



# **Part 4: Spatial development strategies A and B**



## Part 4: Spatial development strategies A and B

### 11 Programme-based vision

#### 11.1 Twente: positioning and segmentation

Twente is one of the main knowledge and innovation clusters in the Netherlands. From an international perspective, Twente is ideally located for a number of economic segments and is an attractive alternative to densely populated urban conglomerations such as the Randstad or the Brabantse Stedenrij. Twente has a high-quality green investment climate located midway between the economic core areas of the Randstad and the German Ruhrgebiet [51]. Knowledge and innovation clusters in the region provide important links for new (international) commercial activities and productivity development. Other important economic strengths in the area are the innovative interrelationships between ICT, Materials, Mechatronics & Maintenance (M3) and the construction and medical sectors [59]. In these sectors, Twente is home to a number of internationally renowned companies. Last but not least, Twente's natural and cultural qualities further strengthen an already favourable business environment.

Based on its Area Agenda (Gebiedsagenda) [57], Twente is aiming to further develop its qualities as an internationally renowned knowledge region [51]. In this agenda, the development of the areas of Twente Airport, the Knowledge Park/University of Twente and Heart of the South (Hart van Zuid)/WTC/Central Station Twente, called the 'Innovation Triangle', are of vital strategic importance. The mutually complementary programme-based development of these projects is the basis for strengthening Twente's (social) economic structure. One of the main challenges for Twente as a knowledge economy is therefore to attract more highly educated people and retaining them for longer. This is consistent with the core ambitions of the Regional Economic

Development Plan for the Twente region (REOP Regio Twente/Netwerkstad) [45]. The aim of the Innovation Triangle is to give greater volume to these ambitions for Twente and to speed up their realisation. Last but not least, the multimodal accessibility of the Euregio is contributing to the development of the region into an internationally prominent knowledge and innovation centre [51].

The mission behind the plans to develop the Twente Airport area and surroundings – to strengthen the economic structure, with equal focus on the surroundings and on sustainability – is fully compatible with these ambitions for Twente. For that reason, VTM i.o. is searching for programmes and development strategies that complement the strong sectors already active in the area. Moreover, a strong sense of cohesiveness in the area will help Twente to put its unique selling points as a residential, working and recreational landscape (Landgoed Twente) even more firmly on the national and international map.

#### 11.2 The process of market consultation

The report 'A Flywheel for Twente' (Een Vliegwiel voor Twente) [59], which defined the provisional spatial frameworks for a complementary programme, was used as the starting point for an intensification of the ongoing market consultation procedure. Both for temporary letting in the short term and for stimulating the development of the area in the long term. This is consistent with the desire of the central, provincial and local governments to focus on a more far-reaching market approach in the development plan. The consultation procedure consists of four mainstays:

- a. consulting with businesses, housing corporations, project developers, experts and interest groups, including design studios

- b. coordinating market surveys for both variants of the plan (A and B)
- c. organising a Care & Cure expert meeting
- d. participating in (international) conferences and symposiums in order to expand the network and gather knowledge about trends and developments

*Ad. b*

**The following market surveys were conducted under the supervision of VTM i.o.:**

- From Airport to Careport (Twynstra Gudde) [56]
- Care, Cure, Wellness and Leisure (KPMG) [33]
- Commercial Civilian Airport (L.E.K. Consulting)
- Multifunctional Airport (Del Canho and Engelfriet) [12]
- Special residential environments (Motivaction) [41]
- Large-scale amusement park in Twente (Huyskens & Leisure Consultants) [31]

The information gathered from these four mainstays (A to D) has been used as input for the market-oriented validation of the programme in VTM i.o.'s land development and business case. This information is explained in detail in the following section, in which the most feasible programmes and development approaches are also described.

### 11.3 Market conditions and the need for space

In this section, the main developments and possibilities are explained for each market segment.

#### 11.3.1 The aviation market

The projections for the aviation market are that, despite the current economic downturn, the global demand for aviation

will continue to grow in the long term due to increasing international competition and the emergence of new economic centres [51]. In addition, climate, the environment, security and spatial planning related to the future development of the aviation sector are becoming increasingly important. Innovation has an important role to play in reducing the external effects of aviation. Lastly, liberalisation is becoming more extensive due to cross-border alliances, while at the same time airlines are tending to consolidate more. This is closely related to the network quality of the Netherlands in a global perspective, thus creating new opportunities. In order to examine these developments in relation to each other, the Dutch government has formulated policy for the airports in the Netherlands: the Aviation Policy Memorandum [51].

#### Aviation Policy Memorandum and the recommendations of the Alders Commission

In the framework of the Aviation Policy Memorandum, based on regional discussions supervised by the Alders Commission, the Government is researching the possibility of switching 70,000 aircraft movements (non-mainport linked) from airports of national significance to Lelystad and Eindhoven airports. It will then be examined how other airports of national significance, particularly Twente, can provide support in accommodating extra capacity alongside their own autonomous activities. The Aviation Policy Memorandum [51] contains a number of models illustrating the potential contribution of Twente Airport to the overflow of Schiphol, including the option of military co-use. Further decision-making is still required on the issue. As one of the two possible development variants, Twente is described in the memorandum as a 'compact civilian airport in the green belt'.

#### Twente's catchment area

The Spatial Planning Agency has indicated that Twente Airport has a one-hour catchment area potential of 4.9 million

inhabitants and 34.1 million inhabitants within two hours by road. Earlier research [13] found that, based on this catchment area, Twente Airport has a possible market potential of 4.1 million passengers in the long term. Further study has shown that Twente Airport is close to several competing airports, including Münster-Osnabrück and Weeze. Schiphol and Düsseldorf can also be regarded as competitors, given their strong position on the aviation market. Partly for this reason, it is uncertain whether the aforementioned long-term potential is feasible.

#### A multifunctional airport

Del Canho & Engelfriet [12] conducted a market survey for VTM i.o. into the most feasible concept for a multifunctional airport in Twente, focusing on industrial and platform-based commercial activities and commercial leisure activities. Del Canho & Engelfriet concluded that Twente is a compact civilian airport in the green belt, based on the four mainstays: passenger transport, freight transport, platform-related industry and leisure. For passenger transport, they calculate the possible emergence of potential market space of 1.2 million passengers by 2030 for leisure/low-cost holiday destinations and air traffic to the larger European cities. For freight transport, they see possibilities in "trucking" (centre), European distribution, "value-added" logistics and military transport.

VTM i.o. has held consultations with a number of operators who have indicated that they would be seriously interested in Twente Airport if the decision turns out that way. It also emerged from the consultations that smaller corporate aviation companies, aimed at the higher segment, are also interested in Twente – that is, regional jets with destinations in Europe, the Middle East and North Africa. Talks were also held with aviation training institutes, flying schools, simulation training institutes and medical aviation initiatives deemed to be realistic.



### 11.3.2 Care, Cure, Wellness and Leisure (CCWL)

At first glance, various developments at macro level seem to point to a market for care, cure, wellness and leisure (CCWL) in Twente ? for example, the greater demand for care as the population ages, the greater willingness and ability of people to pay more for care due to increased affluence, and the fact that people attach increasing value to a healthy lifestyle. Furthermore, the increasing market forces are playing a major role, making it possible to provide high-quality care products in combination with wellness. In the area of technological development, important breakthroughs are making it possible to combine a longer life span with a higher quality of life. However, the care market is extremely complex and the primary services on a regional level have already reached their saturation point. For a feasible concept, specific niches will have to be found.

KPMG was asked to conduct a market survey into a Care, Cure, Wellness and Leisure concept in Twente, partly inspired by the De Twentse Basis business case from the foundation for alternative solutions for the airbase (Stichting Alternatieven Vliegveld Twente). The main conclusion of KPMG's market survey is that a CCWL concept in the proposed form is not considered feasible in Twente. However, a number of elements in the concept are considered to have potential. Also the combinations with sustainability and equestrian sport are seen as interesting possible developments. The most feasible care elements singled out in the survey are:- Independent treatment centres, such as:

- eye laser clinics and plastic surgery clinics;
- A care hotel (supplementary to a broader concept);
- Wellness concepts (thermal baths, health spas, etc.).

It also emerged from the survey that the focus on one single core proposition that engenders organic growth would have a greater chance of success.

It emerged from talks with representatives of the care sector in the region that a medical park in the vicinity of an airport is seen as an interesting development. Dutch people living abroad are regarded as a possible target group, as they are assumed to prefer treatment in Dutch hospitals. This target group is increasing all the time: a growing number of retirees have chosen to live temporarily or permanently in warmer parts of Europe (Côte d'Azur, Spanish coast, the Algarve, Lake Geneva). The power of this concept is that it can offer an integral health care package. A return flight from Twente, full (operative) treatment combined with preparatory care and aftercare in a nearby high-quality hotel in scenic surroundings.

Preparatory care and aftercare also lend themselves to a combination with wellness facilities (sauna, solarium, massage centre, etc.). The planned medical park close to the airport could integrate the most feasible care elements in an innovative care concept. At the expert meeting convened to assess KPMG's market survey, this concept was positively received by the experts (advisers and a medical insurance company). A supplementary market survey should indicate the size of the target group and other possible target groups (for example, military personnel) and whether this concept meets their needs and requirements.

### 11.3.3 Housing market

The quality on all levels of the supply side of the housing market in the area needs to be expanded [59, 75]. This will create space for new concepts. Opportunities in this area are particularly to be found in urban and rural settings, where there is space for the development of distinctive residential concepts and environments [59,74]. This

is underlined by the Motivation market survey commissioned by VTM i.o. [41]. Motivation concluded that there are plenty of opportunities for theme-based residential enclaves, each with its own strong identity (or sub-identity). In the talks with market parties and housing corporations, the possible concepts included residential & care concepts, an equine-based residential neighbourhood/equestrian living, and theme-based homes and facilities allied to the Indian culture. At the same time, one of the policy objectives of the Municipality of Enschede is to expand the number of homes in the higher segment of the housing market in order to attract and retain more highly qualified people.

#### 11.3.4 Business premises, industry and offices

With regard to the business premises market and office market, which is a replacement market in Twente, there is a need for a qualitative stimulus to improve the current supply. The demand for relatively small and independent business units is increasing steadily [53, 59]. At the same time, the Overijssel Provincial Executive has stated that in Overijssel the (future) number of regular business premises is more than sufficient to meet the projected trends. This strategy of the Provincial Executive has resulted in a smaller number of plans for building new and developing existing business premises that were distributed among the local governments in Twente as a preparatory measure [44]. This underlines VTM i.o.'s plan to focus on specific programmes for commercial activities in and re-use of existing buildings and premises.

In the case of the airport variant, Del Canho & Engelfriet's study shows that there are opportunities for platform-related industry in the form of clusters of commercial activities in the aircraft production sector and aircraft maintenance industry, including R&D and training. Del Canho & Engelfriet particularly

identified opportunities for Twente in the maintenance and repair operations sector (MRO) in assembly & disassembly and small-scale maintenance. They estimated the need for a total market space for a gross surface area of 65,000 m<sup>2</sup>. Furthermore, they identified extra market opportunities at the terminal for the retail sector, parking and R&D/training/corporate services in office spaces.

The group of interested aviation-related commercial organisations that were consulted focus mainly on MRO activities and related training. For most MRO companies, repair & maintenance activities are auxiliary and/or supplementary to their primary business activities. This is a good combination that results in excellent synergy advantages. The smaller innovative (technical) companies also expressed a great deal of interest.

#### 11.3.5 Leisure, recreation and events

The target groups that visit Twente for holidays or day trips exhibit a slightly different distribution than the rest of the Netherlands. The recreational and leisure market in Twente is aimed at short-term recreation (day trips), where particularly senior citizens and DINKY's (couples without children) are the main target group [31]. On a national level, Twente's market share in leisure activities for families is relatively low, which can be partly explained by the limited supply of facilities for this group.

Twente has no large-scale public attraction or national event and has a relatively limited and one-sided supply of accommodation. There are relatively few hotels and relatively many campsites and holiday villages. In terms of visitors and brand recognition, the current cultural facilities, attractions and events do not go beyond the regional scale level.

There would seem to be space on the market for a large-scale public attraction in Twente. For that reason, VTM i.o. commissioned the Huyskens & Leisure Consultants syndicate to conduct a market survey in this area [31]. They concluded that a large-scale public attraction – provided it is run in a businesslike way and based on a strong, attractive concept for Twente's economy and image – can provide a positive stimulus consistent with the ambitions defined for the region [31]. For a large-scale public attraction, visitor numbers of between 400,000 and 750,000 are possible, depending on the degree of innovation, national appeal and layout as a holiday destination rather than a day-trip destination. If those conditions are met, a figure of 1,000,000 visitors is not inconceivable in the long-term. This new flow of tourists will particularly stimulate an increase in the number of hotels and the existing capacity in holiday villages and campsites. In addition, the interests, accommodation wishes and holiday dates of this relatively new flow of tourists are generally compatible with the wishes and capacities of the current leisure target group in Twente.

At the same time, in their market survey [12] into a multifunctional airport Del Canho & Engelfriet identified market opportunities for the leisure sector on a site of 40 hectares, with the focus on a 'flagship' attraction. The categories of theme parks, amusement parks, culture, wellness/beauty/relaxation and events have the greatest potential.

Based on the exploratory talks with businesses, VTM i.o. has found that there was a good deal of interest in realising a large-scale public attraction at or near the airport.

### 11.3.6 From market consultation to spatial development strategy

The market consultations showed that the market is interested, so it is important that the spatial planning framework for further elaboration of the spatial development strategy is flexible enough to facilitate the best possible spatial integration and development of the programmes. Combinations of functions should not be excluded out of hand. For this reason, when the programmes are being allocated during the various implementation phases the market will be shown the necessary flexibility in the spatial and programme-oriented framework.

## 12 Spatial development strategy Model A

### 12.1 Spatial development strategy Model A

This spatial development strategy is based on the extensive reprogramming of the former military airbase in Twente. The restoration of the natural water system and the transformation of the runway and the area south of the runway into a new area of natural beauty, country estates and agricultural lands will strengthen the natural values of the site and make the ecological main structure north of the airbase more robust. In this new landscape, the structure and the architecture of the former airbase will be clearly recognisable. The infrastructure of the airbase and a number of buildings will be re-used in the new programmes that become established in the area. When reprogramming the area, the emphasis to the north of the former airstrip will be on care and cure and tourism in the shape of leisure and a resort park. To the south of the airstrip, besides the new area of natural beauty a mix of theme-based residential clusters and leisure functions will give colour to the area. These new programmes on an airbase that used to be tightly secured and isolated will be made accessible by a system of lanes that interlace the site and embed the location in its wider surroundings. The old infrastructure of the base will play an important role in this network of transport links.

This spatial development strategy is explained in the following sections by first of all describing four important underlying motifs that largely determined the spatial choices that were made when the vision was being formulated. These motifs are part of the area's current spatial and functional characteristics. In the spatial development strategy, these motifs are worked out in detail and strengthened as future carriers of the spatial quality.

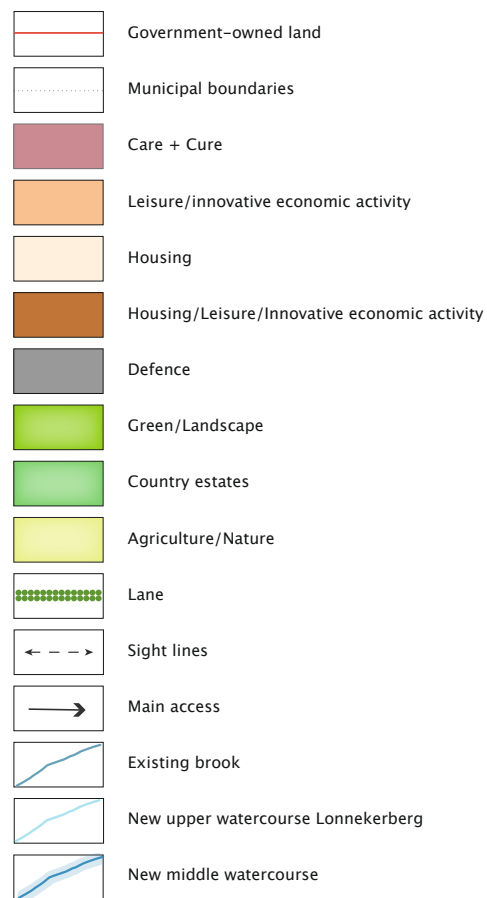
Following this, the four constituent layers of the spatial development strategy are explained. These four layers are the landscape, the infrastructure, the cultural heritage of the area and the programme. Finally, the subareas to be defined are described and explained in detail. The emphasis here is on the way the areas have been or can be reprogrammed and what this can produce in terms of programme-based density and quality. This description of the subareas is then worked out into a plan sketch, which visualises a possible final configuration to be created on the basis of this spatial development strategy.

### 12.2 Design motifs

#### The former airfield as a country estate

The area between Hengelo, Enschede and Oldenzaal (the planning area), can be typified as a patchwork of enclaves embedded in a landscape of open fields, woods, brooks and meadows. The enclaves are non-agricultural units that differ in a number of respects from their surroundings and generally have urban origins. At present, the airfield and the camps are like private and semi-public enclaves in the area and in that sense can be compared to the existing estates of Hof Espelo, Oosterveld, and 't Holthuis. This characteristic of the estates, which were designed as formal and autonomous structures that manage and run the planning area, is one of the guiding design motifs for this structural sketch. The planned enclaves will be linked by a system of access lanes to the transport network, making them accessible to motor traffic. Other than these access lanes, no new infrastructure will be added. This will ensure that no new through-traffic network for motor traffic is introduced into the area. (Ill. 12.2 and 12.3)

## Illustration 12.1: Spatial development strategy Model A



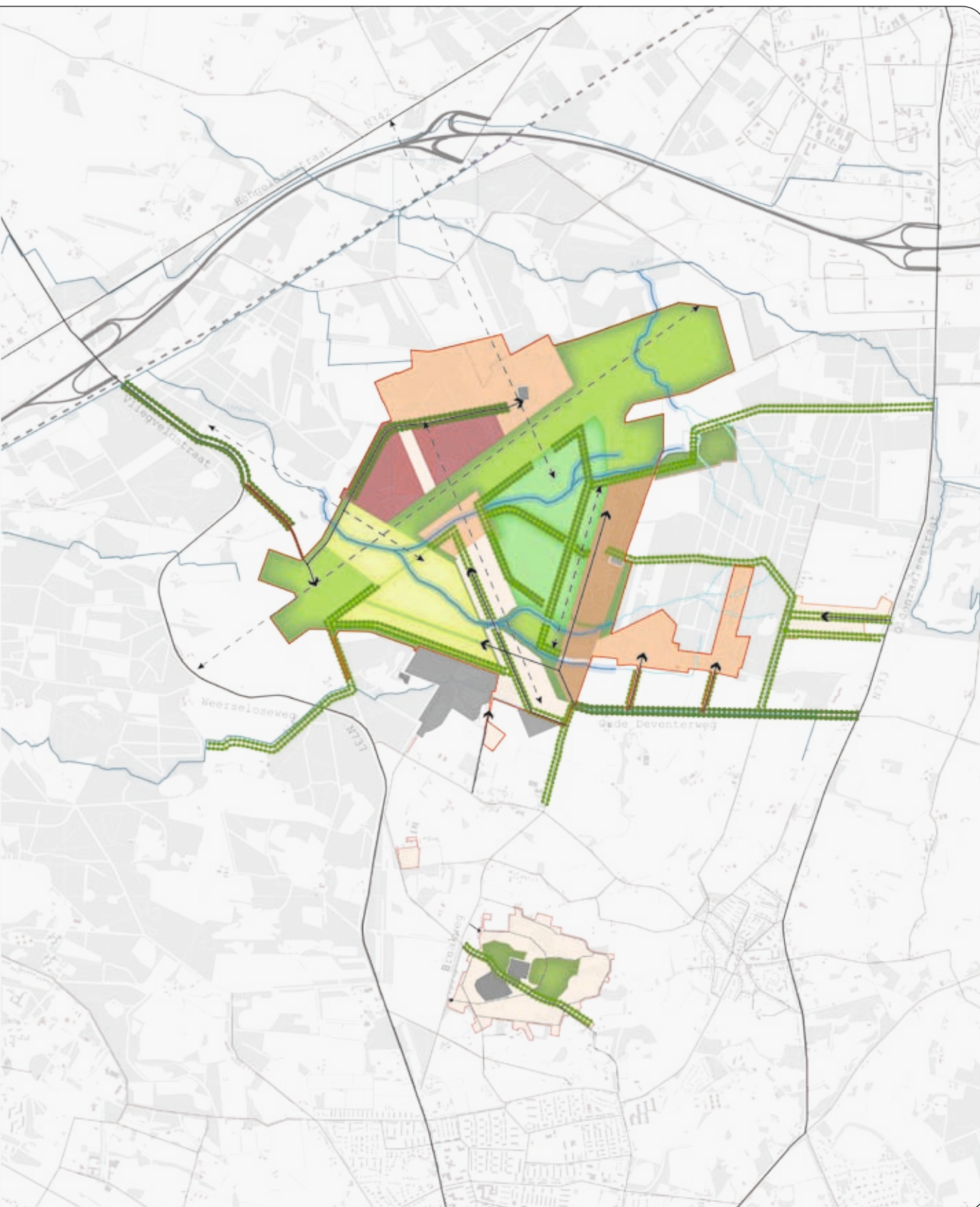




Illustration 12.2 Weldam estate



Illustration 12.3 The former airbase



### Contrast between nature and culture

The contrast between the culture and the natural surroundings is very characteristic for the landscape between Hengelo, Oldenzaal and Enschede. This contrast can be seen, for example, between the specially designed landscape of country estates with lanes, sight lines and artificial lakes and the natural water system and the natural land topography. There is also a unique contrast between the indigenous vegetation such as oak and alder and exotic plants and trees such as red beech, sequoia and horse chestnut on the estates. Moreover, the Twente landscape as a whole is mainly a cultural landscape in which man has shaped the natural surroundings. Very few of the natural water systems in the area have not

been re-directed by man, and all the forests in the area have been planted.

The landscape design for the planning area explicitly focuses on this contrast between nature and culture and shapes it in a new way. In doing this, the design includes many references to features of the existing estates.

### Contrast between intimacy and openness

Up to just a few decades ago, there were major contrasts in the Twente landscape between its open and enclosed character. The large-scale open areas were quite recently reclaimed heaths, while the small-scale enclosed areas were located in and around the old landscape of open fields, brook valleys and villages. At most locations

in Twente, this striking contrast has now disappeared, but it is still largely discernible in the landscape north of Enschede, thanks to the military's use of the area over the past 65 years.

The forests are also mainly located on the former heaths and they too have the characteristic large scale and straight lines. Zuidkamp is an example of a very small-scale old cultural landscape, while the landscape around the former military airbase has the characteristic openness and straight lines of the recent heathland reclamations. If you squint at the landscape and in your mind's eye replace the colour of grass and concrete with purple, you could easily imagine yourself to be on a 19th-century heath. This typical contrast is the dominant spatial quality of the area. However, the edges of the open space are quite arbitrary and 'uneven', and so the current situation does not do full justice to the monumental nature of the openness. In the structural sketch, the contrast is further increased by formally encircling the open plain of the runway with a subtle system of open fields, giving it a certain orientation and optically anchoring it in its surroundings with strong sight lines. From the access lanes and the edges of the planning area, the central open space is then perceived as a logical hub and the pattern of the open spaces structures the landscape surrounding the airbase. In this way, the Lonnekerland is given a new élan but still retains its cultural heritage.

### Dynamism versus tranquillity

The open plain of the current runway divides the planning area in two. On the north-western side there is the area between the A1 motorway and the runway, and on the south-eastern side the landscape of Lonnekerberg. This dichotomy and proximity of the A1 to the northern side has inspired a logical programme-based zoning of the planning area. To the north-west of the runway, directly accessible from the A1, will be the intensive and dynamic programmes that benefit from

Illustration 12.5 Intimacy



Illustration 12.6 Large-scale openness



Illustration 12.7 Existing open spaces



accessibility. On the south-eastern side, accessible from Oldenzaalsestraat, will be the less intensive programmes that focus on residential functions and more exclusive types of commercial activity and recreation. (ill. 12.5, 12.6 and 12.7)

## 12.3 Landscape

### Open space and long sight lines

The large-scale openness on the site of the current airbase is an important landscape feature. The dimensions of the space in the airbase create a spectacular and dramatic contrast with the small-scale surroundings and also with the rest of Twente. The former airbase is a monument to the stark emptiness of the barren land, which has characterised the Twente landscape for many centuries. The design therefore carefully preserves that openness and sometimes even restores it. The design includes four large open spaces that structure the programme on the former airbase and that also connect the area with the surroundings. The variety in the dimensions of the space, the planting on the boundaries or the panorama, and the differences in the programming give each space its own specific character.

