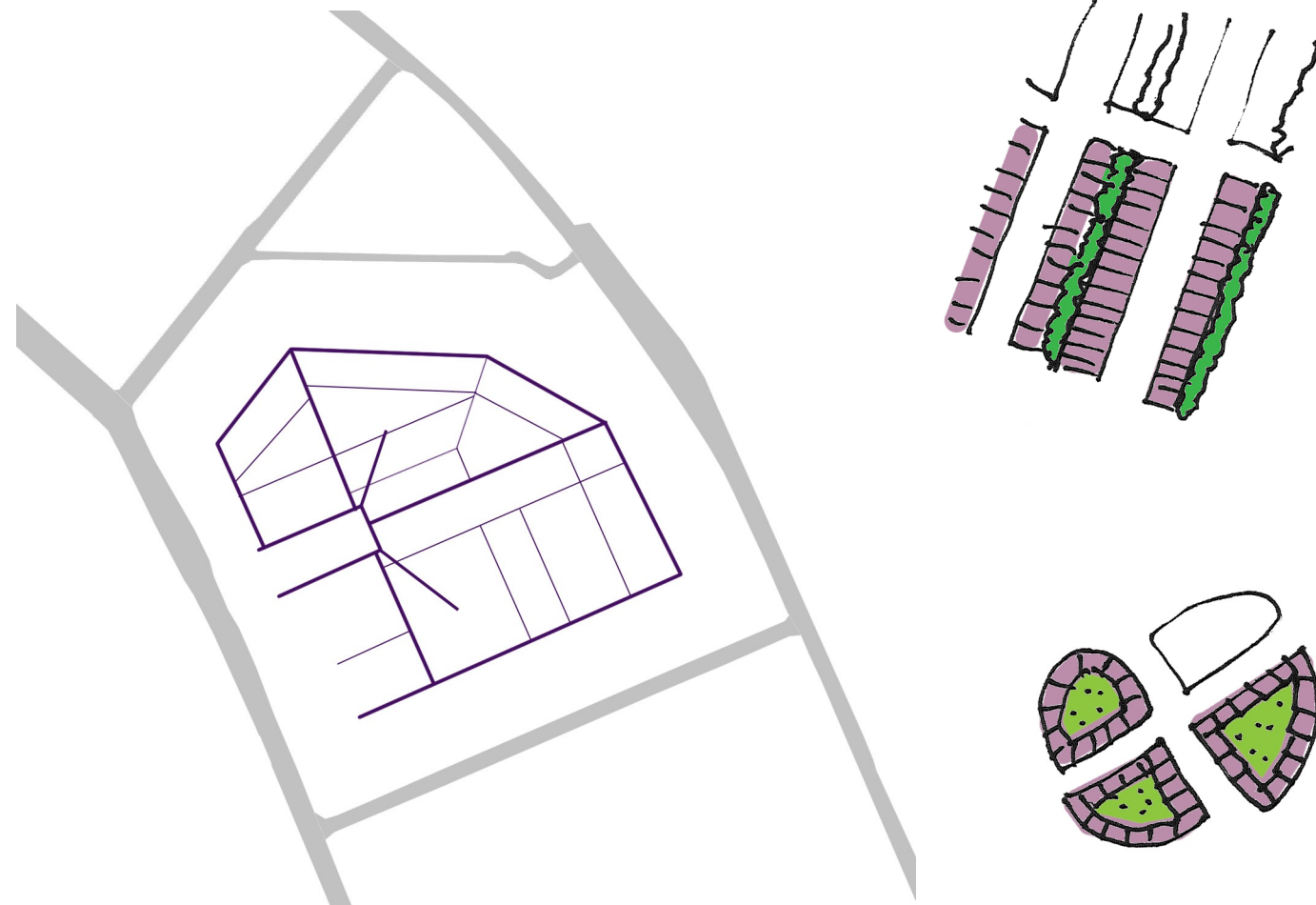
82 the entrance is very formal: one leaves the car, enters through the gate, and looks at the auditorium, after which the burial grounds show themselves to the user



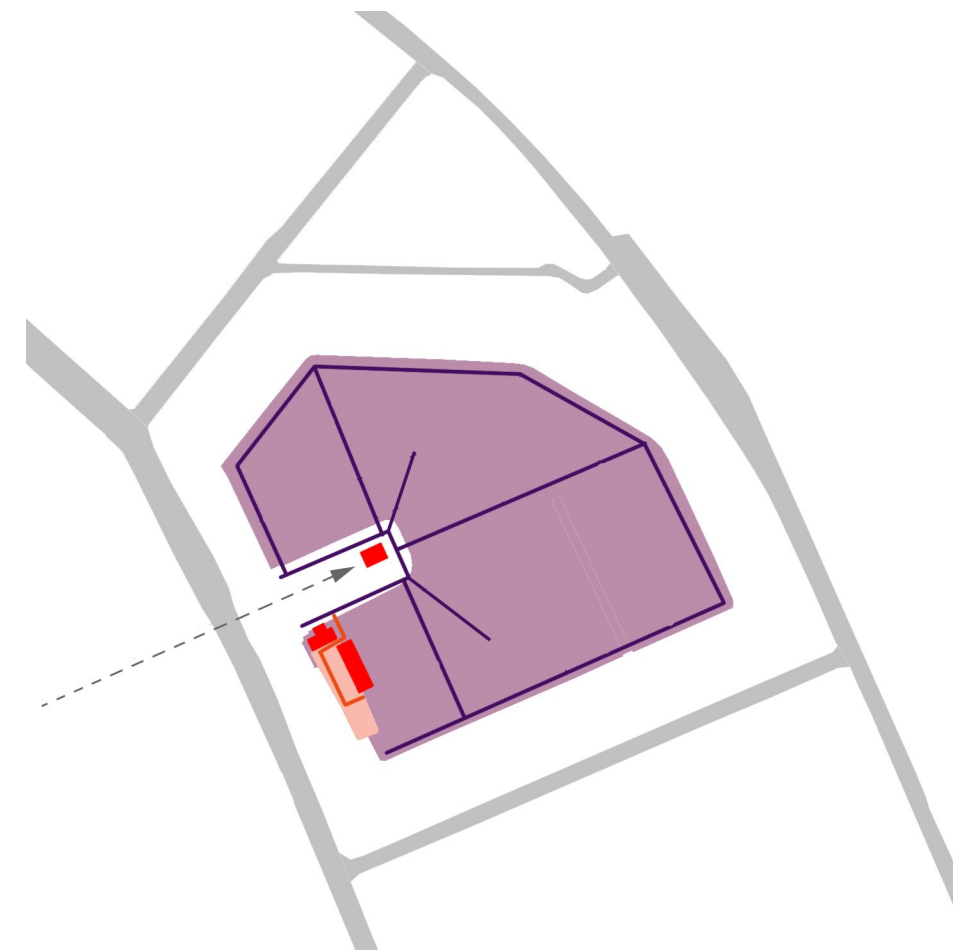
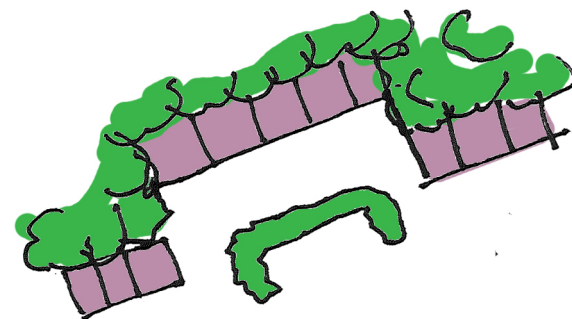
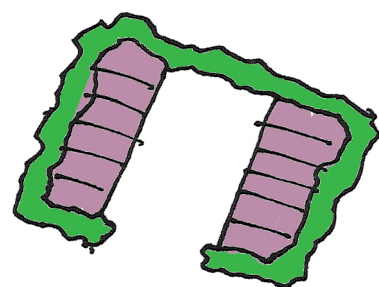
- next to four frequently used roads
- amidst Technical University buildings
- originally built outside the city, but swallowed by it over time
- although the entrance is made very visible, the rest of the cemetery is separated from the fabric by a large buffer, including trees, water and small park-like zones



