

New Dutch Waterline



European Union
European Regional Development Fund



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1. INTRODUCTION

For over six years the Projectbureau of the New Dutch Waterline is involved in European interreg-projects that focus on the development of the different parts of the waterline: Repair, Ascend, Collabor8, Manage+. In the course of these projects many examples of good practises were met and highlighted.

This led to the wish for a more structural exchange of knowledge and practises between partners in Europe that deal with the same matters in developing military heritage. The New Dutch Waterline then took the initiative to find European partners to participate in the project AtFort.

The New Dutch Waterline is developed through the principle 'Preservation through Development', a policy principle formulated at the end of the previous century for all of the Dutch cultural heritage. According to this principle (military) heritage sites are not just restored to their original state but also new economical functions are sought for buildings and grounds. Thus the heritage sites are equipped with new social functions, put back in society and maintenance of the premises guaranteed by profits of economical exploitation.

In the last ten years many buildings and grounds were restored and supplied with new economical functions (chapter 5). The experiences gained can be exchanged with the other partners. They range from developing ideas and plans in dialogue with local stakeholders, restoration techniques, dealing with bats and implementing facilities, to methods of calculating maintenance and developing a fort through the concept of DCM (developing, construct, maintenance).

Recently the concept of sustainability becomes more important: reducing energy use, water and waste and thus decreasing the costs of exploitation. Examples are geothermic energy and use of rainwater.

What is in this report

This report is written on base of the knowledge of team members of the Projectbureau NDW. A draft was discussed in the RSG on 13 september 2012. The results of this meeting were added in this report.

As the NDW comprises over 55.000 ha, 5 fortified cities, over 50 forts and over 1000 elements of the inundation system only the parts are described over which good practises are known or questions remain.

Good practises, questions and possible contributions for the ateliers are described in chapter 3.

Chapter 4 deals with some of these conditions as far as it concerns a good practise or question.

Over 50 sites have a new function and use. An overview of multifunctional use is given in chapter 5.

In chapter 6 governance models are given for three existing types ranging from pure private to entirely public governance. Also the cooperation model is mentioned. The governance model of the National Project NDW is described in chapter 2.

Chapter 7 gives the report of the Regional Stakeholder meeting and chapter 8 gives available literature on different topics.



2. GENERAL DESCRIPTION NEW DUTCH WATERLINE

2.1 History

The New Dutch Waterline was a military line of defence that extended from the former Zuiderzee near Muiden (now IJsselmeer) to the Biesbosch (rivers Rijn and Maas), approximately 85 km long. The Line was established as a protective ring of a 3–5 km wide zone of inundation areas around the Dutch cities of Muiden, Utrecht, Vreeswijk and Gorinchem to protect the economical and financial heart of The Netherlands.

First plans for the NDW were made in the time of the French occupation, end 18th century. Cornelis Krayenhoff, director of the Hollandse Fortificatiën (Dutch Fortifications) wished to move the Old Dutch Waterline (situated west of the city of Utrecht) to the east of Utrecht and further strengthen the Waterline. Napoleon Bonaparte approved the idea but it was not executed under his rule. After the fall of Napoleon the work was carried out by order of king Willem I. Under supervision of Krayenhoff the works started in 1815 and lasted until 1870. Thereafter the line was regularly improved and adjusted to new weaponry and military strategies. In WW2 the concept of a waterline as defence system proved to be useless and was abandoned.

Building periods:

- *1815 – 1840: construction of canals, sluices and defence works at accesses

- *1840 – 1860: construction of bombing-free buildings. At main accesses tower forts are built: round towers of heavy brick masonry.

- *1860-1870: new lines of fortifications around the cities of Naarden and Utrecht because of longer ranging guns.

- *1870 – 1885: improvements after the first mobilisation of the line in 1870 that showed a score of weaknesses.

- *1885 – 1918: adjusting forts to the explosive shells. Lowering tower forts, raise earthworks, constructing concrete shelters and casemates.

- * 1918 – 1940: more concrete buildings, steel turrets.



Most important military elements of the Waterline are the 10 inundation areas, 3-5 kilometres wide. Water to inundate was supplied by the Zuiderzee/IJsselmeer in the north and the rivers Linge, Lek and Waal in the south. A vast system of canals, sluices and dykes enabled inundation of areas tens of kilometres away of the inlets of water. This system consists of over a thousand different elements to make it function. Water inlets, accesses through the inundated areas (roads, railways) and higher elevated areas were protected by forts and other defence works. These military buildings are nowadays the most striking remnants of the waterline and subject of redevelopment.

Around the forts concentric areas of 300, 600 and 1000 metre were military zones to supply open shooting zones: only wooden buildings that were easy to remove or burnt down were permitted. These 'forbidden areas' had great impact on landscape planning until the sixties when military law was abolished.

The six fortified cities of *Muiden, Weesp, Naarden, Nieuwersluis, Woudrichem* and *Gorinchem* are noticeable parts of the NDW.

After WW2 the about 60 forts were one by one abandoned by the ministry of Defence. Nowadays only 2 forts are in permanent use by the Defence administration and the last three forts are handed over for redevelopment.

Some forts are bought by private companies. Around 20 forts are purchased by nature conservation organisations. Other belong to provincial or communal organisations and to foundations for protecting the specific fortress.

The artificial works of the inundation system are mostly owned and maintained by water boards.

2.2 Protective status

National Landscape

In 2004 the NDW was designated as a National Landscape. Regulations and funding were available for protection. In 2011 the rightwing government has decentralized the policy for national landscapes to the provinces. The status of the existing national landscapes is now (mid 2012) unclear.

National Monument, provincial, communal

The NDW is designated as National Monument in 2010. The national protection extends to the provincial and communal bodies that have to make regulations in their zoning plans for protection of the different parts of the NDW. Removing or degradation is forbidden.

Nominated Unesco World Heritage List as extension of the Stelling van Amsterdam

In 2011 the NDW was nominated on the Dutch Tentative List of the Unesco World Heritage Sites. This nomination was approved by the national government.

The nomination to Unesco organisation is expected after 2015, possibly in 2016. A siteholder is yet to be appointed. The period of the next years will be used for compiling the nomination file.

2.3 National Project New Dutch Waterline

Description

In 1999 the nota Belvedere formulated the national policy on preserving cultural heritage. Credo is: preserving through development. The New Dutch Waterline is one of the largest projects mentioned in the nota and the only national one.