The existing space of the former runway will be the central open space. This section will be designed as an area of natural beauty, featuring wet grassland, in which the runway will largely be retained as a relic. By removing the current drainage systems, the current dry grassland will gradually become wet again. The combination of a soil low in nutrients and moist conditions has become a rarity in the Netherlands and it is expected that wetting the soil will lead to new, higher natural values. Existing and new fringes of the woods will line the boundary of this open space. Buildings will be interspersed throughout this area.



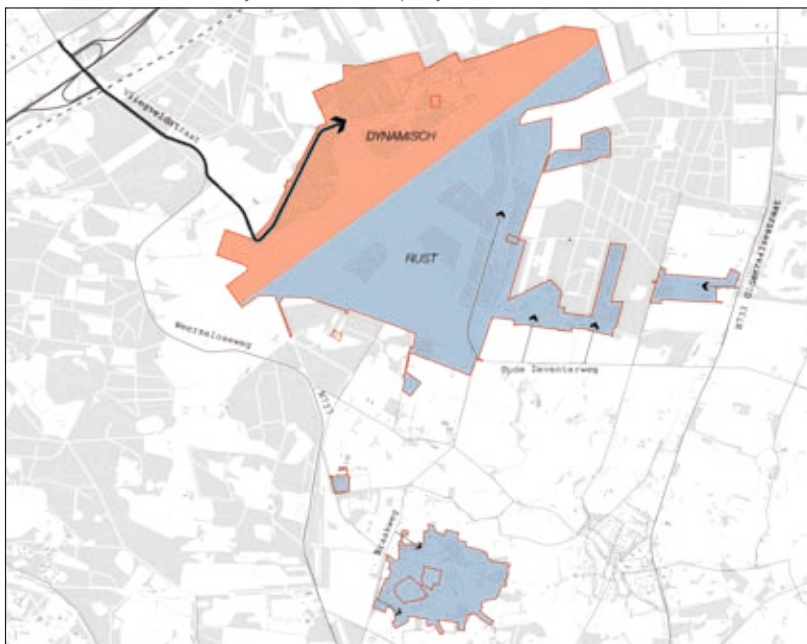
Illustration 12.8 Dynamism



Illustration 12.9 Tranquillity



Illustration 12.10 Model A: Dynamism and tranquillity



The second space is the entrance space from Vliegenveldstraat-Weerseloseweg. This space consists of a brook that flows through wet grassland and meadows in agricultural use. The boundaries consist of woods. The entrance space provides a view of the open space around the former runway.

The third space is linked to the eastern entrance, a continuation of Oude Deventerweg. Along the existing taxiway, homes in the character of equestrian living can be developed with their own pastures.

The fourth space stretches from the A1 motorway as far as the runway. Using the existing open space created by a former pipeline, the heathland can be restored in an elongated space in accordance with the Land Use Commission. That will evoke the memory of the open and silent heathland of the past and will also create a symbolic link with the fast-moving world of the 21st century. This space will be bordered by woods.

Between the new watercourses of the Jufferbeek and Blankenbellingsbeek brooks, a lookout hill will be created beside the former runway. The hill will be covered in lilac shrubs (Seringenberg) similar to those on the De Horsten estate near Wassenaar. When the lilacs blossom in April and May the hill will be a wonderful attraction, and during the rest of the year it will be a place from where people can admire the newly created landscape.

### **The national ecological network and nature development**

In the current situation, the airbase is like a recess in the national ecological network; there is a bottleneck in the national ecological network between the business park of Hanzepoort in Oldenzaal and the top of the former runway. With the development of model A, there is now a proposal to review the boundary of the national ecological network. In spatial development



strategy model A, the ecological structure is significantly strengthened by restoring the natural water system of the Jufferbeek brook. Restoration of the Jufferbeek brook means that, in the future, the national ecological network can be widened where it is now at its narrowest. On the northern side of the airbase, there is a proposal to move the boundary of the national ecological network in a northerly direction due to of the development of the leisure programme there. In the A1 zone, the north-western connector area of 12 hectares around the Jufferbeek-Deurningerbeek brooks will be strengthened as part of the planning framework for land development. On the south-western side of the planning area, agriculture has been programmed, which means that the ecological values there are expected to be low.

The total area of natural and green development occupies some 250 hectares. Of this total, ca 50 ha is zoned for the national ecological network. The balance of a new and an old national ecological network to be realised inside the planning area will amount to some 15 hectares net. Some 175 hectares (gross) of the total of approximately 225 hectares will be allocated for the establishment of nature areas comprising about 60 hectares of country estates, some 55 hectares of agricultural land and about 60 hectares of grassland.

### Restoring the natural water system

With regard to restoring the natural water system in the area, VTM i.o. will follow the recommendations of the Regge & Dinkel Water Board [64]. In the past, the airbase was drained intensively and this considerably disrupted the natural water management system [39, 64]. Moreover, the site has been levelled off, causing the original land topography to disappear. There are now no traces to be found in the soil of the original watercourses or brook valleys. Restoring the natural water system therefore means creating entirely new brooks that become

the missing links between the (new) upper watercourses on Lonnekerberg and the amputated watercourses downstream of the airfield. The emphasis is therefore on restoring the natural water system in its entirety and not just restoring a bygone historical situation. Restoration of the system can give an enormous stimulus to the natural values in the area. On Lonnekerberg, the Landschap Overijssel Foundation is filling in ditches, which is improving the sponge effect of the lateral moraine and creating new upper watercourses.

In spatial development strategy model A, the water system will be restored by removing the drainage systems on large areas of the site. By digging new watercourses on the site of the former airbase, the brooks can again flow in a westerly direction from the source area of Lonnekerberg, based on a management proposal made by the Regge and Dinkel Water Board. The Jufferbeek brook will be restored with a new branch that originating from Lonnekerberg. The Hesbeek brook will be restored on the flank of Lonnekerberg north of the strip. At the southern side of the strip, the catchment area of the Blankenbellingsbeek brook will also be restored.

Both new watercourses for the Blankenbellingsbeek and Hesbeek brooks will join together in the watercourse of the current Hesbeek brook. These brooks will be merged because this produces the most robust water system with a main flow that will always carry water. If both brooks were to continue as individual brooks, the watercourses would dry up in the summer, which is undesirable [64].

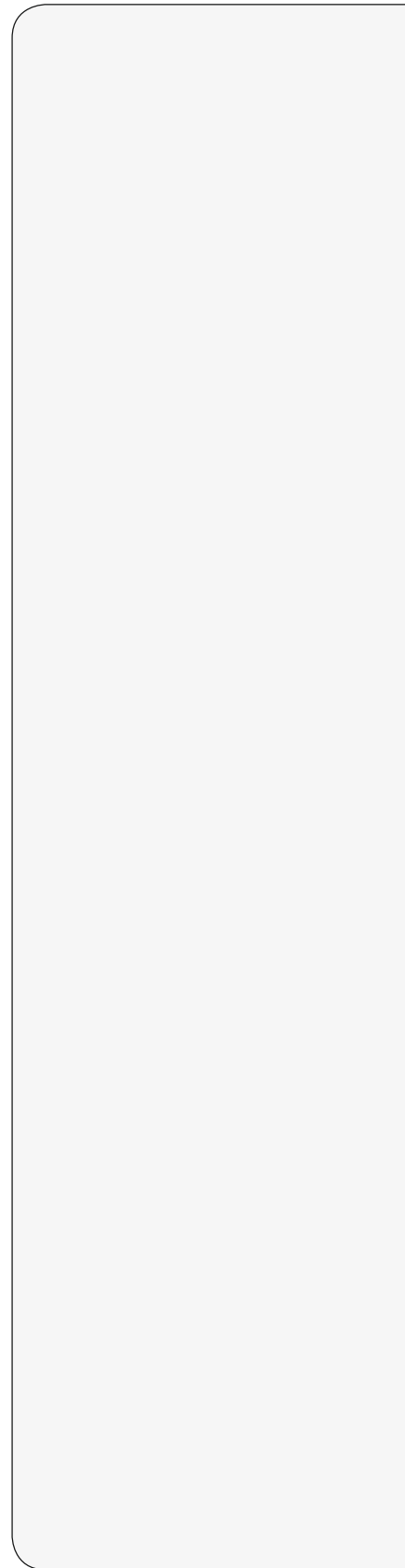
In the entrance area to the 'care estate' at Vliegvelddstraat, the retention area of the combined Hesbeek brook will be increased. This will give the entrance a special natural look and feel, with a panoramic view of the brook valley and the surrounding wet grassland.

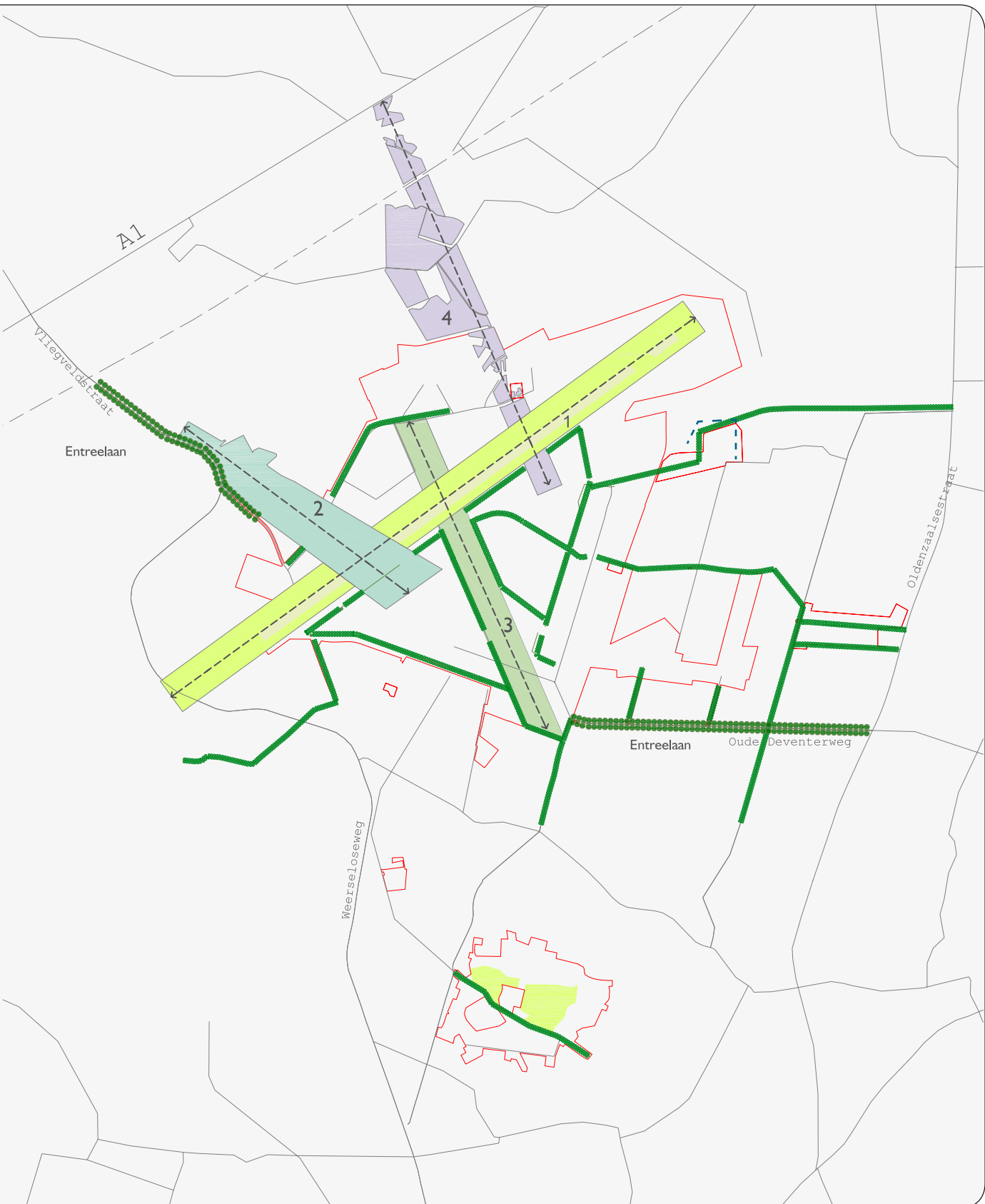
The removal of the nutrition-rich top layer of the soil will create a slightly lower zone on both sides of the brook that could develop into a brook valley in the long term. These zones will be up to 120m wide downstream and up to 70 m wide upstream and will be constructed with an 'accolade profile', thus creating space for a 'co-flowing water storage'. The brooks themselves, like most of Twente's brooks, will form narrow and fast-reacting brooklets that can flow outside their banks during rainfall peaks. In many cases, hiking paths will be constructed at the edges of the brook valleys. In that way, the brook valleys will function as threads that connect the different components of the landscape and make them accessible to hikers. (ill. 12.13, 12.14, 12.15, 12.16, 12.17 and 12.18)

### Landscape structure

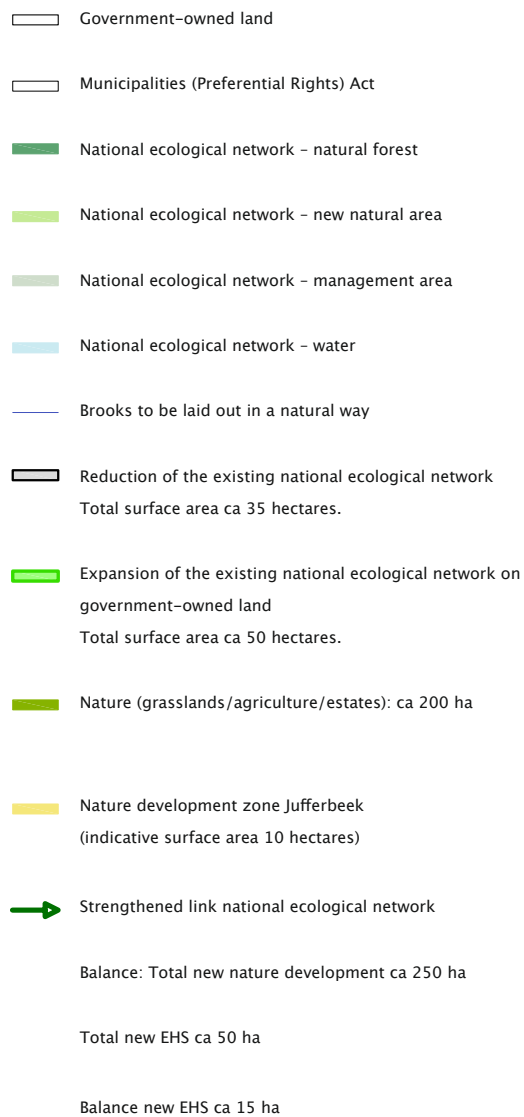
The landscape map gives an impression of the landscape structure to be created when the aforementioned landscape elements are combined. The restored brooks will be the first, rugged layer in the future landscape structure of the former airbase. The second layer will be created by a system of entrance lanes and other lanes that structure the landscape and link it to the surroundings. The third layer will be formed by the essential open spaces, each with its own colour and character, such as heaths, wet grassland and meadows. These spaces will be defined as much as possible by existing copses or areas of new forest to be planted. This will give rise to a clear notion of space, consistent with the vision of the former airbase as an estate in the middle of other estates. In addition, any buildings will be integrated into the new woods or copses. In the south-western corner, the former airbase will be the most open area because of the farm to be established there. In the ecologically valuable transition area from Lonnekerberg, there will be space for the development of valuable seepage vegetation. The artificial hill with a view out over the landscape will be an eye-catching landmark.

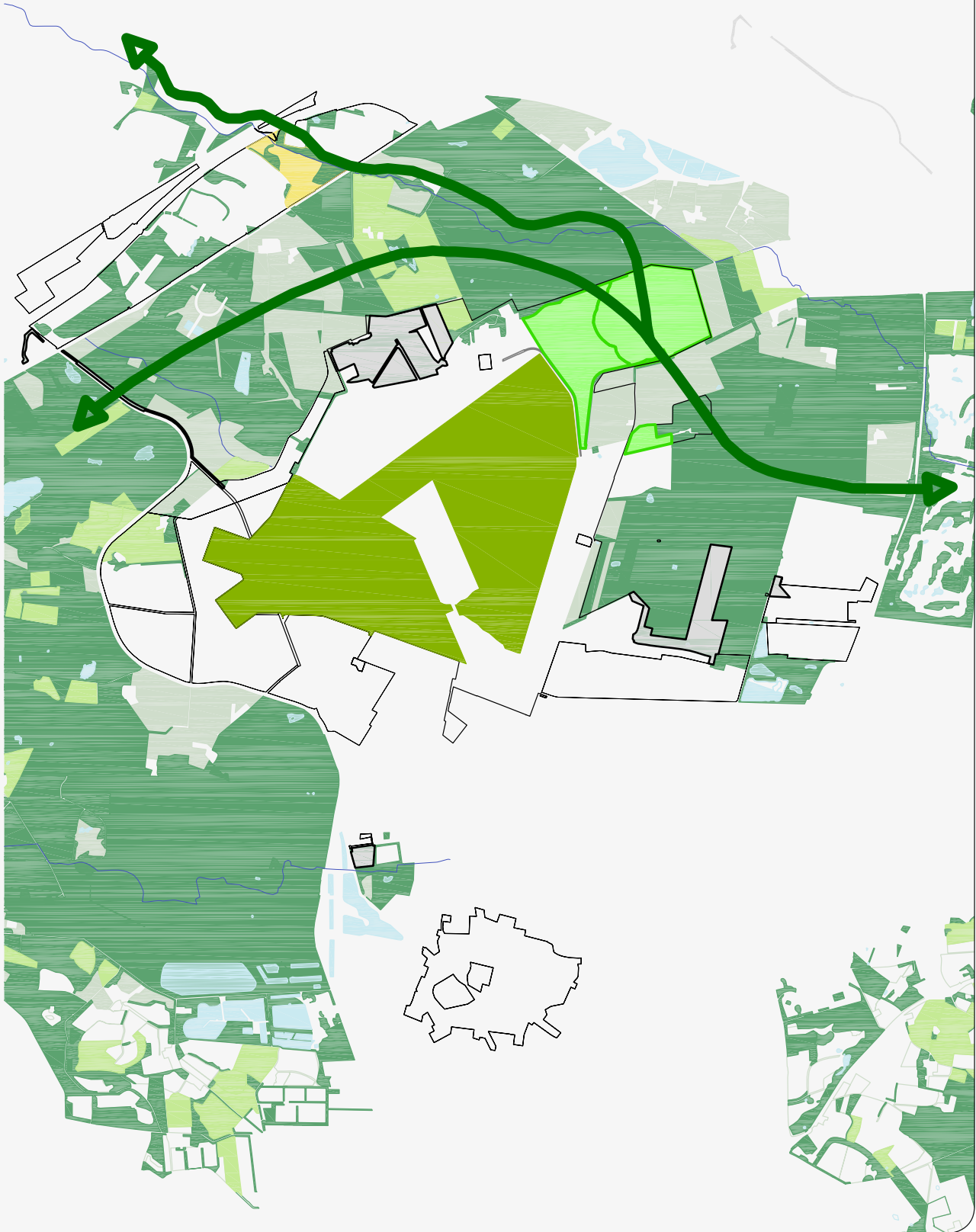
### **Illustration 12.11: Essential open spaces and lane system**





## Illustration 12.12 Model A: Strengthening the national ecological network





## Illustration 12.14 Model A: New brook system

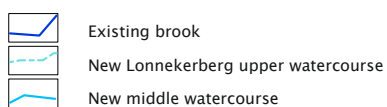


Illustration 12.13 Restoration of the natural water system in the Water Board Management Decision for model A

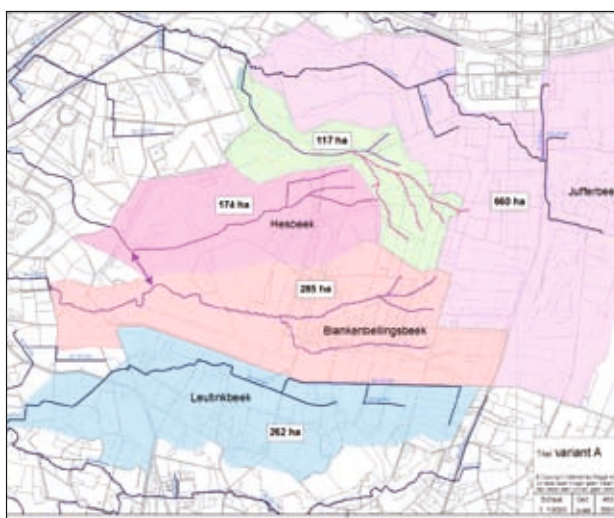
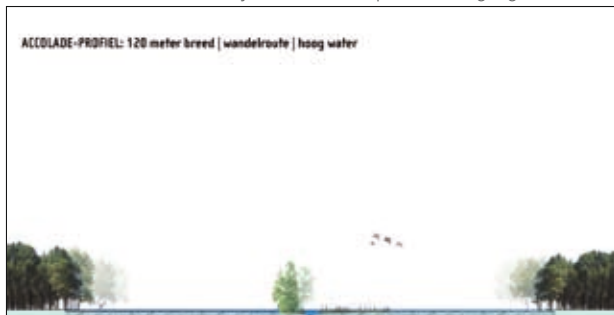
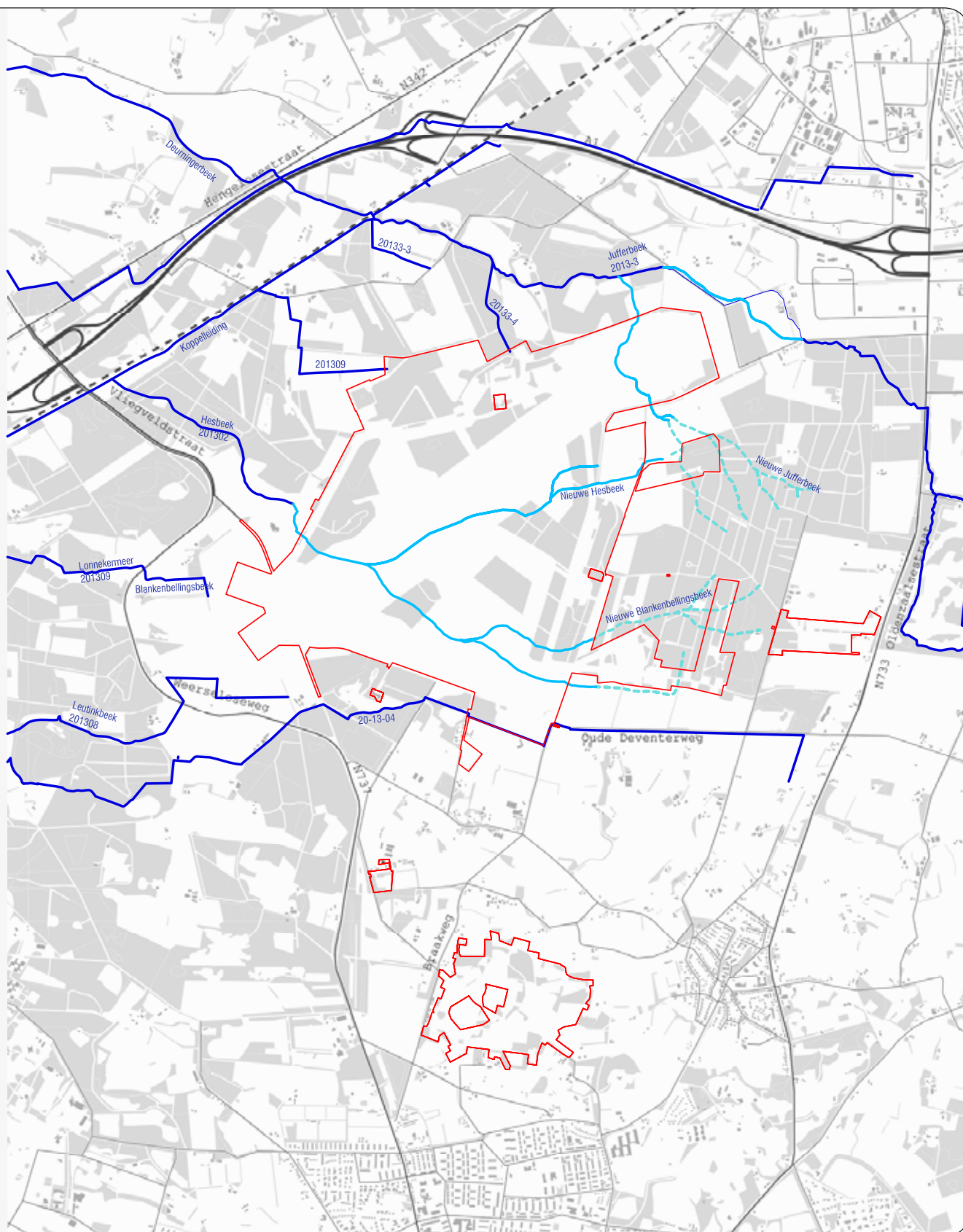


Illustration 12.15 Brook valley with accolade profile and footpath



Illustration 12.16 Brook valley with accolade profile during high water







## Illustration 12.19: Model A: Landscape map





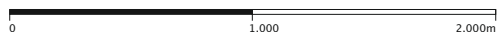


Illustration 12.17 Lookout hill (Seringenberg)



Prins Bernhardpark will continue to have a landscape structure, with two lanes with buildings in between in a park-like layout.

