

July 5th, 2012

P5 Presentation by

N. den Besten
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Delta Interventions Graduation Studio
MSc Urbanism
Faculty of Architecture, TU Delft

1st mentor:
Prof.dr.ir. Han Meyer (Urban Design)

2nd mentor:
Ir. Inge Bobbink (Landscape Architecture)

External examiner:
Ir. Martijn Stellingwerff

“Towards an open delta

Research and design for sustainable urban
landscapes in an open Dutch Southwest
Delta

”

by N. den Besten



“

Graduation Framework

R&D Location | Problem statement | Aim | Relevance

Research

History | Urban Form

Design

Phases 1-10 | Maps | Sections | Vizualizations

Conclusion

Open delta | Working with nature | Questions

”

“ Graduation Framework

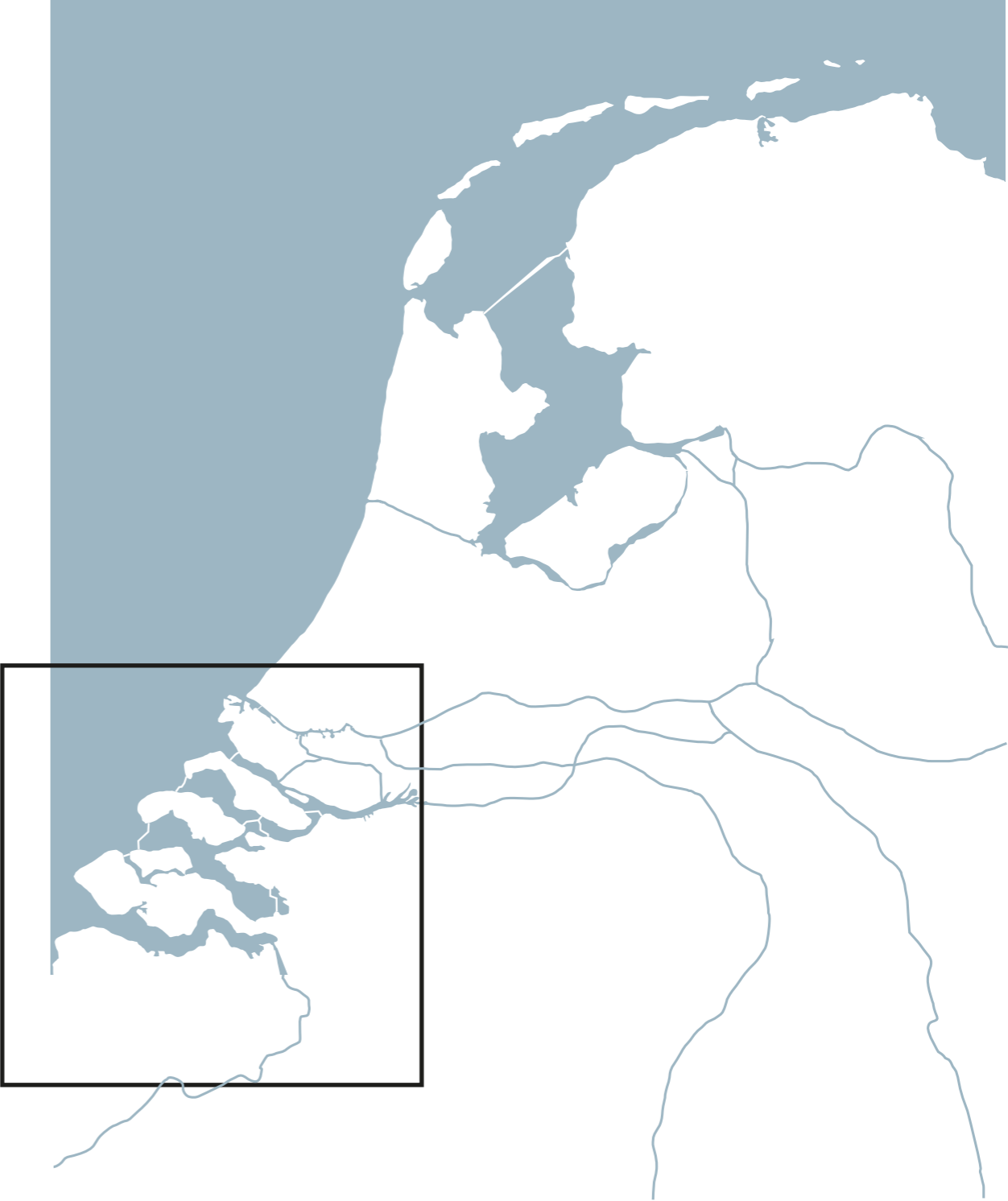
R&D Location

Problem statement

Aim

Relevance

”









“ Today, the Delta Werken provide water safety, but also water problematics ”

U bevindt zich hier > Regio > Zeeuws nieuws

Zonder zout is Krammer-Volkerak niet vrij van blauwalg te krijgen

Auteur: door Ben Jansen | vrijdag 03 oktober 2008 | 08:17 | Laatst bijgewerkt op: dinsdag 23 februari 2010 | 20:45

Tekstgrootte - +

MIDDELBURG - Zonder zout water geen gezond Volkerak-Zoommeer. Suggesties dat de blauwalg ook onder zoete omstandigheden valt aan te pakken, zijn volgens gedeputeerde Frans Hamelink (coördinatie deltawateren) 'uit de lucht gegrepen'. Donderdag onderschreven vertegenwoordigers van ministeries, provincies, waterschappen en gemeenten die in het bestuurlijk overleg Krammer-Volkerak vertegenwoordigd zijn, de conclusie dat het zieke randmeer alleen kan opknappen door zout water in te laten en een beperkt getij toe te staan.



Het Krammer-Volkerakmeer. foto Con Clasquin

Tot die slotsom kwamen ze na brede studies die bovendien door binnen- en buitenlandse deskundigen zijn getoetst. Hamelink over deze opvatting van het bestuurlijk overleg: "Het is allemaal uit en te na bekeken. Je moet je nu gewoon bij uitkomsten neerleggen: een zoet Volkerak-Zoommeer is geen optie meer."

Gevolg is dat voor de landbouw in het oosten van Zeeland en in West-Brabant op een andere manier in de zoetwatervoorziening moet worden voorzien. Ook zijn maatregelen nodig tegen een hoger zoutgehalte in het nu zoete benedenrivierengebied. Hamelink: "Er komt daar in de toekomst via de Volkeraksluizen zout water binnen. De gevolgen, bijvoorbeeld voor de bollentelers, de glastuinbouw en de drinkwatervoorziening zijn vrij groot. Het is de bedoeling dat deze maand nog slimme oplossingen daarvoor in kaart worden gebracht."

De gedeputeerde stelde met tevredenheid vast dat ook de provincie Zuid-Holland instemt met een zout Volkerak-Zoommeer. "Dat is constructief en loyaal, want we hebben het over de oplossing van een Zeeuws en West-Brabants probleem met grote gevolgen voor Zuid-Holland."

Advertentie



ALLES moet weg!

De laagste prijzen in Nederland. 40" HD TV verkocht voor maar € 17. Bied mee!



DELA uitvaartverzekering

Zeer goed rendement volgens De consumentenbond (2012). Bereken uw premie.



GRATIS verzenden: € 0,00

Supergoedkope toner en inkt cartridges bij SNELTONER. NU actie GEEN verzendkosten.

Ligatus

Doorsturen

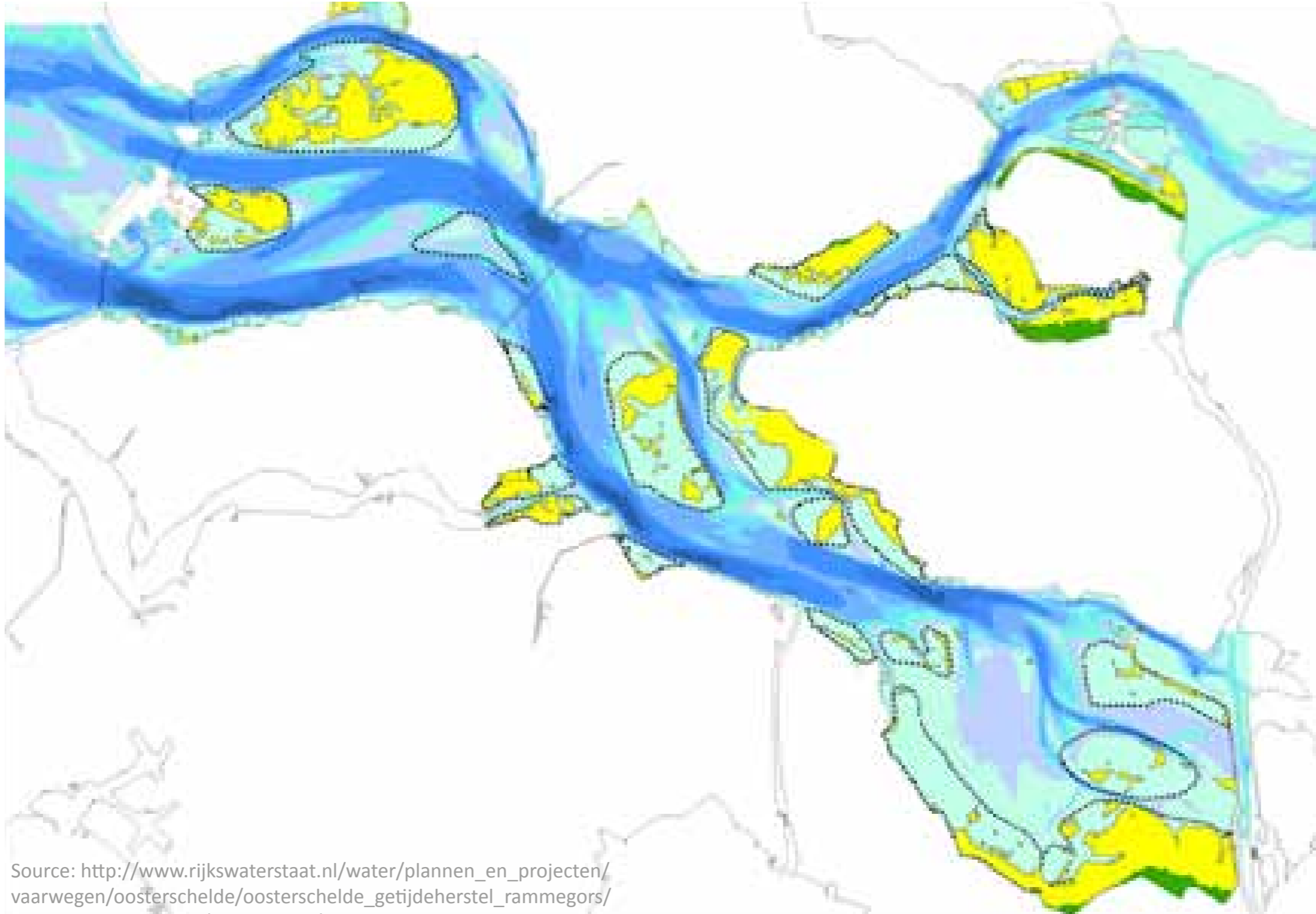
Afdrukken

Reageren (1)



“ Without salt the Krammer Volkerak could not be without blue algae

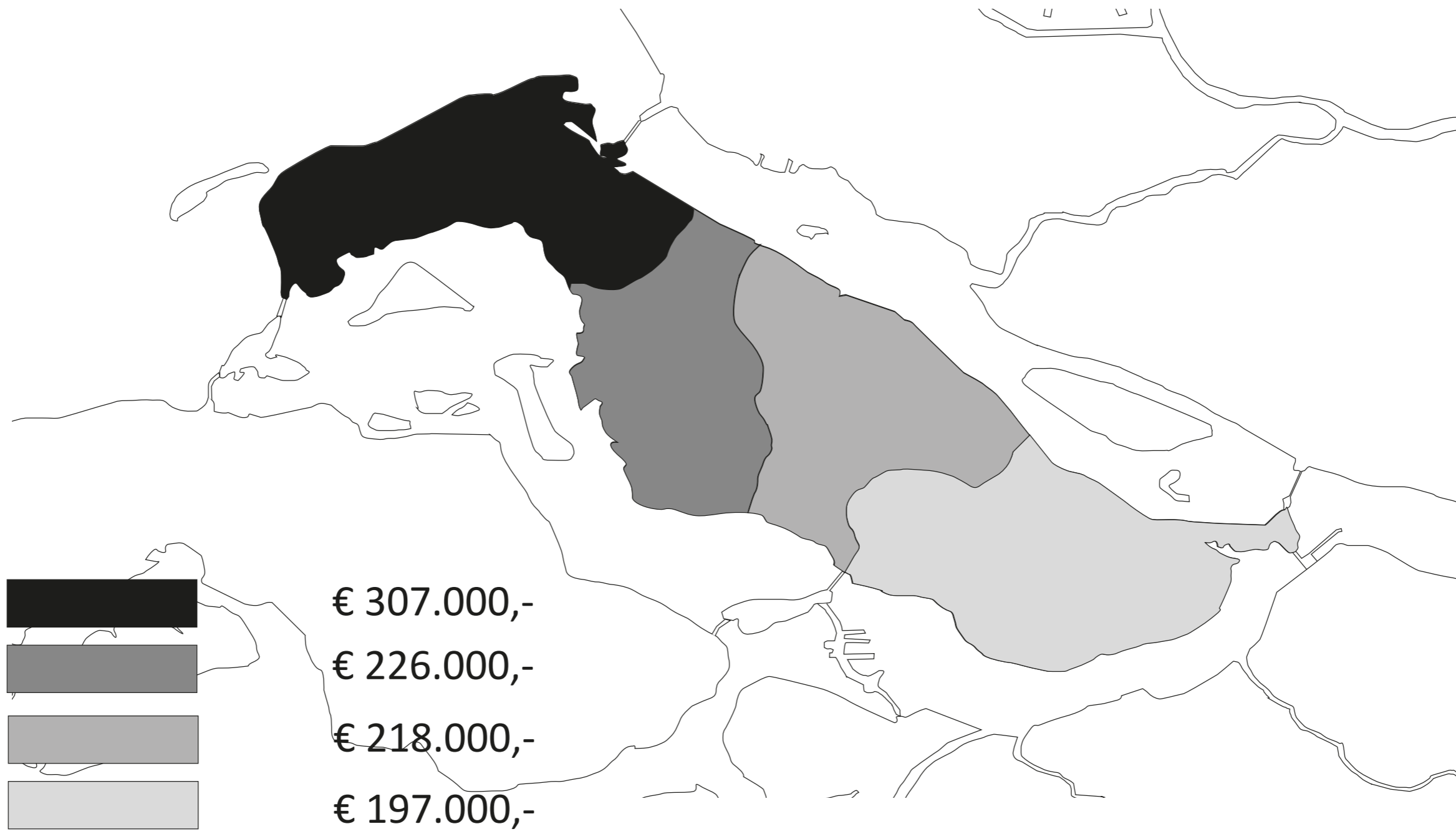
”



Source: http://www.rijkswaterstaat.nl/water/plannen_en_projecten/voorwegen/oosterschelde/oosterschelde_getijdeherstel_rammegors/doelen_en_resultaten/visualisaties/, Retrieved at 2 juli 2012

“ Diminishing of sedimenttransport and inclination of sand plates in the Oosterschelde ”

”