Protection of the qualities of the Waterline is also guaranteed in sectoral national policy as national spatial planning and nature conservation planning.

In 2000 a Steering Group and the Projectbureau were set up to implement the National Project New Dutch Waterline. First mission was to sketch a perspective for the development of the Waterline.

In December 2003 this *Linieperspectief* was signed by the national government and accepted by the regarding provinces.

In 2004 the Steering Group NDW published *Panorama Krayenhoff. Linieperspectief*¹. This overall-vision of preservation and development was and still is the base for all planning regarding the New Dutch Waterline. Central theme is to foster and guard the coherency of the development of the Waterline. For indeed, the Waterline extends over a large area and contains many subsites, the period of reconstruction is long lasting and the number of parties involved is numerous.

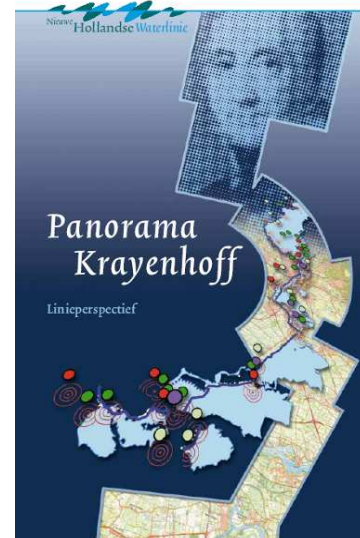
This *Linieperspectief* aims at the realization of the 'typical line profile'. This consists of a recognizable 'main defence line' (backbone of the Waterline), flanked by open areas (former inundation areas) east of it and more condensed landscaped and urbanized areas west of it. In some parts of the waterline the original landscape is too fragmented to be restored: at these places focus is directed on the preservation of the artefacts (forts etc).

In order to realize this perspective the main program is divided in 7 subprogrammes or 'envelopes'. For these envelopes the perspective is more specified. The five regarding provinces are addressed to carry out the projects in the envelopes.

In 2005 the Management Agreement NDW was signed by five ministries² and five provinces³ to give the *Linieperspectief* a legal basis. One of the agreements was to compile implementation plans for each envelope. In this implementation plan vision, spatial planning, maintenance and exploitation would be specified in relation to each other, leading to concrete implementation projects inclusive the necessary finance.

In 2006 an overall implementation program⁴ was accorded containing implementation ambition, strategy, envelope programs and financing strategy.

The three formulated ambitions are:



a recognizable Waterline profile



the Waterline in minds and hearts



socially and economically sustainable use

¹ Panorama Krayenhoff. Linieperspectief. Stuurgroep Nationaal Project Nieuwe Hollandse Waterlinie, Utrecht, 2004

² ministry of Agriculture, Nature and Food quality, ministry of Education, Culture and Science, ministry of Defence, ministry of Infrastructure, ministry of Housing, Spatial Planning and Environment

³ provinces of Noord-Holland, Zuid-Holland, Utrecht, Gelderland and Noord-Brabant

⁴ Eén Linie, samen sterk in de uitvoering. Overkoepelend Uitvoeringsprogramma Nationaal Landschap Nieuwe Hollandse Waterlinie. Commissie Nationaal Project Nieuwe Hollandse Waterlinie, Utrecht, 2006.

Nearly 300 projects are described, totalling up to 300 million euro for the period 2006-2013.

In 2008 a selection of 200 projects was presented in the *Pact van Rijnauwen*⁵ which could readily start and should be finished in the period 2008-2011. Total estimated budget was 188 million euro.

End 2011 83% of this budget was financed. For 22% projects were completed, for 60% projects were carried out but not yet completed.

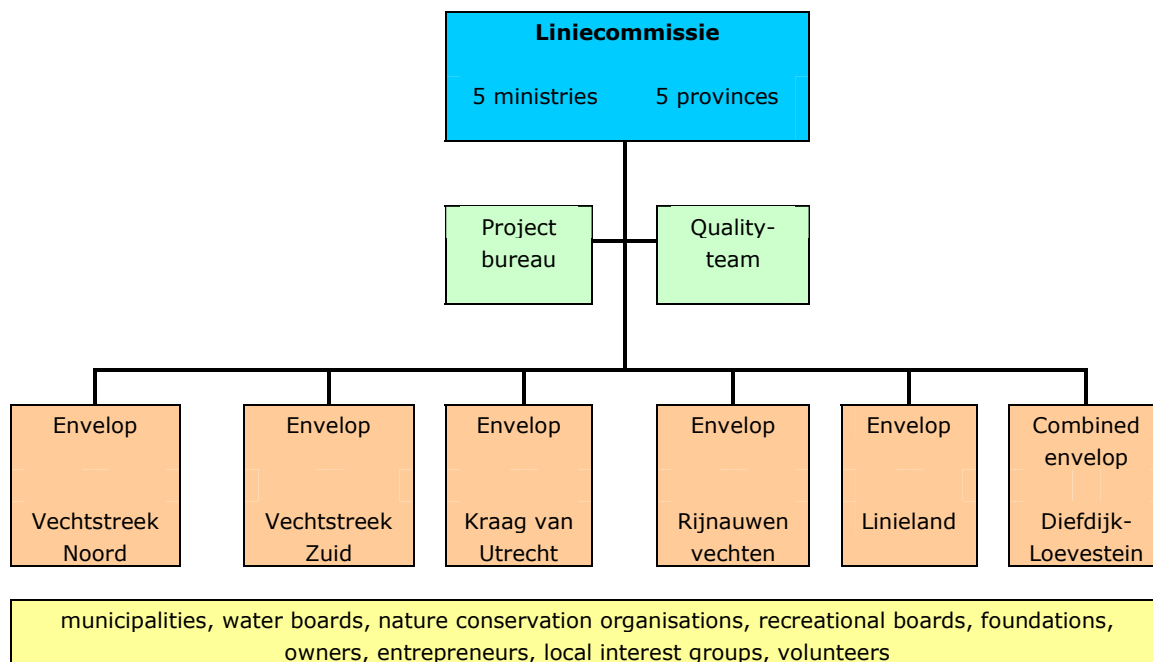
In 2011 an updated implementation program⁶ was compiled for the period 2012-2016. Needed budget is 60 million euro. Due to economical circumstances finance is not foreseen.