In Zuidkamp, the informal landscape structure will be absorbed with two green strips on the central lane.

Kamp Overmaat will retain its park-like layout. (ill. 12.19)

### 13.4 Infrastructure

The planning area is strategically situated between three through-traffic infrastructures in the region: in the north by the combination of the Amsterdam-Berlin rail link, the A1 motorway and the N342 (the A1 zone); in the west by the N737 (Weerseloseweg), which provides access to the north of Enschede; and in the east by the N733 (Oldenzaalsestraat), which provides access in the north to the A1. At the southern side of the former airfield, the area is accessible by means of four lanes: Oude Deventerweg, Snellenweg, Braakweg and Vliegvelddstraat, that link up with Weerseloseweg and Oldenzaalsestraat. Only Braakweg is suitable for through traffic, as the other three come to a dead end at the fence of the former military base.

Behind the fence on the site of the airfield, a ring road runs around the runway and links all the former airfield functions. A system of taxiways links the runway with the hangars and the current terminal. (ill. 12.20, 12.21 and 12.22)

#### Car network

Elaborating on this characteristic of a potentially easily accessible but at the same time isolated enclave, the various locations will be accessible to motor traffic by a system of access lanes that link up with the existing road structure. These access lanes are not linked to each other and therefore do not create a network for through traffic.

To the north-west of the former runway, linked to Weerseloseweg, the existing infrastructure of the airbase will be used as a central lane that will provide access to the new programmes.

A traffic engineering study has shown that autonomous traffic development will cause congestion problems on the access roads from and to the area in the future. In addition, extra programmes will be added as a follow-on to this redevelopment. This will function as the basis for an adjustment of the traffic infrastructure as currently proposed. The 'Regional Traffic model 2004, update 2006', which includes the other planned

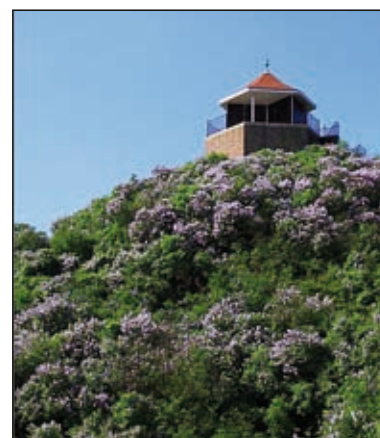


Illustration 12.18 Seringenberg reference photograph from the De Horsten estate

regional developments, was used to perform the calculations [61].

In the long term, it is proposed linking the A1 with the N737 with a direct slip road close to Frans op den Bult. Initially, the current link road to the A1 at Hengelo-Oost will be used. Between this new link and Oude Vliegvelddweg, the road will be widened to two times two lanes with a parallel road for slow and agricultural traffic. This road width will effectively handle the expected traffic load.

Prins Bernhardpark opens up onto Oldenzaalsestraat. Oostkamp, the airfield strip and the residential enclaves will be accessible by a system of branching lanes that link up with Oude Deventerweg and largely use the airfield's present taxiways and ring road. It is possible that the Oude Deventerweg will be provided with a bicycle path. The residential enclaves of Zuidkamp and Kamp Overmaat will be accessible to motor traffic from Braakweg and Vargershuizenweg, respectively; this will not require any change in the road width. In Zuidkamp ? in accordance with the 't Vaneker planning development ? the ring-shaped structure of the existing roads will be used for access by motor traffic. In this way, the centrally located Zuidkampweg can be upgraded as a limited-traffic/free central axis in the park-like residential area.

The location of Defence to the south of the former airbase will continue to be accessible from Lonnekerveldweg. (ill. 12.23 and 12.24)

### Bicycle network

The redevelopment of the former airbase will make it possible to add the system of taxiways and the ring-shaped road structure around the runway to the slow-traffic network in the surroundings. The creation of a number of strategic "couplings" will create a finely-meshed structure of slow traffic routes. Both in a north-south direction and in an east-west direction, this will create interesting through-traffic routes for recreational use that interlace the location of the former airfield. From Zuidkamp, it will be possible to reach Lonnekerberg by two routes. Unlike the limited access for cars, this structure firmly embeds the redeveloped enclaves in the region for cyclists and pedestrians. (ill. 12.25, 12.26 and 12.27)

Illustration 12.20 Model A: Impression of the central open area with wet grassland and a care institution



Illustration 12.21 Model A: Impression from the Vliegvelddstraat access point with a view over the Hesbeek brook valley



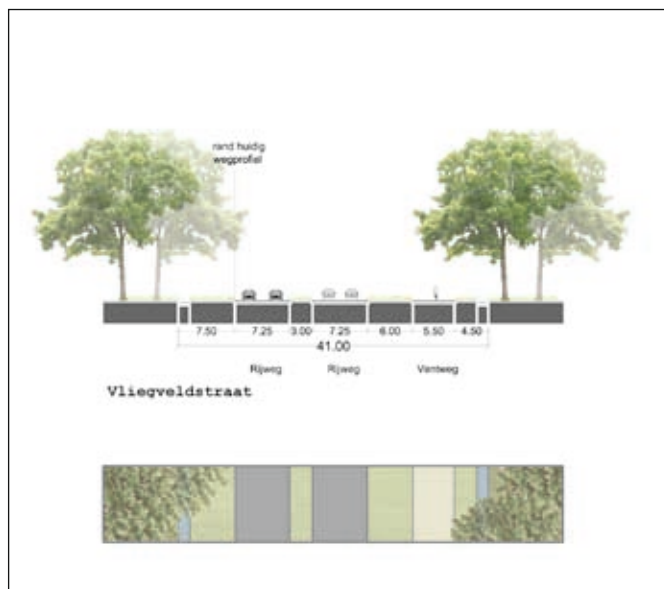
Illustration 12.22 Model A: Impression of the Oude Deventerweg access point



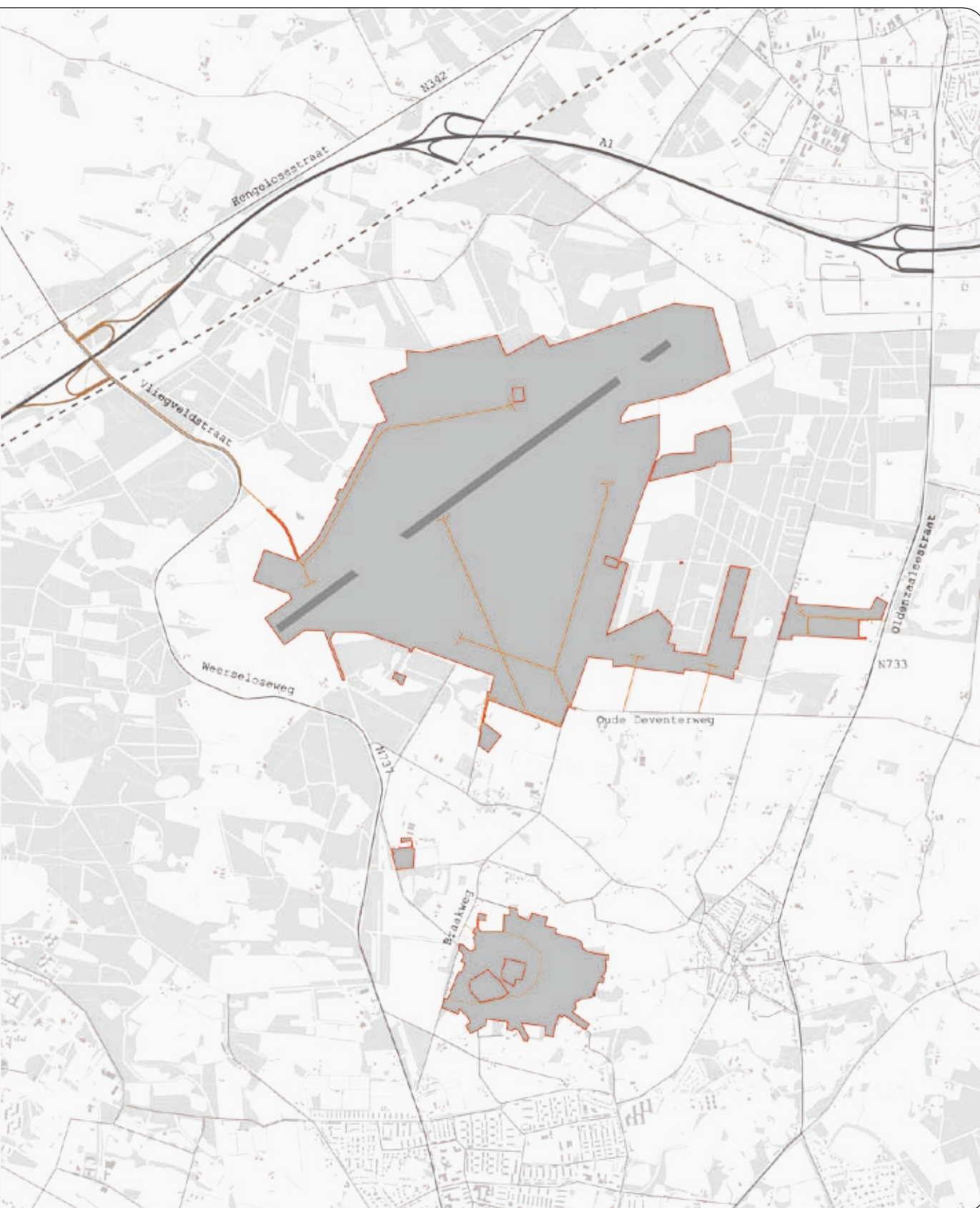
## Illustration 12.24 Model A: Car network



Illustration 12.23 Cross-section A, Vliegveldstraat, N737







## 12.5 Cultural heritage and natural values

### Base

The location of the various runways and taxiways will determine the appearance of the airbase.

This existing structure will be the template for the new car and bicycle links on the site.

The wide, open elevation of the taxiways will be used to make the area accessible to cars.

The circular inspection road around the taxiways and landing strips will be used as a cycle route.

Characteristic buildings such as the fire station and the traffic control tower along the north-south taxiway are included in the plan. These buildings, together with the surrounding buildings and shelters, characterise the site and provide ample opportunities for redevelopment.

In addition, various valuable elements such as “the bunch of grapes”, Muniestraat and various hangars (including H11), will be included in the plan.

Where possible, locations with important natural values, such as ponds, the sites of special plant species and bunkers in which bats shelter, will be integrated in the development.

### Prins Bernhardpark

The dispersed locations of the buildings in the woods, called urban planning camouflage, are characteristic for this area.

The original area contained more buildings, but they no longer exist. All the remaining buildings will be retained and redeveloped. Any new buildings that are added will blend in with the original level of density and dispersal and the current height of the trees.

### Zuidkamp

Zuidkamp is characterised by a rural structure in which the buildings are randomly dispersed in a small-scale agricultural landscape. In the plan, as many of the existing buildings as possible will be retained – particularly the binding structure of Zuidkampweg, where historical buildings are located in a park-like setting.

### Kamp Overmaat

The park-like ensemble with a country house, lake and rows of trees will be retained. The house will be reduced to its original shape. There is the possibility of adding several outhouses to the residence. (ill. 12.28 and 12.29)

## 12.6 Programme

The very accessible northern plan component of spatial development strategy A permits more intensive programmes and includes functions for leisure, care, cure and wellness facilities and, to a limited extent, living/working combinations. The leisure function includes possibilities for a resort park with more than 100 homes and specific public attractions.

The construction of homes is proposed in various parts of the plan. These additions are particularly aimed at the upper market segments, in accordance with the plans and policy vision of the Municipality of Enschede. To make this possible, every attempt was made to find differentiations and niches in the market. These niches in, for example, equestrian living, care concepts and community living, will be financed by market initiatives and developing parties. In addition, six new estates will be proposed in a nature zone of approx. 60 hectares in the southern subarea. The other residential building zone – for a total of almost 285 homes – will be located in Zuidkamp, Prins Bernhardpark and the southern plan component of the airbase.

In Oostkamp (25 hectares), the potential and qualities of the existing property will be utilised to a significant extent. This property covers a gross surface area of approx. 25,500 m<sup>2</sup> and will facilitate leisure, events and innovative commercial activities. Oostkamp will be accessible from Oude Deventerweg, from where it will also be possible to access the strip. The nearby strip on the eastern side of the airbase and at the foot of Lonnekerberg will be home to a collection of special buildings in terms of both their cultural heritage and their function. In this area of almost 25 hectares, a limited programme for innovative commercial activities and services and a few residential buildings are envisioned that blend in with the landscape and shape itself to and merge with the landscape qualities and the existing characteristic features. In this way, opportunities will be created for new enterprise, still to be strictly defined. It may involve very extensive forms of enterprise, such as a brandy blending centre that finds a suitable location in the former munitions bunkers. Or the combination of living and working on large lots that can be fleshed out extensively. In such a case, the existing property can be recycled and new buildings can be constructed on a limited scale. (ill. 12.30)

## 12.7 Model A plan sketch

The plan sketch illustrates a possible final impression produced by the spatial development strategy for model A. The former runway will be transformed into an elongated, historical heathland, interlaced with the brook valleys of the Jufferbeek, Blankenbellingsbeek and Hesbeek brooks. The elongated central space is a reminder of the former runway. The grass strip will be embedded spatially in the surrounding landscape with four sight lines, thus increasing its scenic quality. The landscape will be structured with a system of tree-lined lanes that provide access to the programmes nestled in the area. As part of the new

recreational network, the access lanes will be lined with pedestrian paths.

The brick-paved road of the former airfield links all the functions around the elongated grass strip to each other and into a single circuit for slow recreational traffic.

North of the airstrip, the care & cure-related programme is situated in a campus-like setting of pavilions. The location of “the bunch of grapes” contains space for a resort park and the large sheds and hangars have plenty of space for a leisure programme such as a theme park.

South of the grass strip, the programme consists of estates, agricultural land and an “equine-based residential neighbourhood” along one of the former taxiways. Along the taxiway at the foot of Lonnekerberg hill, the strip of historical airfield buildings can be recycled in combination with limited options for new buildings in an ambience of homes for living and working on large lots. The former traffic control tower is a landmark component of this strip.

The Zuidkamp, Prins Bernhardpark and Kamp Overmaat camps will be transformed into residential enclaves pleasingly nestled in the landscape. The majority of the historical buildings and the character of the original spatial structure will be integrated into the redevelopment as indicators of the future quality of the development. Oostkamp will be bisected by a bicycle and hiking route that divides the area into two locations, which will be accessible by means of two access lanes linked directly with Oude Deventerweg. On the site around hangar 11, there will be space for organising events. The eastern section will include space for an extensive leisure programme/innovative commercial activities with re-use of the existing munitions bunkers. (ill. 12.31 and 12.32)

## 12.8 Phasing and planned economy

This chapter deals with the programme-based and financial aspects of the subareas in the following order:

- Airbase
- Oostkamp
- Zuidkamp
- Prins Bernhardpark
- Kamp Overmaat

The final summary displays the total result for spatial development strategy A. This is followed by an analysis of the risks associated with the realisation of spatial development strategy A.

### Airbase

The airbase subarea covers ca 414 hectares of government-owned land. In addition, 2 hectares of land still to be acquired have been added to the development area to accommodate the main access road (including green fencing).

This subarea will be developed in phases over the period up to and including 2020. The allocation will start in the north and Oostkamp (from 2012), followed by the middle (to be allocated from 2014) and lastly the east (to be allocated from 2017). The investments will be made prior to this. The existing property will be deployed from the start. This phasing will make it possible to satisfy the requirement to have started constructing the national ecological network before 2018.

Excluding Oostkamp, the space at the airbase will be used in the following way: (table 12.1)

With the inclusion of 133 hectares of natural and green development, the share of green and water in spatial development strategy A comes to 35% for the airbase (excl. Oostkamp).

### Oostkamp

Oostkamp covers an area of more than 25 hectares, which also includes the new access roads in the development area. The development of Oostkamp can start in the short term, independently of the other developments at the airbase. It is assumed that the allocation of land can be completed by around 2014. The existing property, more than 25,000 m<sup>2</sup> of gross surface area, will be sold off in smaller lots in phases after the decision has been taken about the area.

The following table indicates the use of space for Oostkamp. (table 12.3)

The existing area (approx. 95% of the subarea) will be allocated with all the existing infrastructure, which is in satisfactory to good condition.

### Zuidkamp

Zuidkamp is an area that covers more than 43 hectares. The area will be redeveloped into a green and luxurious residential area, and the existing green and road structure will largely be integrated into the new development.

Zuidkamp will be developed in phases, and several lots will be sold every year over a lengthy period (2012 through 2023). Investment will follow the same pace. In this subarea, 154 homes will be realised. (table 12.3)

The programme has allowed for the option for a commercial facility and a differentiated residential programme. The aim of the programme is to utilise and harness the existing quality of the area. To achieve this, the programme will preserve as much of the existing property as possible.

### Prins Bernhardpark

Prins Bernhardpark covers an area of more than 10 hectares. In addition to the existing four homes, 15 new spacious lots will be developed in line with the spatial development strategy. The officers' mess will

## Illustration 12.27 Model A: Bicycle network

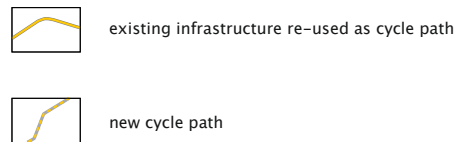


Illustration 12.25 Cross-section B, cycle route through estates

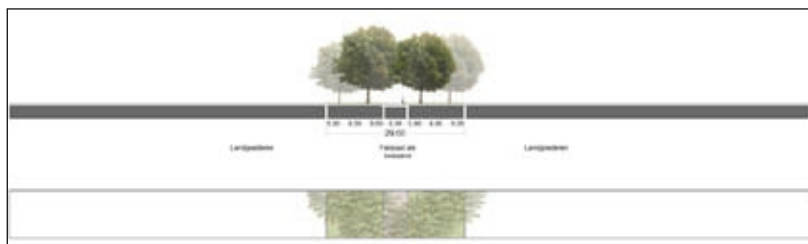
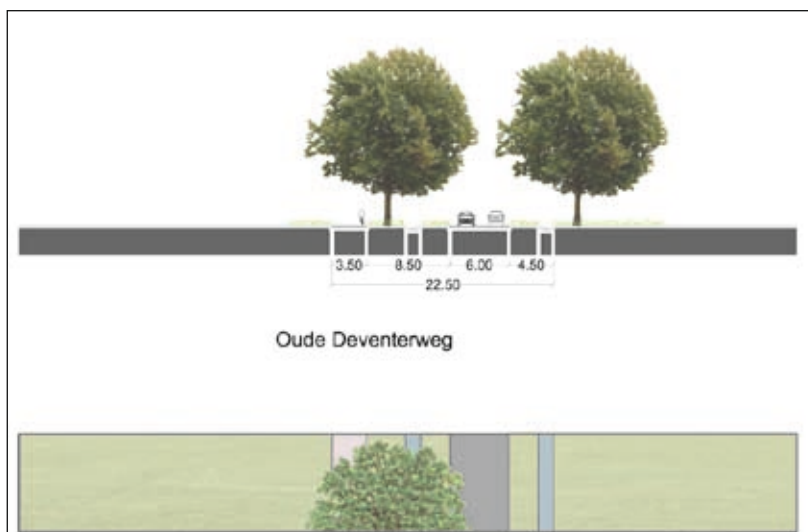


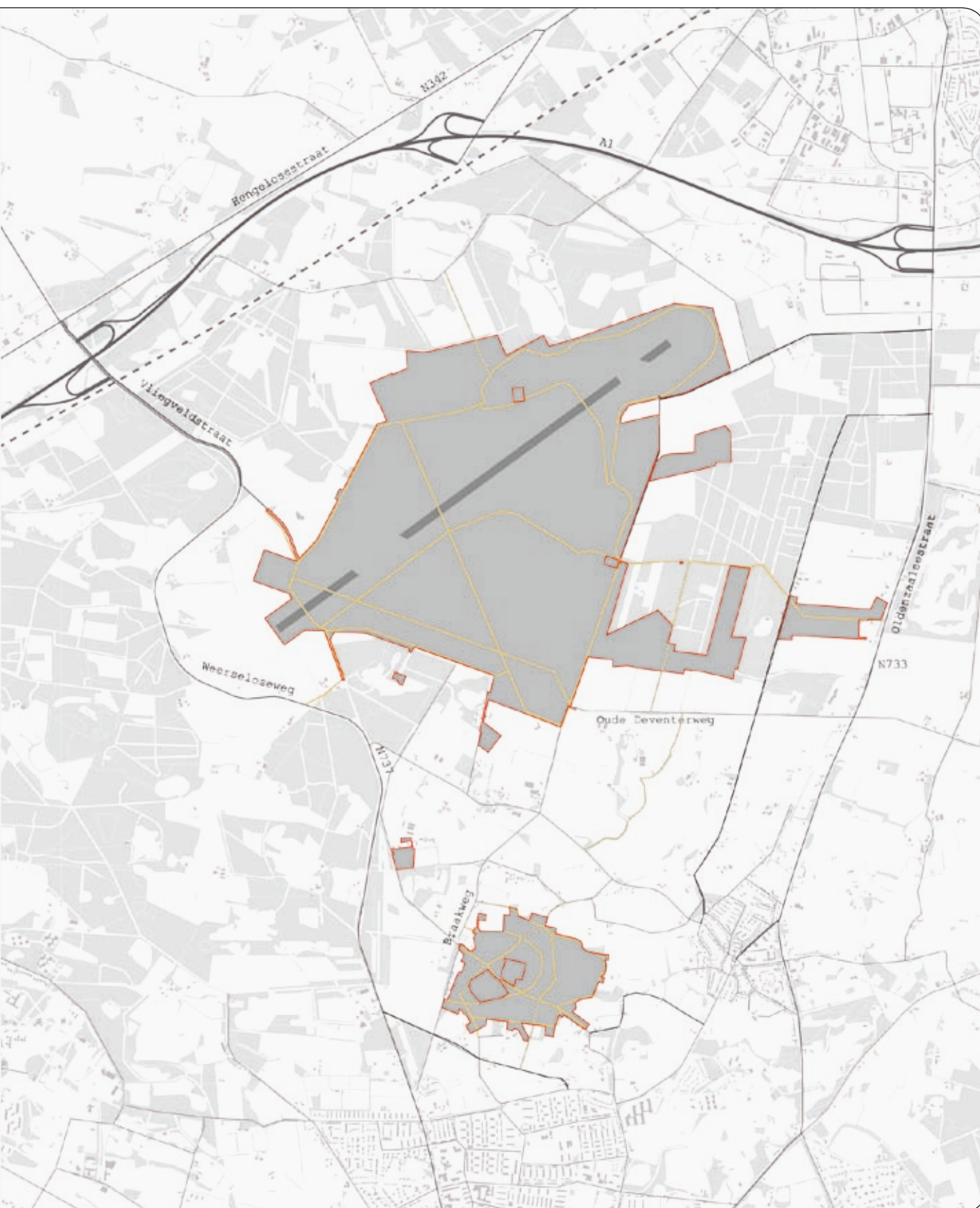
Illustration 12.26 Cross-section C, cycle route through estates