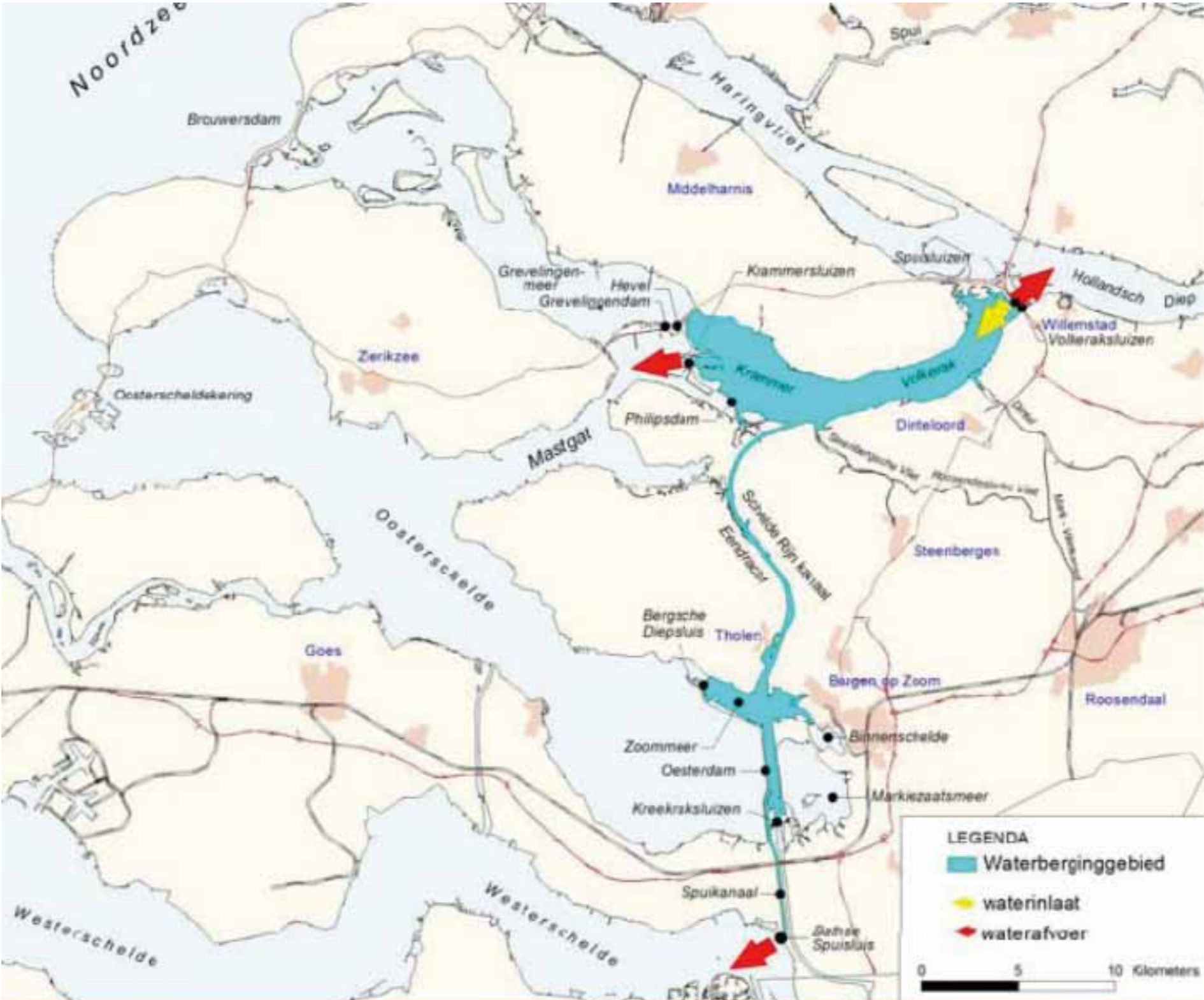
WOZ-values Goedereede, Dirksland, Middelharnis and Oostflakkee.
Source: Author, 2012
Data used: Wikipedia, 2012

“ The urban design aims to restore and realize (new) relations with water

”



“ Vacant housing in Oude Tonge as a sign for a lesser socio-economic condition ”



Source: http://www.rijkswaterstaat.nl/images/Rapport%20Recreatie,%20wonen%20en%20werken,%20bereikbaarheid_tcm174-289399.PDF, Retrieved at 2 juli 2012

“ Temporary water storage in times of high river discharge ”

”

Deel aardappeloogst teloor

17/08/04, 00:00

DEN HAAG - De uitzonderlijke regenbuien van de afgelopen dagen hebben boeren „behoorlijke schade” toegebracht. Vooral telers van aardappels en uien in Friesland, Zeeland, de Noordoostpolder en de Zuid-Hollandse eilanden Goeree-Overflakkee en Voorne-Putten vrezen voor hun oogst.

Dat heeft land- en tuinbouworganisatie LTO Nederland gisteren laten weten. Gewassen die langer dan 24 uur onder water staan, zijn verloren door rotting en schimmel. Als de velden korter dan 24 uur blank staan, ontstaat er ook schade. Volgens LTO zal het enkele weken duren voordat de precieze omvang daarvan bekend is.

Gisteren kregen Zeeland en het Westland vooral met fikse regenbuien te maken. De afgelopen dagen was het ook raak in Friesland, de Noordoostpolder en delen van Noord- en Zuid-Holland wateroverlast veroorzaakt. Kelders liepen onder, straten en tuinen stonden blank.

Verzekeraar AgriVer noemt de gevolgen van de regen 'rampzalig'. Maar dan vooral voor de boeren zelf. Voor het bedrijf valt de schade mee, omdat veel boeren niet zijn verzekerd.

De huidige weersomstandigheden zijn voor boeren echter aanleiding zich wel te verzekeren, verwacht AgriVer.

Het bedrijf denkt dat een substantieel deel van de oogst van aardappels en uien verloren is. Voor de uien dreigde 2004 al een slecht jaar te worden door de schimmelziekte valse meeldauw.

Voor de komende dagen hoopt LTO op droog weer. Dat is niet alleen van belang voor de probleemgebieden en bijvoorbeeld het Westland, waar schade door regen dreigt, maar ook voor de oogst van producten. Op ondergelopen akkers kunnen machines niet werken.

Meer over

Nieuws

Source: <http://www.trouw.nl/tr/nl/4324/nieuws/archief/article/detail/1739776/2004/08/17/Deel-aardappeloogst-teloor.dhtml>,
Retrieved at 2 juli 2012

“ Part potato harvest lost, heavy rains flooded agricultural lands

”



0 - 70.000

Shipping passages in the Dutch Southwest Delta
Source(s): Author, 2012
Data used: Atlas van de Zuidwestelijke Delta, 2009

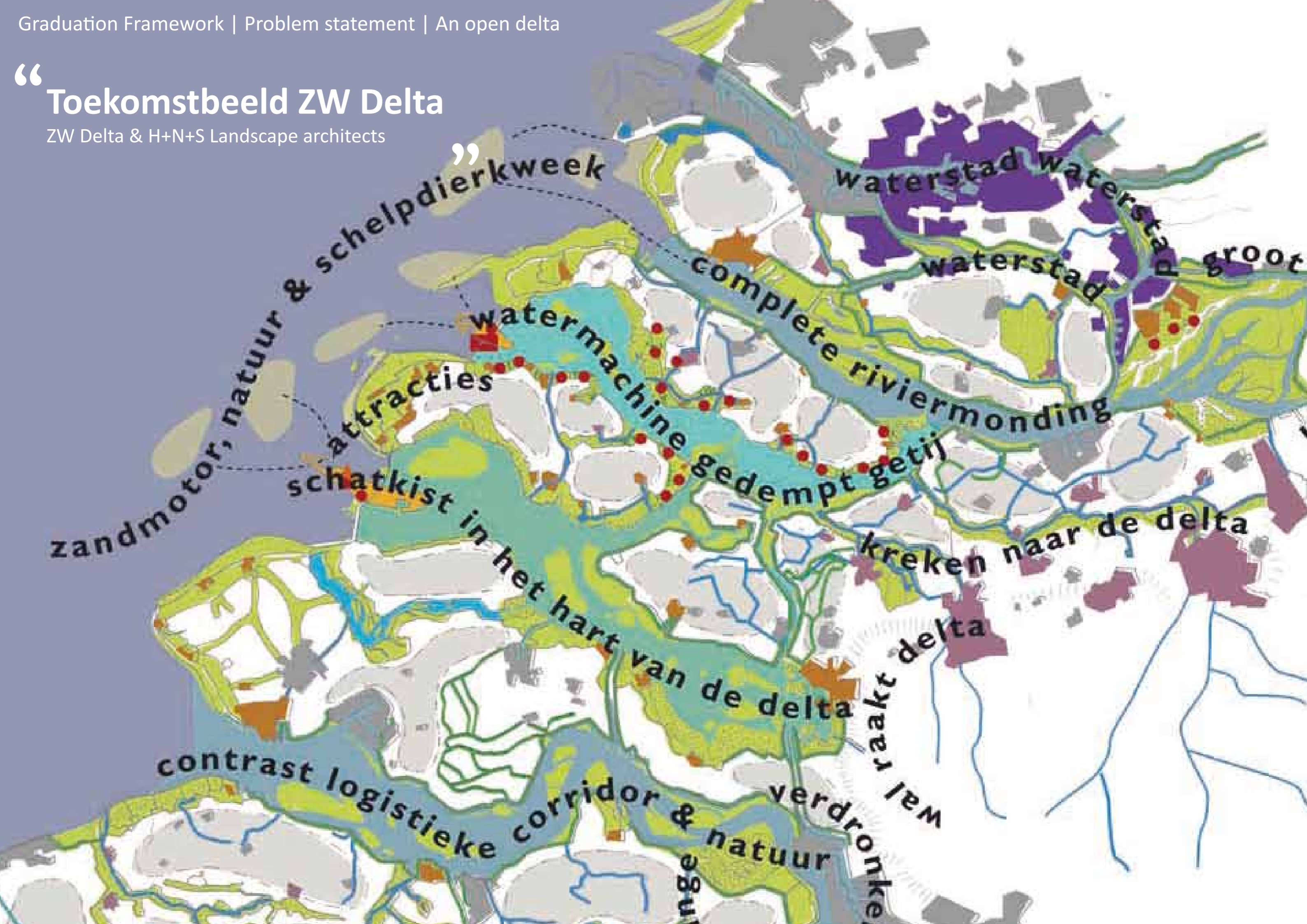
“ The shipping route over the Krammer Volkerak is the busiest in Europe

”

“Toekomstbeeld ZW Delta”

ZW Delta & H+N+S Landscape architects

”





“
Hoogtij voor Laag Nederland
World Nature Fund (WNF)
”

“ To design an urban landscape in the Krammer Volkerak area, that in a durable *process* provides a sustainable combination of *urban, cultural and natural layers*, in a re-opened Dutch South-west Delta.

”

“

The project is socially relevant because it relates to:

- the two visions for an open delta
- the general discussion on an open delta
- the current socio-economic condition of the delta cities
- the program Room for the River in the Krammer Volkerak

The project is academically relevant because it relates to:

- the (new) paradigm ‘working with nature’
- historic research done in Delft:

MEYER H., VENEMA H., VAN DEN BURG L., KROMER N. & SMITS W. (2007).
Ruimtelijke Transformaties in Kleine Nederzettingen West Nederland: 1850-
2000. Delft: TU Delft.

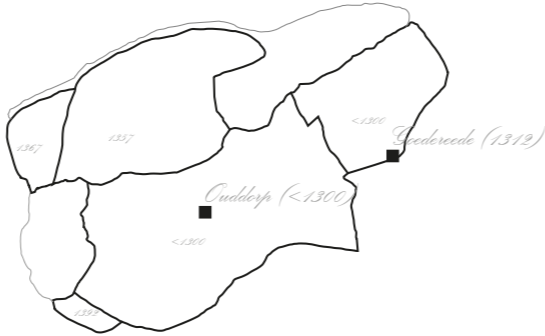
”

“ Research

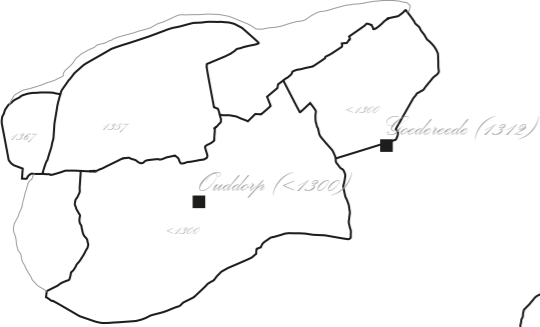
- # A history of an open delta
- # Large scale relation with water
- # Small scale relation with water
- # Transformation of urban form

”

“Delta cities were founded after the construction of a ring-dike, near the main creek of a sand plate”



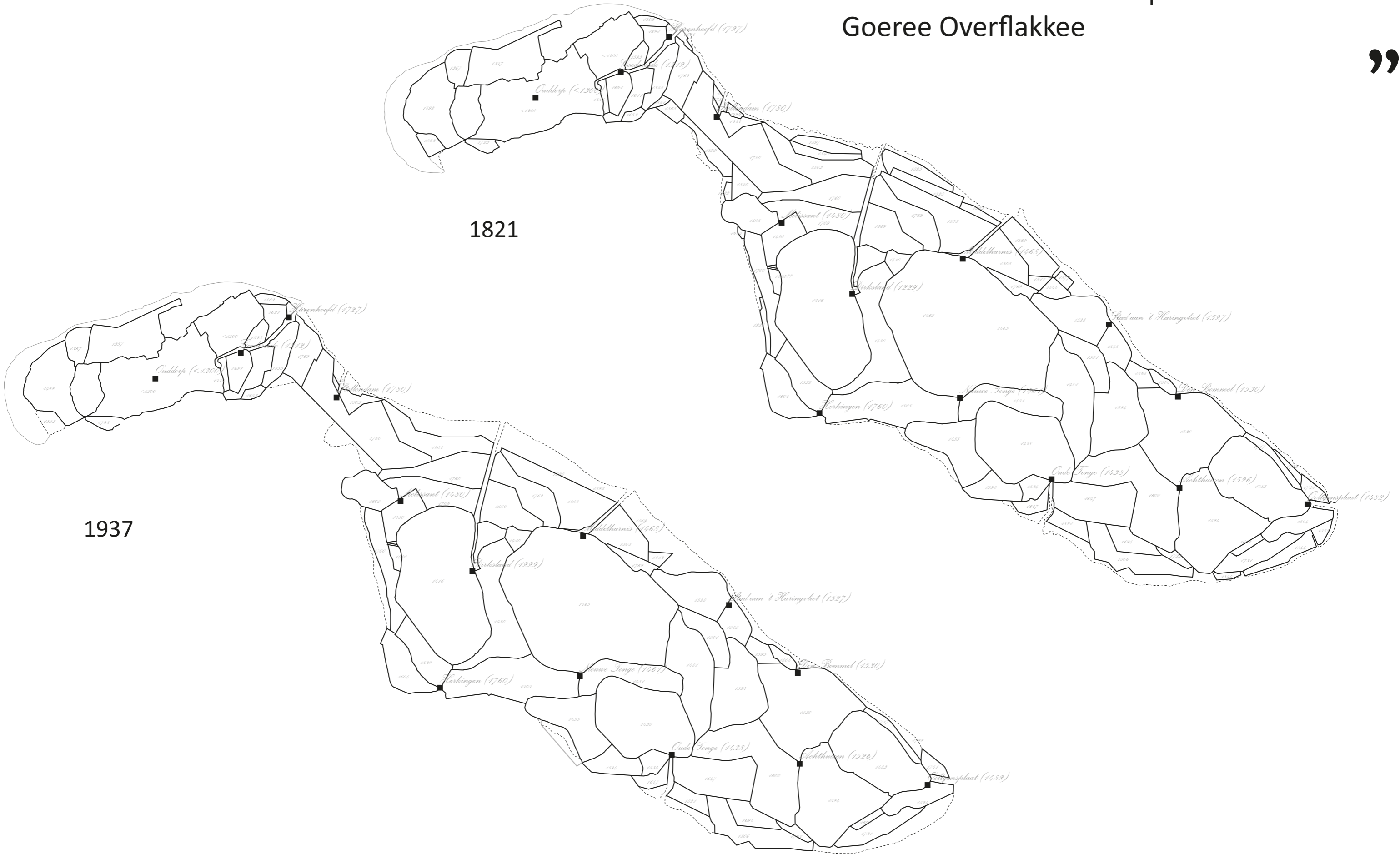
1415



1483



“ The processes of sedimentation and land reclamation led to the present island of Goeree Overflakkee ”