looking from the outside, the cemetery is well-hidden



- the cemetery's path structure is radial in its basis, making it easy to reach all parts of the cemetery when one has entered the cemetery
- within the clear main structure a lot of freedom is present in the sub-structures (as can be seen in the several sketches of notable grave lay-outs)



- the auditorium dictates the cemetery's image, due it being central
- the auditorium forms a recognisable icon for the access of the cemetery due to it being integrated with an axis in the urban fabric
- the auditorium is in the middle of the radius of paths, therefore: 1. forming an orientation point when one is in the cemetery; 2. providing an optimal starting point distance-wise to the graves when one leaves the auditorium
- the service spaces have been put to the side, close to the entrance, and out of sight
- the service spaces are accessible from two sides: the entrance and the burial grounds



the auditorium has a central function within the design⁸³



- although not arranged in such a way that they attain a strategic position, the multitude of types of trees that have aged, create a strong sense of place (in the older areas of the cemetery)
- views to old architecture (the old tower of the Faculty of Architecture) enhance the feeling of a place that has a long history

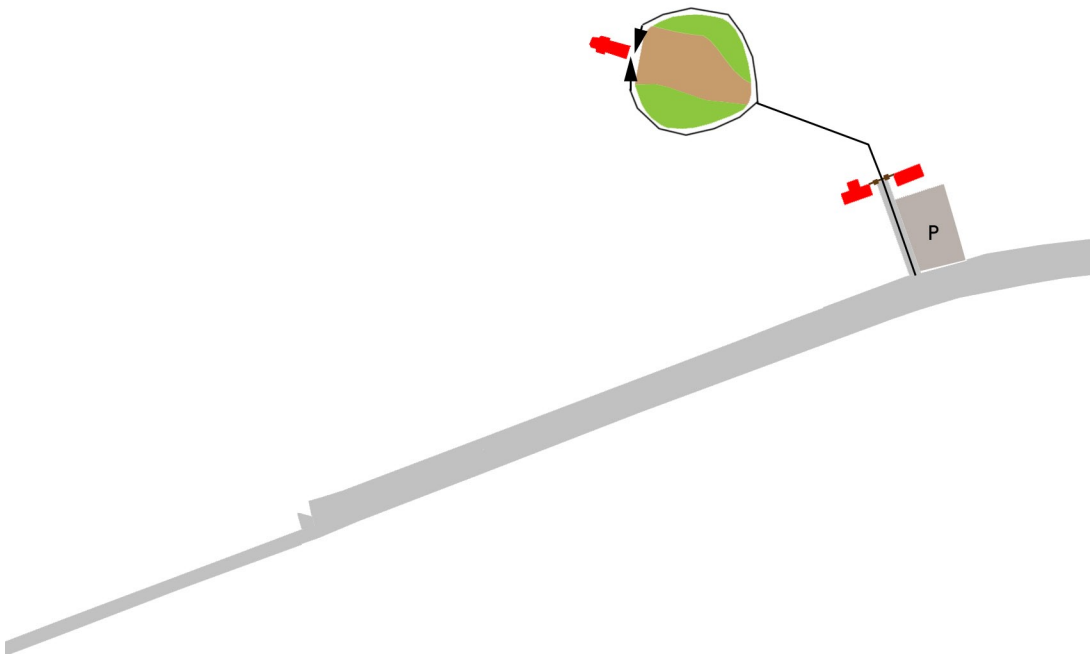


top left: view to old architecture; top right: lanes of old trees; bottom right: a multitude of types of trees

- size of the burial grounds: approximately 59.000 m2
- main paths: 3 meters wide
- graves: 1,1 x 2,2 meters + margins

- contains sections of different times: presumably extensions have been made over time
- family graves and normal graves
- clearing used