Illustration 12.28 Cross-section D - Oude Deventerweg







## Illustration 12.29: Valuable buildings, flora and fauna

intended integration of natural values:



bat bunker



pond



wood/vegetation



open park-like terrain

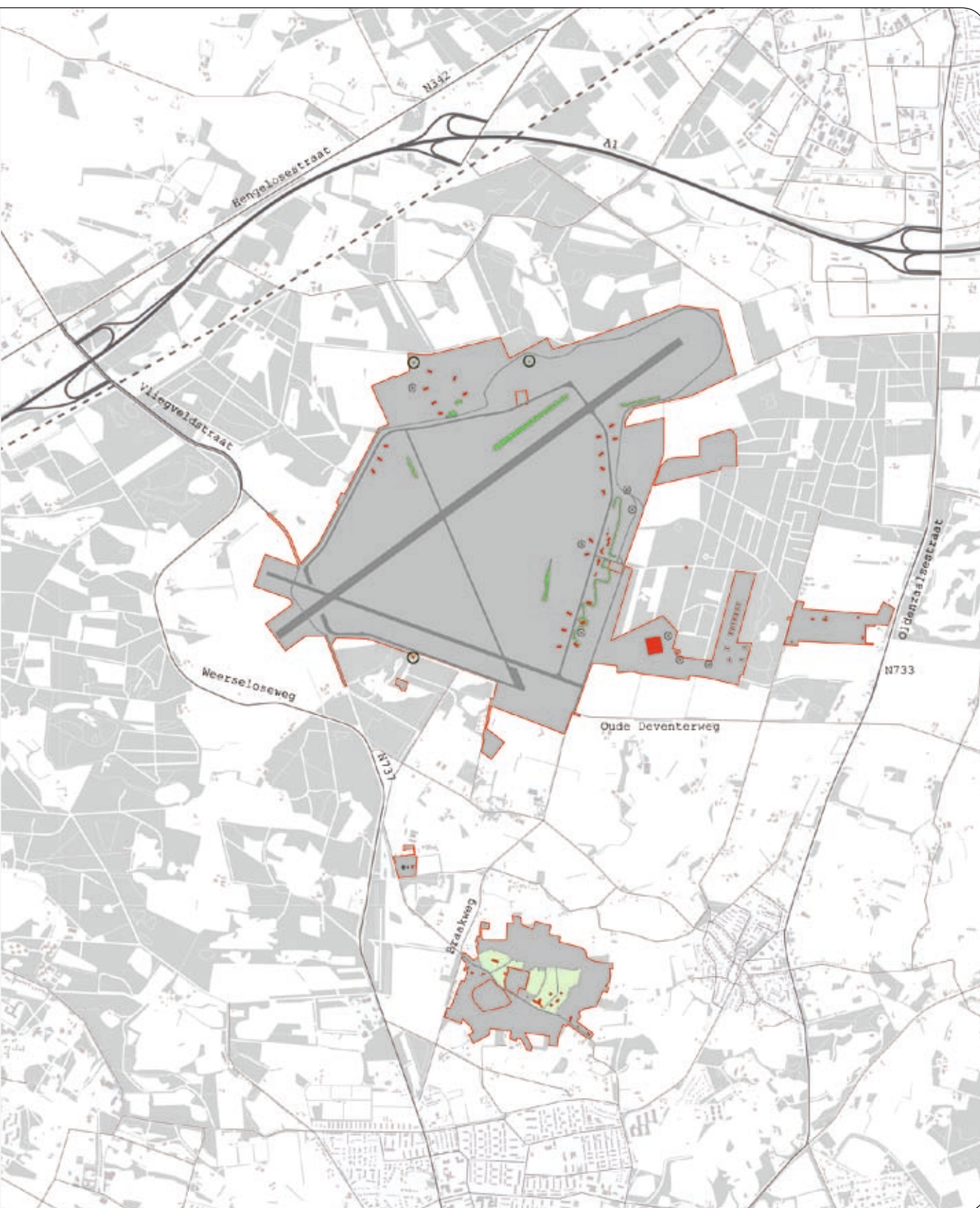
intended preservation of buildings  
of cultural value:



infrastructure



buildings



## Illustration 12.30: Programme model A

- 1 care and cure
- 2 residential and working units
- 3 healthcare farm
- 4 innovative companies/learning park
- 5 leisure
- 6 resort park/leisure
- 7 sports centre/riding school
- 8 equestrian living
- 9 residential
- 10 nature
- 11 country estates
- 12 residential/innovative commercial activities
- 13 leisure
- 14 leisure/innovative commercial activities
- 15 residential
- 16 residential
- 17 residential/services
- 18 residential/services
- 19 defence
- 20 agriculture/nature



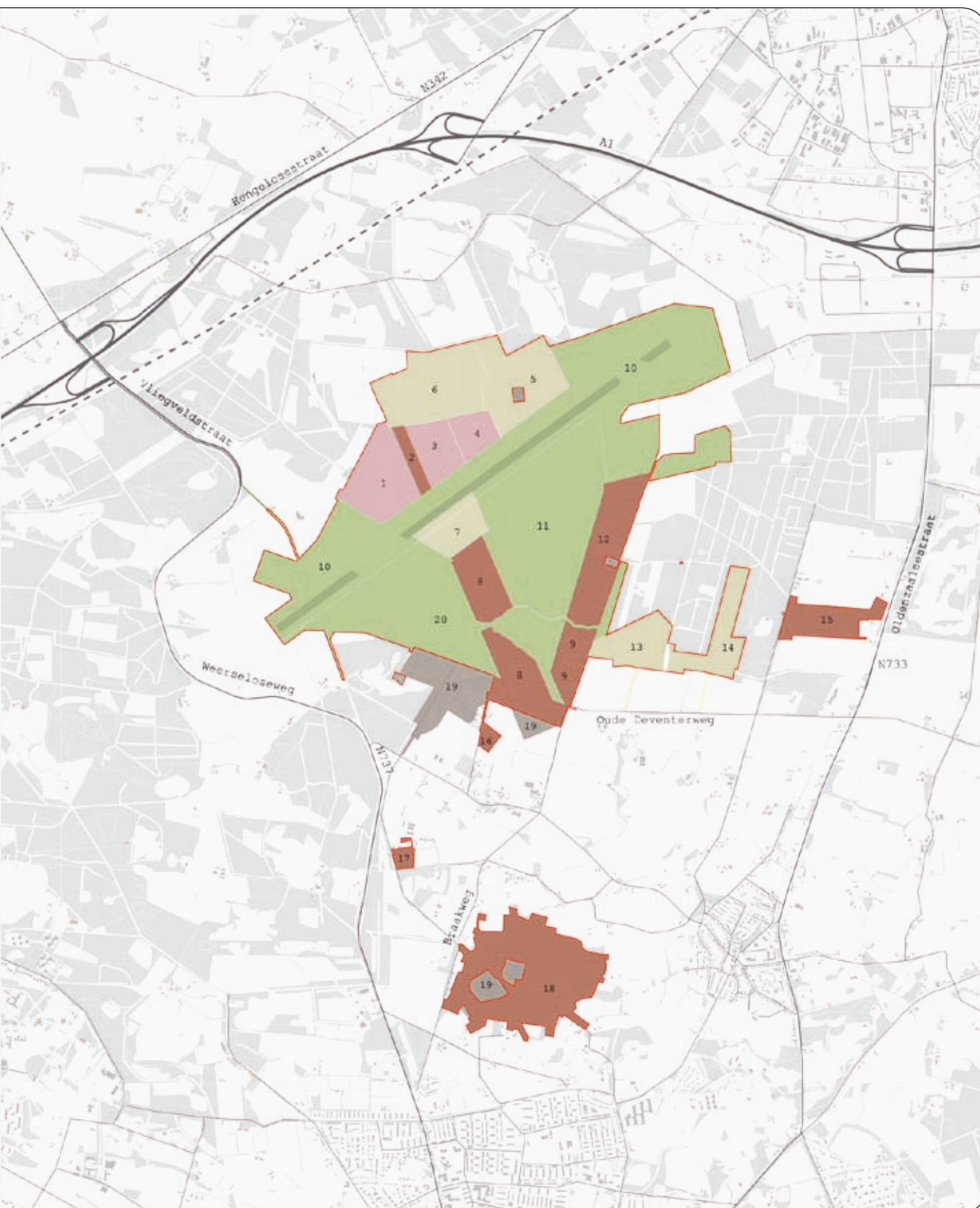


Table 12.1

Airbase Total	ha	
Available for allocation	228	55%
Surfacing	41	10%
Green and water	146	35%
Total (rounded)	416	

Table 12.2

Oostkamp	ha	
Available for allocation	24	95%
Surfacing	1	4%
Green and water	0	1%
Total (rounded)	25	

Table 12.3

Zuidkamp	ha	
Available for allocation	22	51%
Surfacing	5	11%
Green and water	16	38%
Total (rounded)	43	

Table 12.4

Prins Bernhardpark	ha	
Available for allocation	5	43%
Surfacing	1	9%
Green and water	5	47%
Total (rounded)	10	

Table 12.5

Overmaat	ha	
Available for allocation	2	91%
Surfacing	0	9%
Green and water		0%
Total (rounded)	2	

Table 12.6

Land complexes	ha	ha allocated	m² gross surface area	# homes	NCW land development (million €)
Airbase	416	228	105.700	221	
Zuidkamp	43	22		154	
Prins Bernhardpark	10	5	1.860	19	
Kamp Overmaat	2	2	1.500	1	
TOTAAL land complexes	471	256	109.060	395	29,6
Other components BuCa					NCW total (million €)
VTM i.o., subsidies, temporary property management					-3,8
NCV land exploitation A TOTAL	471	256	109.060	395	25,8

be put to a different use. The development of Prins Bernhardpark can start in the short term so that the allocation can be completed by around 2015. (table 12.4)

Based on the aforementioned spatial and programme-oriented basic principles, less than half of the area will be developed.

### Kamp Overmaat

Kamp Overmaat covers an area of approx. 1.65 hectares and consists of a disused camp building (1940), public space and an office building that is currently being used by the State Property Department (Domeinen). (table 12.6)

According to the plan, the area will not be refurbished and the existing property will be sold off in smaller lots. This will take place as quickly as possible (planned for 2011).

### Total result

The total result of spatial development strategy A (including other components of the development: VTM i.o. organisation, subsidies and temporary property management) amounts to NCV € 25.8 million.

This is the residual land value, as yet excluding the acquisition costs of the government-owned land. (tabel 12.6)

### Result of Risk Analysis -Spatial development strategy A

A risk analysis was carried out to assess the possible risks associated with the implementation of spatial development strategy A. This analysis was done with the support of a Civil Engineering Cost Agency and Twynstra Gudde Risk Management.

Given the project phase, the analysis focuses on the financial risks of the land developments.

The risks are subdivided into spread risks and pure risks.

Spread risks are - usually regular - ambiguities in the estimates resulting from price fluctuations and uncertainties in the base figures (amounts) of the estimates.

Pure risks concern events or situations that occur and have been anticipated in the estimates (i.e. not forming part of the regular distributions). These risks are determined by looking at the chance of an event occurring and its effect.

Monte Carlo simulations have shown how the land development outcomes relate to the values with a 50% and 90% certainty in the case of both spread risks and pure risks (see P50 and P90). This can be used to calculate the so-called risk reserve, which varies from some € 14 million (P50) to about € 19.5 million in plan A (P90).

For the time being, it concerns a risk indication that can be adjusted downward by means of additional research, managerial agreements and the relevant control measures.

### Controlling the main risks

In terms of the spread risks, the discount rate and the rise in revenue of housing are key parameters that influence the outcomes of the land development to a large extent. The interim and final result will have to be compared with the guiding principles of the land development, on the basis of financing agreements for the execution of the project and the value/tendering value of land. This will allow timely intervention in the event of deviations. Proper economic supervision and guidance will also play a contributing role in this regard.






In the case of pure risks, the main elements are the risks related to remediation and explosives and not being able to implement the leisure-time destinations in the plan.

For remediation and explosives, in which case it also entails the risk above the soil

remediation agreements made at central government level, additional funds are needed to gain better insight into the contaminated locations. Good insight is important because these risks determine the abovementioned risk reserve to a large extent. Without the risk for remediation and explosives, the calculated risk reserve declines to about € 11 million (P90).

Failure to attract operators for the leisure-time sector can lead to a broadening of the scope of possible alternative programmes (leisure-related and otherwise). For that reason, it is important that the plan is kept sufficiently flexible.

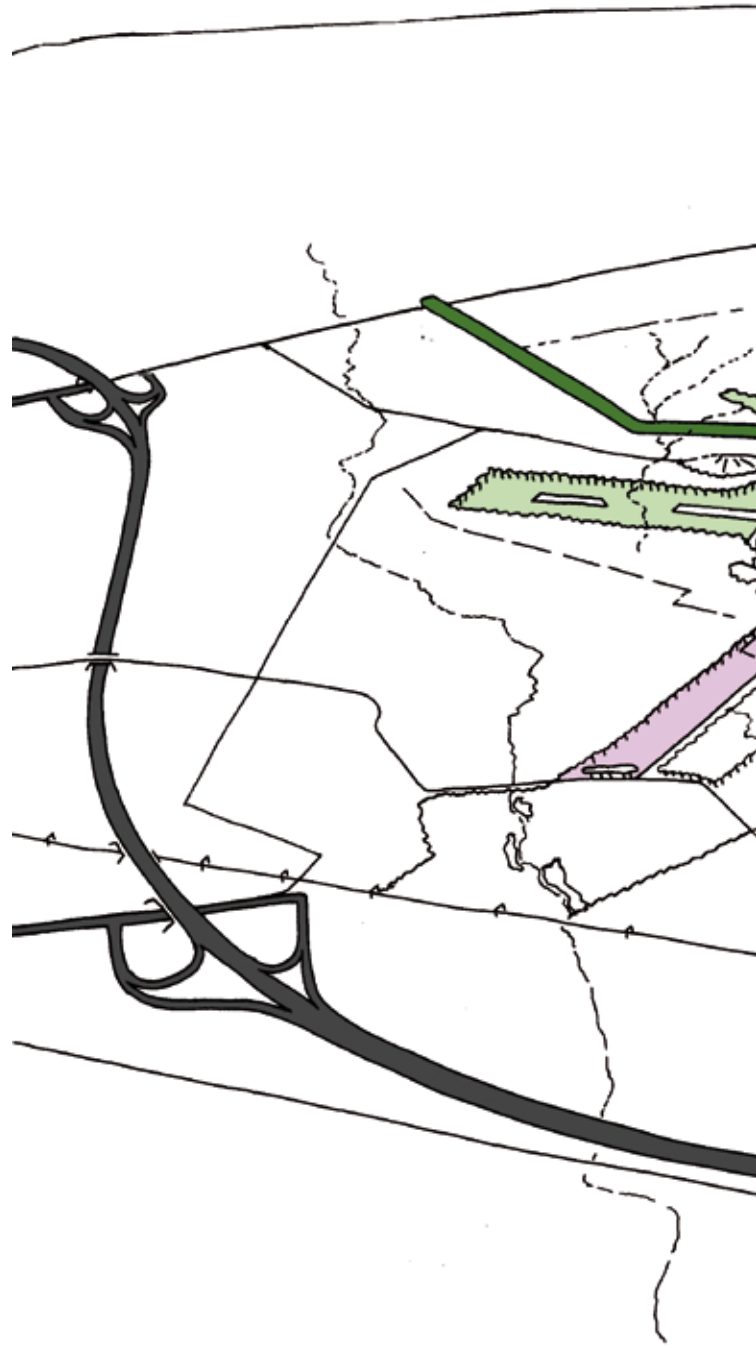
## Illustration 12.31: Plan sketch Model A

	new buildings
	existing buildings
	brook/brook valley
	cycle path
	motorway
	tree-lined access lane
	existing forest
	new forest
	wet grassland
	dry grassland/pasture
	heathland

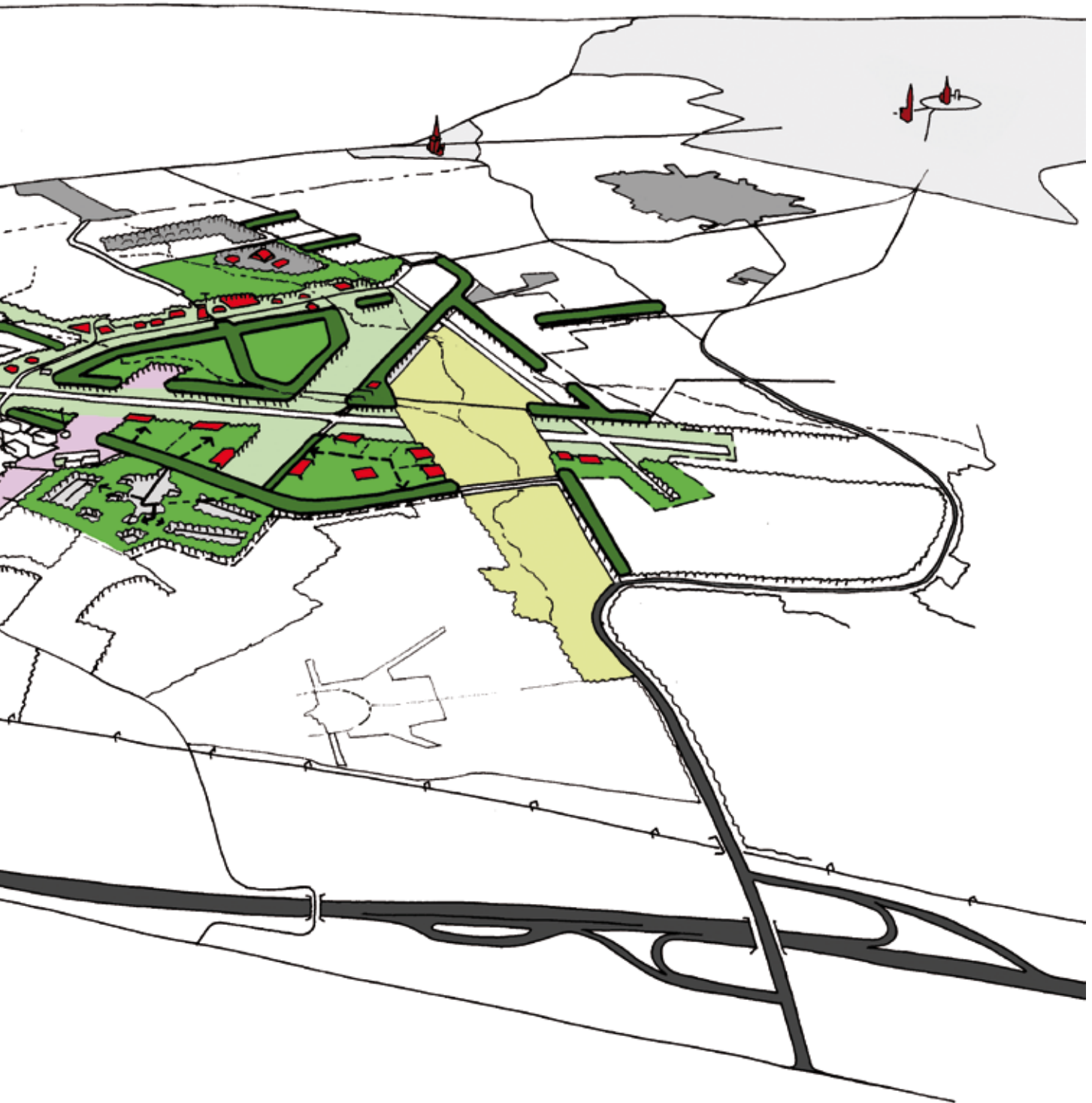




**Illustration 12.32: Overview plan sketch Model A**









## 13 Spatial development strategy Model B

### 13.1 Spatial development strategy Model B

This spatial development strategy is based on the transformation of the former military airbase into a civilian airport in a robust landscape setting. The basic principle is that the airfield can handle a capacity of 1,2 million passengers in the long term. The airfield will use the former runway of the military base. The functions related to the airport, such as parking, commercial activities and leisure are all located north of the runway and will be accessible from the A1 motorway. To the south of the airfield at the foot of Lonnekerberg, the emphasis is on developing the landscape quality of the area. Restoration of the natural water system and the development of new natural features open the perspective to a new link in the national ecological network south of the airport. In this landscape south of the airport, there is space at the location of the former camps for theme-based residential clusters and extensive types of leisure and commercial activities. This reprogramming variant explicitly includes the existing buildings, which are part of the area's cultural heritage. These partly new programmes on the former well-secured and isolated enclaves of the airbase will be made accessible by a system of lanes that interlace the site and embed the location in its wider surroundings. The old infrastructure of the base will play an important role in this network of transport links.

This spatial development strategy is explained in the following sections by first of all describing four important underlying motifs that largely determined the spatial choices that were made when the vision was being formulated. These motifs are part of the area's current spatial and functional characteristics. In the spatial development strategy, these motifs are worked out in

detail and strengthened as future carriers of the spatial quality.

Following this, the four constituent layers of the spatial development strategy are explained. These four layers are the landscape, the infrastructure, the cultural heritage of the area and, lastly, the programme. The emphasis here is on the way the areas have been or can be reprogrammed and what this can produce in terms of programme-based density and quality. This description of the subareas is then worked out into a plan sketch, which visualises a possible final configuration to be created on the basis of this spatial development strategy. (ill. 13.1)

### 13.2 Design motifs

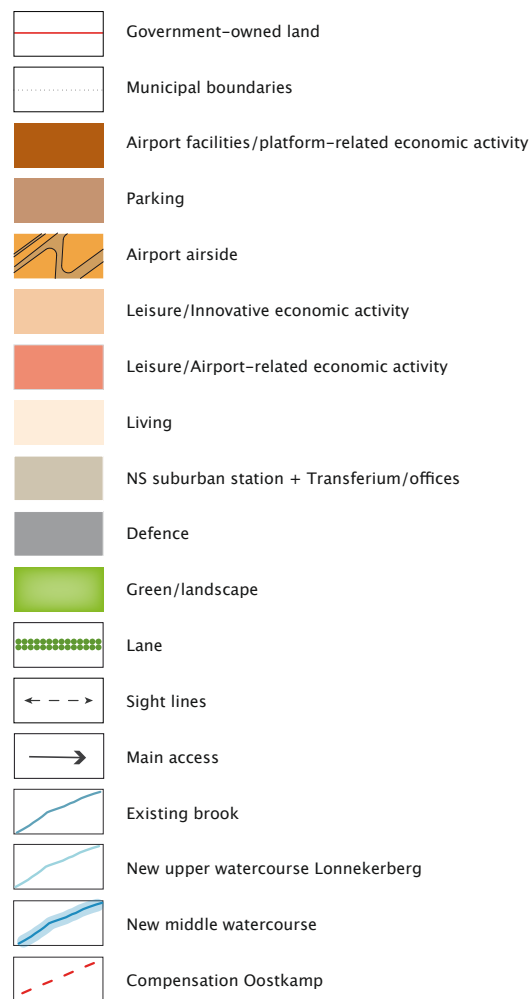
#### The airfield as a country estate

The area between Hengelo, Enschede and Oldenzaal (the planning area) can be typified as a patchwork of enclaves embedded in a landscape of open fields, woods, brooks and meadows. The enclaves are non-agricultural units that differ in a number of respects from their surroundings and generally have urban origins. At present, the airfield and the camps are like private and semi-public enclaves in the area and in that sense can be compared to the existing estates of Hof Espelo, Oosterveld, and 't Holthuis.