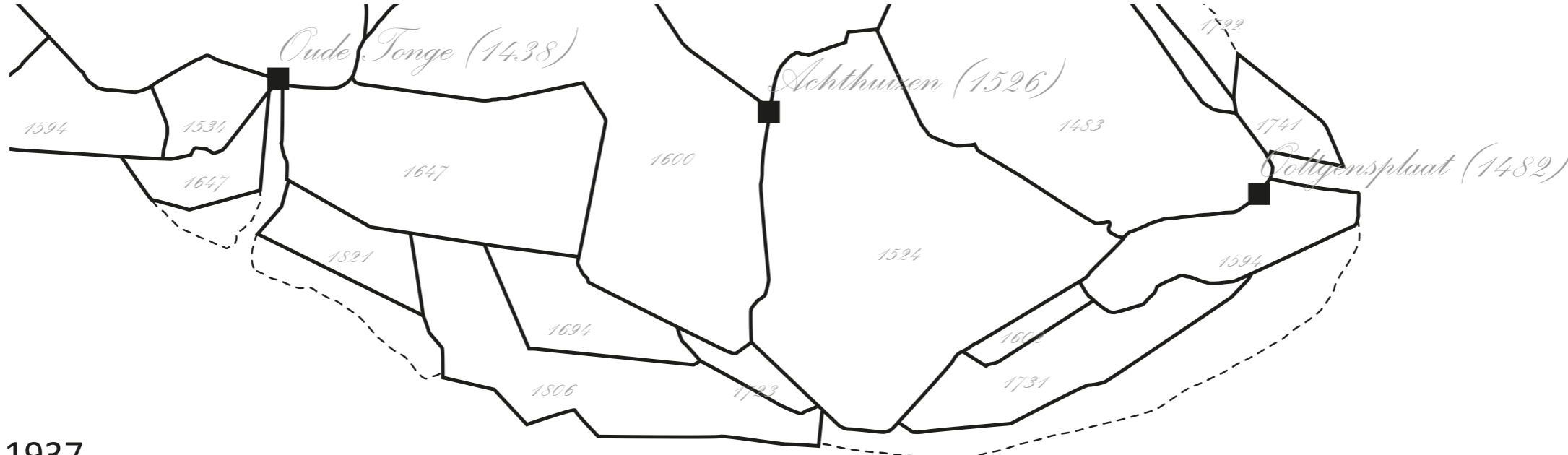


“ Land reclamation caused early harbor cities to become polder cities ”

”



1483



1937

Schoenmaker Atlas: Zeeland, Oude Tonge, 1710-1735

Created by: A. Schoenmaker, G. Schoenmaker, C. Pronk & A. de Haen

Source: Koninklijke Bibliotheek, Den Haag

From: www.geheugenvannederland.nl, 2012



oude tonge op A Eyland over flackw

Research | Large scale relation with water

Canal, Oude Tonge, 2012
Photo by: *Author*



Research | Small scale relation with water

Harbor, Oude Tonge, 1910-1935

Photo by: C. Steenbergh

Source: *Rijksdienst voor het Cultureel Erfgoed, afdeling Gebouwd Erfgoed*

From: www.geheugenvannederland.nl, 2012



Research | Small scale relation with water

Harbor, Oude Tonge, 2012
Photo by: *Author*



Research | Small scale relation with water

'Oude Kerk' (Hervormd), Oude Tonge, 1910-1935

Photo by: C. Steenbergh

Source: *Rijksdienst voor het Cultureel Erfgoed, afdeling Gebouwd Erfgoed*

From: www.geheugenvannederland.nl, 2012

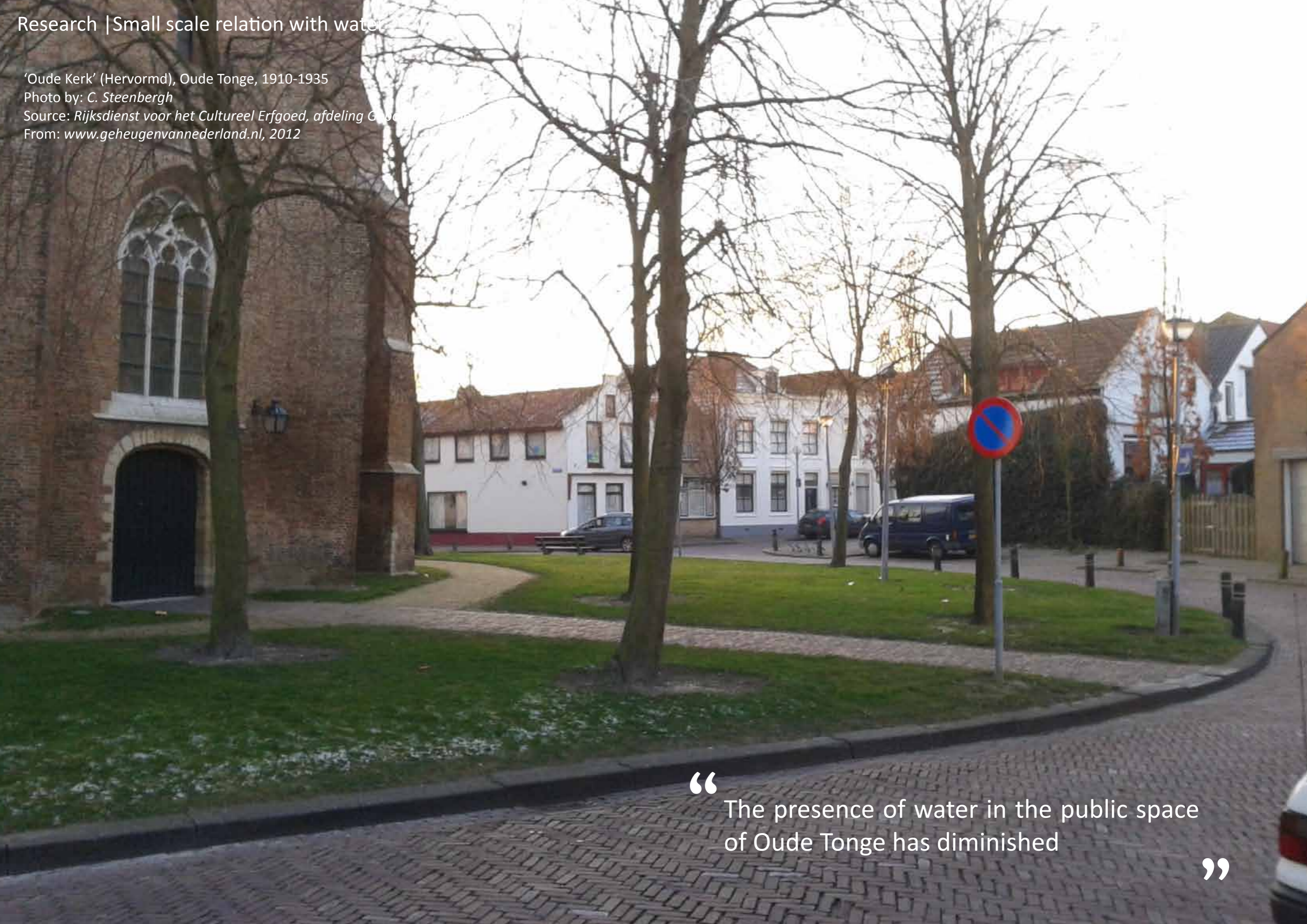


'Oude Kerk' (Hervormd), Oude Tonge, 1910-1935

Photo by: C. Steenbergh

Source: *Rijksdienst voor het Cultureel Erfgoed, afdeling Ge*

From: www.geheugenvannederland.nl, 2012



“ The presence of water in the public space of Oude Tonge has diminished ”



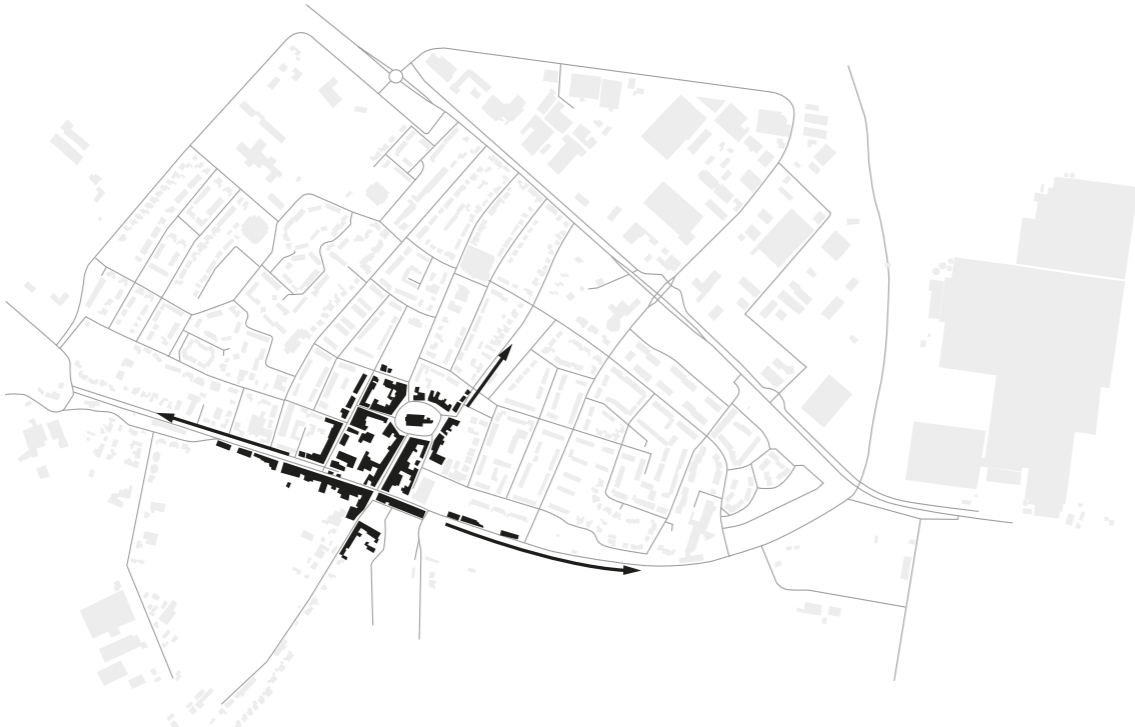
Oude Tonge
1850



Oude Tonge
2009

“ Not only the relation with water, but also the urban form of Oude Tonge itself changed ”

”