Organogram

Due to the range of the Waterline in five provinces and interferences of the policy of protection and developing with sectoral policies of spatial and landscape planning, ownership and maintenance of sites, the five regarding ministries and provinces are united in the *Liniecommissie*, the steering committee of the National Project. The *Projectbureau* is the executing bureau.

The *Kwaliteitsteam* (Quality Team) comprises four experts on spatial planning and architecture. This team advises on major developments in the Waterline on base of quality standards⁷.

Envelopes are governed by an *Enveloppecommissie*, with mostly the depute of the province as chair. Members of the committee are representatives of municipalities, water boards, nature organisations and other stakeholders. The committees are supported by project groups that carry out the redevelopment projects.



⁵ Pact van Rijnauwen. Afspraken tussen regering en provincies verenigd in de Liniecommissie over uitvoeringsimpuls Nieuwe Hollandse Waterlinie voor de periode 2008-2001

⁶ Linie in bedrijf. Ambitie & strategie 2020 en Uitvoeringsprogramma. 2011

⁷ Leidraad plankwaliteit. Kwaliteitsteam Nieuwe Hollandse Waterlinie. Utrecht, 2007

2.4 Recent developments

The National project NDW is running now for ten years. The planning is that the project will be finished around 2020. After the phase of planning, financing and restoring a new phase begins with emphasis on communication and sustainable exploitation. This gives new developments to cope with. The most striking are mentioned below.

- **Entrepreneurs network**

June 2012 many entrepreneurs are working in the NDW at even so many locations (chapter 5). In order to make them cooperate and take profit of the concept NDW a foundation was set up, promoted by the Projectbureau. This happened under the flag of the interreg project Collabor8. The action started by bringing together entrepreneurs in three local scale 'loges'. The three loges are now assembled in one foundation. The means for the management of the foundation (wages, lodging, program budget) is supplied for two years by the public partners of the NDW. The goal is that the foundation will in time be the leading organisation in the preservation, promotion, maintenance and exploitation of the NDW.

- **Volunteers**

In the recently started interreg project SHARE ways are explored to attract and educate volunteers for different activities in the NDW: maintenance of buildings and greenery, excursions, administration etc.

- **Coherency**

Efforts are made to implement one uniform image of the NDW by using the same logo, equipment, furniture etc. The challenge is to give the entrepreneurs the necessary possibilities for setting up their own business and convince them of the profit of supporting the idea of being a part of the bigger outline of the NDW.



- **Maintenance**

After many years of restoration and getting the sites in good shape the permanent maintenance becomes more and more important. It concerns the maintenance of the buildings and the grounds surrounding these, but also the vast areas of inundation. Possibilities of putting to work different groups are now investigated; volunteers, farmers, social welfare etc.

- **Finance**

Until a few years ago large budgets were supplied by the national and provincial governments for redevelopment. In 2011 the national government decided to decentralise the National Project NDW and diminish the budget. Because of the economic developments provincial budgets decreased, dependent of their financial reserves.

To carry out the implementation plan 2012-2015 an amount of 60 million euro is still lacking. New financial resources and construction must be found. In due time a financial strategy will be developed.

- Unesco-nomination

The NDW is on the Dutch Tentative List for Unesco-nomination as an extension of the *Stelling van Amsterdam*, a comparable defence line that already has the World Heritage nomination.

The challenge is the compilation of the nomination file for the NDW in cooperation with the *Stelling van Amsterdam*.

Links

For further information:

www.hollandsewaterlinie.nl

<http://www.cultureelerfgoed.nl/en/nieuwe-hollandse-waterlinie-water-based-defence-system>



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3. CONTINUATION

Good Practises Engineering Workshop

Possible subjects to be discussed - questions

In the GPEW we would like to discuss a number of questions and decide which ones will be elaborated on in the ateliers:

- = experiences with the DCM-concept (design, construct, maintenance)
- = advice for compiling Unesco nomination file
- = organisation of the content of (digital) information bank; user groups, topics, maintenance of databank
- = idem for entrepreneurs
- = maintenance of landscape surrounding the forts and premises
- = setting up a volunteer organisation
- = restoration philosophy, climate control techniques, plantation
- = good practises on exploiting the educational value of cultural heritage in a digital world
- = maintenance of recreational routes by private people
- = sustainable systems on energy, water and waste in forts and other buildings
- = coherent marketing of the manifold of marketing products, uniform furniture etc
- = spatial planning in economically grim times
- = increasing the involvement of (regional) stakeholders in the National Project

Contributions

- = transferring the concept of the NDW as a coherent system into the minds and hearts of the general public beside the knowledge of the fort next door
- = flora and fauna on fortresses:
 - how to handle bats: dialogue with nature conservationists; special devices for hibernation
 - plantation: historic data on kind of plantation
- = state of the art of sustainable systems
- = experiences with restoration and maintenance work by unemployed people
- = preliminary experience with founding a network of entrepreneurs in the NDW
- = design of landscape and artefacts according to quality standards; Quality Team

Atelier in NDW – proposal for subjects

Flora and fauna on fortresses

Concerns different aspects of flora and fauna. A main issue is coping with bats: for the content regarding bats see chapter 4. Other issues are coping with other protected species of plants and animals. The presence or absence and kind of plantation on fortresses can be discussed. Moreover the use of special species as unique selling points is a topic.

In order to see the different devices for bats in the buildings the atelier should be held in the period april-september.

Sustainability

Content of this atelier can be the different methods already taken in the NDW for reducing energy and water use, reduction of waste and sustainable ways of construction of supplementary facilities as parking places.

Also the use of the surrounding landscape as a source of biomass is worth discussing. This leads to the idea of the Waterline as 'Climate Line': a defence line against the contemporary enemy of global warming.

The atelier can be held throughout the year.

Communication and marketing

Content: see questions above. The atelier can be held throughout the year.

Calculating methods

Different models and methods for calculating costs and profits of restoration, maintenance and exploitation.