This characteristic of the estates, which were designed as formal and autonomous structures that manage and run the planning area, is one of the guiding design motifs for this structural sketch. The planned enclaves will be linked by a system of access lanes to the transport network, making them accessible to motor traffic. Other than these access lanes, no new infrastructure will be added. This will ensure that no new through-traffic network for motor traffic is introduced into the area. (ill. 13.2 and 13.3)



## Illustration 13.1: Spatial development strategy Model B



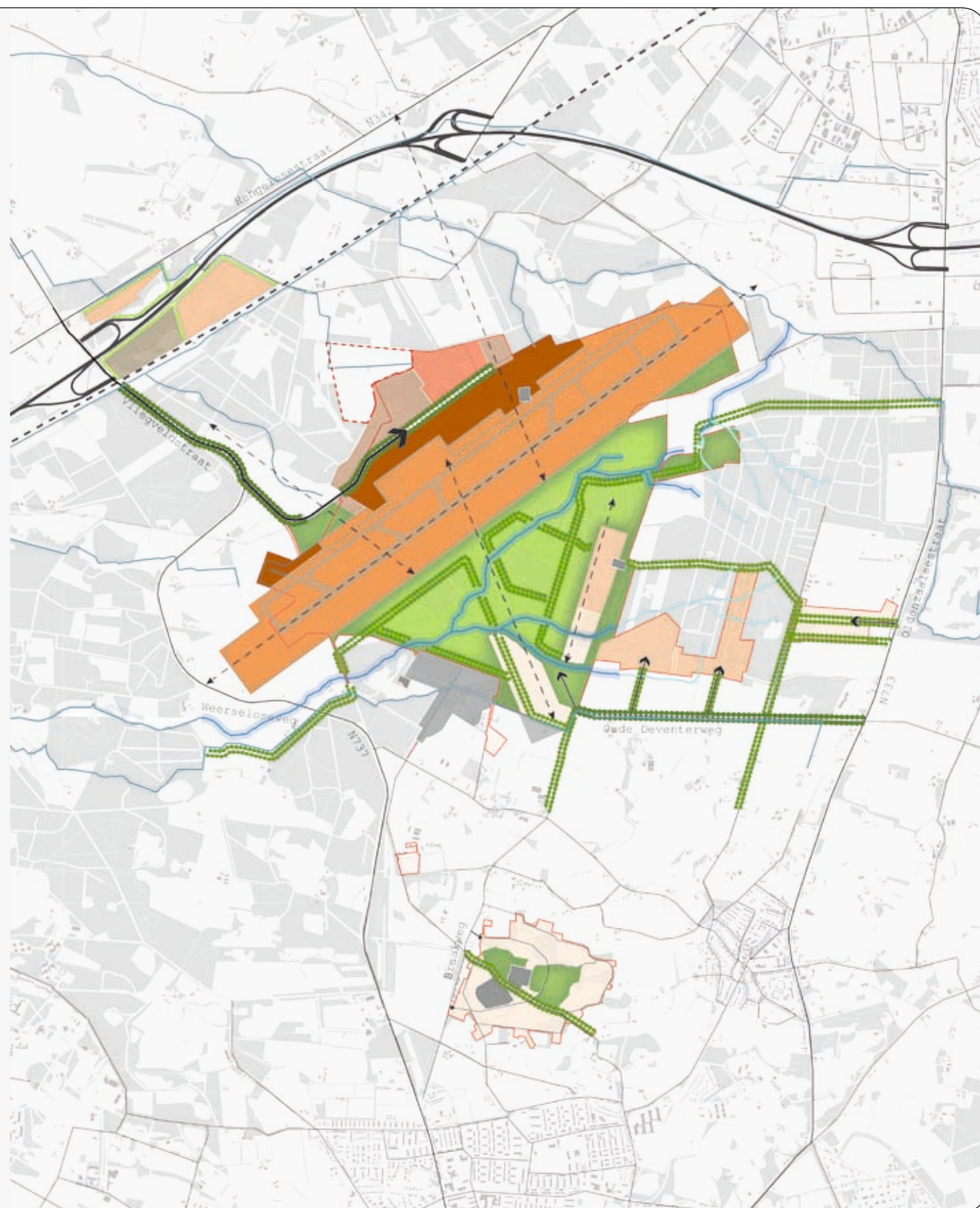


Illustration 13.2 Weldam estate



Illustration 13.3 The former airbase



### Contrast between nature and culture

The contrast between the culture and the natural surroundings is very characteristic for the landscape between Hengelo, Oldenzaal and Enschede. This contrast can be seen, for example, between the specially designed landscape of country estates with lanes, sight lines and artificial lakes and the natural water system and the natural land topography. There is also a unique contrast between the indigenous vegetation such as oak and alder and exotic plants and trees such as red beech, sequoia and horse chestnut on the estates. Moreover, the Twente landscape as a whole is mainly a cultural landscape in which man has shaped the natural surroundings. Very few of the natural water systems in the area have not

been influenced by man, and all the forests in the area have planted.

The landscape design for the planning area explicitly focuses on this contrast between nature and culture and shapes it in a new way. In doing this, the design makes many references to features of the existing estates.

### Contrast between intimacy and openness

Up to just a few decades ago, there were major contrasts in the Twente landscape between its open and enclosed character. The large-scale open areas were quite recently reclaimed heaths, while the small-scale enclosed areas were located in and around the old landscape of open fields, brook valleys and villages. At most locations

in Twente, this striking contrast has now disappeared, but it is still largely present in the landscape north of Enschede, thanks to the military's use of the area over the past 65 years.

The forests are also mainly located on the former heaths and they too have the characteristic large scale and straight lines. Zuidkamp is an example of a very small-scale old cultural landscape, while the landscape around the former military airbase has the characteristic openness and straight lines of the recent heathland reclamations. If you squint at the landscape and in your mind's eye replace the colour of grass and concrete with purple, you could easily imagine yourself to be on a 19th-century heath. This typical contrast is the dominant spatial quality of the area. However, the edges of the open space are quite arbitrary and 'uneven', and so the current situation does not do full justice to the monumental nature of the openness. In the structural sketch, the contrast is further increased by formally encircling the open plain of the runway with a subtle system of open fields, giving it a certain orientation and optically anchoring it in its surroundings using strong sight lines. From the access lanes and the edges of the planning area, the central open space is then perceived as a logical hub and the pattern of the open spaces structures the landscape surrounding the airbase. In this way, the Lonnekerland is given a new élan but still retains its cultural heritage. (ill. 13.5, 13.6 and 13.7)

### Dynamism versus tranquillity

The open plain of the current runway divides the planning area in two. On the north-western side there is the area between the A1 motorway and the runway, and on the south-eastern side the landscape of Lonnekerberg. This dichotomy and the proximity of the A1 to the northern side has inspired the logical programme-based zoning of the planning area. To the north-west of the runway, directly accessible from the A1 and a future suburban railway



Illustration 13.5 Intimacy



Illustration 13.6 Large-scale openness



Illustration 13.7 Existing open spaces



station, will be the intensive and dynamic programmes that benefit from accessibility. On the south-eastern side, accessible from Oldenzaalsestraat, will be the less intensive programmes that focus on residential functions and more exclusive types of commercial activity and recreation. (ill. 13.8, 13.9 and 13.10)

### 13.3 Landscape

#### Open space and long sight lines

The large-scale openness on the site of the current airbase is an important landscape feature. The dimensions of the space at the airbase create a spectacular and dramatic contrast with the small-scale surroundings and also with the rest of Twente. The former airbase is a monument to the stark emptiness of the barren land, which has characterised the Twente landscape for many centuries. The design therefore carefully preserves that openness and sometimes even restores it. The design includes four large open spaces that structure the programme on the former airbase and that also connect the area with the surroundings. The variety in the dimensions of the space, the planting on the boundaries or the panorama, and the differences in the programming give each space its own specific character.

The future space of the runway will be the central open space. This space consists of the runway surrounded by dry grassland, with the accompanying infrastructure of taxiways and platforms. Due to the years of minimal management by the Ministry of Defence, the dry grassland has acquired a high botanical value. On the northern side, the space is bordered by sheds and the terminal. The southern side will consist of lanes lined with trees and woods.

The second space is the entrance space from Vliegenveldstraat-Weerseloseweg. This space consists of a brook that flows

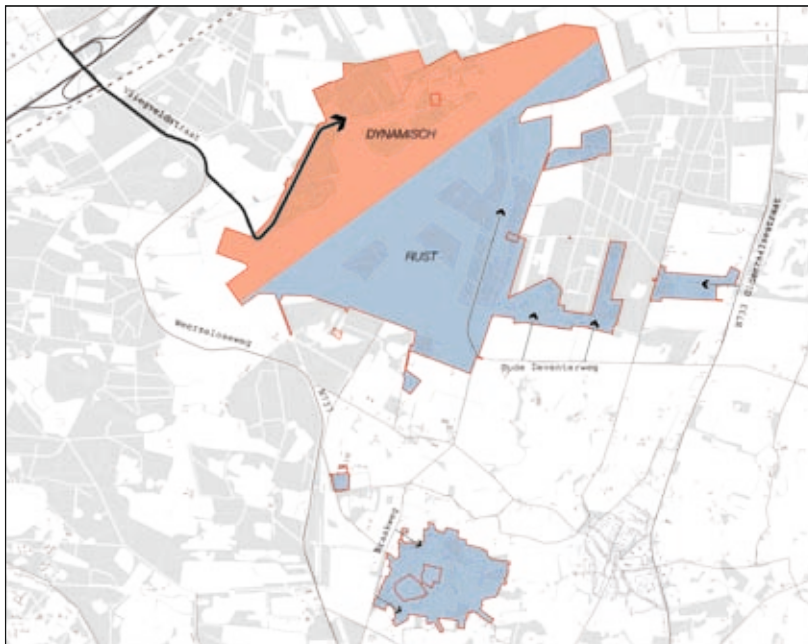
Illustration 13.8 Dynamism



Illustration 13.9 Tranquillity



Illustration 13.10 Model B: dynamism and tranquillity



through wet grassland and meadows still in agricultural use. The boundaries are formed by woods. The entrance space provides a panoramic view of the open space around the former runway, of aircraft parked along the side of the runway, and of the airport's public buildings, such as the terminal, the baggage hall and the hotel. This deliberately gives the airport a scenic and stately entrance, like the entrance to a country manor.

The third space is linked to the eastern entrance, a continuation of Oude Deventerweg, homes in the character of equestrian living can be developed with their own pastures.

The fourth space extends from the A1 motorway to the runway. By utilising the existing openness created by a former pipeline route, the heathland can be restored in an elongated space in accordance with the Land Use Commission. That will evoke the memory of the open and silent heathland of the past and will also create a symbolic link with the fast-moving world of the 21st century.

Between the new watercourses of the Jufferbeek and Blankenbellsbeek brooks, a lookout hill will be built beside the former runway. The hill will be covered in lilac shrubs (Seringenberg) similar to those on the De Horsten estate near Wassenaar. In April, when the lilacs are in blossom, it will be a wonderful attraction, while during the rest of the year it will be a place from where people can admire the newly created landscape. (ill. 13.11)

### The national ecological network and nature development

In the current situation, the airbase is like a recess in the national ecological network; there is a bottleneck in the national ecological network between the business park of Hanzepoort and the top of the former runway. With the development of model B,



a proposal is being submitted to review the boundary of the national ecological network. On the northern and north-western sides, the national ecological network is reduced somewhat by the development of the airfield and the accompanying programme (business premises, leisure locations, car parks). In model B, the national ecological network will be greatly strengthened by adding a zone of approximately 127 hectares to the southern side of the runway. That will add a new and robust ecological link to the southern side of the runway, thus resolving the bottleneck in the national ecological network on the northern side. The natural water system will be restored by introducing new brooks from Lonnekerberg, branching onto the Leutinkbeek brook and a new branch of the Jufferbeek brook. In the A1 zone, the north-western connector area of 12 hectares around the Jufferbeek-Deurningerbeek brooks will be strengthened as part of the planning framework for land-use development. It is desirable that part of the A1 zone retains its landscaping features and is designated as a landscape buffer zone. In the long term, a national ecological network swap may be made, with the western part of Oostkamp being returned to nature and compensation for the equivalent surface area being received on the northern side of the airport for commercial activities.

The total amount of nature and green to be developed in the area will cover some 187 hectares. Of this total, ca 127 ha is zoned for EHS. The balance of new and old national ecological network to be realised inside the planning area will amount to approximately 73 hectares net. In addition, some 60 hectares of the total of approximately 187 hectares have been allocated for the establishment of pioneer vegetation on the southern side of the runway. (ill. 13.12)

### Restoring the natural water system

With regard to restoring the natural water system in the area, VTM i.o. will follow the recommendations of the Regge &

Dinkel Water Board [64]. In the past, the airbase was drained intensively, and this considerably disrupted the natural water management system [64]. Moreover, the site has been levelled off, causing the original land topography to disappear. There are now no traces to be found in the soil of the original watercourses or brook valleys. Restoring the natural water system therefore means creating entirely new brooks that become the missing links between the (new) upper watercourses on Lonnekerberg and the amputated watercourses downstream of the airfield. The emphasis is therefore on restoring the natural water system in its entirety and not just restoring a bygone historical situation. Restoration of the system can give an enormous stimulus to the natural values in the area. On Lonnekerberg, the Landschap Overijssel Foundation is filling in ditches, which is improving the sponge effect of the lateral moraine and creating new upper watercourses.

In spatial development strategy model B, the water system will be restored by removing the drainage systems from large areas of the site, particularly on the southern side of the runway. However, in the northern part of the airbase, on the site of the future airfield, drainage will continue to be necessary because of the drainage requirements for the runway and airport buildings.

By digging new watercourses on the site of the former airbase, the brooks can again flow in a westerly direction from the source area of Lonnekerberg. This is based on a management decision of the Regge and Dinkel Water Board. The Jufferbeek brook will be restored with a new branch originating from Lonnekerberg. This new branch will be led around the runway ring road. The Hesbeek brook will be restored on the flank of Lonnekerberg north of the strip. At the southern side of the strip, the same will be done for the Blankenbellingsbeek brook. Because of the requisite width of the new runway, both new watercourses will be joined together and linked to the

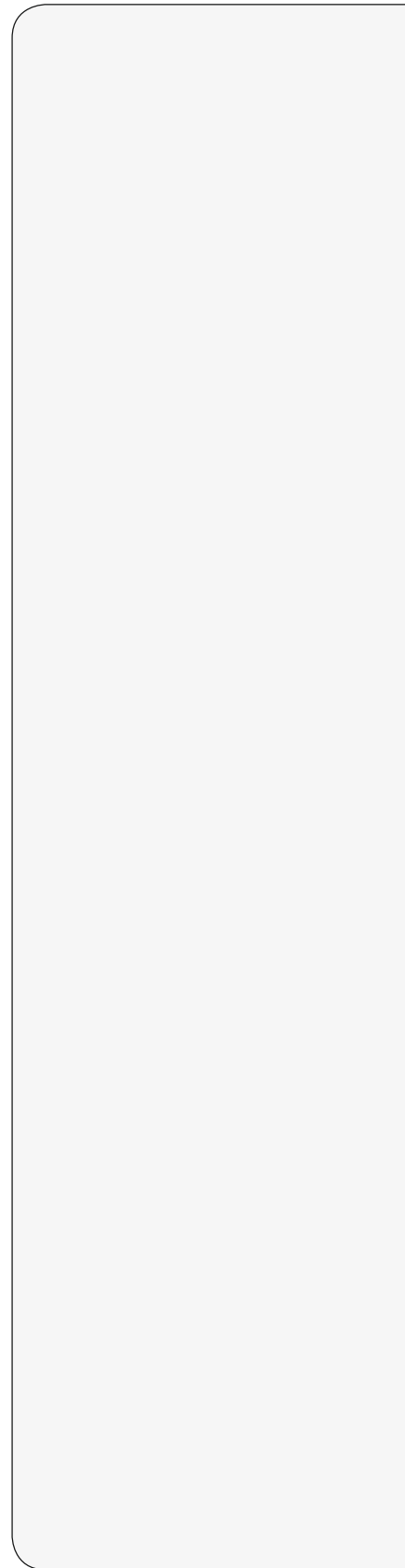
Leutinkbeek brook west of the airbase. The Leutinkbeek brook should also be included in the restoration plans outside the planning area because of the larger volumes of water the brook will have to deal with. In the current situation, the Jufferbeek and Leutinkbeek brooks are already the brooks with the highest ecological quality. By linking the new upper watercourses on Lonnekerberg to these brooks, the ecological structure will be strengthened even further.

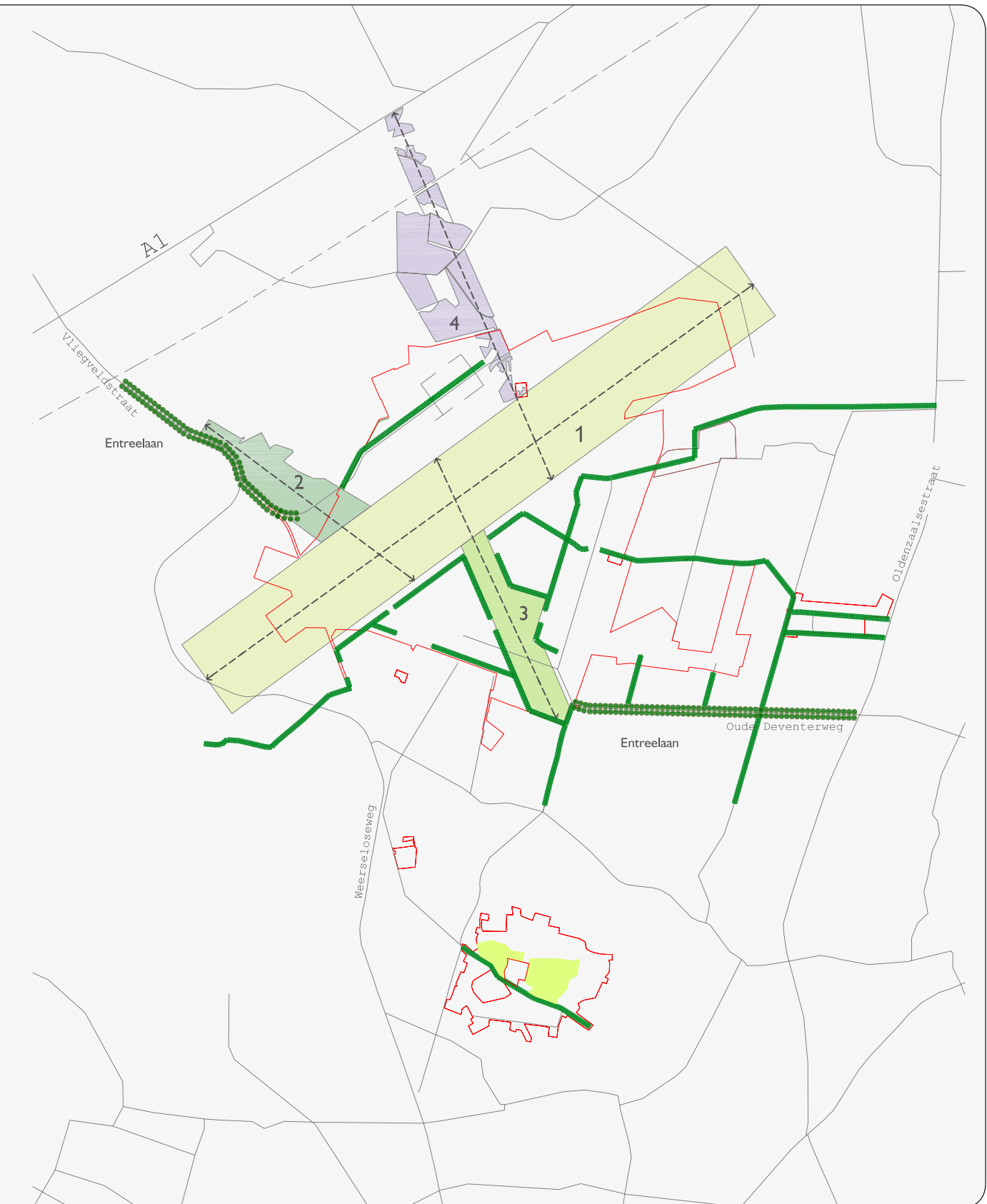
The removal of the nutrition-rich top layer of the soil will create a slightly lower zone on both sides of the brook that could develop into a brook valley in the long term. These zones will be up to 120m wide downstream and up to 70 m wide upstream. These zones will be constructed with an 'accolade profile', thus creating space for a 'co-flowing water storage'. The brooks themselves, like most of Twente's brooks, will form narrow, fast-reacting brooklets that can flow outside their banks during rainfall peaks. In many cases, hiking paths will be constructed at the edges of the brook valleys. In that way, the brook valleys will function as threads that connect the different components of the landscape and make them accessible to hikers. (ill. 13.13, 13.14, 13.15, 13.16, 13.17 and 13.18)

### Landscape structure
















The landscape map gives an impression of the landscape structure to be created when the aforementioned landscape elements are combined. The restored brooks will be the first, rugged layer in the future landscape structure of the former airbase. The second layer will be created by a system of entrance lanes and other lanes that structure the landscape and link it to the surroundings. The third layer will be formed by the essential open spaces, each with its own colour and character, such as the runway, heathland, wet grassland and meadows. On the northern side, the runway will be overlooked by buildings that belong to the airfield. On the southern side, the design will be green and scenic.