Church-ring-main-street, 1850



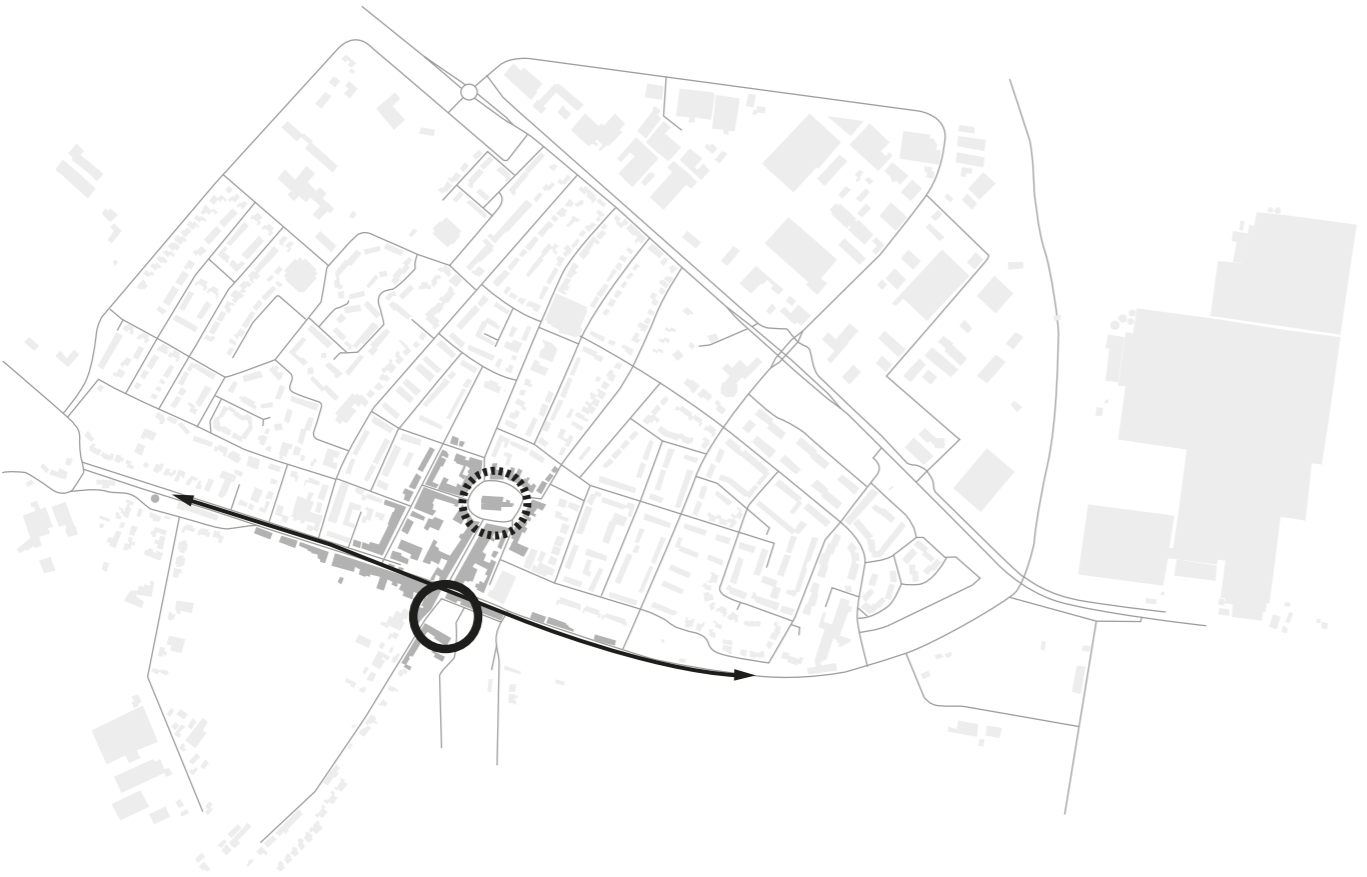
Railway and laborer housing, 1940



Post-war expansion, 1970

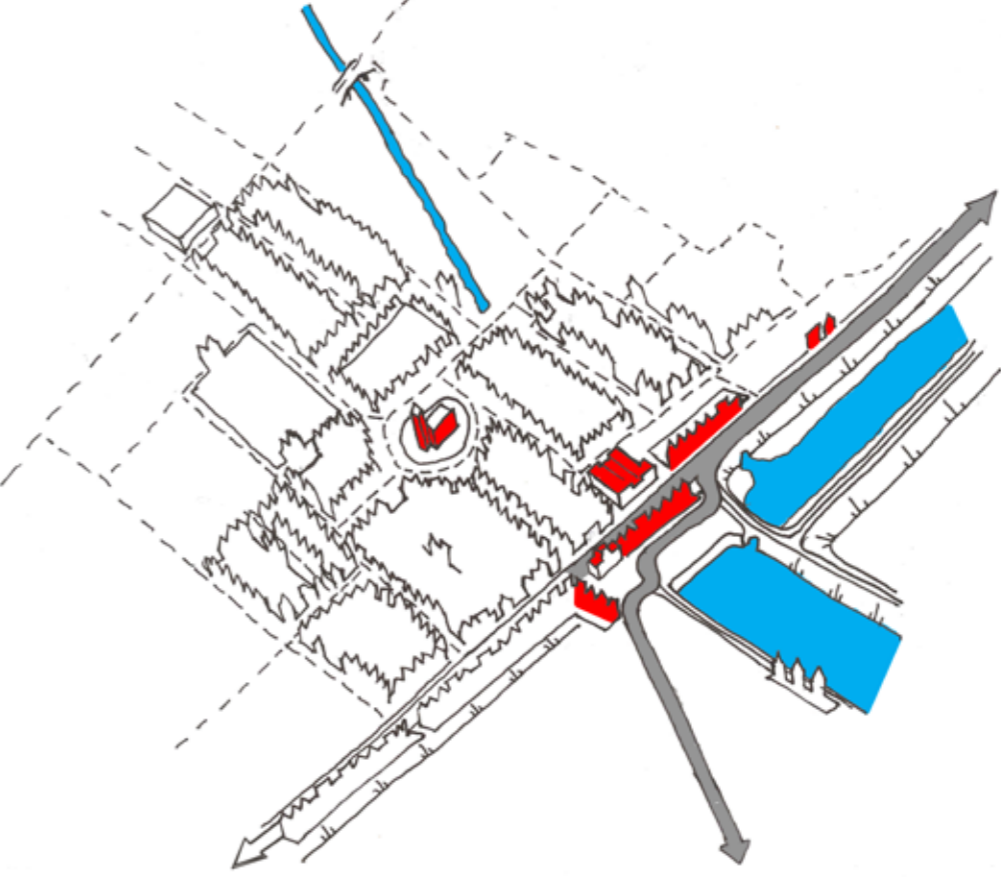
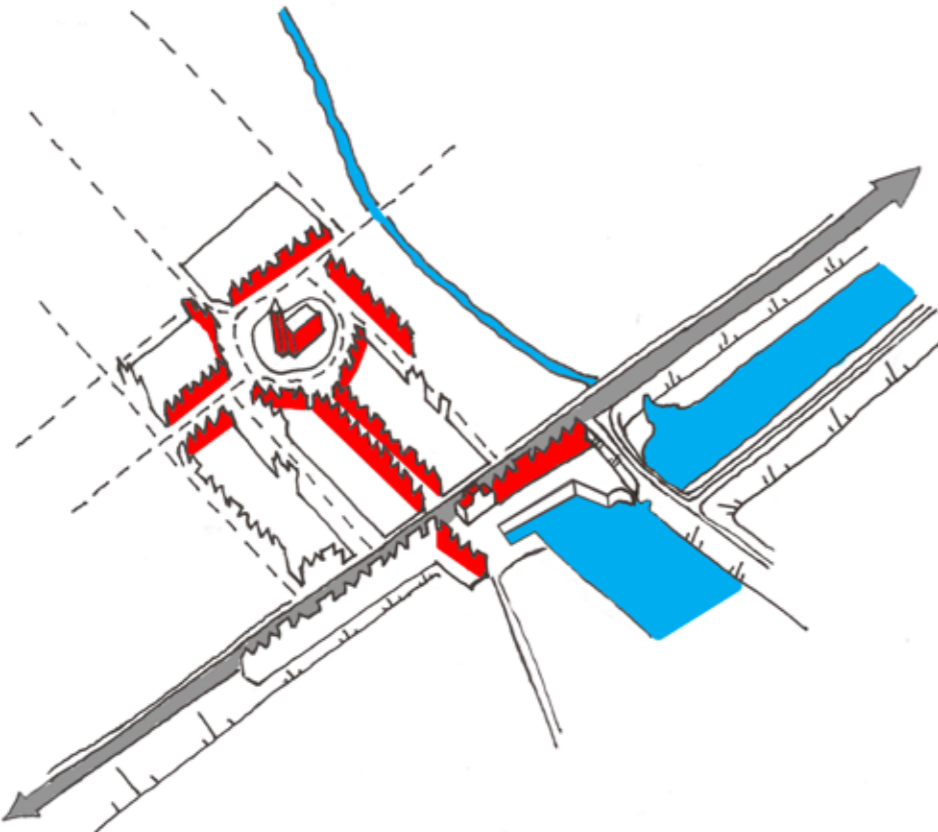


Vinex locations, 2009



Harbor as city center, Oude Tonge, 1850

Supermarket as city center, Oude Tonge, 2009



“ Design

Phase 1 - 10

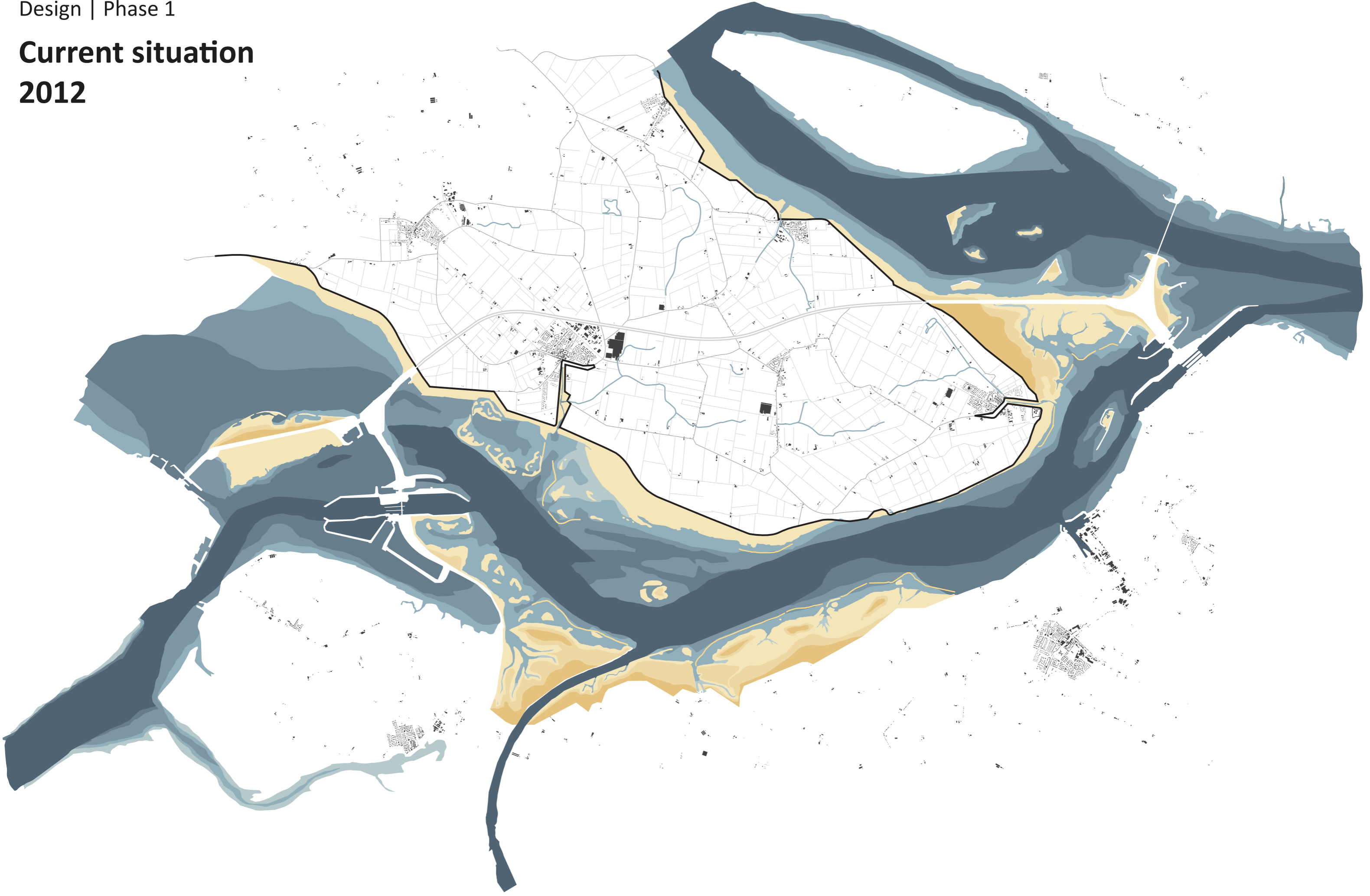
Maps

Sections

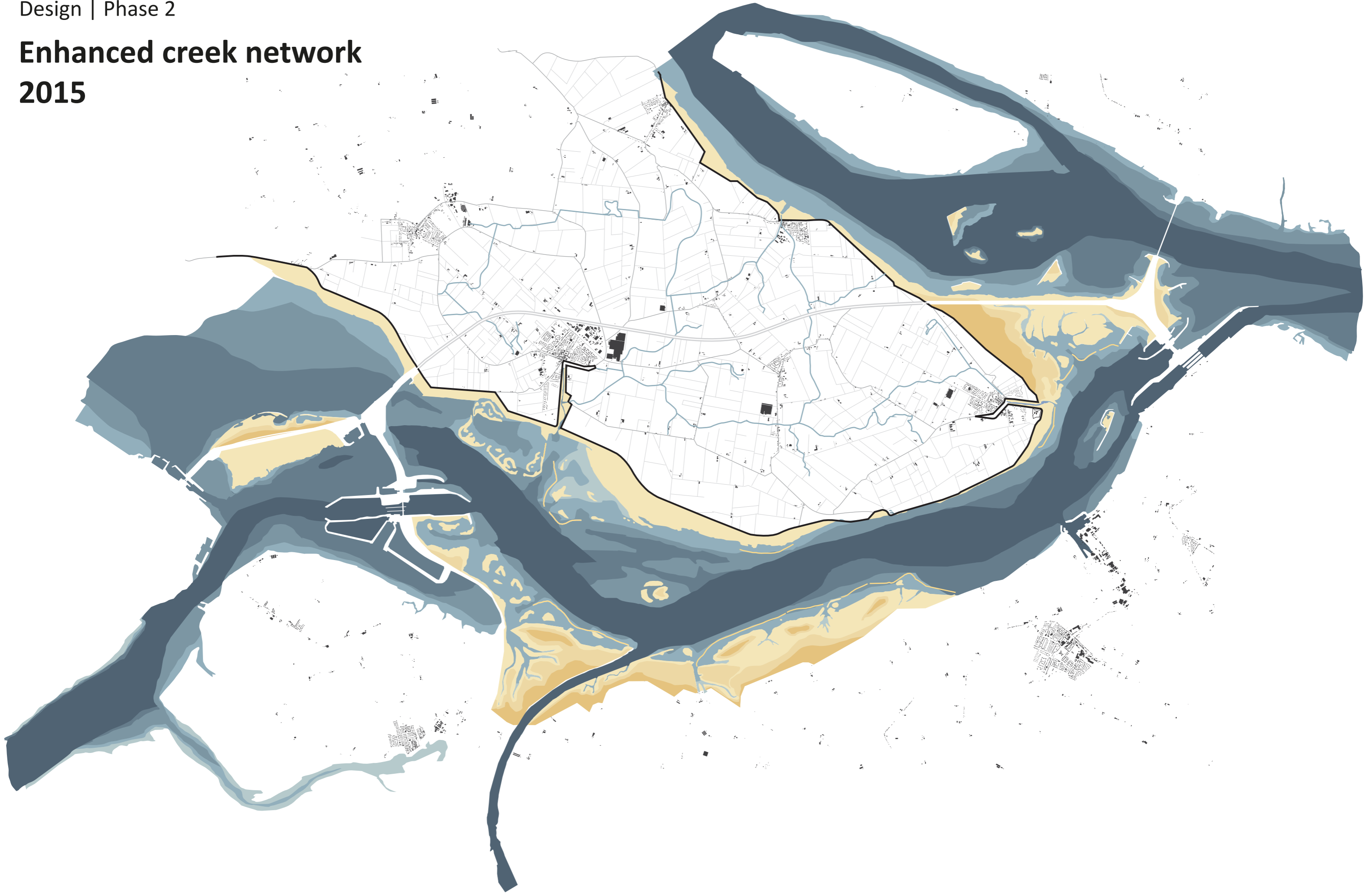
Vizualizations

”