4. ENABLING CONDITIONS OF RE-USE OF SITES

4.1 In general

For redeveloping a site a number of enabling conditions are important:

- Legal protection: status, zoning plan: prescribed type of use should be clear
- Preservation strategy: to what extent buildings and grounds are brought back in the original state; type of plantation
- Accessibility; how to conduct visitors; access for disabled people
- Ecological values; how to handle bats; landscaping principles
- Support: local (citizens, volunteers, entrepreneurs), administrative, political
- Finance: budgets should be guaranteed, not only for the first investments for restoration and equipment but also for longterm maintenance and exploitation; costs of maintenance should be clear in advance
- Contract: rights and obligations of different stakeholder must be clear and non-discutable; what should be stated in the contract
- Sustainable facilities for reduction of energy and waste and improve exploitation
- Knowledge of restoration techniques, communication, finance, exploitation, maintenance.

All these subjects deserve an own chapter as there is much information available. Only three subjects are described here.

4.2 Safeguarding ecological principles – handling bats

In order to redevelop sites for nowadays use attention must be paid to the occurrence of bats. The animals should not be disturbed in their nocturnal activities and their environmental conditions not be affected. The presence of bats can have a great impact on plans for redevelopment.



Good practise

Over a number of years practises were developed in cooperation with the Zoogdiervereniging (Animal Association) for coping with bats. The results are that a set of possible measures has been developed to accommodate the protection of the bats and human activities.

Strategies for coping with this problem are:

- = total protection of the site, no disturbing human activities at all
- = mitigating measures, human activities adjusted in time and space to the needs of the bats,
- = allocation of the bats by offering suitable conditions elsewhere.

Total protection

The site is designated as a nature reserve – protected area. Measurements are closing the site for visitors and improving the conditions for bats. Only guided tours can be allowed.

Measures to improve the habitat are adjusting devices in which the bats can hang and hide, reducing strong draft, reducing daylight and increasing humidity.

Examples

Fort Tienhoven

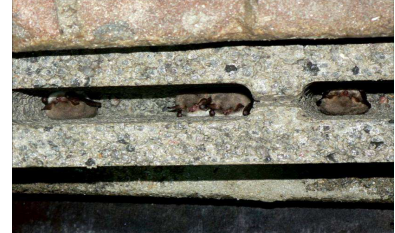
This is a fortress falling in ruins. No maintenance was done after the fortress was abandoned several decades ago. The owner is the State Forestry Service. No regular counting of number of bats. Estimation is several tens of bats.

Casemates

At several places casemates are furnished exclusively for bats. The building is closed off by a steel door with a small hole bats can pass. Other openings are bricked up.

Soil is dumped in the rooms to increase humidity. Bricks with hiding places for bats (bat-bricks) are fixed.

The setting of the casemate also is important. Shrubs and trees around the building shield it off from strong cooling winds. Canopy over the roof decreases heating by sun radiation and cooling off at night.⁸



Mitigating measures

Human activities

Works for restoring and maintenance are done in relatively short periods of the year that impact on the bats is at minimum.

In hibernating time of the bats (oct-march) human activities are reduced to a minimum; in most cases to nihil.

Swarm-places are avoided at night-time.

Lightning

Research was done on the influence of different types of light on bats.

Conclusion is that light of xxx Hz does not disturb bats. That means that illumination of spots with human activities at night-time is possible.

Conserving bats needs

See annex 3 *Fort aan de Klop* for description of measures to consolidate temperature and humidity for bats.

Reconstruction

The surroundings of the site are reconstructed to give bats alternatives flying routes to forage places. Original routes can then be used for human activities.

Allocation – examples

Fort Vechten – réduit

Many bats inhabit the réduit. But this is also meant for human use. Solution is that half of the réduit is fitted for bats, the other half for visitors.

The bats-side is improved by drilling holes in the walls (diameter 20 mm), bringing in water, closing the dripping tubes and preventing human visits.

The human-side is fitted for excursions and experiencing the building.

The result is that bats actually move to the bat-side. Due to the measures taken the number of bats seem to increase (counting after one year).⁹

Geofort

Several casemates around the main building were adapted for bats. They actually moved into these casemates. The main building was restored afterwards¹⁰.

⁸ Jansen, E. et al., 2010. Landschappelijke herinrichting van het landschap van de NHW & vleermuizen. Rapport 2010.063 van de Zoogdiervereeniging.

⁹ H. Limpens, personal communication

More examples of allocation exist but still have to be documented.

Lessons learned

To cope with bats it is important:

- = to have a good relation and keep in good contact with the organisation that accounts for the interests for bats
- = to make contact with these organisations in the very early stage of the redevelopment plans
- = to describe the baseline situation: presence, numbers of bats, use of the site
- = to offer alternatives for the bats
- = to realise that bats are 'conservative' but can change their habits though
- = to realise that measures to be taken can be costly
- = to make an 'ecological protocol' for all involved parties and stick to it.

Literature and links

See chapter 8.

4.3 Sustainability – reduction of resources

Recently sustainable facilities get more attention in the restoration of forts and adjacent buildings. Main reason is that entrepreneurs look for methods to reduce the costs of exploitation. Notorious are the costs to heat the normally cold buildings to a comfortable temperature.

Moreover, the extra costs for sustainable facilities and devices can be covered by the initial investment budget for restoration, made available by subsidies, grants etc. Thus the entrepreneur does not have to pay interest and redemption but only has to make savings for maintenance and replacement.

Sustainable exploitation also gives a good (green) image for the company itself.

State of the art

Solar energy

We have no examples of using solar energy in the NDW.

Planned use of PV-panels on new buildings at *Fort Vuren* and on earthworks at *Werk bij Maarsseveen*.

Geothermal energy

Experience of over 5 years at *Slot Loevestein*: a second plant is planned. Concerns a 80-120 m deep extraction of water of around 12 degrees Celsius. By cogeneration this is worked up to around 45 C and used for floor heating. Pumped water is discharged in the moat. Ecological consequences?

At *Fort Vuren* a comparable system is planned.

Heating by wood

Fort Bakkerskil and *Fort Nieuwe Steeg* have a fully automatic heating system using pellets. Pellets from abroad; environmentally friendly? Ash is chemical waste to be removed by a specialized company.

Also an installation at *Fort Vechten*.

Heat recovery

At *Fort Vechten* en *Fort Nieuwe Steeg* heat is recovered from the climate installation.



¹⁰ B.Bennis, personal communication

Rainwater

At different locations rainwater is used for toilet flushing. Needs more soap and anti-calcium solution; no environmental gains?