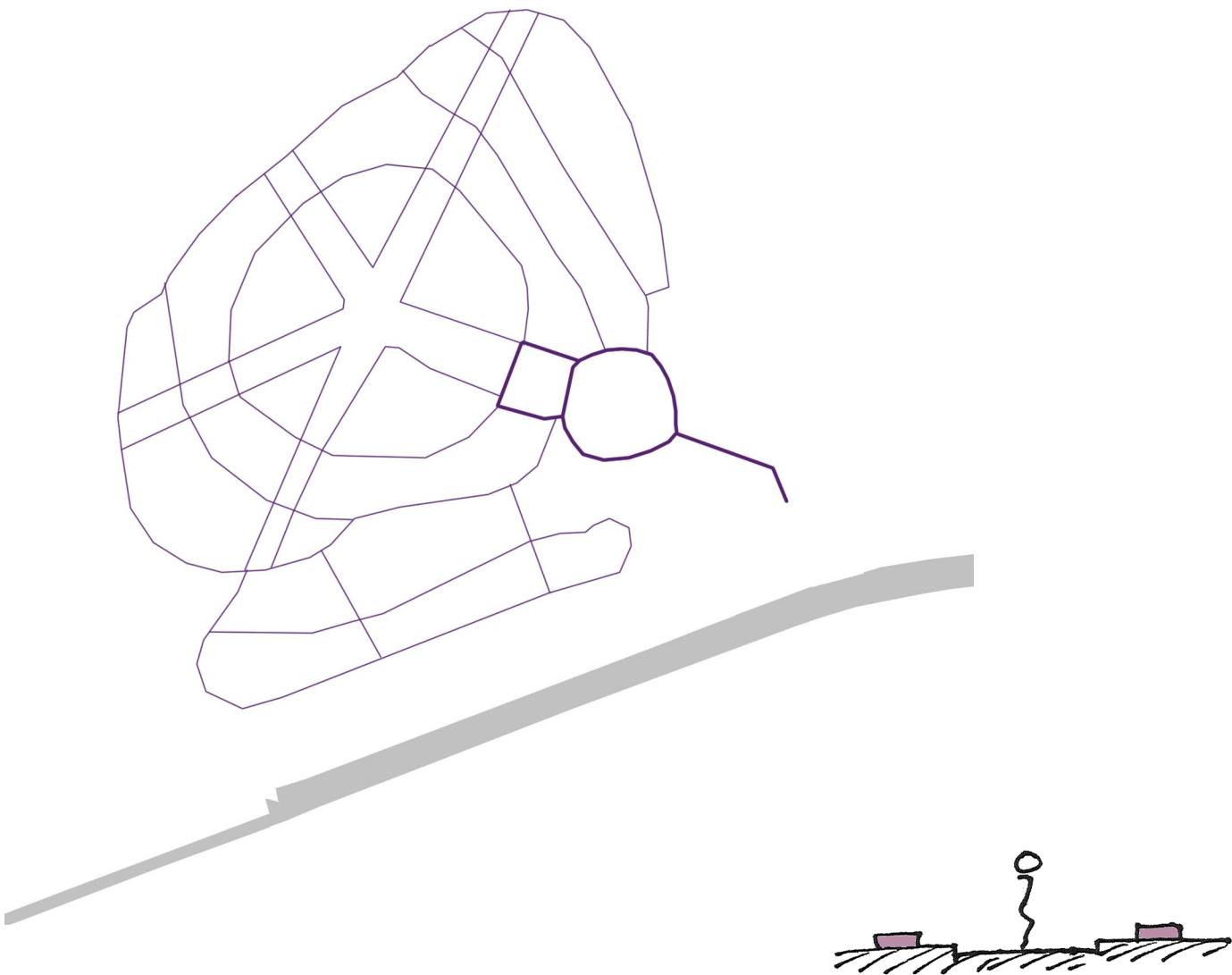
- long procession towards the burial grounds
- parking to the side
- pronounced gate to enter the terrain
- long walk towards the chapel
- when nearing the chapel the graves become visible



left: the long walk towards the chapel creates a strong image
right: the entrance gate is very pronounced: it is clear something is happening here



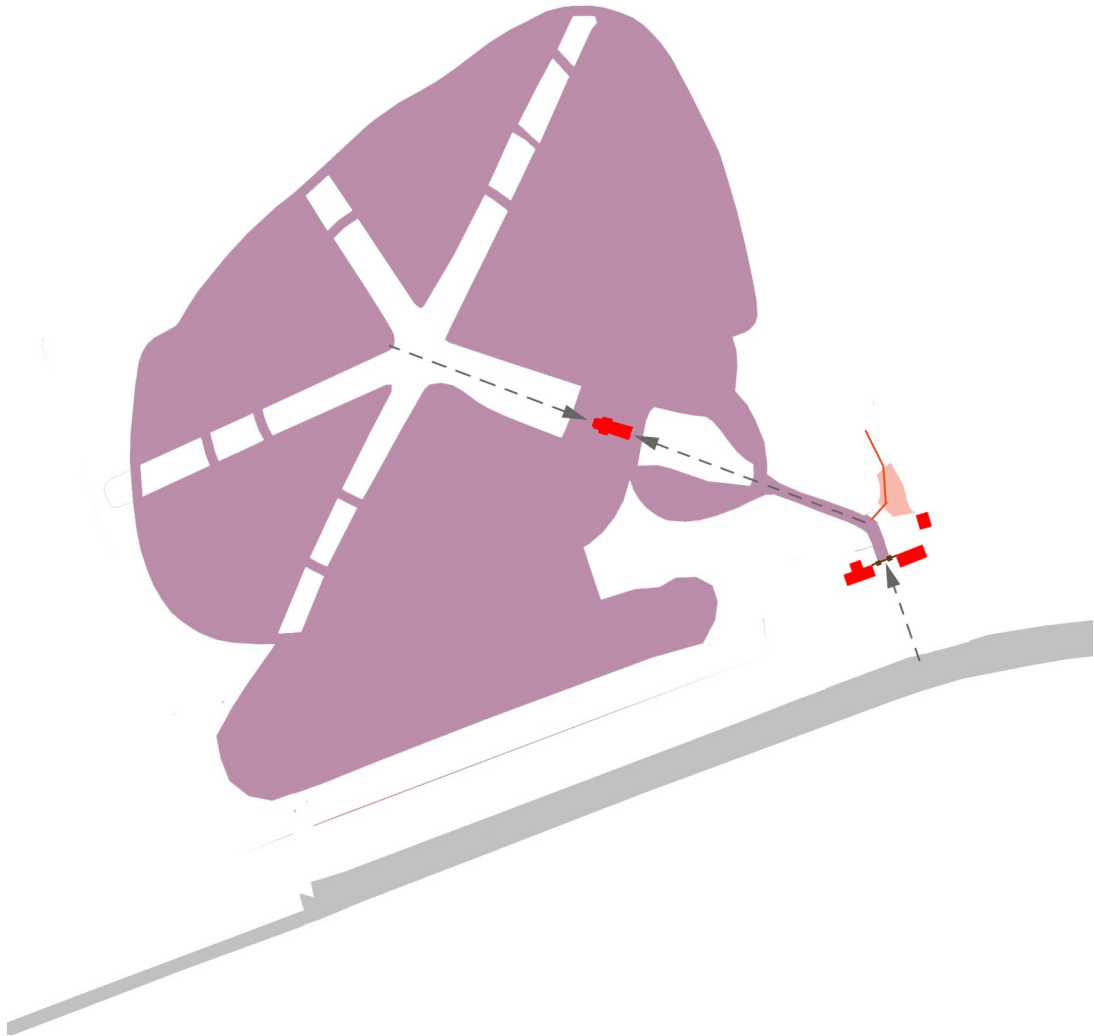
- there is not a pronounced edge: the graves are placed in the existing forest, with subtle paths cutting through
- only a small fence marks the true edge of the terrain
- the forest hides the cemetery from the road



- the paths are layed out like winding paths through a forest
- a subtle carving out gives an architectural expression to the plan, rather than it just being a route: this divides the burial grounds and the paths just a little more
- while there is a structure (using strong sight-lines, see further on), there is not a strong hierarchy in the path-system itself
- all stones are equal in size and design