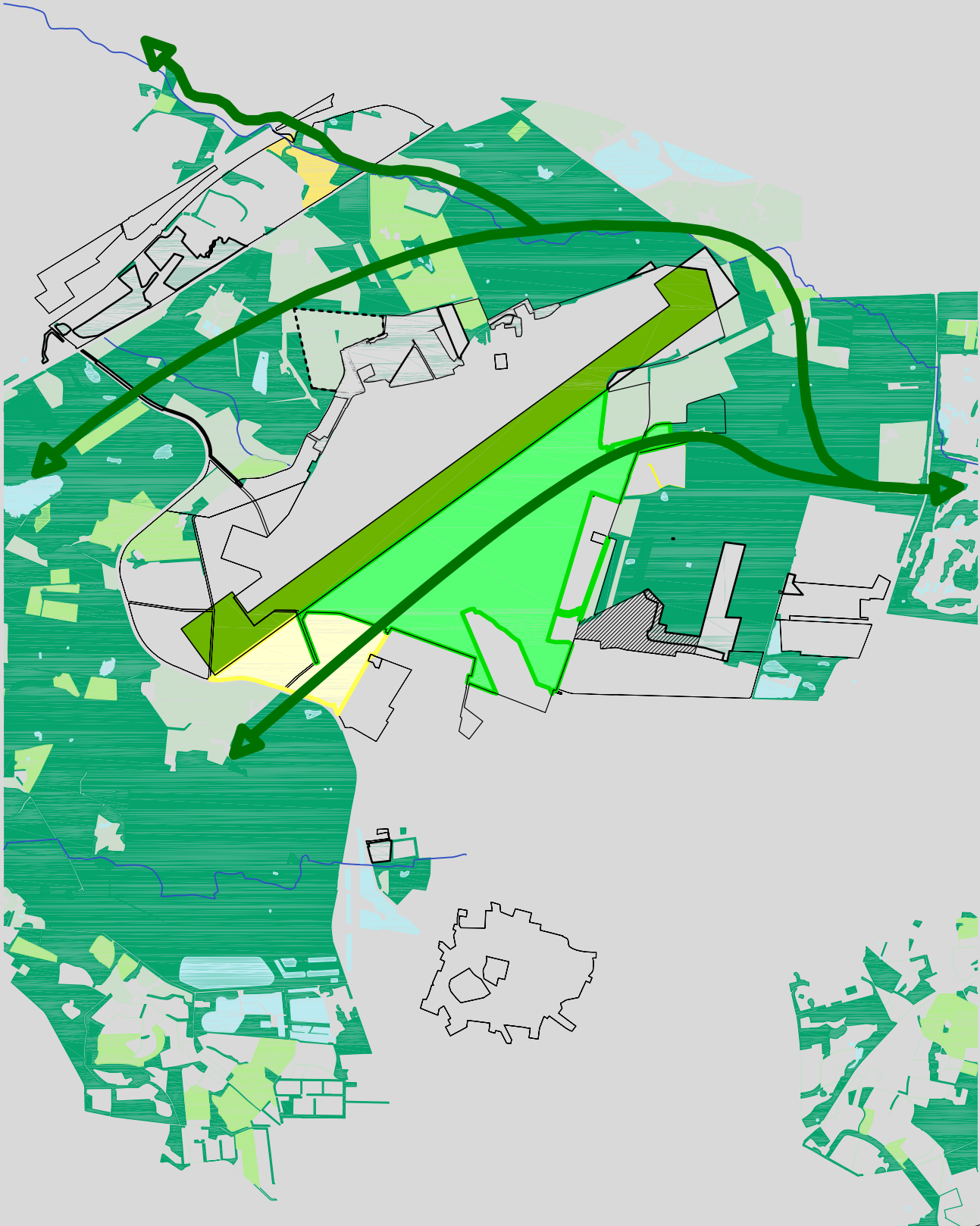
### **Illustration 13.11 Model B: Essential open spaces and lane system**





## Illustration 13.12 Model B: Strengthening the national ecological network

	Government-owned land
	Municipalities (Preferential Rights) Act
	National ecological network – natural forest
	National ecological network – new nature
	National ecological network – management area
	National ecological network – water
	Brooks to be laid out in a natural way
	Reduction of the existing national ecological network Total surface area ca 55 hectares
	Expansion of the existing national ecological network inside government-owned land Total surface area ca 127 hectares
	Expansion of the existing national ecological network outside government-owned land by means of Land-use Development/Provincial Executive (indicative surface area ca 30 hectares)
	Other new nature and green 72 hectare (grasslands)
	Nature development Jufferbeek zone (indicative surface area 10 hectares)
	Strengthened link national ecological network
	Oostkamp (surface area 13.8 hectares) Return to nature
	Expand business park (surface area 13.8 hectares) as compensation for Oostkamp
<b>Totaal new nature / green: ca 230 ha</b>	
<b>Totaal new EHS ca 127 ha</b>	
<b>Saldo new EHS ca 73 ha</b>	





## Illustration 13.14 Model B: New brook system

Illustration 13.13 Restoration of the natural water system in the Water Board Management Decision for model B

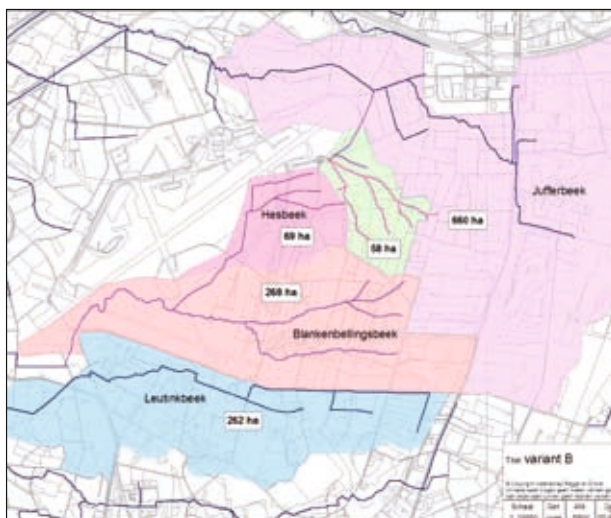
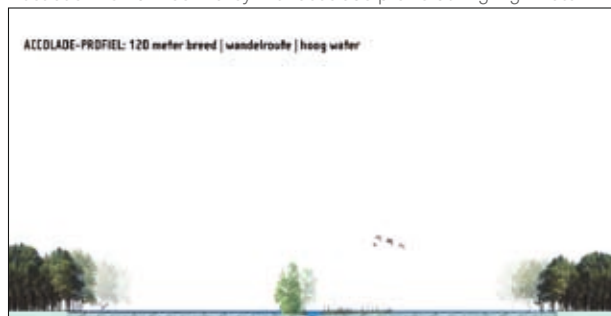
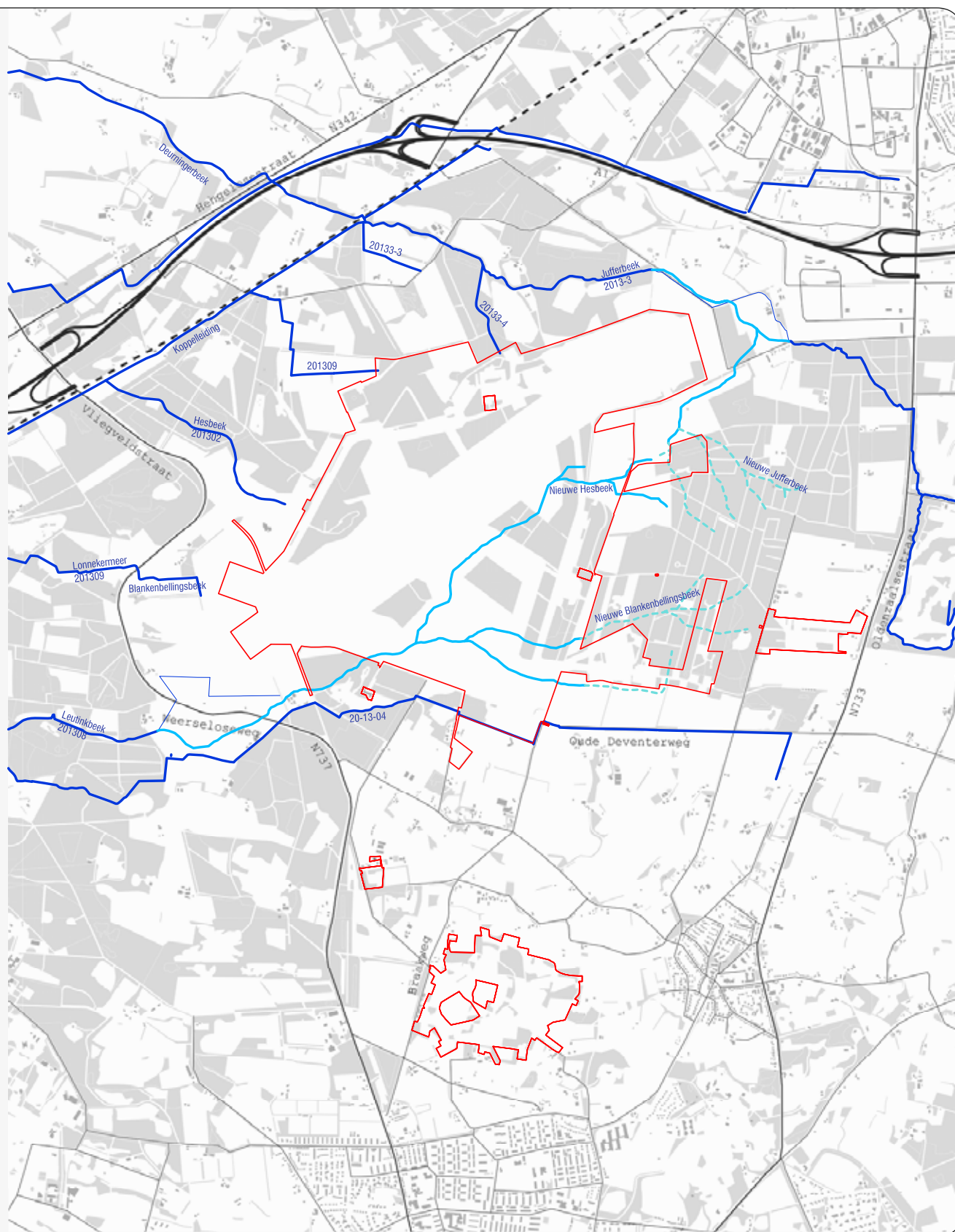


Illustration 13.15 Brook valley with accolade profile and footpath



Illustration 13.16 Brook valley with accolade profile during high water



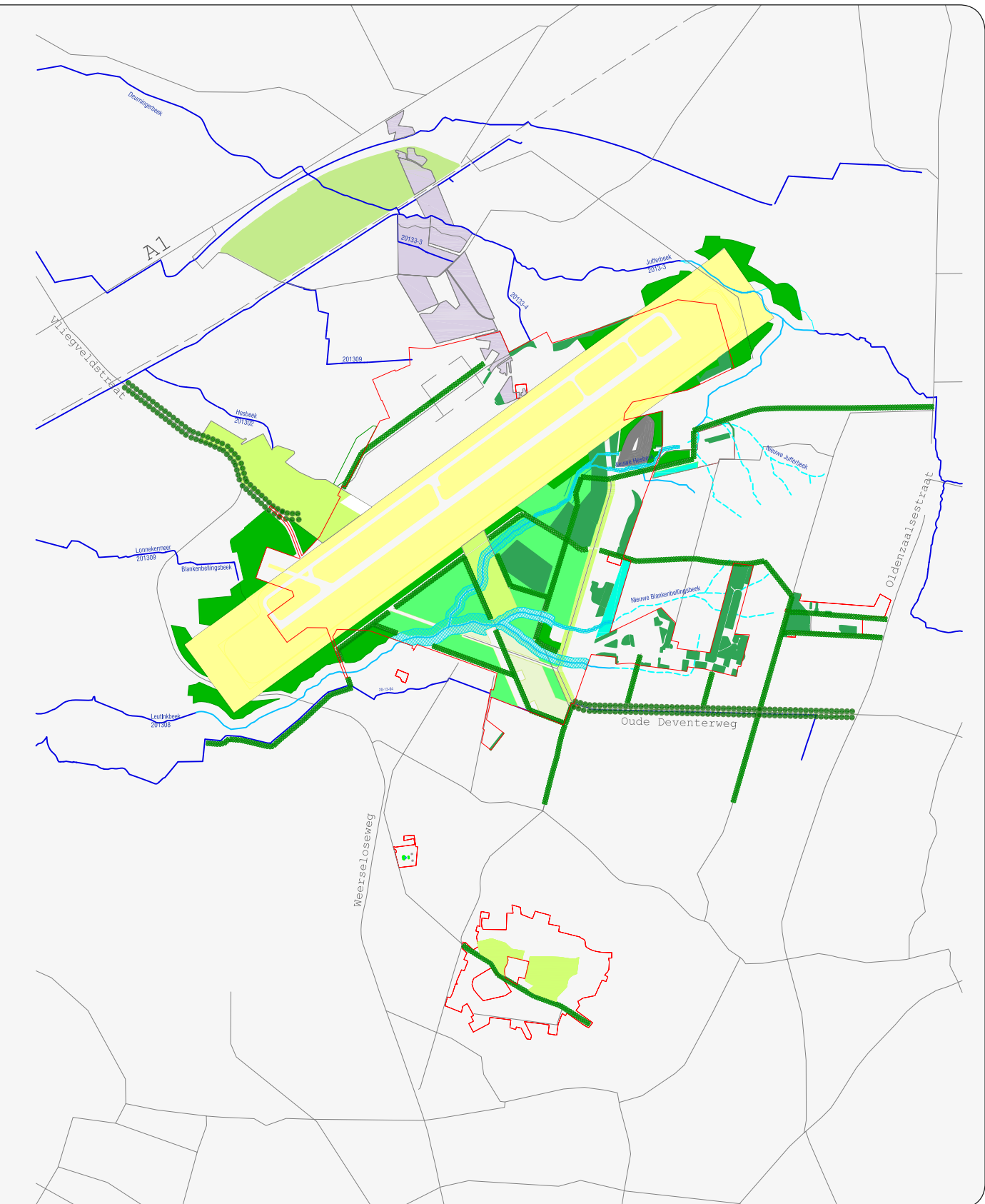


### Illustration 13.19 Model B: Landscape map



A legend for a landscape map, consisting of a vertical column of 18 small square icons on the left and their corresponding labels on the right. The icons use various colors and patterns to represent different landscape features.

	Existing brook
	New Lonnekerberg upper watercourse
	New middle watercourse
	Brook valley
	Lane
	Existing woods, copse
	Woods, copse to be planted
	Lookout hill
	Wet grassland
	Infertile grassland
	Heath
	Nature
	Meadow
	Herbaceous vegetation seepage zone
	Open field Zuidkamp
	Landscape buffer zone A1

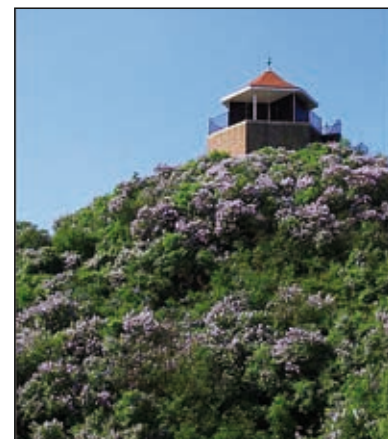


Principedoorsnede uitzichtpunt  
16 april 2009

Kamp Overmaat will retain its park-like layout.

Behind the fence on the site of the airfield, a ring road runs around the runway and links all the former airfield functions. A system of taxiways links the runway with the hangars and the current terminal.

Elaborating on this characteristic of a potentially easily accessible but at the same time isolated enclave, the airport and the leisure park on the north-western side and the various locations at the south-east of



the airfield will be made accessible to motor traffic by a system of access lanes. These access lanes will be linked to the existing road structure but not to each other. That means that there will be no through-traffic network for motor traffic between the airport and the area at the south-east of the airfield.

A traffic engineering study has shown that autonomous traffic development will cause congestion problems on the access roads from and to the area in the future. In addition, extra programmes will be added as a follow-on to this redevelopment. This will function as the basis for an adjustment of the



traffic infrastructure as currently proposed. The 'Regional Traffic model 2004, update 2006', which includes the other planned regional developments, was used to perform the calculations [61].

The traffic-intensive functions of the airport will be made accessible from the A1 by building a link road with Weerseloseweg in the long term. The current link on the A1 at Hengelo-Oost will be used initially. The programmes at the south-east of the airfield, which focus more on the quality of the landscape and the quality of accommodation, will be accessible from Oldenzaalsestraat and Oude Deventerweg.

To the north-west of the runway, following on from Weerseloseweg, a central access road is being proposed that provides access to the airfield, the parking facilities, the business park and the leisure park. This park-like access road will be wide enough to accommodate two double traffic lanes with a central reservation. Between the link on the A1 and the access road to the airfield, Weerseloseweg will be widened, with the possibility of two double traffic lanes with a parallel road for slow and agricultural traffic. This road width can efficiently process the expected traffic load.

Prins Bernhardpark opens up onto Oldenzaalsestraat. Oostkamp, the airfield strip near the former traffic control tower and the equine-based residential neighbourhood will be made accessible by a system of branching lanes that link up with Oude Deventerweg and largely use the airfield's present taxiways and ring road. It is possible that Oude Deventerweg will be provided with a bicycle path. The residential enclaves of Zuidkamp and Kamp Overmaat will be made accessible to motor traffic through Braakweg and Vargershuizenweg, respectively; this will not require any extra measures in the road width. In Zuidkamp the ring-shaped structure of the existing roads will be used for access by motor traffic. In this way, the centrally located Zuidkampweg

Illustration 13.20 Model B: Artist's impression of the central open space of the runway



Illustration 13.21 Model B: Artist's impression of the entrance lane with view of brook valley of the Hesbeek brook and airport



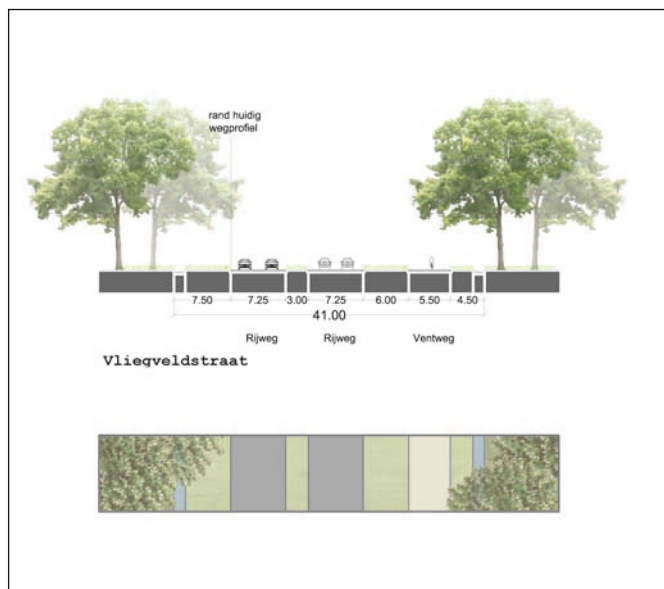
Illustration 13.22 Model B: Artist's impression of the Oude Deventerweg entrance lane

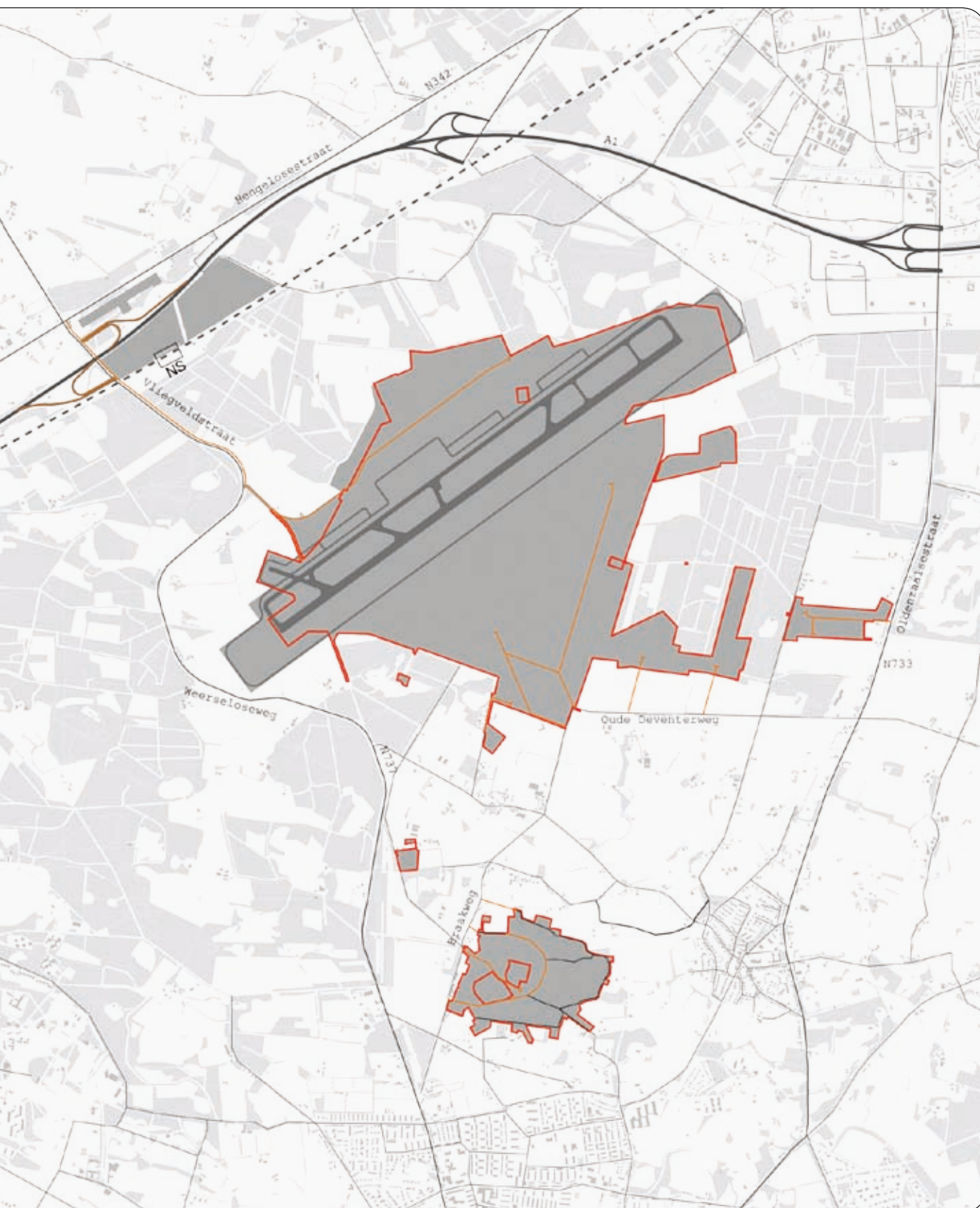


## Illustration 13.24 Model B: Car network



Illustration 13.23 Cross-section A, Vliegveldstraat, N737







can be upgraded as a limited-traffic/free central axis in the park-like residential area. The location of Defence to the south of the former airbase will continue to be accessible from Lonnekerveldweg. (ill. 13.23 and 13.24)

### **Bicycle network**

Due to the re-use of the former taxiways and parts of the road infrastructure of the former military airbase, the landscape at the south-east of the airfield will be opened up for recreational use. The creation of a number of strategic “couplings” will give rise to a finely-meshed structure of slow traffic routes in this area that embed the area in the region’s recreational network. From Zuidkamp, it will be possible to reach Lonnekerberg by two routes. From Lonnekerberg, it will be possible to cycle in south-western direction along the airfield to Weerseloseweg. On the north-eastern side, the routes along the Seringenberg lookout hill will link the area with the surroundings of Oldenzaal.

At the side of the airfield, one coupling will be proposed between the access road and Oude Postweg. This cycle path/footpath will function as a link for slow traffic between the airfield and Oldenzaal and surroundings. Unlike the controlled access for cars, this structure for slow-moving through traffic routes firmly anchors the areas to the north and south of the runway in the regional network. (ill. 13.25, 13.26 and 13.27)

## **13.5 Cultural heritage and natural values**

### **Base**

The new airfield will be located to the north of the existing runway, which will continue to function as such. To give the airfield a logical and more efficient structure, a new main structure will be constructed on this side. To achieve this, the “bunch of grapes” will have to be demolished. At the southern side of the runway, every effort will be made to preserve the present cultural heritage value.

For example, the existing runways and taxiways will be retained, and this characteristic structure will become the carrier for the new car and bicycle links on the site. Characteristic buildings such as the fire station and the traffic control tower along the north-south taxiway are included in the plan. These buildings, together with the surrounding buildings and shelters, are characteristic for the site and provide ample opportunities for redevelopment. Furthermore, a number of valuable elements are included in the plan, such as Munitiestraat and various hangars (including H11).

Locations with important natural values will be integrated where possible, such as ponds, growing locations for special plant species and bunkers in which bats shelter.

### **Prins Bernhardpark**

The dispersed locations of the buildings in the woods, called urban planning camouflage, are characteristic for this area. The original area contained more buildings, but they no longer exist. All the remaining buildings will be retained and redeveloped. Any new buildings that are added will blend in with the original level of density and dispersal and the current height of the trees.

### **Zuidkamp**

Zuidkamp is characterised by a rural structure in which the buildings are randomly dispersed in a small-scale agricultural landscape. In the plan, as many of the existing buildings as possible will be retained – particularly the binding structure of Zuidkampweg, where historical buildings are located in a park-like setting.

### **Kamp Overmaat**

The park-like ensemble with a country house, lake and rows of trees will be retained. The house will be reduced to its original shape. There is the possibility of adding several outhouses to the residence. (ill. 13.28 and 13.29)

## **13.6 Programme**

In spatial development strategy B, the most eye-catching feature is the demarcation of the airport area to the northern side of the area. Inside this airport area, the runway is integrated with the corresponding airport programmes such as the terminal, baggage hall and fire station. It also provides space for the integration of the boarding platforms for aircraft. The parking facilities (approx. 6,700 parking spaces), consistent with an airport development for 1.2 million passengers and leisure functions for around 500,000 visitors per year, are situated in the vicinity of the terminal and the leisure site and are directly accessible from the main link road. This leisure site on the northern side can be exchanged for a programme for airport-related commercial activities. The same applies to parking, provided that enough parking spaces are realised. The commercial activities for platform-linked commercial activities are also included in this area. This involves an area of almost 30 hectares (gross) in the direct vicinity of the runway, accessible from the main link road.

The southern side of the area is characterised by a large plot of land – around 130 hectares – for a new area of natural beauty, making it possible to expand the national ecological network. This area includes a small amount of land for residential construction. There will also be homes in the surrounding camps (Zuidkamp and Prins Bernhardpark). In total, there will be around 230 homes at this location. These new homes are particularly aimed at the upper segments in the market, in line with the developments in the plans and policy vision of the Municipality of Enschede. To make this possible, every attempt has been made to find differentiations and niches in the market. These niches in equestrian living, care concepts and community living, amongst others, will be financed by market initiatives and project developers.