At *Fort 't Hemeltje* rainwater is stored in tubes in the sand deck of the roof in stead of the water cellar; saves the energy of pumping up.

Waste water

At *Fort Nieuwe Steeg* all water from toilets, kitchen etc. is purified in a gully system.

The waste water is then led through a helophyte filter to the moat.

Concrete

The concrete used for a parking place at *Fort Vechten* contains ash of burning lignite in stead of Portland cement, reducing CO2-exhaustion.

Local contractors

At *Fort Vuren* only local contractors carried out the restoration works, reducing traffic movements.

4.4 Quality plans

For proper redevelopment not only a preserving strategy is necessary but this has to be worked out in a quality plan. This describes and depicts the preservation of buildings, earthworks and other historic elements, the needed quality, the removal of troublesome elements and the conditions for the erection of new modern-style buildings that fit in the historic setting.

The surrounding landscape is an important element in the quality plan.

The quality plans are made by architectural bureaus on basis of the guidelines of and under supervision of the Quality Team.



A good example is *Werk aan het Spoel*. Here casemates and earthworks were restored in the old setting, a barrack was replaced and an new horecabuilding designed.



5. REDEVELOPMENT MODELS FOR MULTIFUNCTIONAL USE OF SITES

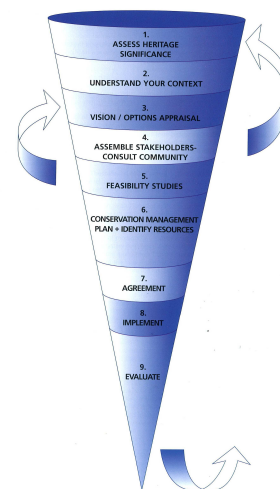
5.1 In general

The tables below give an overview of the (multifunctional) use on the fortresses of the Waterline. The new use is diverse, varying from monofunctional use (residence, nature) to multifunctional (combination of horeca, exposition, events, offices). Some forts have an economical exploitation that provides the means for maintenance and further development, others keep dependant of subsidies, grants etc.

In the annex some examples are given.

The different phases of the redevelopment process are given in the model used in the ASCENT project.

During redevelopment some tools can be used for proper planning of costs and earnings, here described as good practises. Another good practise is to combine different functions, leading to win-win situations.



5.2 Method of calculating development and maintenance costs

The method was developed by bureau BunkerQ, which is for many years involved in heritage development, restoration and architecture, lately primarily working on objects and areas of the New Dutch Waterline. Based on their broad experience with heritage development they created their own cost and benefits calculation method. The philosophy is that the redevelopment has to be in harmony with its environment and the outcome self-evident and logical: every object, with its own typology en location, has the potential to improve its own sustainability en energy efficiency.

This 'method BunkerQ' is a calculation method; it helps to quickly generate important and relevant financial ratios for early stages in the heritage development process. The method splits every project into components, in a uniform manner, and feeds them to a data base model. The value of different parameters is fixed. These parameters are for example: the current quality, the size of object and area, the ambition, the intensity of a future use, current prices, etc. The method calculates expected investment returns and possible yields. Results are displayed in real time. The method offers a possibility to develop different scenarios and compare them. The 'method BunkerQ' can be implemented in all sorts of objects and areas, from industrial buildings, fortifications, monumental dwellings and protected city parts en regions. The method is used in many heritage development projects in the Netherlands.

The calculation result, generated with this method, can be the first input for making a business case for redevelopment projects. It can also serve as an economical reference for evaluation of plans.

In year 2003 the 'method BunkerQ' was used to determine State funding for the preservation of the New Dutch Water Line (107.479 m2 built surface).

The database can be the basis for a yet to compile management model. In 2011 it was used to calculate costs for a subarea of the NDW as a pilot for developing a maintenance model for the entire NDW.

5.3 Calculation of earning capacity of the NDW

In 2011 a study was carried out by bureau Ecorys to investigate the economical indicators of the NDW. This investigation is meant as a first baseline that can be repeated after several years to monitor economical development of the waterline.

Contemporary use	number	Contemporary use	number
Residential use	12	Park	15
Office, business units	11	Museum	5
Shop	8	Information centre	4
Horeca, lodging	15	To be developed	11
Foundation, society	13	No function	20
Total			103*
* inclusive separate objects in fortified cities			

Estimation of number of visitors is 800.000 yearly. An estimated 400.000 to 700.000 people visit the landscape of the NDW without visiting the forts and other works.



The direct earning capacity of the objects is 26 million euro. Direct employment is 465 fte. Employment at supplier companies is 195 fte.

Over 500 touristic-recreational companies are active in the waterline. These supply employment for around 1.800 people and have a sales volume of 125 million euro.

5.4 Win-win situations

Important parts of the Waterline are the surfaces of the inundation areas and the shooting ranges around the fortresses. These areas can have a different use for agriculture, nature reserve and water storage. These functions can be incorporated in landscape plans in order to preserve the historic aspect of open, military landscape. For other functions like housing and business parks this is more complicated. But by a good design the impression of the former landscape can be given.

Achieving this asks good cooperation between concerning bodies that regard the different functions, independent meditation and the skills and tools to depict the needs, wishes, possibilities and impossibilities of the differing proposals.

6. GOVERNANCE MODELS

6.1 In general

As there are more than 50 sites in the NDW that are in some way 'governed', it is obvious that no specific governance model is practised but all models are tailor made for the specific situation of ownership, redevelopment and exploitation.

Three governance models for the different sites are presented:

- 1) public model
- 2) private model
- 3) public-private model.

A fourth model concerns a model that comprises all the sites in the NDW. This model is not applied in the NDW but is thought over:

- 4) cooperation model.

6.2 Public model

Example: *Fort De Bilt* (annex 1)

Governance model

- The site (buildings and grounds) are owned by a public body: national/provincial body, municipality.
- Functional use is outlined by the public body; detailed use in consultation with the foreseen user.
- User is a non-profit organisation; goals are supported by the public body. No rent or a symbolic sum.
- Restoration, key facilities and major maintenance financed with public means. Minor maintenance and specific duties (guarding, cleaning) possibly by user.
- Conservation of cultural-historic values is in principle responsibility of the public body.
- No commercial exploitation. No financial profits.