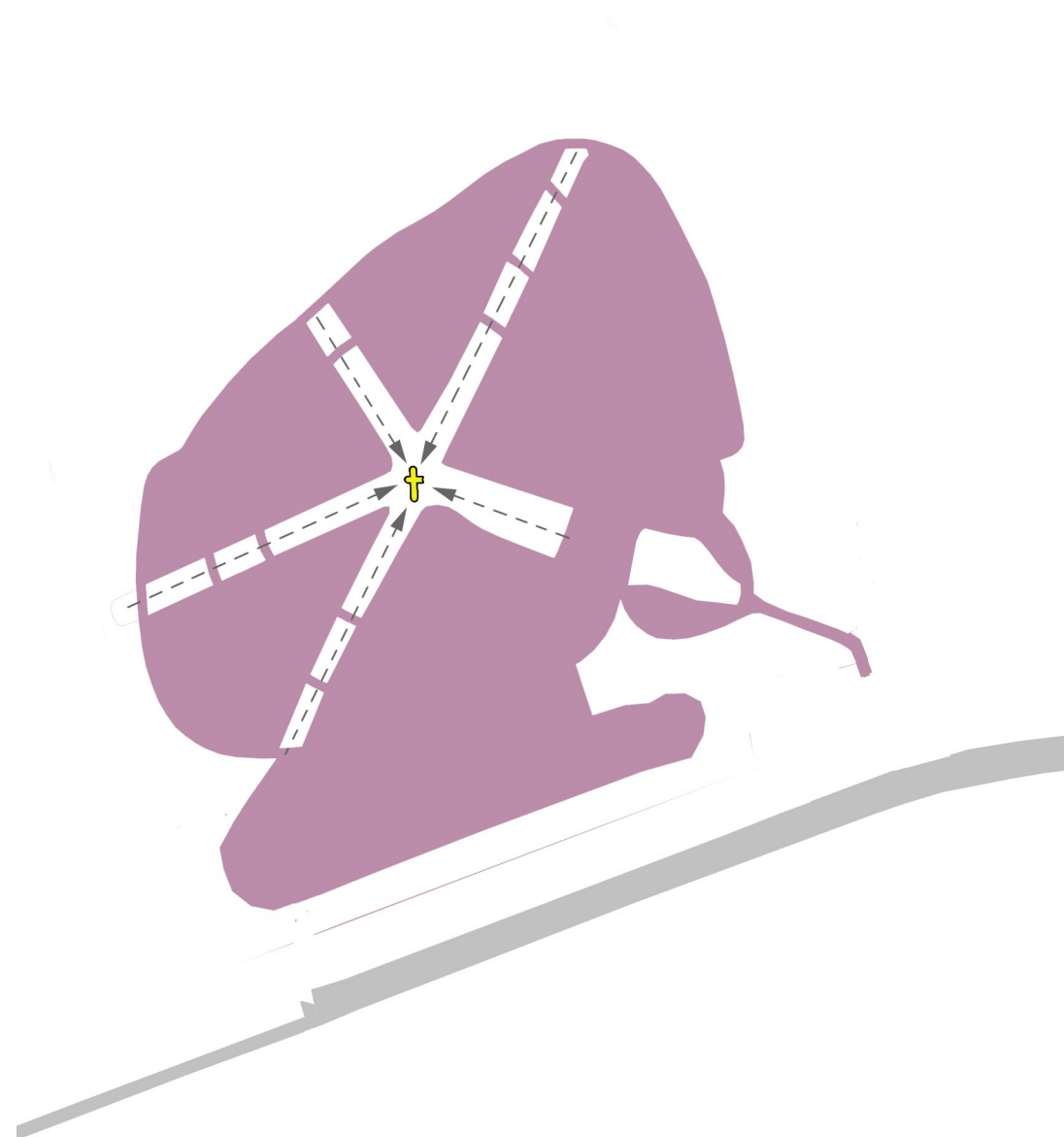
the cemetery truly feels like a forest with stones placed in



- the entrance buildings form a true gate to the forest: after entering and going further into the woods one enters a truly different place, leaving the familiar world
- the chapel helps enhance this almost spiritual idea of the cemetery
- while not visible from everywhere, the chapel is placed strategically in the entrance route, and is visible from certain points in the cemetery
- the service spaces are linked to the cemetery as well as to the path near the entrance



the chapel forms a spiritual image and works as orientation point in the plan



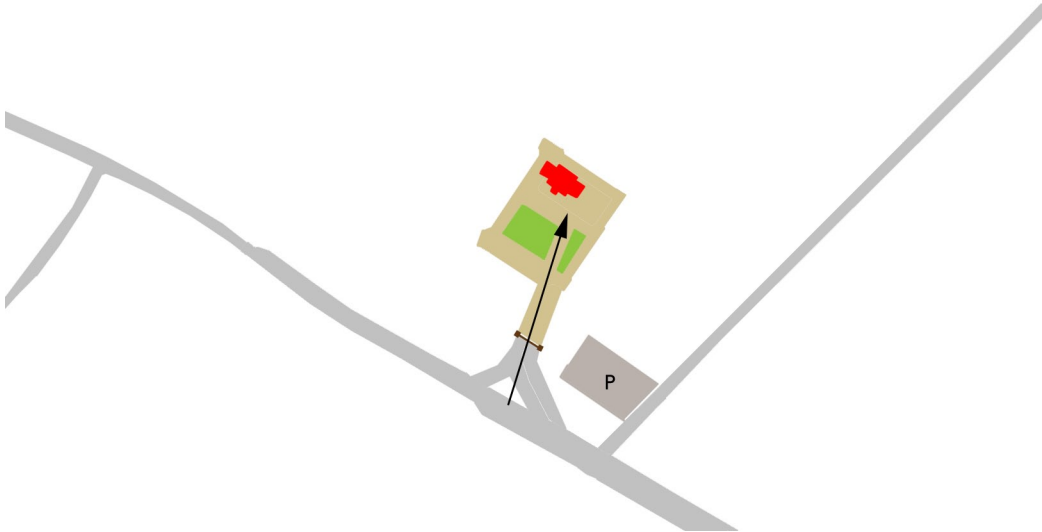
- most notable is the Holy Cross that is the central object of this plan
- five axes are cut through the forest, showing the Holy Cross
- the Holy Cross enhances the spiritual/religious undertones of the cemetery, and almost creates the image as if the place that one is in is heaven
-
- the pine forest and contrasts between closed/open spaces create a strong sense of character and a soothing atmosphere that gives this place its identity



the Holy Cross is a focus point in the design, with five axes providing sight-lines to it

- size of the burial grounds: approximately 220.000 m²
- the large paths are 3 meters wide
- the typical small paths are about 1-1,5 meters wide