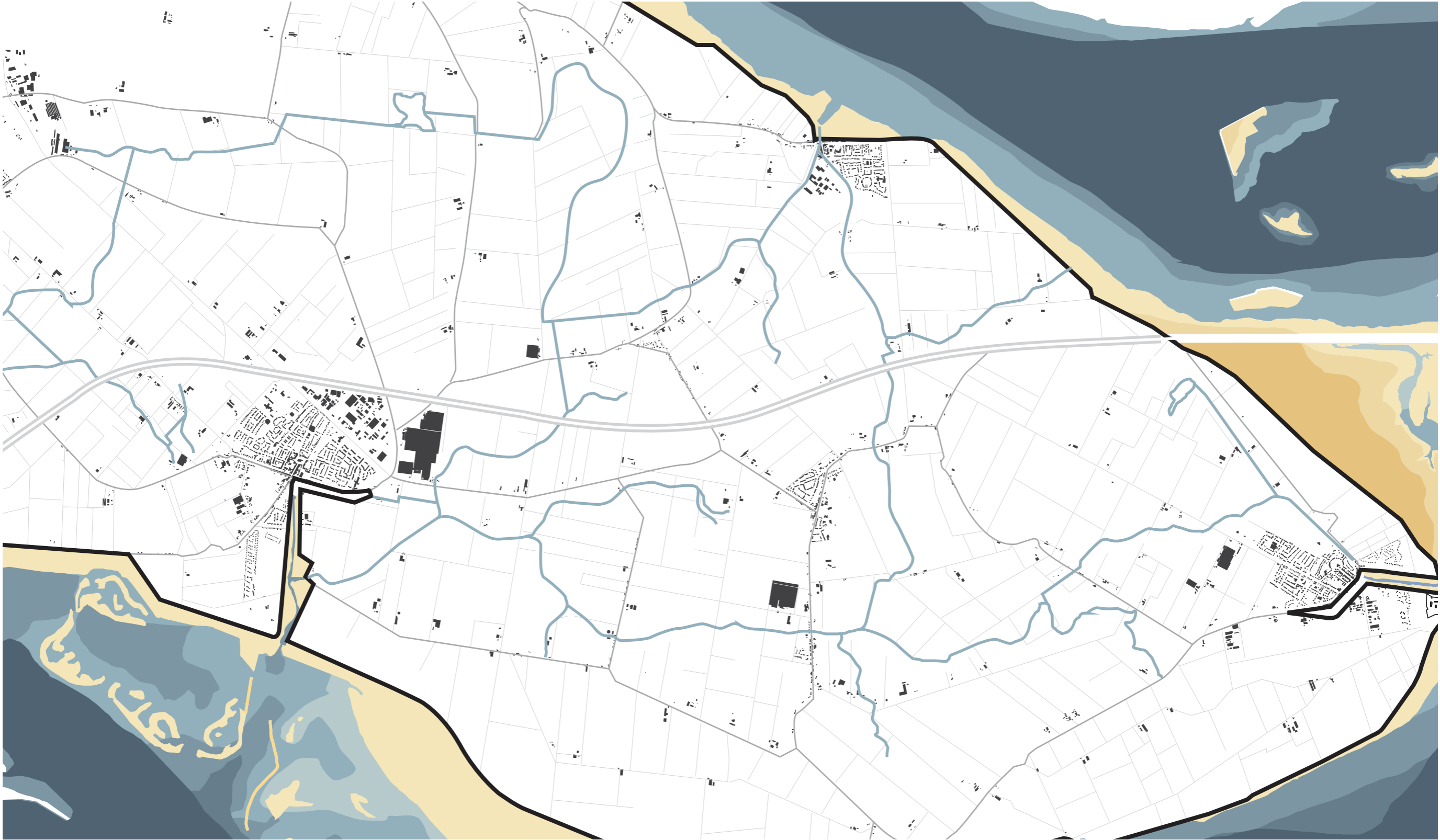
Current situation 2012

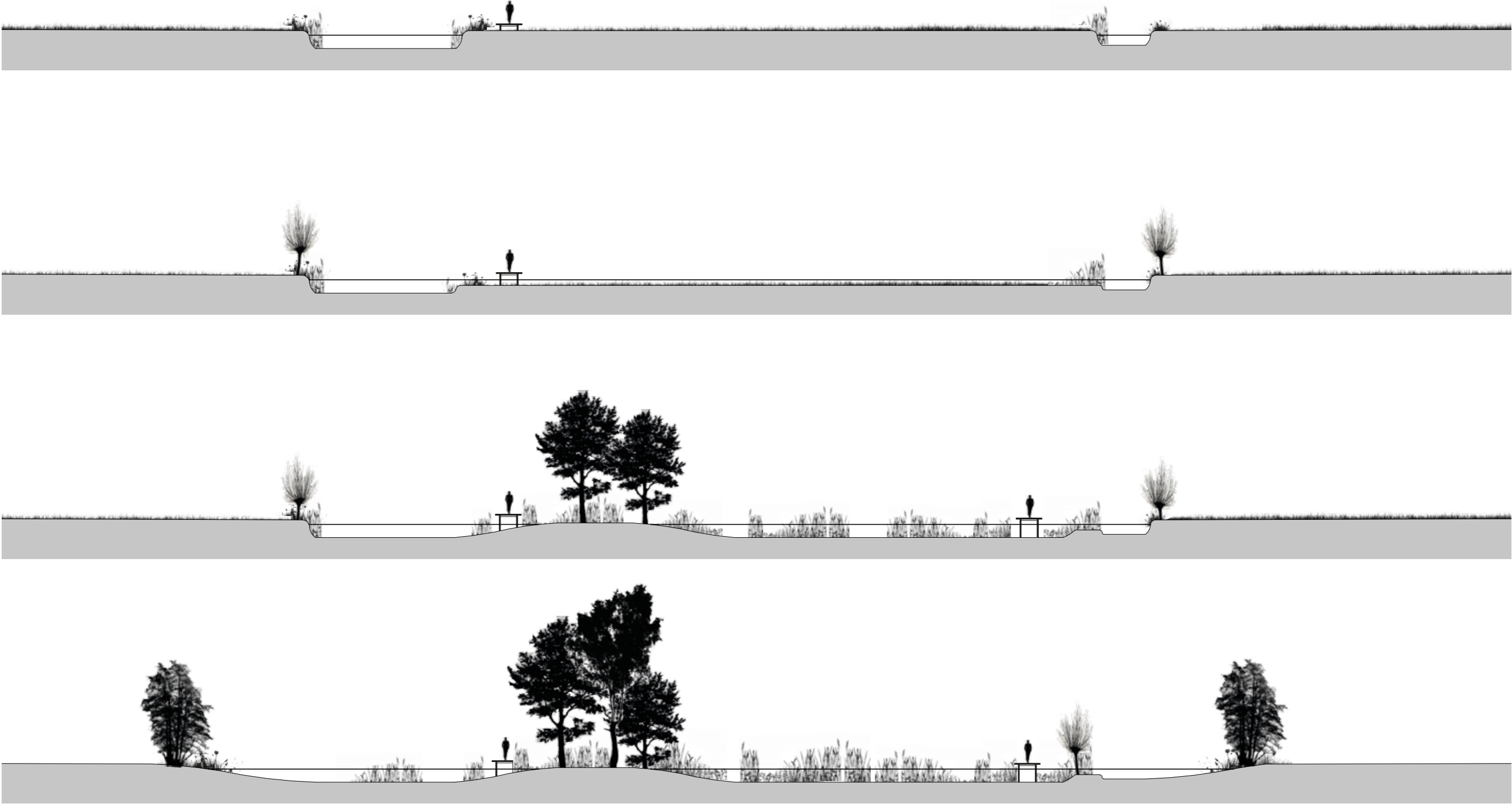


Enhanced creek network 2015



Enhanced creek network 2015





“ From a cultural to a natural landscape that provides water storage, nature development and recreation (routes)

”





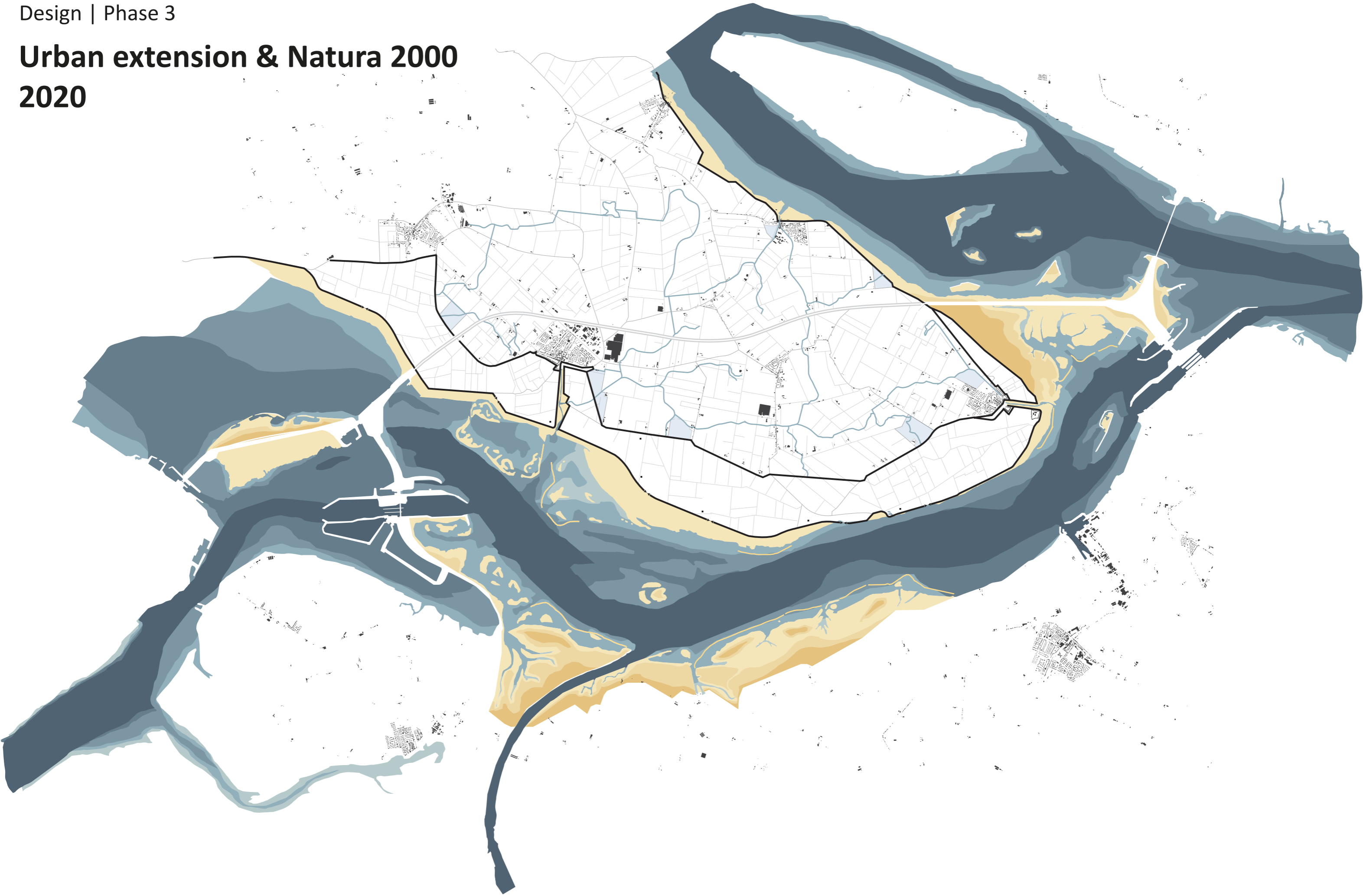
“ Selected polders can be inundated. The area is large and water depth is low

”

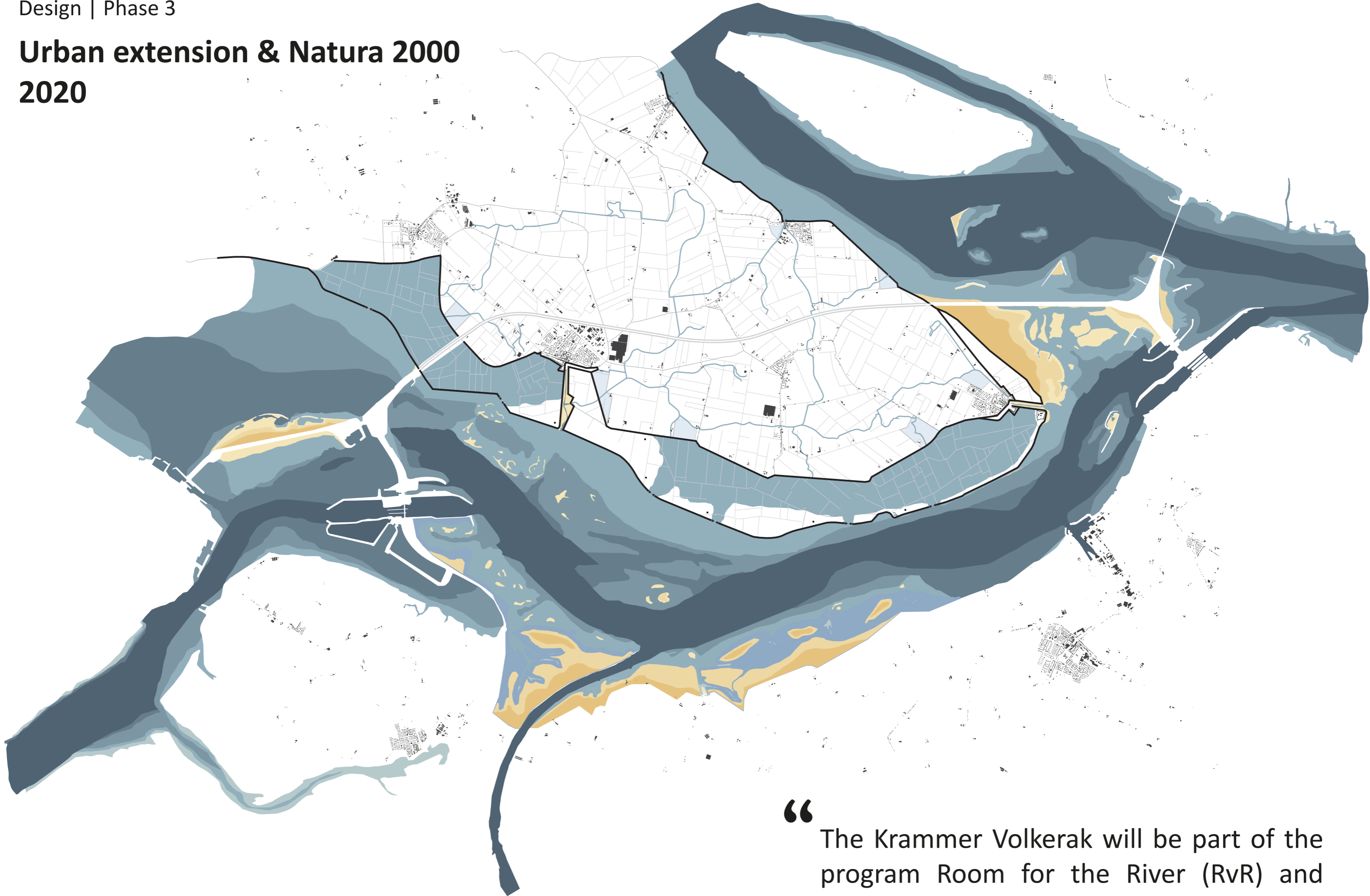


“ In later phases the inundation polders will develop in natural areas for water storage ”