Although no financial profit is made, social profit can be high. User groups are non-profit organisations with social goals that somehow are supported by the public body. For instance: organisations in the field of education, employment for disadvantaged people, cultural activities.

Good practise – Fort van de Democratie

The Fort of Democracy is an educational centre on Lunet I, at the brim of Utrecht. In a challenging exposition visitors can find out what democracy means to them and what they can contribute to it. In the lunet a reception hall, film location and a course room are realised. These rooms are connected to a previous nuclear shelter by a 60 m long underground corridor. Here interactive experience rooms are made for pupils and students.

By making their thoughts and reactions explicit on described interactions with people of different social status, racial background or physical handicap visitors get insight how social and democratic they are. Especially pupils of 12-16 year find this very impressive.

6.3 Private model

Example: *Fort Voordorp* (annex 2)

Governance model

- The site (buildings and grounds) are privately owned.
- Functional use is determined by the owner, in accordance with the zoning plan.
- Functional use, restoration and development are discussed with all parties involved.
- Investments are privately financed.
- Exploitation by private company.
- Cost of maintenance for the owner.
- Conservation of cultural-historic values is in principle responsibility of the private owner. Public interest consists of ensuring the cultural-historic values by regulations and permits.

Experience to be transferred

The fortress *Voordorp* was purchased by a private entrepreneur. The site is used for parties, meetings etc. The place is closed for non-customers. At the purchase no conditions on public access were made. They also take no part in the *Fortenmaand*, an event in which all forts are open to the public and many activities are organised all over the NDW in September each year. So the public cannot experience this part of the common cultural heritage of the NDW.

6.4 Public-private model

Example: *Werk aan het Spoel; Fort aan de Klop* (annex 3)

Governance model

- The site is owned by the public body.
- Functional use is determined by the public body; varying degree of influence of future tenants.
- Restoration and primary facilities public financed; plans in close cooperation with tenants.
- Equipment and specific facilities for exploitation financed by the tenant.
- Exploitation (semi-)commercial: from completely commercial to commercial activities supporting the non-profit use of the site.
- Cost of maintenance for the owner. Minor maintenance possibly done by the tenant.
- Contract for a long period (over 10 years) to give the tenant the needed time to regain his investments.
- Conservation of cultural-historic values is the responsibility of the owner, confirmed in contract with the tenant.

6.5 Cooperation model

This model is based on the formula that the Landmark Trust in the UK uses. This trust is a non-profit organisation that safeguards historic buildings by restoring and exploiting them. The buildings are fitted for bed and breakfast, hotel etc. The trust has

its own rental organization. Other financial resources are donations, grants and subsidies.

For the NDW this model is interesting because of the advantages of general marketing, purchase, branding etc, and the possibility of mutual support in challenging questions. The exploitation not only concerns lodging but all the activities that take place in the different fortresses, as museum, meeting place, office rooms, outdoor sports etc. A cooperation can develop product-market combinations that are most suited for a particular place, based on experience of exploitation of different sites. Starting entrepreneurs can be trained and supported.

The recent erection of the entrepreneurs foundation in the NDW can be seen as a first step towards the cooperation model although ideas about this model are very preliminary.

7. REPORT OF THE RSG-MEETING

The meeting of the Regional Stakeholders Group was held on 13 September at Fort Altena and attended by 16 persons. They represented entrepreneurs, researchers and officials working in the Waterline.

The program consisted of introduction on At Fort, the Self Analysis Report and the Regional Stakeholder Group.

Different topics were discussed: recent developments, good practises, redevelopment and governance models, possible subjects for the ateliers and lacking knowledge.

Many useful additions were given. Overall conclusion is that there exists a great need of exchange of knowledge and experience on all aspects of redeveloping and governing the sites of the NDW.

The draft of the discussed SAR was complemented with striking additions of the RSG-meeting, resulting in the present draft.

Although the well known issues regarding the redevelopment were discussed (different aspects of restoration, protected species, landscape planning etc.) much attention was given to issues regarding the commercial exploitation of the fortresses. For instance: governance models, product-market combinations, examples of contracts, communication philosophy and tools.

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ANNEX 1 Example of public governance model

FORT DE BILT (northern part)

(Multi)functional use

The northern part of Fort De Bilt is used for educational purposes, focused on themes of war and peace, by a non-commercial foundation: Foundation for Peace-education. It also serves as a Second World War monument: 140 members of the Resistance were shot by the Germans on the fort.

The southern part serves as offices of the military police: not further mentioned in this overview.



Restoration

After the purchase in 1997 the site was restored in a two year period. Principle of the restoration was consolidation of buildings and grounds in the setting of that time.

(Sustainable) facilities

No sustainable/renewable energy-sources are used for heating, lighting and climate control in the buildings

Enabling conditions

Zoning plan

Destinations were formalised in the local zoning plan after restoration and redevelopment

Local support

- Locals

The future destination of an educational and remembrance-fortress was stimulated by the ideas of the two originators of the Foundation for Peace-education. In close cooperation with the owner of Fort De Bilt (City of Utrecht) the plans were developed and realised

- Volunteers

At the start of the re-development process a lot of volunteers were involved.

At the moment the day-to-day exploitation of the 'Remembrance Centre for the Future' (visited by the school classes 7 and 8: 11 and 12 years old of most of the regional primary schools) is done by 3 paid staff-members and volunteers.

- Entrepreneurs

No commercial entrepreneurs.

Finance

Restoration and rebuilding activities were financed by investments of the City of Utrecht and regional and national subsidies.

Political support

There was a broad political support in the municipal council for the restoration, redevelopment and new destination of Fort De Bilt.

Administrative support

A special department within the City of Utrecht was created to advise the mayor and aldermen about the Utrecht fortresses policy. These 3 civil servants do the project-

management of the restoration, the re-development, the selection of the future-user/entrepreneur and the renting and maintenance of the 8 Utrecht fortresses.

Prescribed type of use

Contract

Long term lease lend for EUR 0,00 by the Foundation for Peace-education. The groundskeeper rents a dwelling (long term contract) at the fort for a commercial price reduced by a compensation for his activities (opening and closing the gate, small maintenance activities etc.).

Preservation strategy

In the policy memorandum “Van Geheim tot Publiek Domein” (From Secret to Public Domain) the Utrecht fortresses are considered to be ‘very extraordinary enclaves, cultural-historic monuments with sometimes surprising natural values’. They have much potentials as semi-public park, recreation terrain, tourist monument and nature area. Preservation will be achieved by public and private efforts.