- from the road the auditorium is visible
- small gate indicating entrance to the terrain
- one does not enter the actual burial grounds after entering the gate
- the entrance is the only diagonal in the old design by Wim Boer



the auditorium and fence/gate as seen from the road



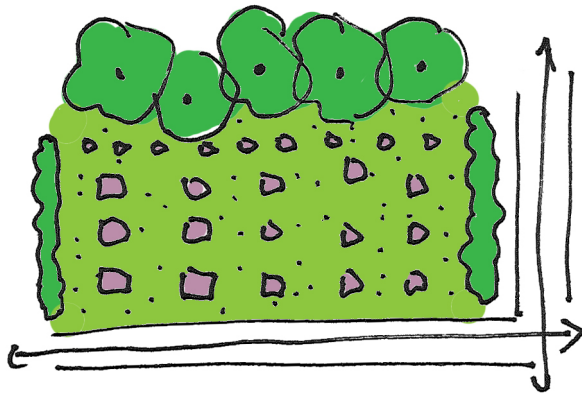
- the forest forms the edge to the cemetery
- the open spaces are cut out of the forest
- one can look into the cemetery somewhat from the road, however an edge of trees is present



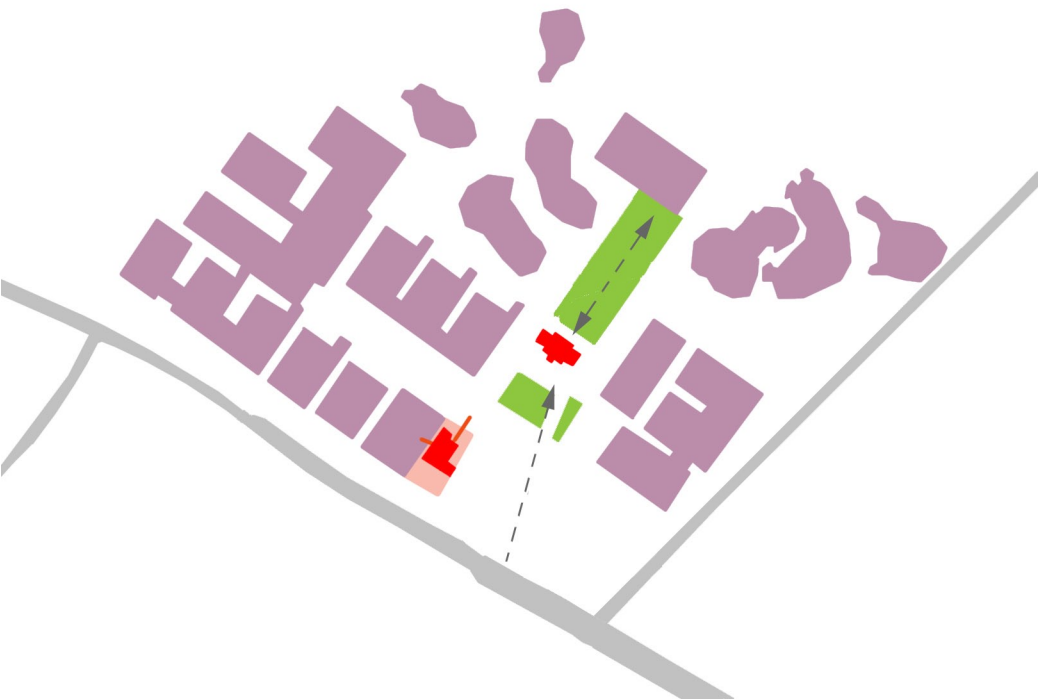
the forest is still very visible in this cemetery



- in the old part of the cemetery (by Wim Boer) there is just one level of hierarchy in the pathing structure, with these giving access to the fields of graves
- the grave fields are open without any path structure through it, showing all the stones as equal
- the site is divided into 'small chambers' of open space inbetween the woods



no path structure: the stones all show as equal



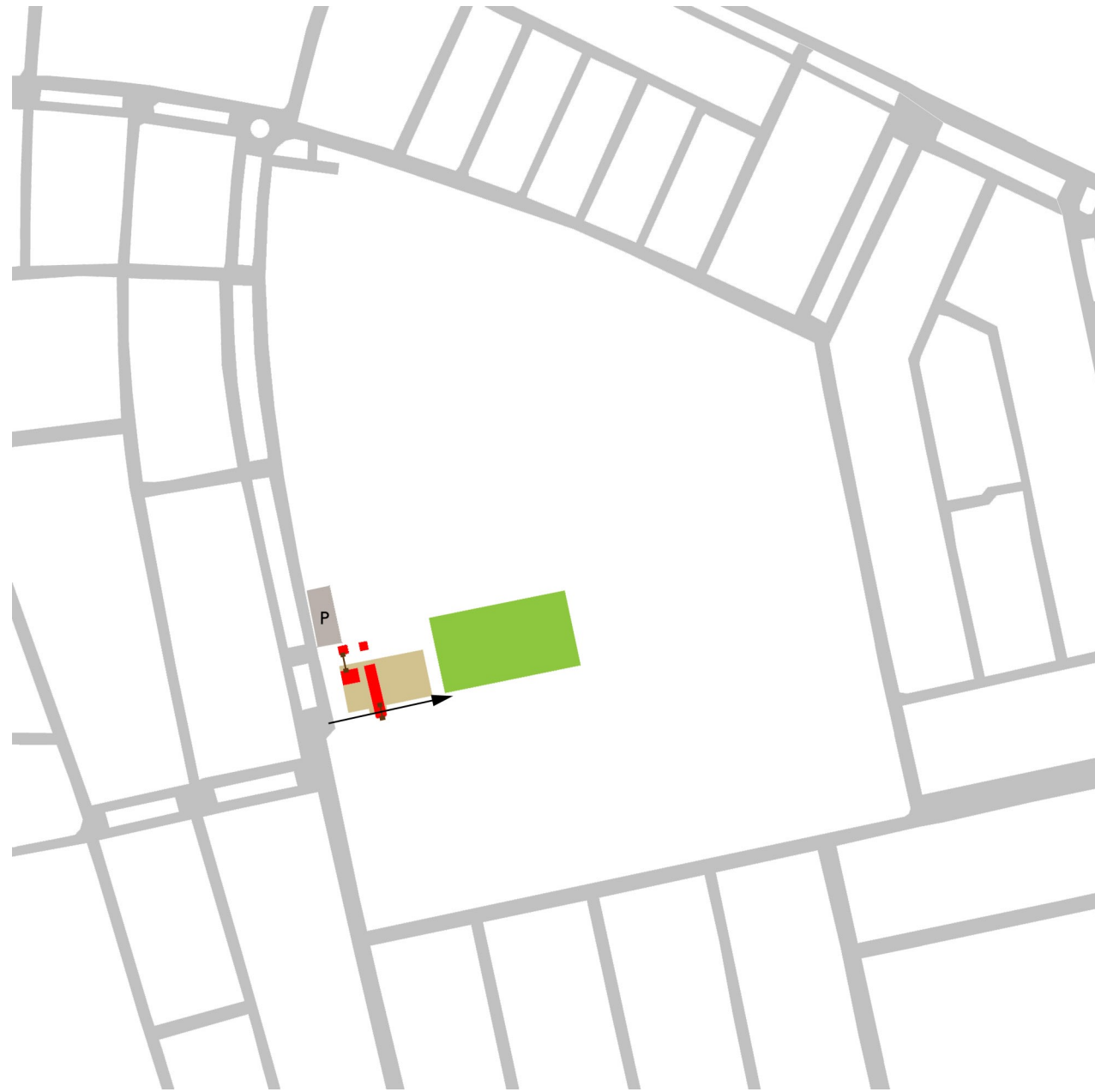
- the auditorium is separated from the burial grounds, and also hardly visible from the burial grounds
- from the auditorium a long view over empty grass is made
- the auditorium forms an iconic image during the entrance, and is quite a contrast to the style that is seen in the burial grounds
- the service spaces are connected to the large open central space, as well as to the burial grounds