Urban extension & Natura 2000 2020



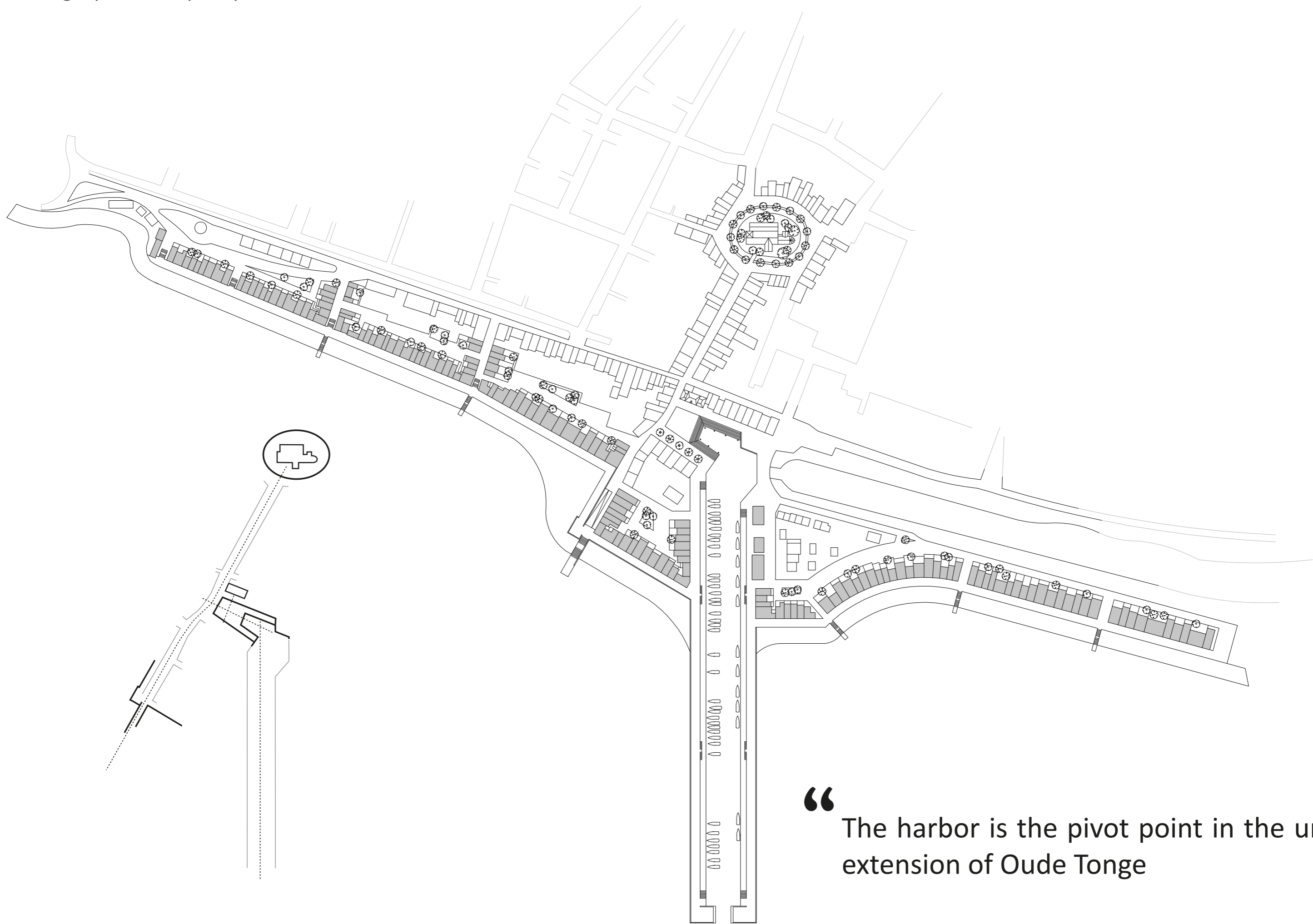
Urban extension & Natura 2000 2020



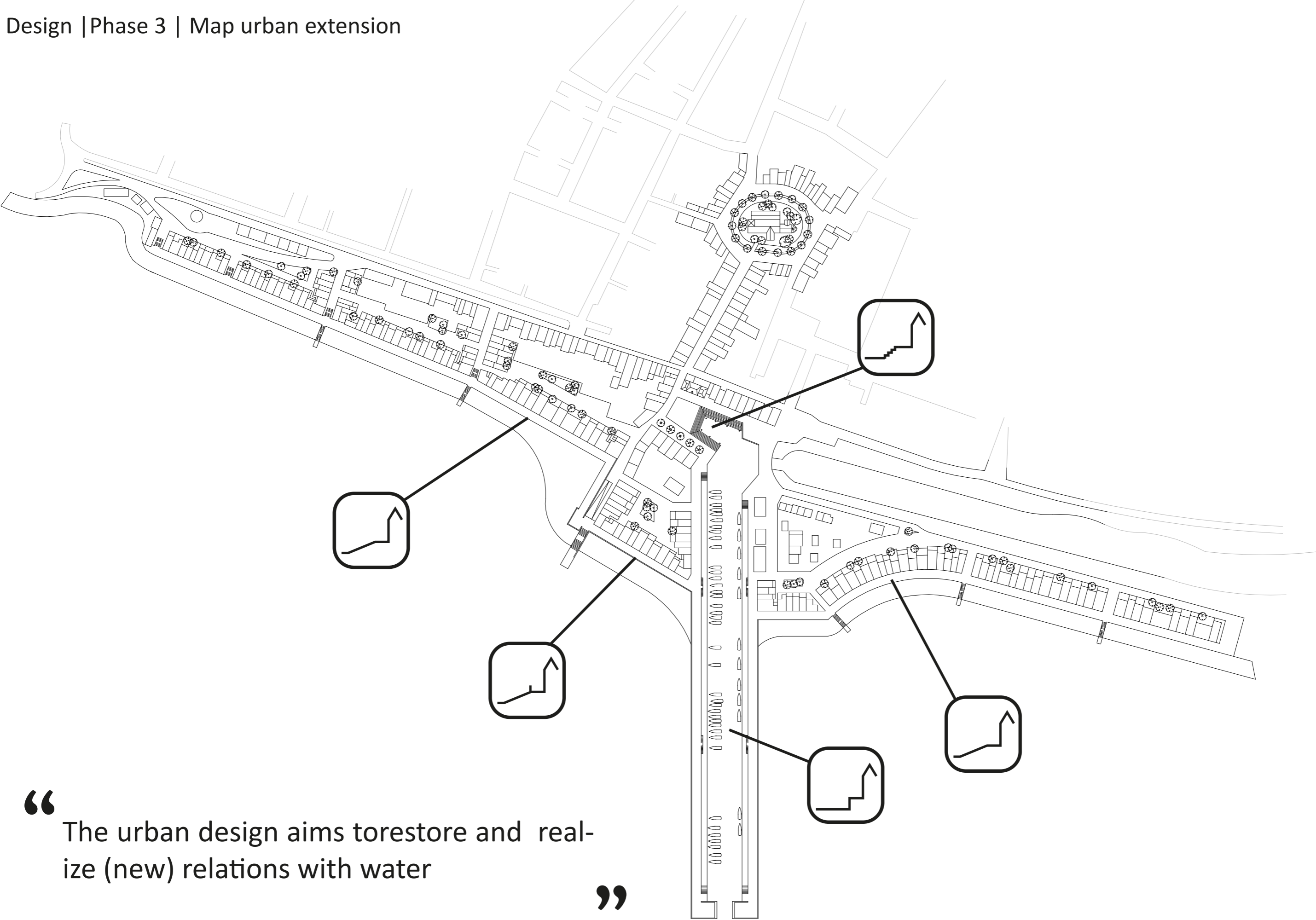
“ The Krammer Volkerak will be part of the program Room for the River (RvR) and stores water with high river discharge ”

Urban extension & Natura 2000 2020

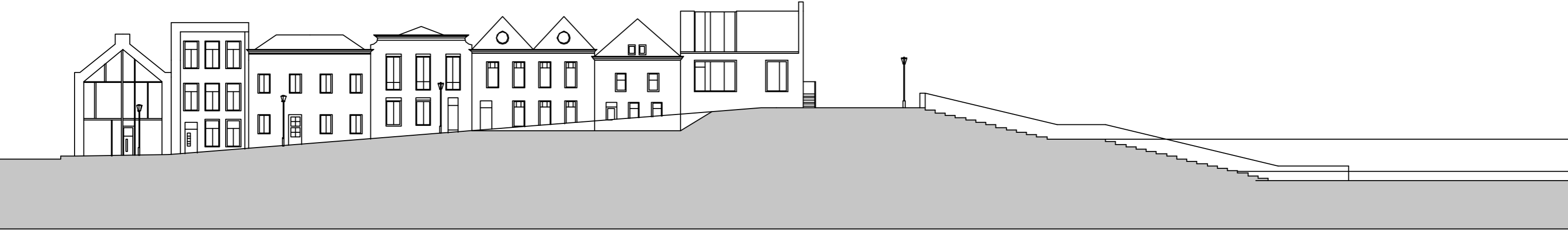
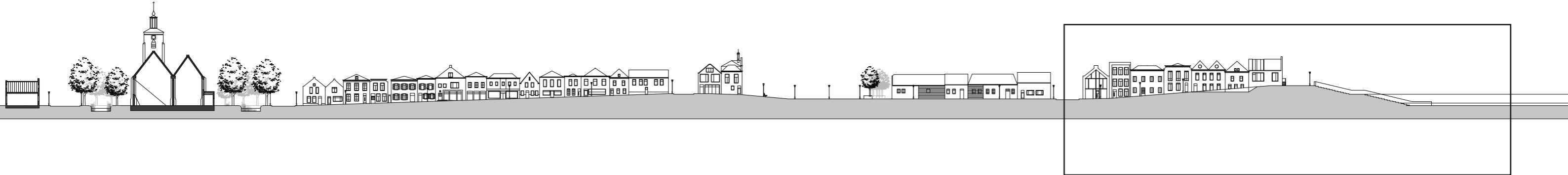




“ The harbor is the pivot point in the urban extension of Oude Tonge ”



“ The urban design aims to restore and realize (new) relations with water ”



“ The dike has an increased height, from 3,4m + NAP to 6,0m + NAP. ”

”

Neo historic buildings, Vathorst, Amersfoort

Photo by: *Harold Trier*

Source: http://farm8.staticflickr.com/7264/6997897527_91c3d6d36b_z.jpg, 2012

From: *Flickr.com*



“

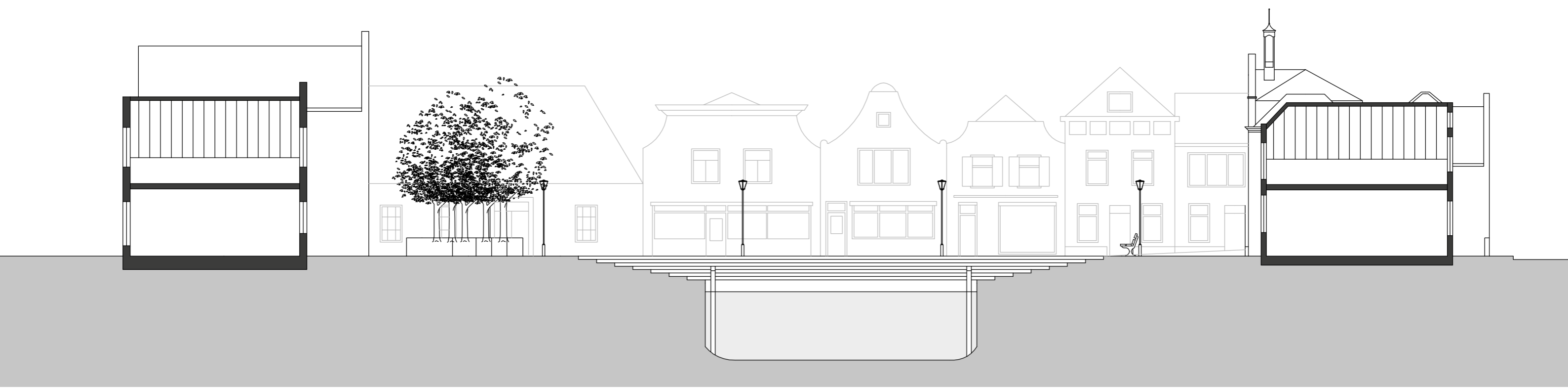
Public initiative will be a driver for an diverse and attractive environment, strengthening the socio-economic condition of Oude Tonge

”



“ Water storage and purification is created by the restoration of the former ditch ”

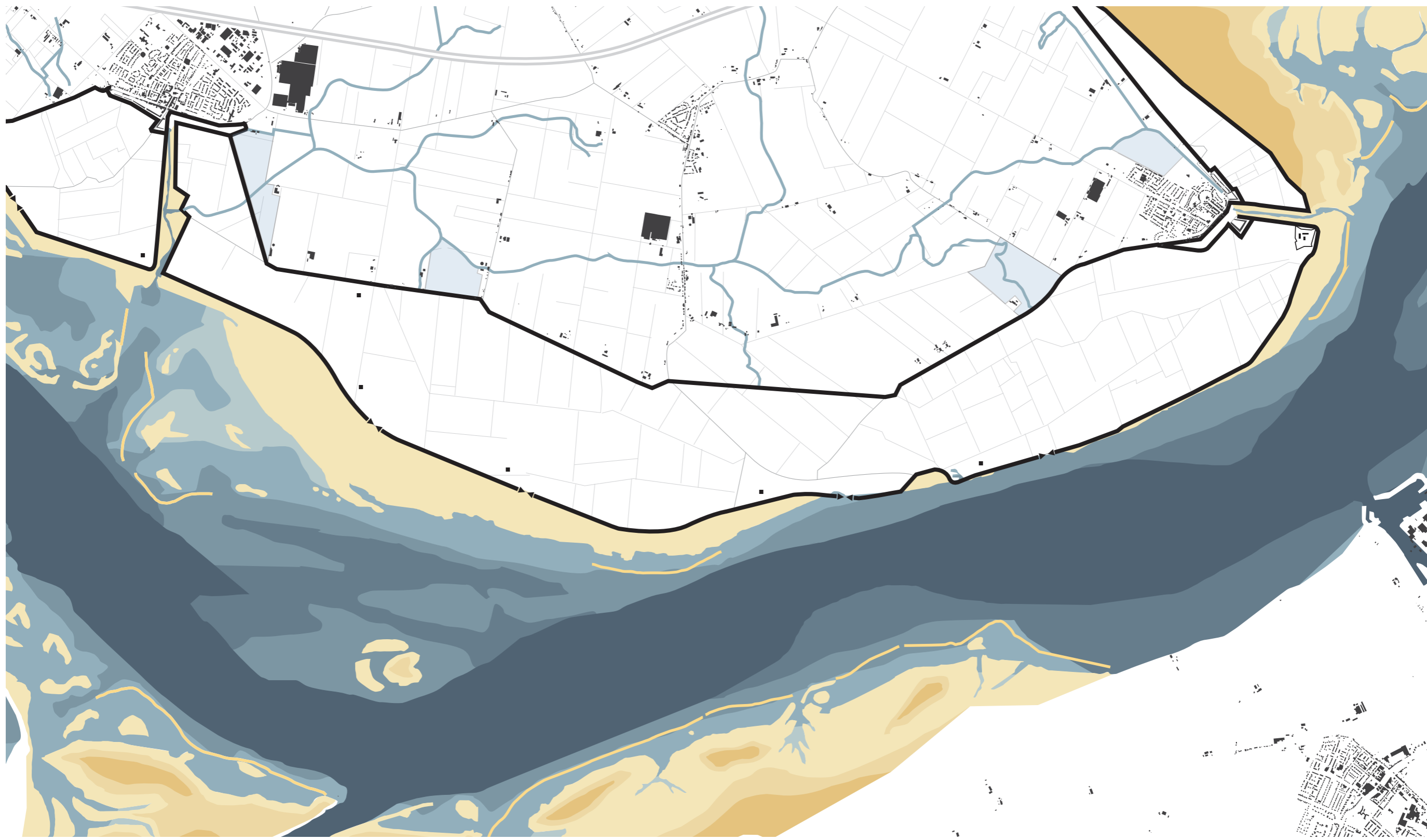
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“ The harbor has a new and modern relation with water ”

”