Legal status: monument, Unesco

The site is a national and municipal monument.

Knowledge

Restoration

Knowledge available within the municipal administration. External advise of restoration experts. Contractors with demonstrated experience in restoration techniques.

Communication

Department of communication of the municipal administration.

Finance

Idem.

Exploitation

Idem. Experience broadened by the development of several fortresses around Utrecht.

Maintenance

Available within the administration.

Governance model

Ownership grounds/buildings

The City of Utrecht owns the site. Purchase in 1997, together with 4 other fortresses.

Investments

Investments by the City of Utrecht and national subsidies for the restoration and redevelopment of Fort De Bilt totalled 1.000.000,-- Dutch Guilders (EUR 450.000,--).

Tenant

The site is given in lease-lend to two foundations: Stichting Vredeseducatie (Foundation for Peace-education) and Stichting Herdenkingsmonument Fort De Bilt (Foundation Remembrance Monument).

Entrepreneur

No commercial activities.

Maintenance buildings / grounds

By the municipality

Time line between first plans and completion

1997 purchase by the City of Utrecht; start of restoration

1999 restoration completed. Start of use by the Stichting Vredeseducatie and Stichting Herdenkingsmonument Fort De Bilt

ANNEX 2 Example of private governance model

FORT VOORDORP

(Multi)functional use

Commercial conference centre.

Restoration

Restoration of the facades of the buildings.
Interior fitted for use as conference centre.
Renewing of roof cover, damaged by roots of trees.

Expansion of rooms under the earthworks.
Parking place on top of the buildings ?

(Sustainable) facilities

?? Climate control, lighting ?

Acoustic conditions in the vaults are improved by the simple use of special furniture.



Enabling conditions

Zoning plan

Local support

Locals / Volunteers / Entrepreneurs

Finance

Private funds

Political support

The company assured support for restoring and exploiting the site by manifold consultation with all authorities: municipality, Department of Cultural Heritage, State Forestry Service

Administrative support

Prescribed type of use

Contract

Preservation strategy

Legal status:

Parts of the site are national monument.

Knowledge

Restoration

Communication

Finance

Exploitation

Maintenance

Governance model

Ownership grounds/buildings



European Union
European Regional Development Fund

AT FORT
ATELIER EUROPEAN FORTRESSES



The site is privately owned: Van Denderen Beheer BV

Investments

Over 2 million for restoration and applying facilities for commercial use.

Tenant

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Entrepreneur

Maintenance buildings / grounds

By the owner?

Time line between first plans and completion

1990	purchase by private investor
1990 – 1997	visioning and working out of plans by Fort Voordorp BV
1997 – 1998	restoration
1998	start of commercial activities

ANNEX 3 Examples of public-private governance model

WERK AAN HET SPOEL

(Multi)functional use

Social: small scale cultural businesses
Recreational: footpaths, playing grounds, catering, visitor information
Cultural: outdoor theater performances, indoor music performances, exhibitions

Restoration

Restoration, reallocation and (re)building of buildings inside the moat.
Landscape design for objects and grounds annex to the former military function (firing zones, sluices, canals, bullet trap).



(Sustainable) facilities

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Enabling conditions

Zoning plan

Site designated for social, recreational and cultural function.

Local support

Locals

Group of citizens, organised in the Foundation Werk aan het Spoel. Active in the process of development and exploitation.

Volunteers

Group of 30 volunteers, affiliated to the Foundation.

Entrepreneurs

Caterer De Veldkeuken was from the very start involved in compiling the businessplan.
Small scale businesses: sculpture and painting ateliers.

Finance

All costs for restoration and facilities were financed by the government, province and municipality. The layout of the site is partly sponsored by funds and companies.

Political support

The agreements regarding the Nieuwe Hollandse Waterlinie that were signed by the national government and province guaranteed their support.
Moreover, the influence of the Foundation of municipal citizens, encouraged the support from the local council.

Administrative support

Local officers were cooperative and were given amply time and means for the process of redevelopment of the site.

Prescribed type of use

The zoning plan indicates social, recreational and cultural function. Later on, after the squatters had disappeared, the zoning plan is changed by expanding the catering function. Also some kind of catering categories were added and described.

Contract

When the ideas had been shaped into a design and financial resources were acquired, the local council decided to redevelop Werk aan het Spoel. With the Foundation a realization agreement has been reached, to which outline appointments were recorded on investment, operating and rent.

Before the start of the commissioning a lease agreement was completed. The agreement is made between the City of Culemborg as landlord and the Foundation as a tenant.

Preservation strategy

Restoring the earthworks and military brick buildings (remises). Removal of ruinous and 'modern' buildings. Landscape design by the original shapes linked with new features of the fort (amphitheatre, sloping paths).

Legal status

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Knowledge (sources of)

Restoration

The project organization installed a supervision commission with members with architectural, historical building knowledge. And also the project organization was accompanied by a restoration consultant.

Communication

The project organization used there own intuition and advice of the communication advisor of the local council.

Finance

The financial advisor of the local council.

Exploitation

The Foundation has a member with knowledge of exploitation

Maintenance

The project organization used there own experience and advice of there own maintenance advisors from the local council.

Governance model

Ownership grounds/buildings

The municipality of Culemborg owns the grounds and buildings.

Tenant

Foundation Werk aan het Spoel is tenant of the site. The rent is:

	2012	2013	2014	2015
tenant	10.500	13.000	15.500	18.000

Entrepreneur

The main entrepreneur is the Foundation.

Catering: De Veldkeuken.

Meeting room: Foundation

Business premises: Sculpture atelier, painters atelier

Activities (performances): Foundation

Profit model

Income from commercial activities and rent of the guardhouse covers the rent of the site.

Yearly profit from cultural and catering activities are used by the entrepreneurs for there own for investments, development of cultural activities.

After 2015 the rent much match the direct costs that the owner (the local governement) has for the maintenance.

Maintenance buildings / grounds

The owner maintains the grounds (mowing) and the buildings.

	2012	2013	2014	2015
buildings	7.000	7.000	7.000	7.000
fields	63.300	56.600	56.600	56.600
rest	1.500	1.500	1.500	1.500
	=====	=====	=====	=====
total	71.800	65.100	65.100	65.100

The costs of maintenance are not yet matched by the rent. So the costs of the maintenance must decrease and the rent increased.