the auditorium as seen when past the gate

SIZE AND MEASURES

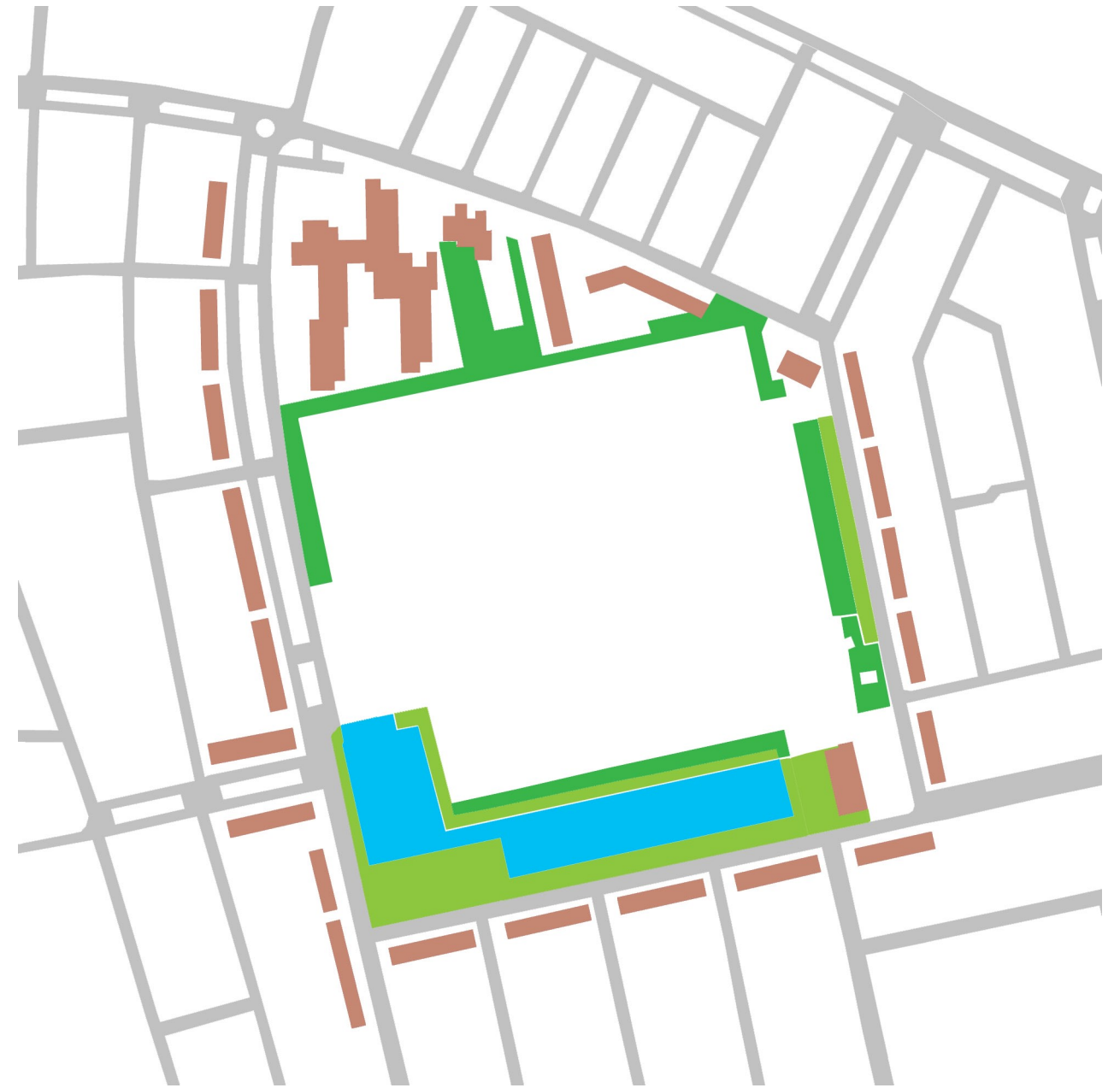
- size of the burial grounds: approximately 89.000 m2



- the entrance is clearly recognisable from the surroundings
- the entrance building complex forms the entrance gate, as well as housing the auditorium
- when past the gate one stands on a large square overlooking an even larger green spot