Urban extension & Natura 2000 2020

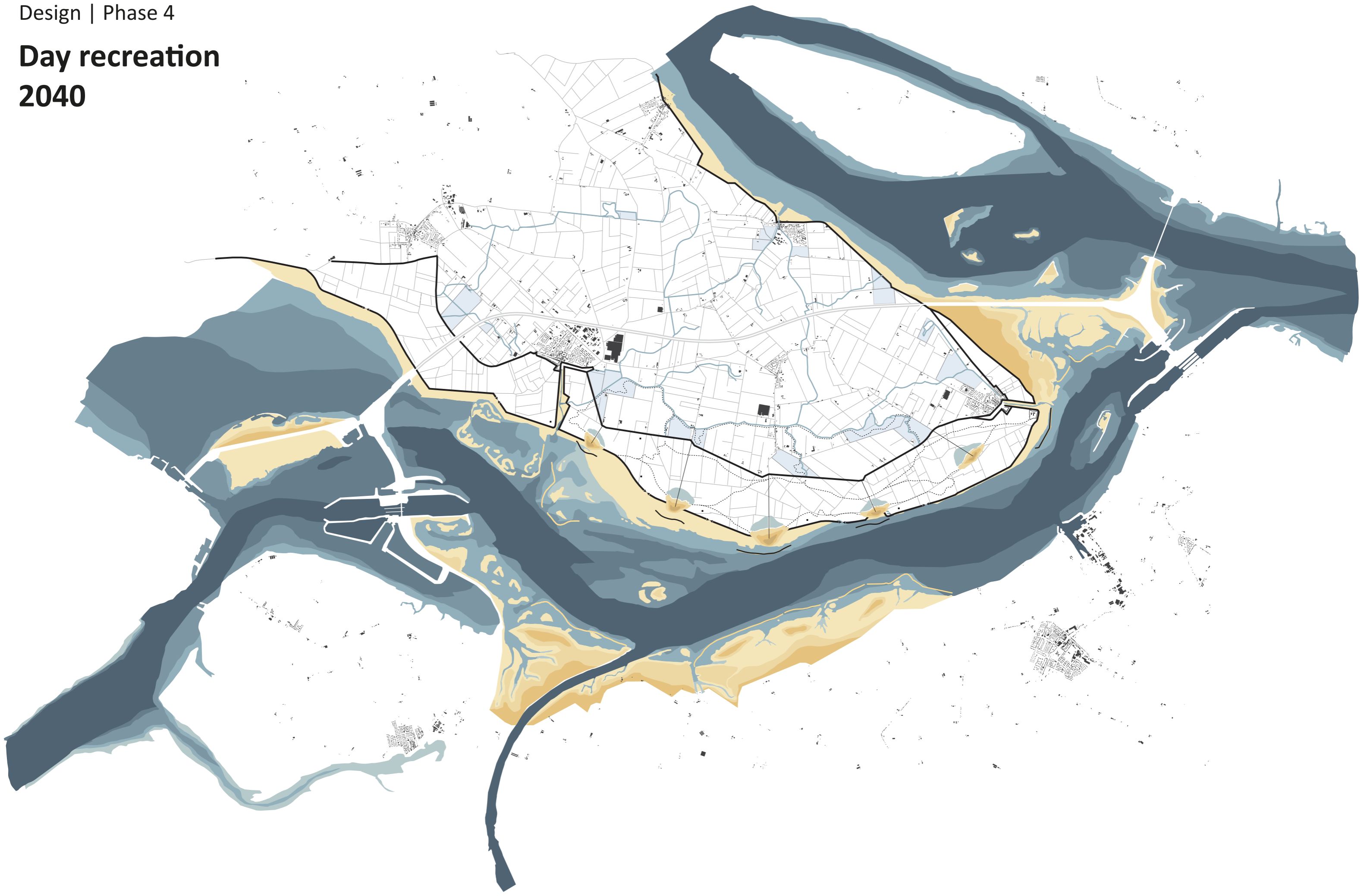




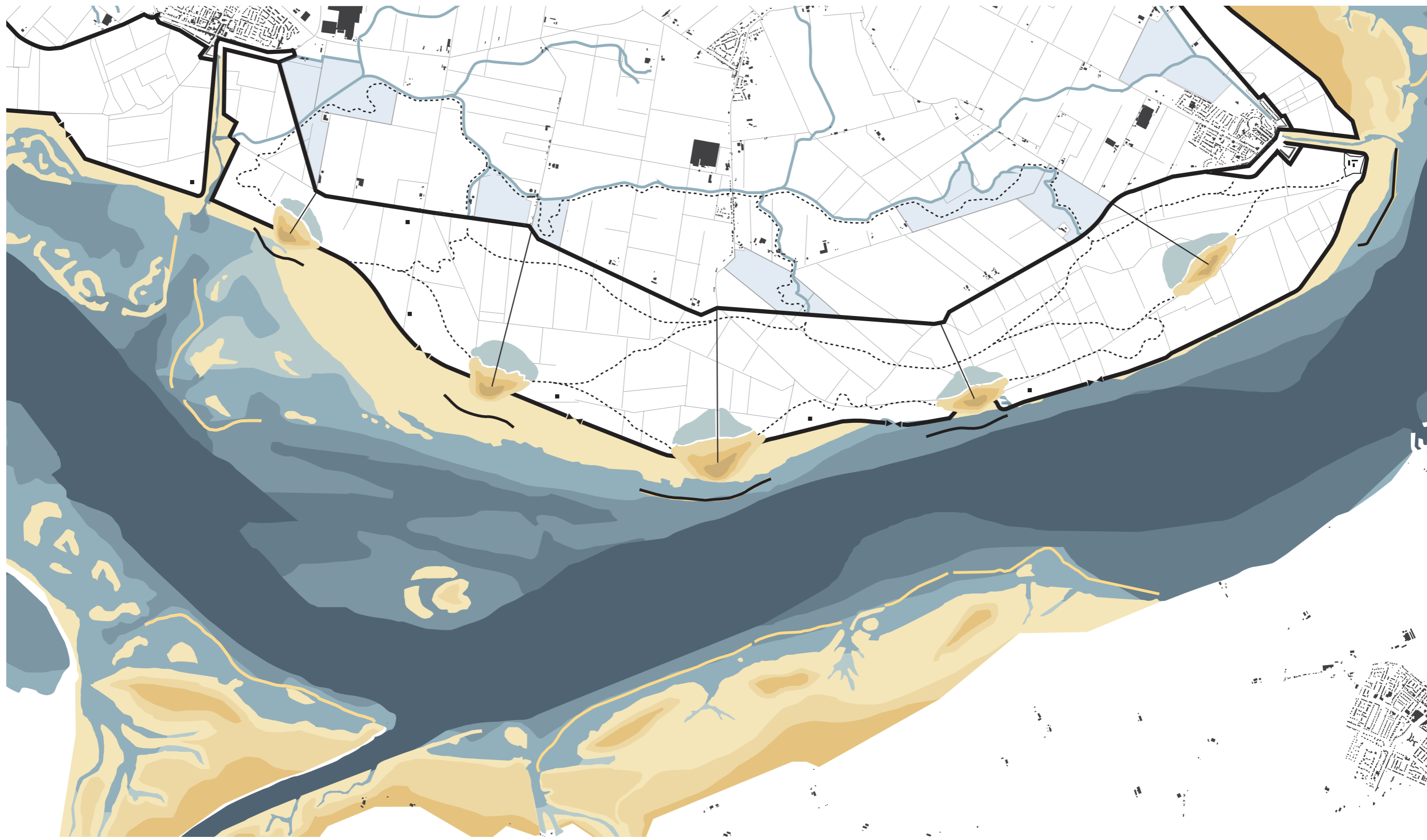
“ The addition to the Natura 2000 area will attract birdspotters and wanderers

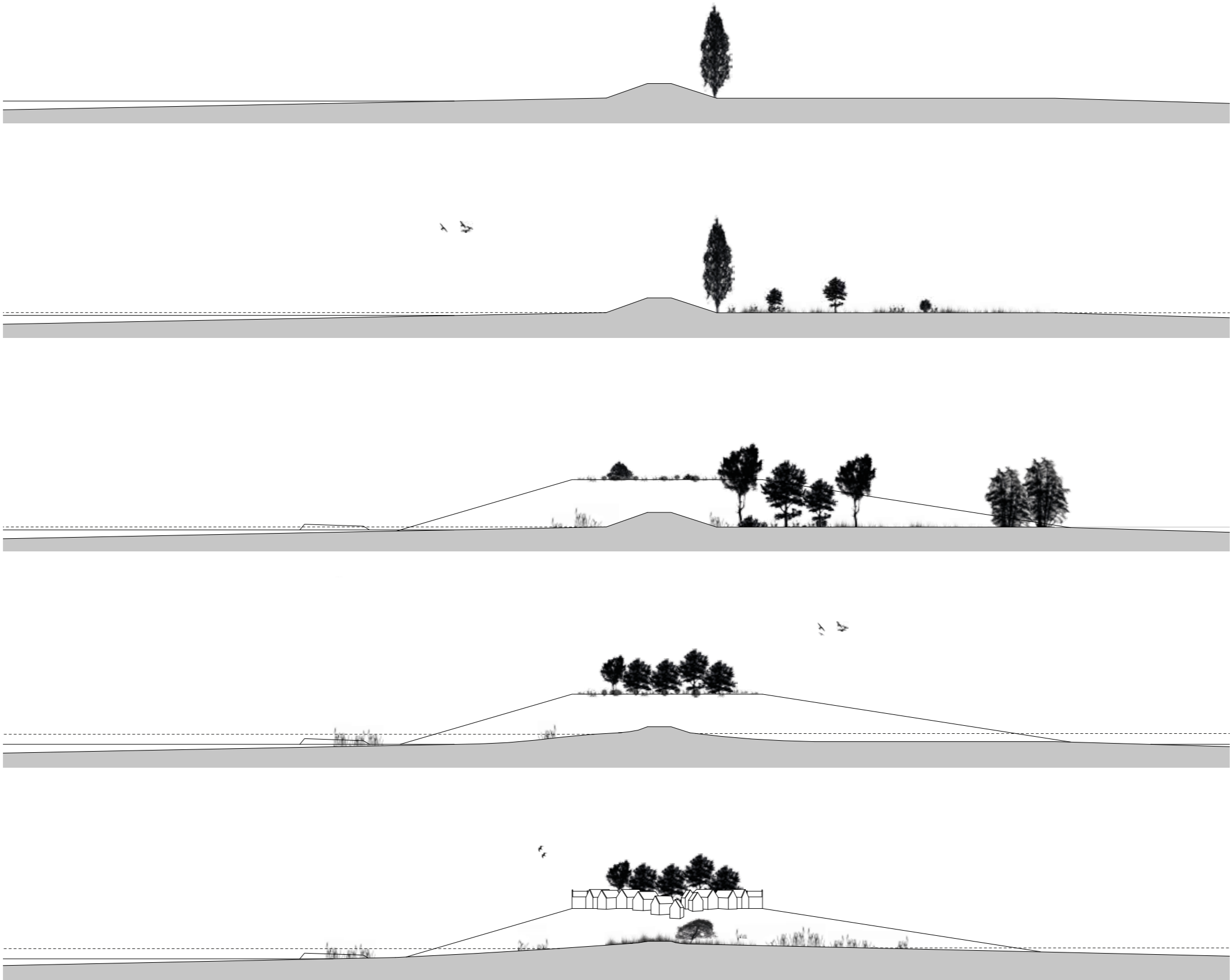
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Day recreation 2040



Day recreation 2040





“ The outer dike will transform from a hard border to an integrated element

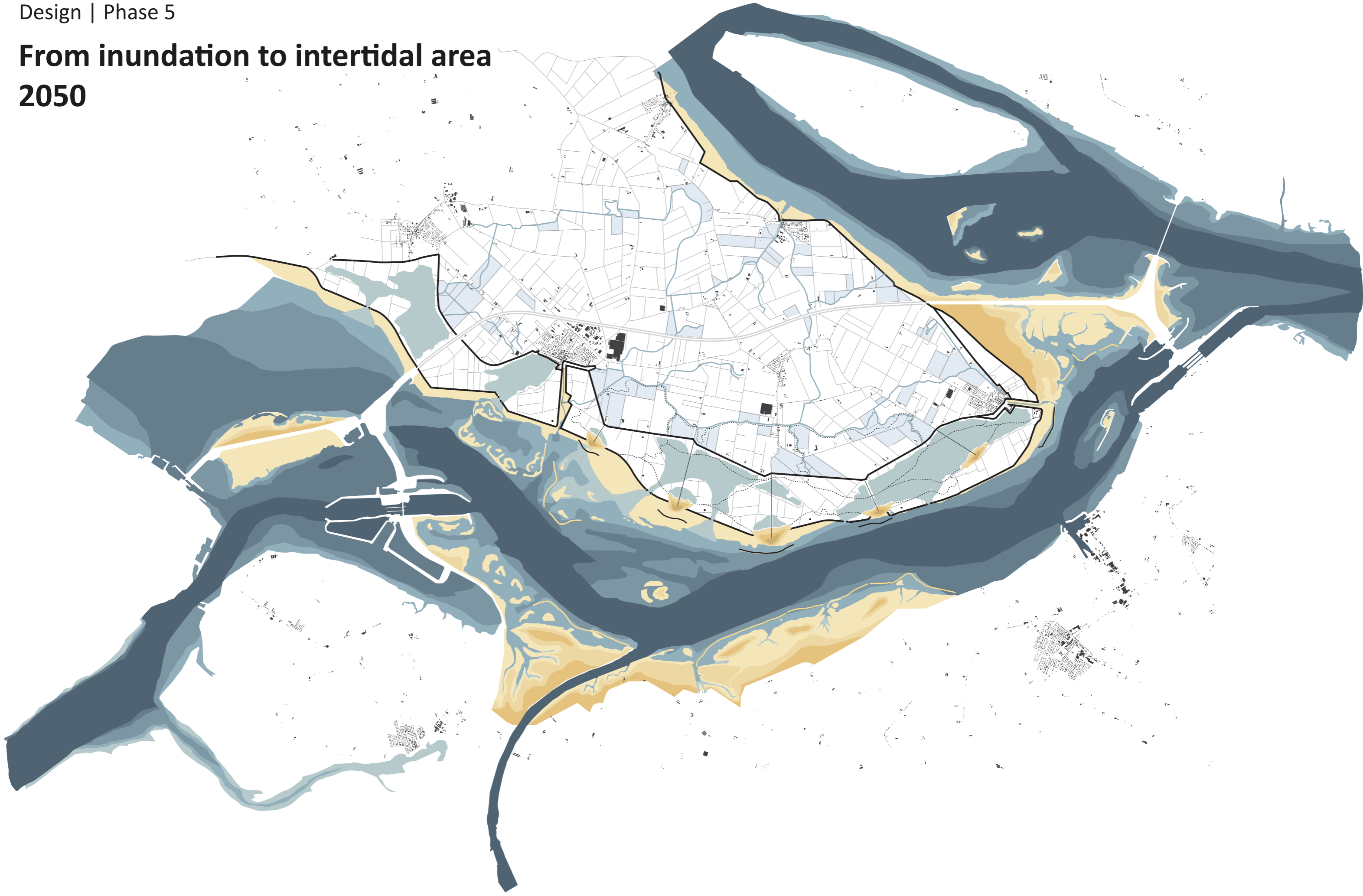
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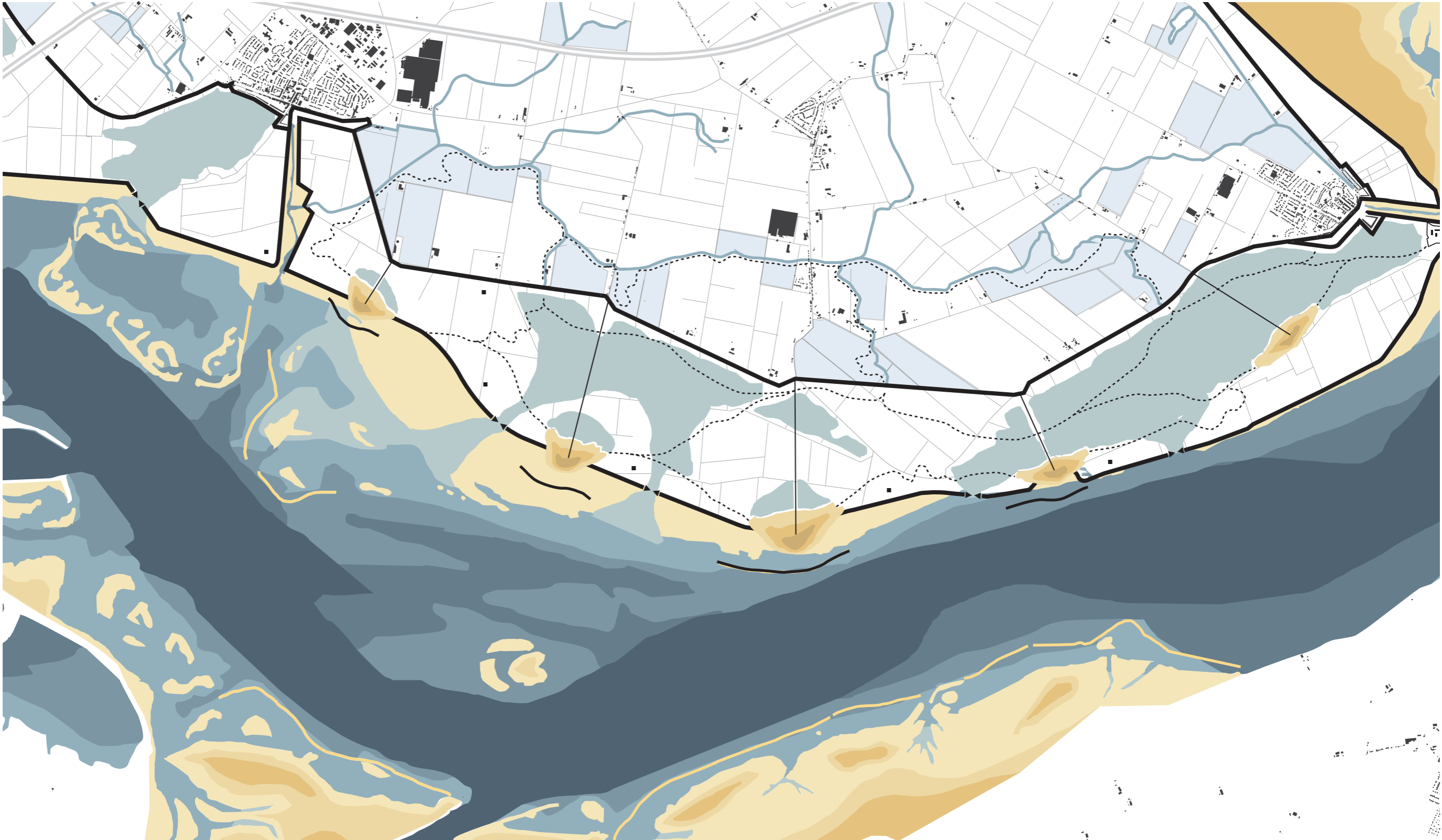
“ The pools generated to supply soil for the ‘wierde’ function as recreation areas.