In Oostkamp (25 hectares), the possibilities and qualities of the existing property will be utilised to a large extent. This property covers a gross surface area of approx. 25,000 m<sup>2</sup> and will be used for leisure, events and innovative commercial activities. Oostkamp will be accessible from Oude Deventerweg, from where it will also be possible to access the strip. The nearby strip on the eastern side of the airbase and at the foot of Lonnekerberg will be home to a collection of special buildings in terms of both their cultural heritage and their function. In this area of almost 25 hectares, a limited programme for innovative commercial activities, services and a few residential buildings is envisioned that blend in with the landscape and shape itself to and merge with the landscape qualities and the existing characteristic features.

In this way, opportunities will be created for new enterprise, still to be strictly defined. It may involve very upmarket forms of enterprise, such as a brandy blending centre that finds a suitable location in the former munitions bunkers. Or a medical park with links to the airport and the green surroundings, in which small-scale clinics are realised for international patient exchange with preliminary or follow-up treatment.

In the zone along the A1, a new access road linked to the motorway and a suburban railway station (P+R) is projected. The accompanying parking facilities can also function as overflow solutions for the airport. In addition, space has been reserved for a top leisure facility with an expected number of visitors of more than 500,000 per year.

There will also be limited space for commercial activities, as well as office functions at the suburban railway station.

The development of the airport and the new connection to the A1 will generate a demand for hospitality facilities and stimulate the creation of extra facilities around this

multimodal junction with an eye to cargo transport.

The land allocation of the A1 zone can only start after the development of the airport has been put out to tender.

### 13.7 The logistics of the airfield

#### Airport area

The airport area is a demarcated area around the runway that will be zoned as the 'airport'; see the illustration with the area boundaries in this section. The spatial development strategy will provide space for construction according to code E, where aircraft such as the B747, B777, A330 and A340 can be accommodated. If desired, the airfield can be transformed into a smaller structure in accordance with category D. The decision for the airport area includes rules about the purpose and use of the land in that specific area insofar as those rules are necessary with a view to using the area as an airport [60]. The decision for the airport area is a mandatory part of the draft Airport Decision that will be taken by the competent authority for the airport. Amongst other things, the airport area should contain the terminal with accompanying facilities such as a restaurant, health facilities, customs, the Royal Netherlands Marechaussee (KMAR), etc. In addition, the platform includes space for parking and handling passengers and goods, and spaces should be available for maintenance, emergency aid and parking facilities. Furthermore, in harmonisation with the airport operator and in accordance with the regulation, the possible integration of a glider airfield will be examined. (ill. 13.31)

#### Glide funnels

Due to security considerations when starting and landing aircraft, every airport requires a mandatory obstacle-free zone, a called 'glide funnel'. This three-dimensional zone uses a spatial scale of 1:7 and so limits the height of obstacles in the immediate surroundings. Every seven metres on both sides of the

runway from a given distance results in a possible one extra metre in construction height. For more information, see the illustration with this section. (ill. 13.32 and 13.33)

#### The logistics of the airfield

The permitted military noise exposure contour (35 Ke) represents a high optional value for the airport area. The strategic asset for the airport is to preserve a large noise space and in that way avoid unnecessary restrictions for the surroundings. The proposal is to establish a spatial reservation that specifies the limitation area via an Airport Decision, via an indication of national importance (in the sense of the Spatial Planning Act). (ill. 13.34)

It will be expected that not more than 1.2 million pax will be realised within the period up to 2030 [12]. Occasional military co-use (for example, for logistical operations) is not excluded. The design of the area with its parking facilities is based on the above specification. The land site of the airport, with the terminal, cargo handling, etc. provides sufficient capacity to facilitate a development. There are various ways of catering for the extra need for parking spaces, with the use of the Transferium in the A1 zone, or the construction of facilities or the expansion of the parking facilities in the vicinity. The traffic increase will be accommodated through the widened Vliegvelddstraat.

In accordance with the Regulations for Civilian and Military Airports Act (RBML), contours of noise burden and external safety risks for an airport are defined in an Airport Decision. Restrictions for spatial development (buildings) apply within the contours or a consideration of the development possibilities is required.

The restriction and consideration areas, the airport area and the external safety contours will be set out in the final Airport Decision, following the submission of the relevant



## Illustration 13.27 Model B: Bicycle network

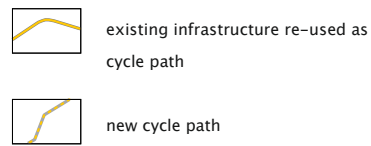


Illustration 13.25 Cross-section B, cycle route through estates

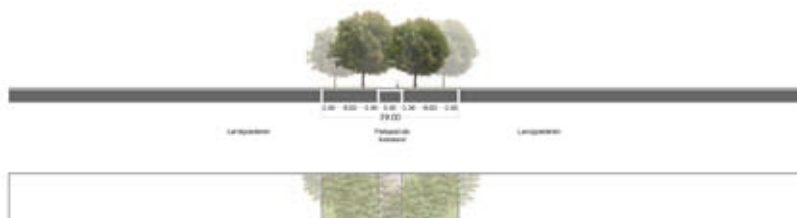
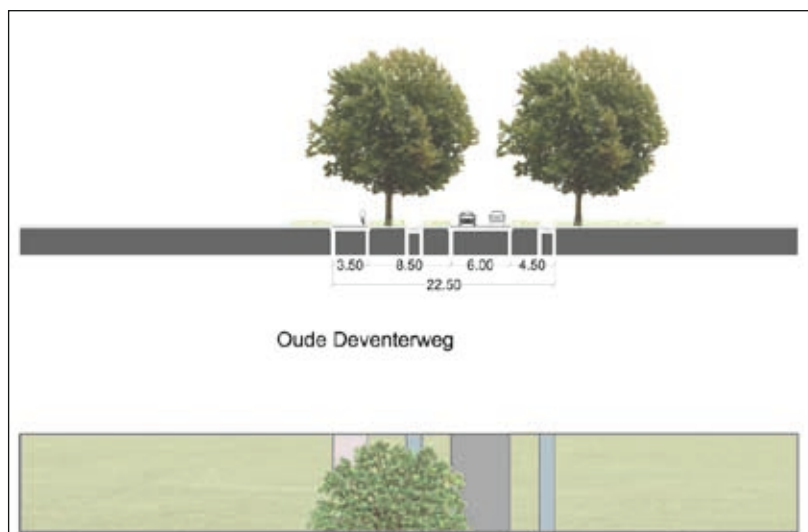
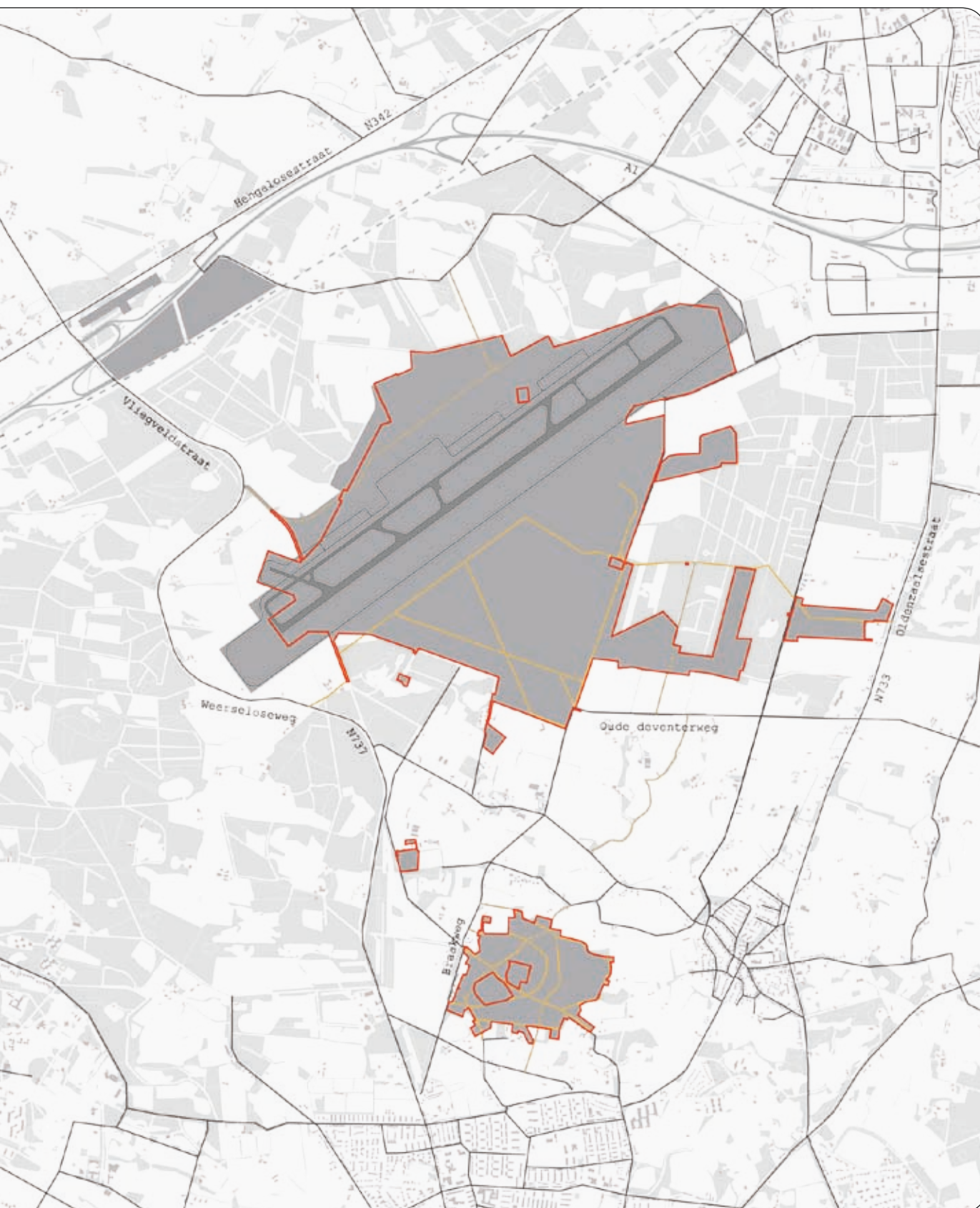


Illustration 13.26 Cross-section C, cycle route through estates



Illustration 13.28 Cross-section D, Oude Deventerweg





### Illustration 13.29: Valuable buildings, flora and fauna

intended integration of natural values:



bat bunker



pond



wood/vegetation



open park-like terrain

intended preservation of buildings  
of cultural value:

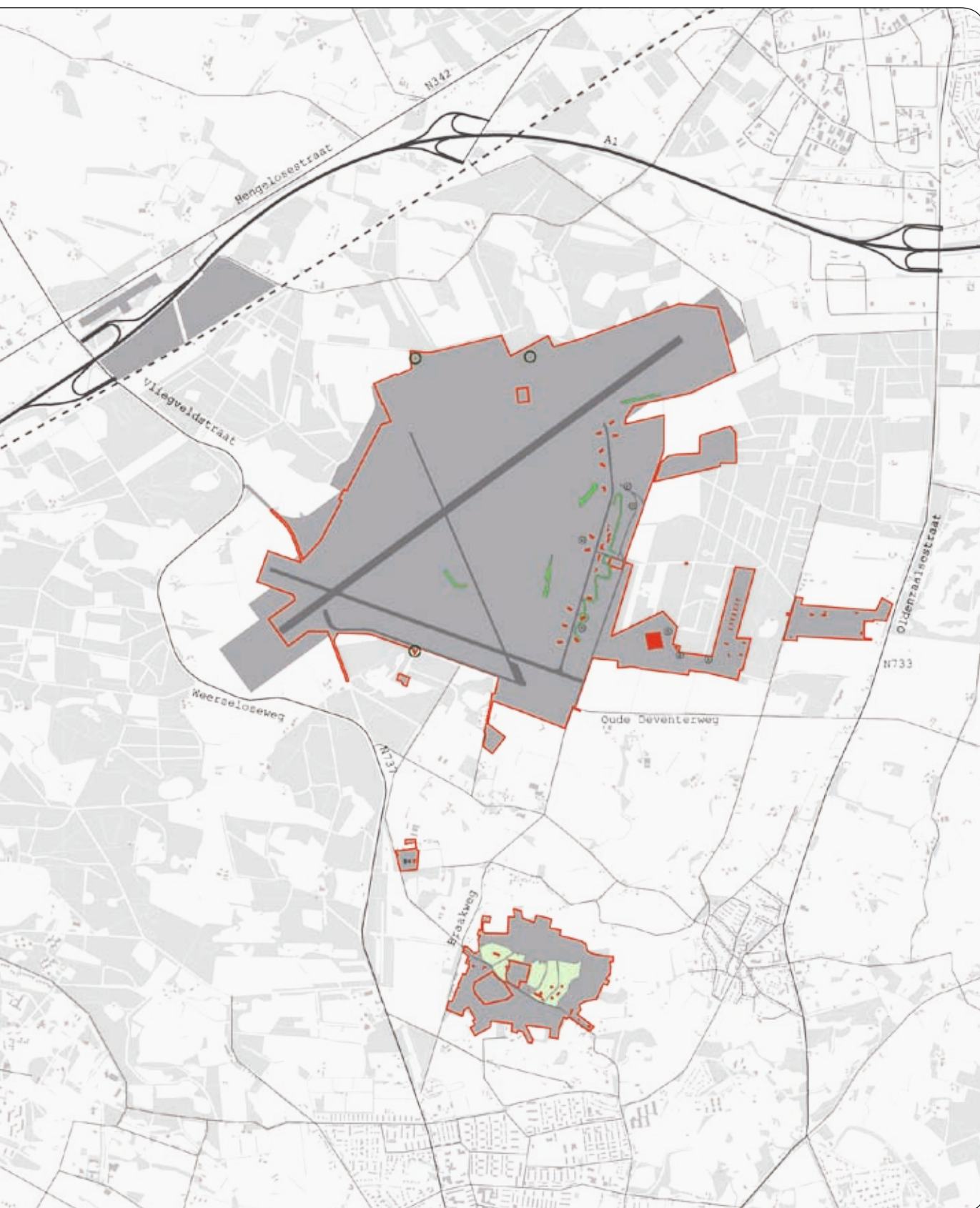


infrastructure



buildings

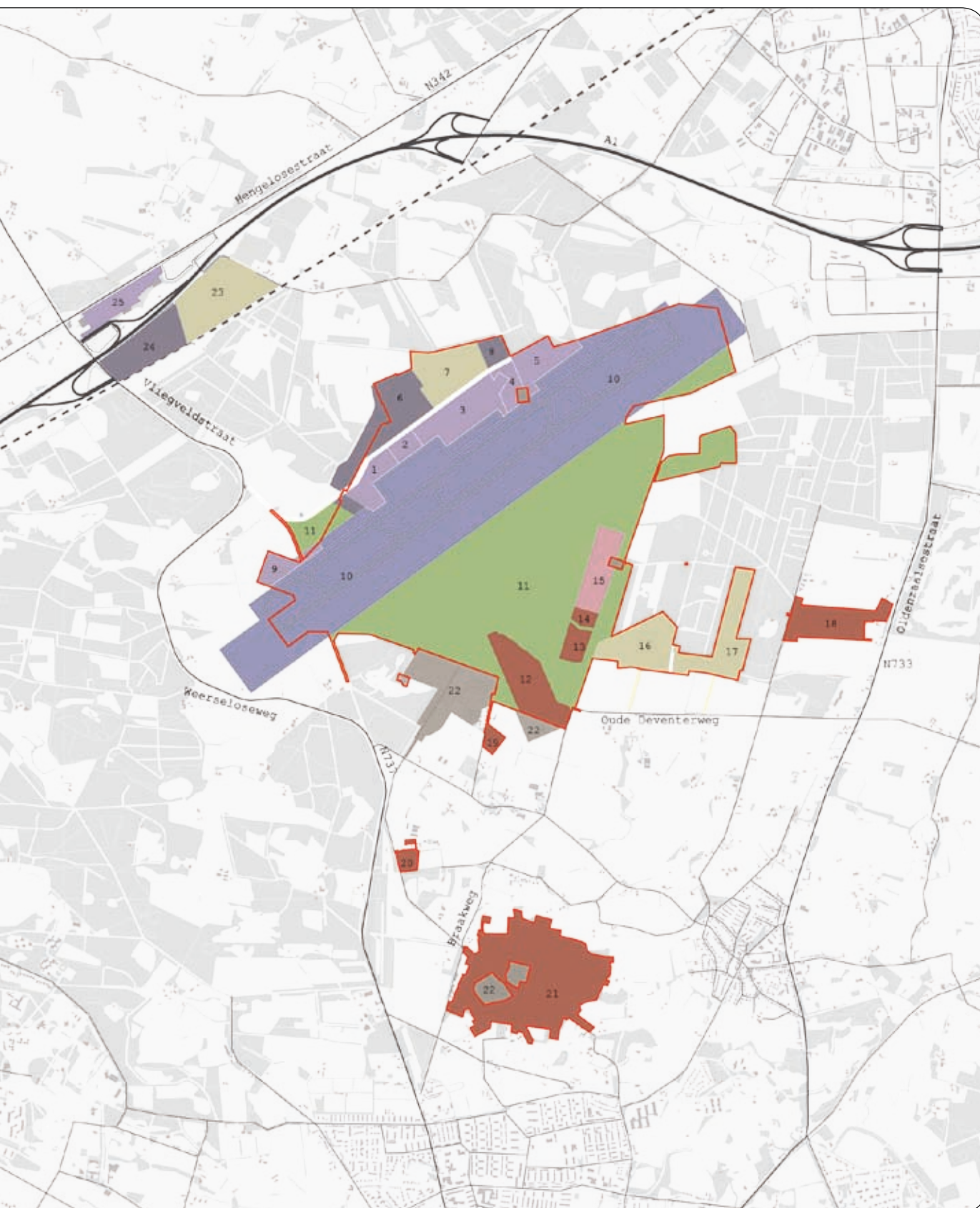




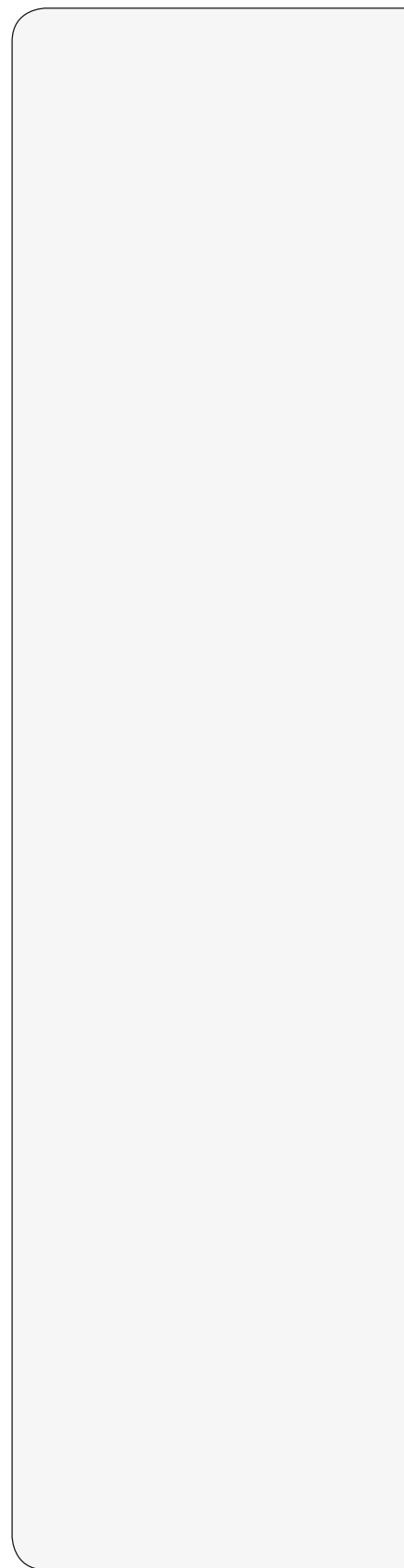
### Illustration 13.30 Model B: programme map

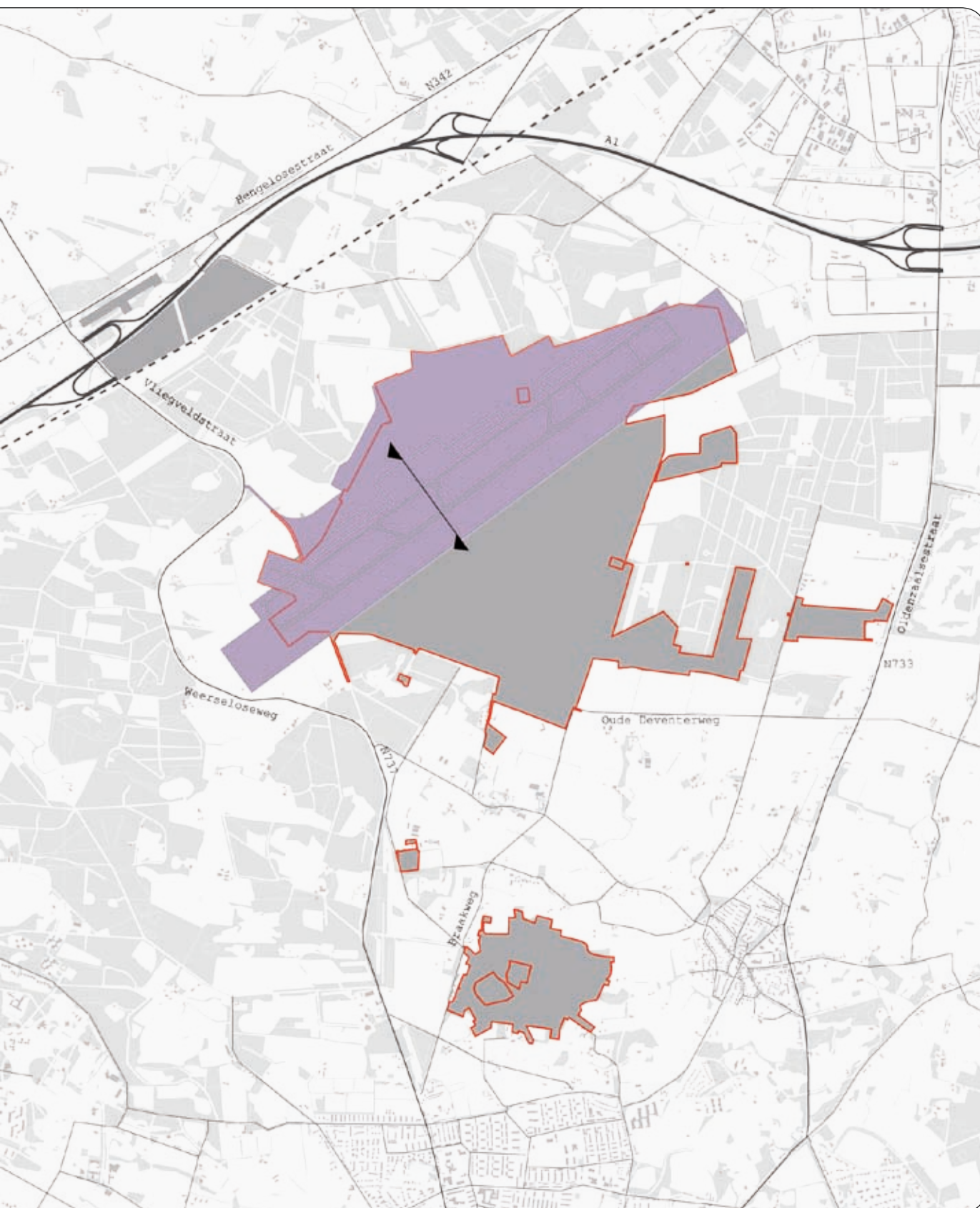
- 1 terminal/airport facilities
- 2 baggage hall/airport facilities
- 3 platform-linked commercial activities
- 4 platform-linked commercial activities
- 5 platform-linked commercial activities/fire department drill centre
- 6 parking
- 7 leisure/airport-linked commercial activities
- 8 parking
- 9 general aviation/airport-linked commercial activities
- 10 airside
- 11 nature
- 12 equestrian living
- 13 residential area/services
- 14 residential area/services
- 15 residential area/services/innovative commercial activities
- 16 leisure
- 17 leisure/innovative commercial activities
- 18 residential area
- 19 residential area
- 20 residential area/services
- 21 residential area/services
- 22 defence
- 23 leisure
- 24 suburban station/offices/Park & Ride
- 25 airport-related activities/hotels, restaurants and bars