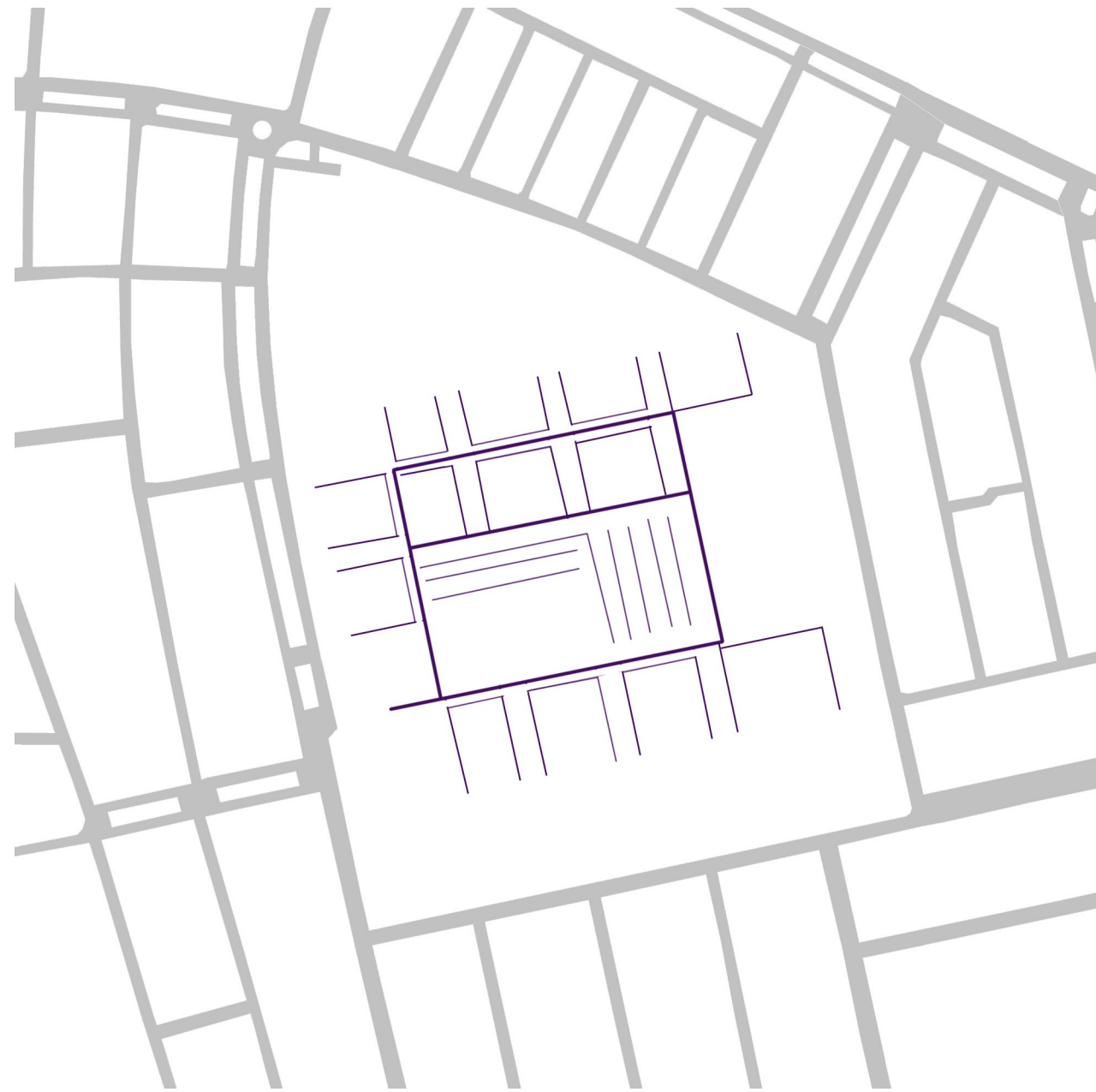
the cemetery is clearly recognisable from its surroundings,



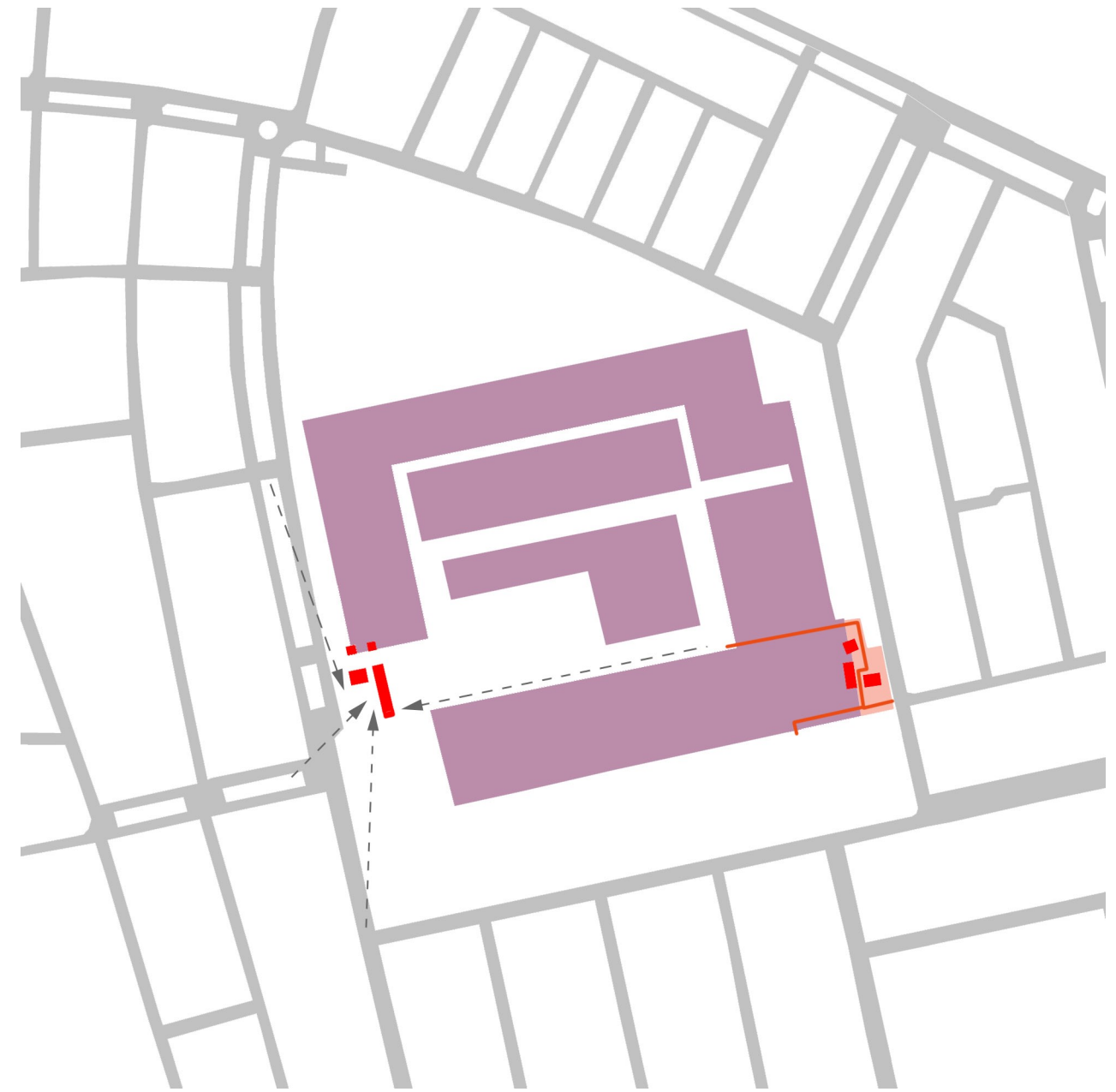
- very much an urban cemetery, this is surrounded by roads as well as several types of buildings on all sides (including a school looking into it)
- while on the north and west sides the edge is more hiding, the west and east sides' edge have gotten large attention
- a notable building, a large pond of water, as well as the trees in the cemetery form a clearly recognisable image that is not so much hiding the fact that a cemetery can be found here, while at the same time making it a distinct place



the pond and the entrance building, with the cemetery trees in the background make this a clearly recognisable place in the urban fabric