Time line between first plans and completion

1995: site abandoned by the ministry of Defence.

1995-2001: negotiations by municipality for purchasing the site

2001-2003: ideas for development by local groups

2003-2005: search for finance

2005: final businessplan by the Foundation Werk aan het Spoel

2007: final design for the site by architect Rietveld

2007-2009: several deepening studies

2009-2012: restoration and construction of facilities and start of the exploitation

2012: opening

(Multi)functional use

Catering (pub, restaurant), small scale campsite, hostel, apartments, hotel rooms and meeting rooms.

Restoration

The restoration comprised restoring the buildings and grounds to good shape and redevelopment of the interior of the buildings for exploitation. This included basis utilities as watersupply, toilets and provisions for protecting the cultural-historic values.



(Sustainable) facilities

No facilities concerning sustainable/renewable energy are made.

Special is a facility for ensuring the proper climate in wintertime for bats. This climate installation keeps the underground floor on a temperature of 9 Celsius and over 90% humidity and the groundfloor at a for people acceptable temperature and humidity. The results (numbers and species of bats) are monitored each year.

The solution that was found in realising two different climates in one building was the result of research done by TNO (Dutch research institute) as part of one of the research-themes of the Interreg II B NWE-project Crossing the Lines (City of Utrecht, The Netherlands, City of Morselt, Belgium and County of Essex, UK): 2004-2007.

Enabling conditions

Zoning plan

In 2009 a special zoning plan for the site was made for the functions catering, hostel and meeting place, cultural activities. Later on this plan will be incorporated in the update of the main zoning plan.

Local support

Locals

At the start of the project many locals were reluctant and spokesmen tried every legal action to oppose the redevelopment. By inviting the locals on the spot, listening to their objections and adjusting the plans to their suggestions resistance gradually declined. At the end only three diehards continued their resistance.

In 2002 a board of interested locals was formed. This board was involved in all development plans and building activities. All the phases of the plan were communicated to the locals and possibilities for objection to which subjects were indicated.

Volunteers

A contract is made with the Gilde Utrecht (an organisation of volunteers) for doing guided tours on the site. The guides keep record of the number of visitors. The organisation is paid by the council of Utrecht on base of the numbers of visitors.

Entrepreneurs

In the period 2002-2004 entrepreneurs could express their interest for exploitation of the site. In 2004-2005 an entrepreneur, B.V. 1851, was selected out of 15 on basis of their businessplans and their true interest in the cultural-historic importance of the site.

Up to 2004 the casco restoration was done. Afterwards the entrepreneur was involved in the further development of the site and could indicate his wishes and needs for the future exploitation.

Finance

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Political support

The council of Utrecht was in favour of the redevelopment plans from the first start. Objections of the locals did not alter its decisions. The fact that European and national subsidies were acquired greatly helped in continuing the political support.

Administrative support

All departments of the town administration were in early stages invited and involved: departments regarding preservation of monuments, cityplanning, juridical affairs, financial affairs, fire brigade etc. It was not the mere decision of the council that ensured the administrative cooperation but true enthusiasm for the redevelopment of this site nearby a problem area.

Prescribed type of use

Catering, meeting and sleeping facilities, small scale campsite, outdoor activities. No big scale activities of whatever kind.

Contract

The Foundation for Preservation and Exploitation of Fort aan de Klop rents the buildings and grounds needed for exploitation for a period of 10 years. The rent is calculated on basis of subletting the site to B.V. 1851.

Preservation strategy

In the policy memorandum "Van Geheim tot Publiek Domein" (From Secret to Public Domain) the Utrecht fortresses are considered to be very extraordinary enclaves, cultural-historic monuments with sometimes surprising natural values. They have much potentials as semi-public park, recreation terrain, tourist monument and nature area. Preservation will be achieved by public and private efforts.

Legal status

The site is a national and municipal monument.

Knowledge

Restoration

Knowledge available within the municipal administration. External advise of restoration experts. Contractors with demonstrated experience in restoration techniques. Knowledge exchanged between partners of the EU Crossing the Lines-project.

Communication

Department of communication of the municipal administration and the projectmanager of the redevelopment of the fortress.

Finance

Idem.

Exploitation

Idem. Experience broadened by the development of several fortresses around Utrecht.

Maintenance

Available within the administration.

Governance model

Ownership grounds/buildings

Grounds (incl. moat) and buildings owned by the municipality of Utrecht.

Investments

The investments for restoration and basic facilities amounted to 2,7 million euro. The exploitation model does not provide repayments.

Contributions were supplied by European funds (Crossing the Lines) and national, provincial and municipal funds.

Investments directly for exploitation (kitchen, buffet, sleeping facilities etc.) were made by the entrepreneur.

Tenant

Stichting tot Behoud en Exploitatie van Fort aan de Klop (Foundation for Preserving and Exploitation). Members: entrepreneur and representative of local inhabitants. Independent chairman.

The foundation was erected as an in-between amongst the municipality and the entrepreneur to ensure that public funds would not directly be transferred to the entrepreneur.

The Stichting rents the premises from the municipality. The rent covers the costs of maintenance.

Entrepreneur

B.V. 1851. (Private company that exploits Fort aan de Klop.)

The entrepreneur rents premises of the foundation.

Maintenance buildings / grounds

Major maintenance of buildings and earthworks is done by the municipality.

Mowing of the grass of grounds that are needed for the exploitation is done by the entrepreneur. The rest of the greenery is done by the municipality.

Time line between first plans and completion

1997 drafting an overall vision for development of the 8 fortresses in possession of the city: Van Geheim naar Publiek Domein (From Secret to Public Domain)

1997	purchase of 5 fortresses, including Fort aan de Klop, by the city of Utrecht
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2002 – 2004 application of interested entrepreneurs

2003 – 2006 casco restoration of the historic buildings

2004 - 2005 selection of entrepreneur

2006 – 2007 rebuilding: make the buildings suited for their future destination as pub/restaurant, sleeping-facilities and meeting rooms

July 2007	opening and start of exploitation
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July 2007	opening and start of exploitation
2009	zoning plan 'Fort aan de Klop' determined.

[illegible]