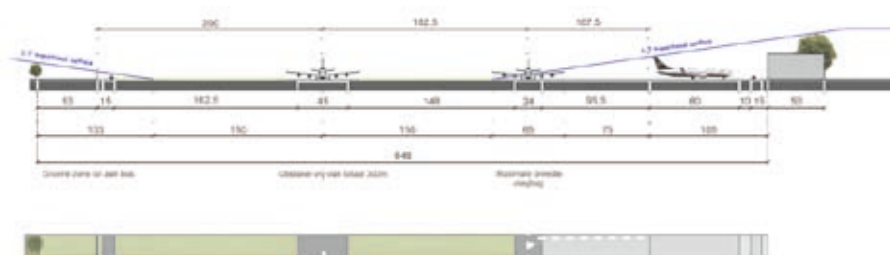
### **Illustration 13.31: Airport area**



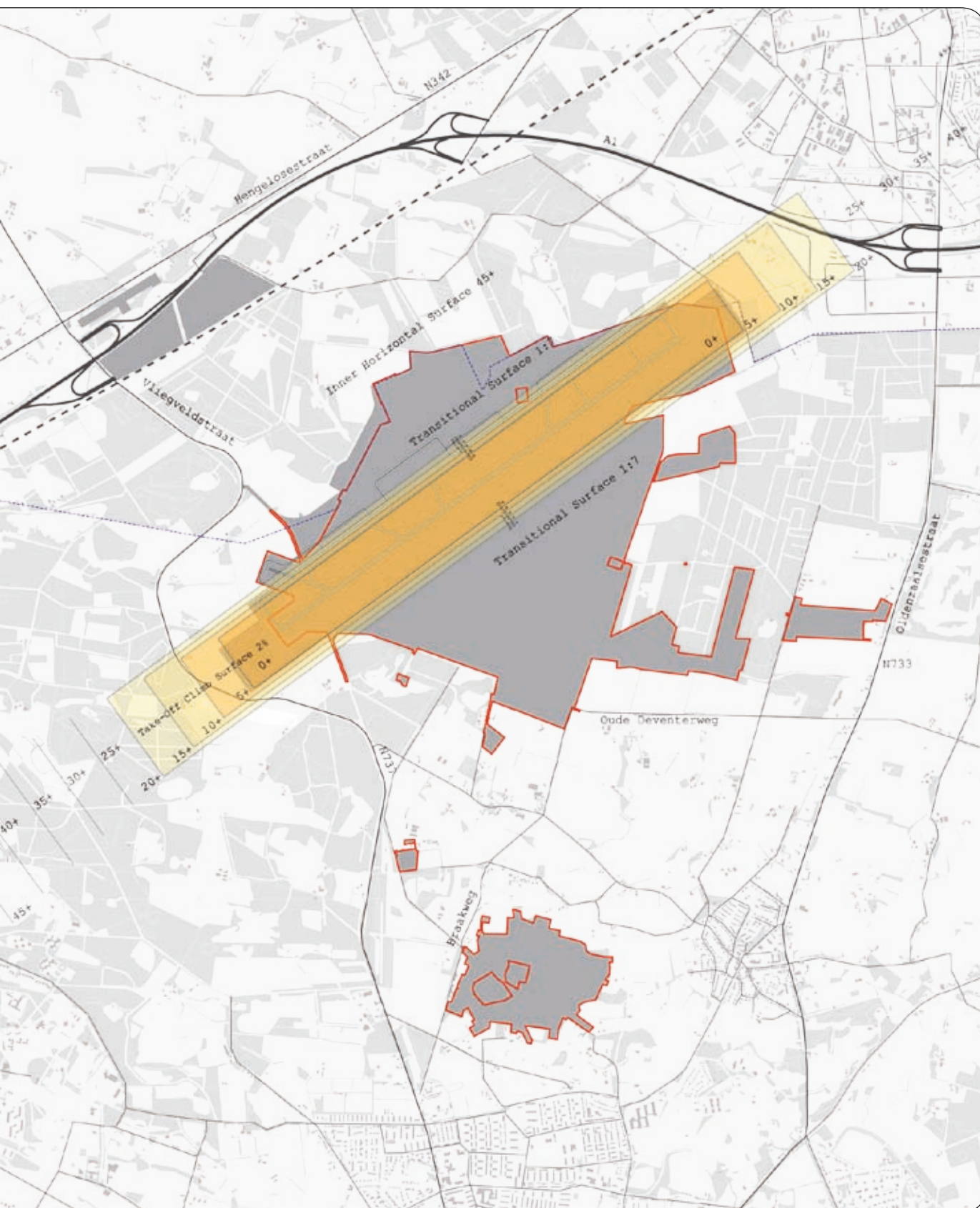


### Illustration 13.33: Glide funnels

Illustration 13.32 Cross-section H, airside









application and zoning plan by the airport operator. A report on the environmental effects will also be formulated for this decision in due course. (ill. 13.34)

No construction of new housing or noise-sensitive buildings is allowed within the limitation area, except in the case of a certificate of no objection against company houses or the replacement of an existing building. The field to which the spatial limitations apply has been reduced from 38.71 km<sup>2</sup> to some 11 km<sup>2</sup>. The external safety contours fall within the proposed spatial reservation.

VTM i.o. has ordered an investigation into the effect of noise from the traffic routes from Twente Airport in the immediate vicinity (including residential areas) for both smaller and large-scale air traffic (civil and otherwise) [4, 60], specifically for Oldenzaal, De Lutte, Hengelo, Enschede, Bentheim (D), Nordhorn (D) and Haaksbergen [3].

### 13.8 Model B plan sketch

The plan sketch displays a possible final configuration produced by the spatial development strategy for model B. The former military airfield will be transformed into a civilian airport suitable for processing 1.2 million passengers per year. The car parks, the airport terminal, the platforms and the associated platform-linked commercial activities will be situated north-west of the runway. All of these airport functions will be accessed by means of a historical access road directly linked to the A1 motorway by the widened Weerseloseweg. North of this access road, there will be space for a leisure programme or for airport-related commercial activities. Parking for the airport and the possible leisure programme will also be located north of the access road.

The new brook valleys of the Leutinkbeek and the Jufferbeek brooks will not traverse the runway, which means that these brooks

can be developed uninterrupted and in the most efficient way. The historical open space of the airstrip will be embedded spatially in the surrounding landscape by four sight lines, thus increasing its scenic quality.

South of the airfield, the emphasis will be on landscape development. The national ecological network of the area will be further strengthened by this landscape zone south of the airport.

The landscape will be interlaced with a system of tree-lined access lanes that will function partly as a recreational route and partly as an access road for the programmes nestled in the area.

In addition to scenic surroundings, this programme consists of an “equine-based residential neighbourhood” along one of the former taxiways south of the Leutinkbeek brook. Along the taxiway at the foot of Lonnekerberg, the strip provides space for the re-use of historical airfield buildings in combination with limited possibilities for new buildings in the ambience of a medical park. The former traffic control tower will function as a landmark in this strip.

The camps Zuidkamp, Prins Bernhardpark and Kamp Overmaat will be transformed into residential enclaves that are pleasantly situated in the landscape. In the redevelopment, the majority of the historical buildings and the characteristic of the original spatial structure will function as carriers for the future quality of the programme.

Oostkamp will be made accessible by means of two access lanes running directly from Oude Deventerweg. The current buildings will provide space for commercial and leisure functions. (ill. 13.36 and 13.37)

### 13.9 Phases and planned economy

This chapter deals with the programme-based and financial aspects of the following subareas:

- Airbase
- Oostkamp
- Zuidkamp
- Prins Bernhardpark
- Kamp Overmaat
- A1 zone

The total result for spatial development strategy B is displayed in the final summary, followed by a discussion of the risks associated with the realisation of spatial development strategy B.

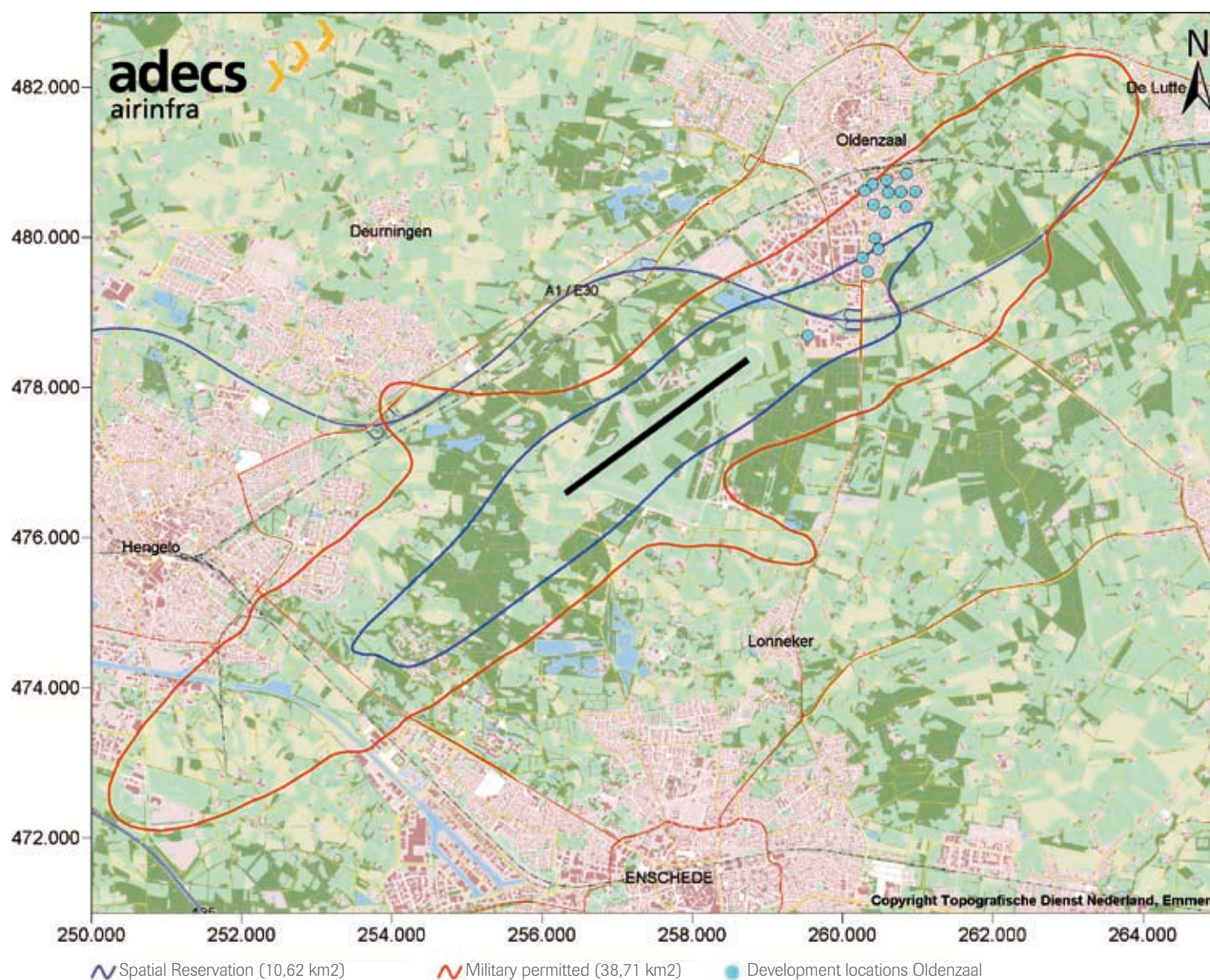
#### Airbase

The airbase subarea covers an area of 414 hectares of government-owned land. In addition, 13 hectares of land still to be acquired has been added to the development area for the main access road (including green fencing) and parking capacity. In addition, the land development of ca 17 ha has been included as reserved land for the runway head for the purpose of air infrastructure.

With respect to the phases for developing the area for this part of the plan, the following basic principles have been formulated, and they also apply to the land developments:

- The airport development will be initiated during the period 2010-2020. During that period, the market development of the airport must become active and grow to a substantial level in order to justify follow-up investments.
- In around 2019, the southern zone of the current airfield area will become entirely free for the development of an area of natural beauty. The most appropriate phasing will be chosen so that the construction of the national ecological network can start before 2018.

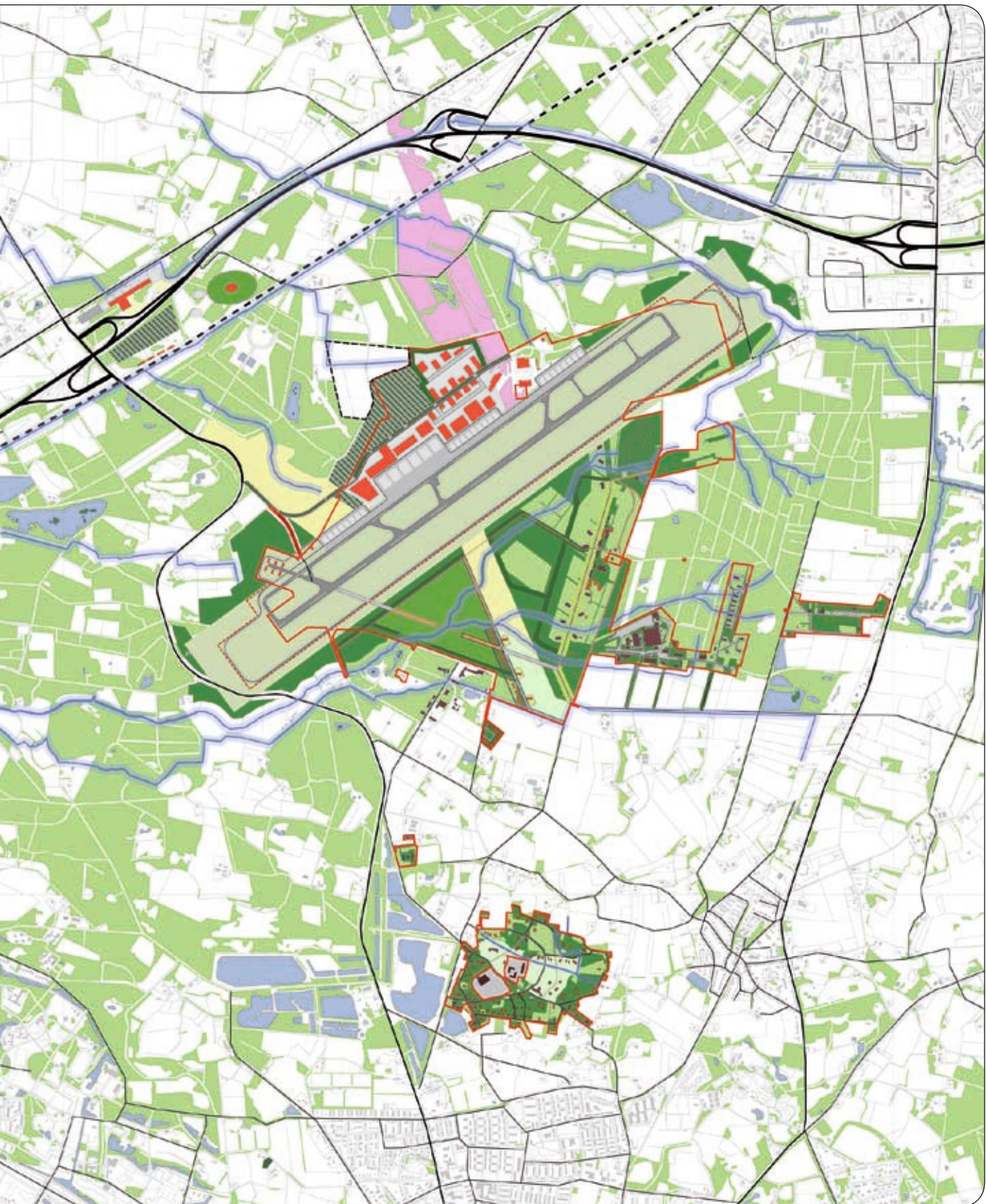
Illustration 13.34 Spatial reservation



### Illustration 13.35: Model B plan sketch







- The thematic living component can be developed during the period 2020-2025. These phases also apply to the eastern strip (the area around the current traffic control tower).
- The development of the natural resources (including development of the natural water system) can be tackled dynamically from 2020 onward.
- The northern side of the premises will be added onto Vliegvelddstraat as early as 2012. The realisation of the first branch of Vliegvelddstraat (northern side) is anticipated for 2015 (temporary measure).

Following this, the development of the airport can start there in conjunction with the development of the commercial activities and the parking areas. The completely new northern main entrance will then be completed in 2020. It is expected that during the development period up to 2030 all 30 hectares of land to be allocated for business premises can be sold.

Excluding Oostkamp, the table below displays the use of space on the airbase: see table 13.1

The share of green and water in spatial development strategy B amounts to 35% for the airbase (excl Oostkamp). Of that, it is suggested that 130 ha of new natural areas should be included, with the option of strengthening the EHS.

### Oostkamp

Oostkamp covers an area of more than 25 hectares, which also includes the new access roads in the development area. The development of Oostkamp can start in the short term, independently of the other developments at the airbase. It is assumed that the allocation of land can be completed by mid-2014. The existing property, more than 25,500 m<sup>2</sup> of gross surface area, will be sold off in smaller lots in phases after the decision has been taken about the area.

Following this, during the phase in which the airport area on the southern side becomes free, the new access roads will be constructed and work will start on restoring the natural water system.

The following table specifies the use of space. (table 13.2)

The existing area (approx. 95% of the subarea) will be allocated with all the existing infrastructure, which is in satisfactory to good condition.

### Zuidkamp

Zuidkamp covers more than 43 hectares. Added to this, Defence has another 4 hectares in ownership. The area will be redeveloped into a green and luxurious residential area, and the existing green and road structure will largely be integrated into the new development. The Zuidkamp plan component will be developed in phases, and several lots will be sold every year over a lengthy period (2012 through 2023). Investment will follow the same pace. In this subarea, 154 homes will be realised. (table 13.3)

The programme has allowed for the option for a commercial facility (a restaurant) and a differentiated residential programme. The aim of the programme is to utilise the existing quality of the area. To achieve this, the programme will preserve as much of the existing property as possible.

### Prins Bernhardpark

Prins Bernhardpark covers an area of more than 10 hectares. In addition to the existing four homes, 15 new spacious lots will be developed in line with the spatial development strategy. The officers' mess will be put to a different use. The development of Prins Bernhardpark can start in the short term so that the allocation can be completed by around 2015. (table 13.4)

Based on the aforementioned spatial and programme-oriented basic principles, less than half of the area will be developed.

### Kamp Overmaat

Kamp Overmaat covers an area of approx. 1.65 hectares and consists of a disused camp building (1940), public space and an office building that is currently being used by the State Property Department (Domeinen). (table 13.5)

According to the plan, the area will not be refurbished and the existing property will be sold off in smaller lots. This will take place as quickly as possible (planned for 2011).

### A1 zone

The area to the west of Oude Postweg is regarded as an area with active production of building land. In total, it amounts to more than 34 hectares of gross development area.

The development of the A1 zone is a long-term development. The area will first have to be acquired before it can be developed. This is governed by the Municipalities (Preferential Rights) Act. The aim of this act is to give the public parties power over the spatial planning process at an early stage of the planning process in order to safeguard the spatial qualities of the development.

In the land development, the development of the largest part of the area between 2015 and 2027 was taken into account for the time being. The land allocation of this area can only start after the development of the airport has been put out to tender. (table 13.6)

In the area, a total of more than 23 hectares of land can be allocated. This land will be allocated for parking at a future suburban station, offices at the station location and an area of approx. 15 hectares for a leisure park (theme park), with limited space for commercial activities. It is only possible to start implementing the land allocation after





the development of the airport has been put out to tender.

The development of the airport and the new connection to the A1 will generate a demand for hospitality facilities and stimulate the creation of extra facilities around this multimodal junction with an eye to cargo transport.

The economic analysis shows that if no large-scale soil contamination is encountered, a cost-effective land development is at the least possible with the specified programme. This will partly depend on the pace in which the location can be developed after the acquisition of land and the development of land prices in the area.

### Total result

The total result of spatial development strategy B (including other components of the development: VTM i.o. organisation, subsidies and temporary property management) amounts to NCV € 30.4 million.

This is the residual land value, as yet excluding the acquisition costs of the government-owned land. (table 13.7)

### Result of Risk Analysis - Spatial development strategy B

A risk analysis was carried out to assess the possible risks associated with the implementation of spatial development strategy B. This analysis was done with the support of a Civil Engineering Cost Agency and Twynstra Gudde Risk Management.

Given the project phase, the analysis focuses on the financial risks of the land developments.

The risks are subdivided into spread risks and pure risks.

Spread risks are - usually regular - ambiguities in the estimates resulting from

Table 13.1

Airbase Total	ha	
Available for allocation	247	58%
Surfacing	30	7%
Green and water	165	35%
Total (rounded)	427	

Table 13.3

Zuidkamp	ha	
Available for allocation	22	51%
Surfacing	5	11%
Green and water	16	38%
Total (rounded)	43	

Table 13.5

Overmaat	ha	
Available for allocation	2	91%
Surfacing	0	9%
Green and water		0%
Total (rounded)	2	

Table 13.2

Oostkamp	ha	
Available for allocation	24	95%
Surfacing	1	4%
Green and water	0	1%
Total (rounded)	25	

Table 13.4

Prins Bernhardpark	ha	
Available for allocation	5	43%
Surfacing	1	9%
Green and water	5	47%
Total (rounded)	10	

Table 13.6

A1 zone	ha	
Available for allocation	23	68%
Surfacing	1	2%
Green and water	10	30%
Total (rounded)	34	

price fluctuations and uncertainties in the base figures (amounts) of the estimates.

Pure risks concern events or situations that occur and have been anticipated in the estimates (i.e. not forming part of the regular distributions). These risks are determined by looking at the chance of an event occurring and its effect.

Monte Carlo simulations have shown how the land development outcomes relate to the values with a 50% and 90% certainty in the case of both spread risks and pure risks (see P50 and P90). This can be used to calculate the so-called risk reserve, which varies from some € 9 million (P50) to about € 15 million in plan B (P90).

For the time being, it concerns a risk indication that can be adjusted downward by means of additional research, managerial agreements and the relevant control measures.

#### *Controlling the main risks*

In terms of spread risks, the discount rate and the rise in revenue of housing are key parameters that influence the outcomes of the land development to a large extent. The interim and final result will have to be compared with the guiding principles of the land development, on the basis of financing agreements for the execution of the project and the value/tendering value of land. This will allow timely intervention in the event of deviations. Proper economic supervision and guidance will also play a contributing role in this regard.

In the case of pure risks, the main elements are the risk related to remediation and explosives and not being able to implement the leisure-time destinations in the plan.

For remediation and explosives, in which case it also entails the risk above the soil remediation agreements made at central government level, additional funds are

needed to gain better insight into the contaminated locations. Good insight is important because these risks determine the abovementioned risk reserve to a large extent. Without the risk for remediation and explosives, the calculated risk reserve declines to about € 11 million (P90).

To attract an operator for the airport, external market and financial support will ensure proper preparations for the tendering process. The creation of an advantageous and attractive offer for the market, with sufficient development possibilities and flexibility, will form part of this.

Any chances to the cash flow prognosis will require good planning support and guidance of the land exploitation to make the relevant adjustments possible as needed.



Table 13.7

Land complexes	ha	ha allocated	m2 gross surface area	# parking spaces	# homes	NCW land development (million €)
Airport	427	247	255.000	6.700	54	
Zuidkamp	43	22			154	
Prins Bernhardpark	10	5	1.860		19	
Kamp Overmaat	2	2	1.500		1	
A1 zone	34	23	50.000	1.500		
Land complexes total	516	299	308.360	8.200	228	34,2
Other components BuCa						NCW total (million €)
VTM i.o., subsidies, temporary property management						-3,8
NCW Land exploitation B TOTAL	516	299	308.360	8.200	228	30,4

**Illustration 13.36: Overview plan sketch model B**