- there is a very simple routing system that makes the plan design very clear
- one main circular routing system
- sub-clusters within this system
- the sub-clusters include variations in their grave plot arrangement



- the entrance building functions as: 1. an architectural eye-catcher; 2. an entrance gate; 3. an auditorium; 4. service buildings; 5. orientation point in the plan; 6. focal point to watch out over the space
- the service spaces are placed on the less prominent western edge, where they have their own entrances and connections to the burial grounds' main routing system

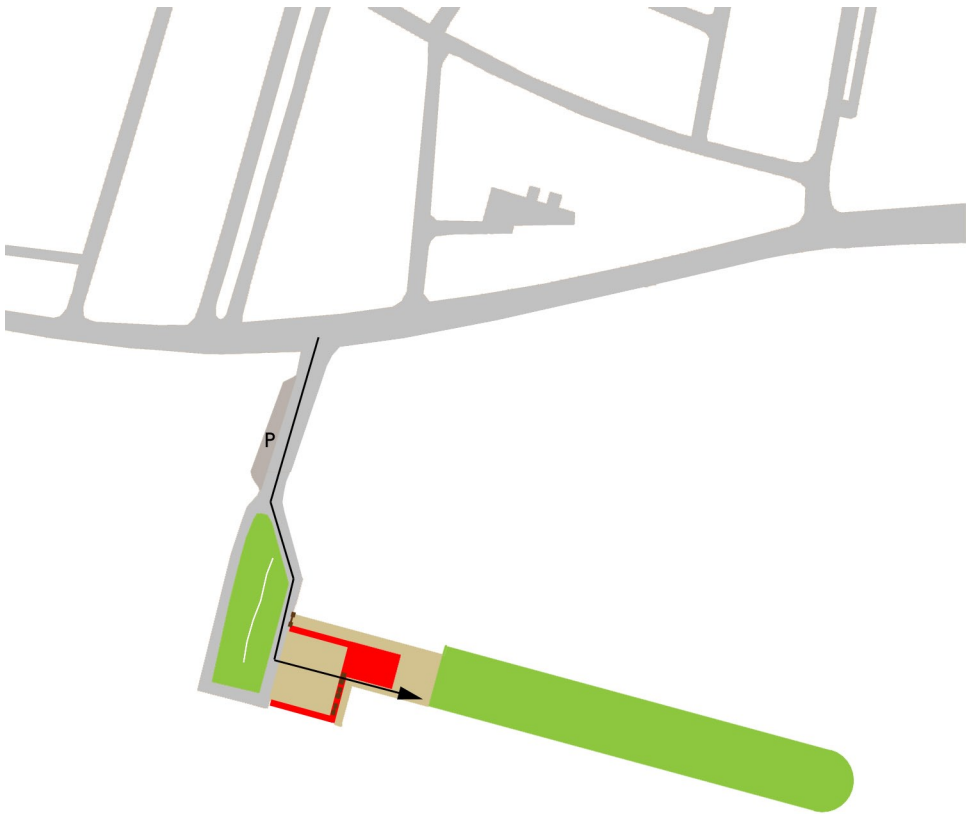
- the tree in front of the entrance building is an impressive image
- the whole place has an atmosphere that can be associated to ancient Roman ruin gardens, where in the open fields large trees are scathered amidst the stones
- the city is very much visible from within the cemetery, thereby reminding the user that it really is an urban place



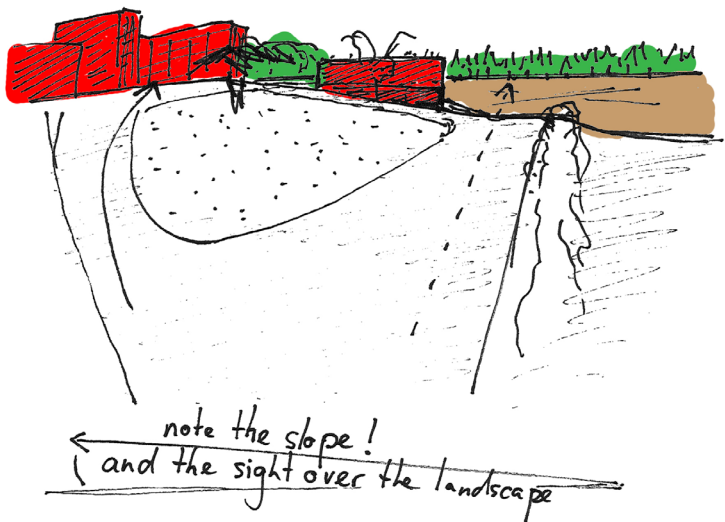
SIZE AND MEASURES

- size of the burial grounds: approximately 81.000 m2





- the procession of this cemetery is carefully crafted
- one enters through the entrance markers next to the street, leading into the parking
- from here, one slowly starts to see the space in front of the entrance building
- the entrance building slowly emerges
- here, the effect is even more dramatic due to the subtle slope of the landscape, with the user walking towards a higher place
- the entrance building is a large complex, including the auditorium and a formal waiting place in front of it
- when one has passed through the gates in the entrance building one is confronted with a dramatic axis, that looks somewhat similar (but smaller) to what was done in Versailles



top: the dramatic axis that is seen when one has walked through the entrance building
bottom: the sloping terrain before the entrance building



- the cemetery is placed on the edge of the city
- when one is close enough to some of the edges, or when one approaches the entrance, one can look out over the natural landscape of the Utrechtse Heuvelrug
- the edge is formed by local trees and provides a powerful background curtain that is always present in the view of the user when walking throughout the cemetery



the powerful wall of forest trees that is always present in the view of the user



- the routing system is very simple and structured, with the main paths forming a grid
- within the grid the sub-structures are placed
- although quite large, the cemetery manages to find a perfect struggling tension between the grand/monumental and the intimate/personal
- what happens here is that people are able to be free in their personal touches to their grave, but the variety is controlled by the powerful that is omni-present: this is a great way to draw away attention from stones that are sticking out like a sore thumb!
- the large site becomes intimate due to the multiple layering of hedges, trees and the large edge



- the auditorium is the focal point of the design, dominating the axes of the plan
- the entrance building is both an entrance gate and auditorium, as well as an architectural piece
- this cemetery has the potential to be seen as sight-seeing place within Hilversum
- the service spaces are attached to the entrance spaces as well as to the cemetery



looking back to the auditorium from the other end of the axis

- size of the burial grounds: approximately 102.000 m2