”

From inundation to intertidal area 2050



From inundation to intertidal area 2050





“ The area transforms from an inundation polder to marsh to intertidal area

”



“ The area transforms from an inundation polder to marsh to intertidal area

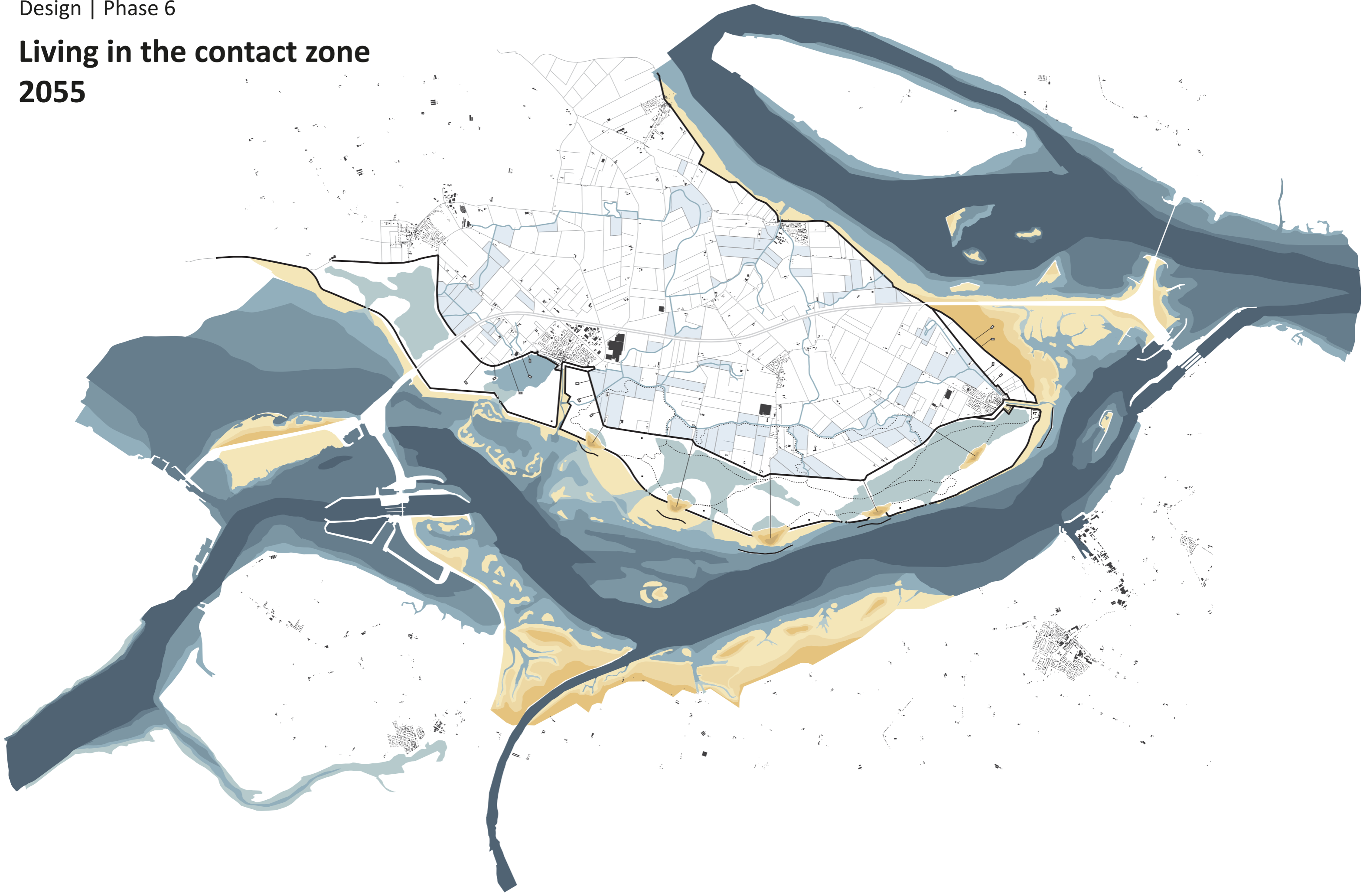
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“ The area transforms from an inundation polder to marsh to intertidal area

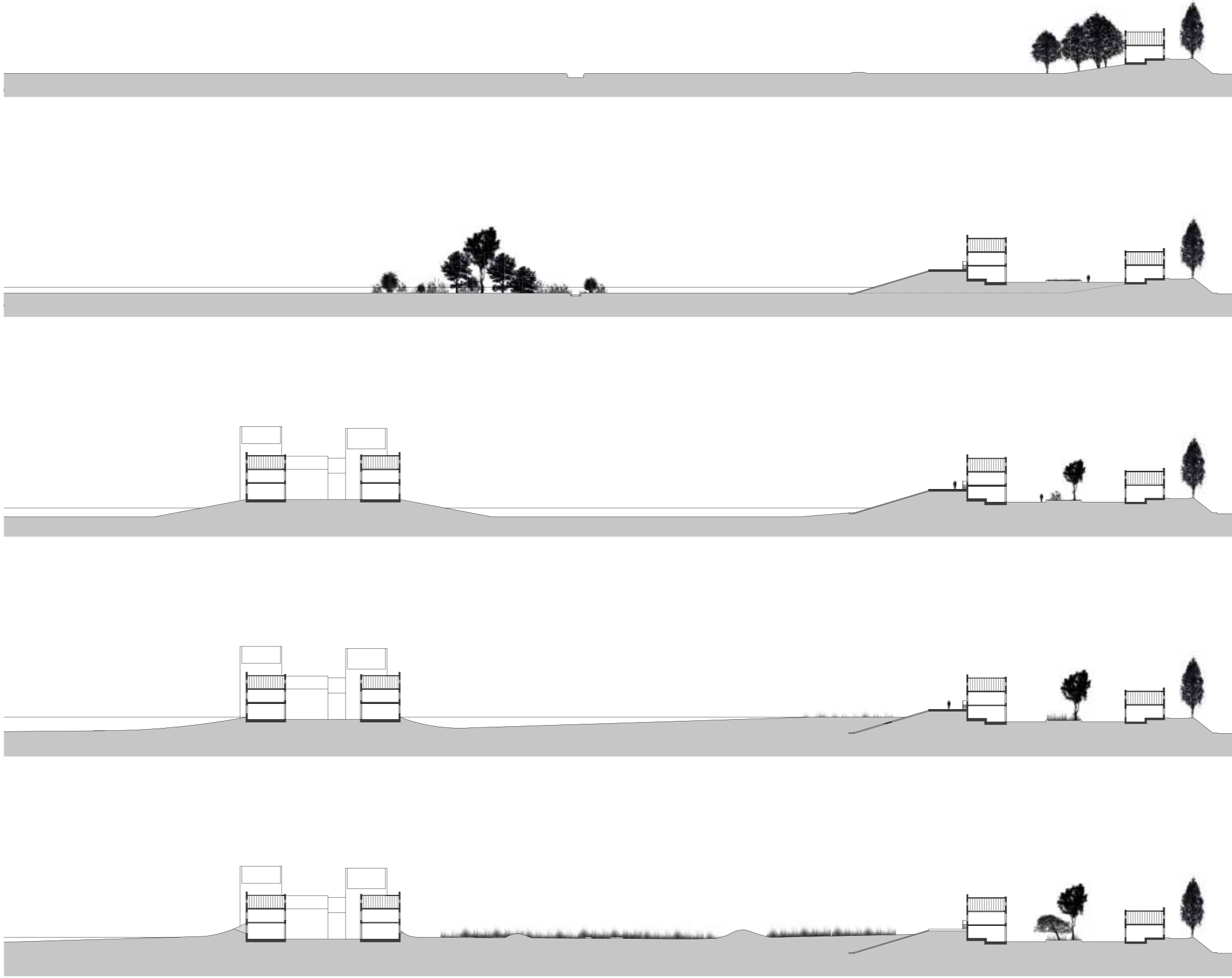
”

Living in the contact zone 2055



Living in the contact zone 2055





“ The modern castles become more embedded in the landscape during the phases ”

”



“ A dynamic landscape makes living attractive in the green archipel ”

”



“ A dynamic landscape makes living attractive in the green archipel

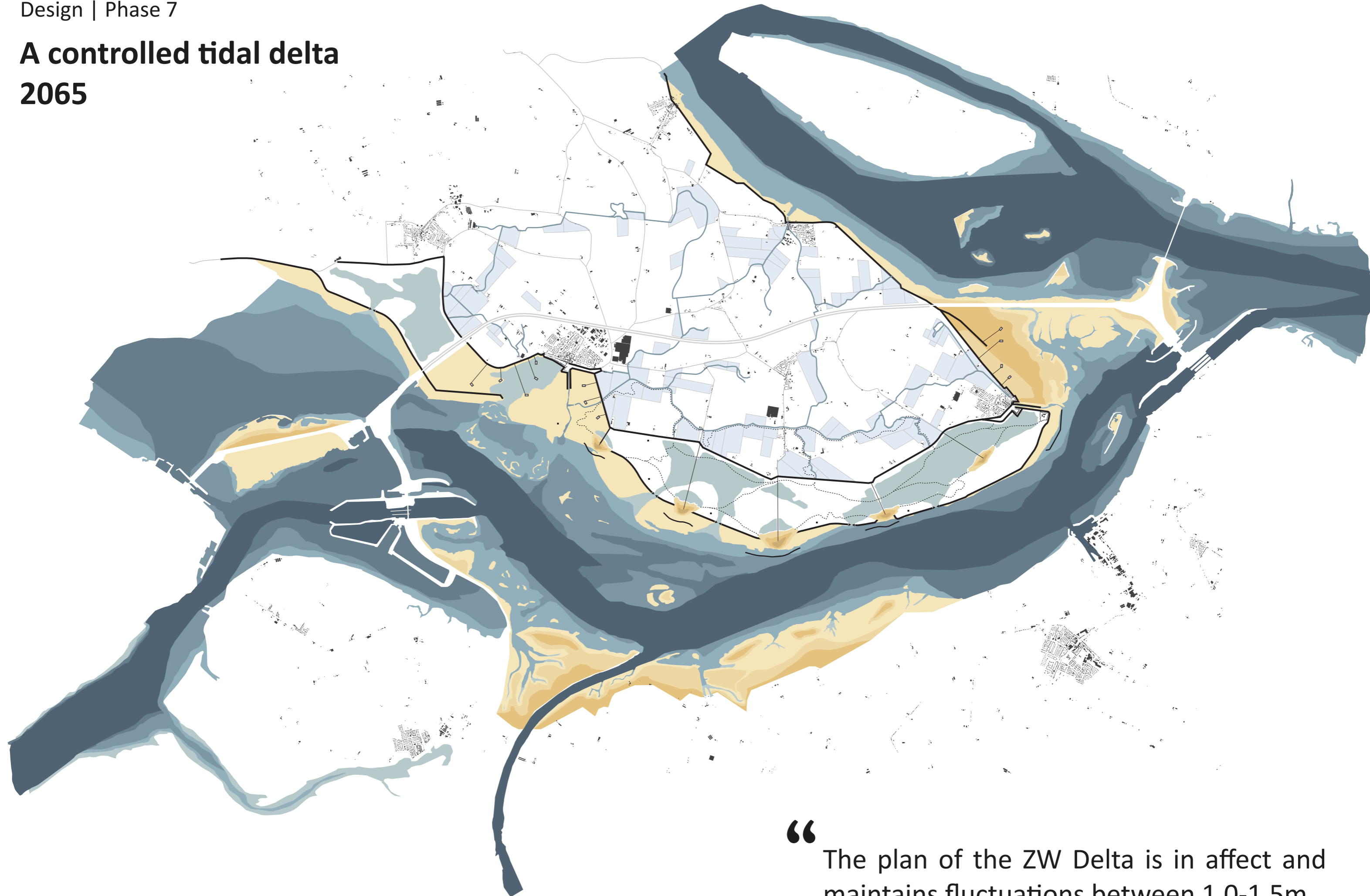
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“ A dynamic landscape makes living attractive in the green archipel ”

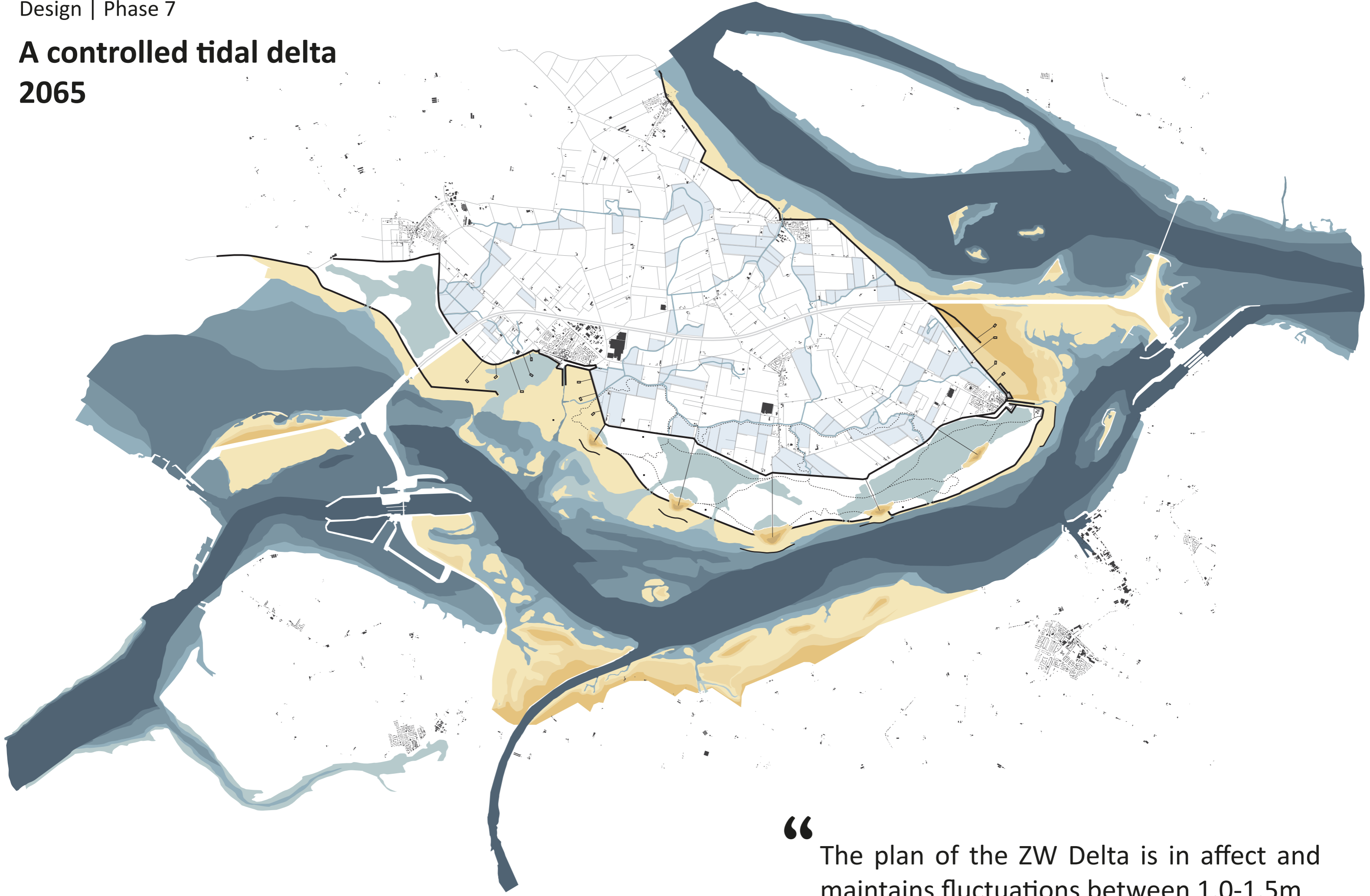
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A controlled tidal delta 2065



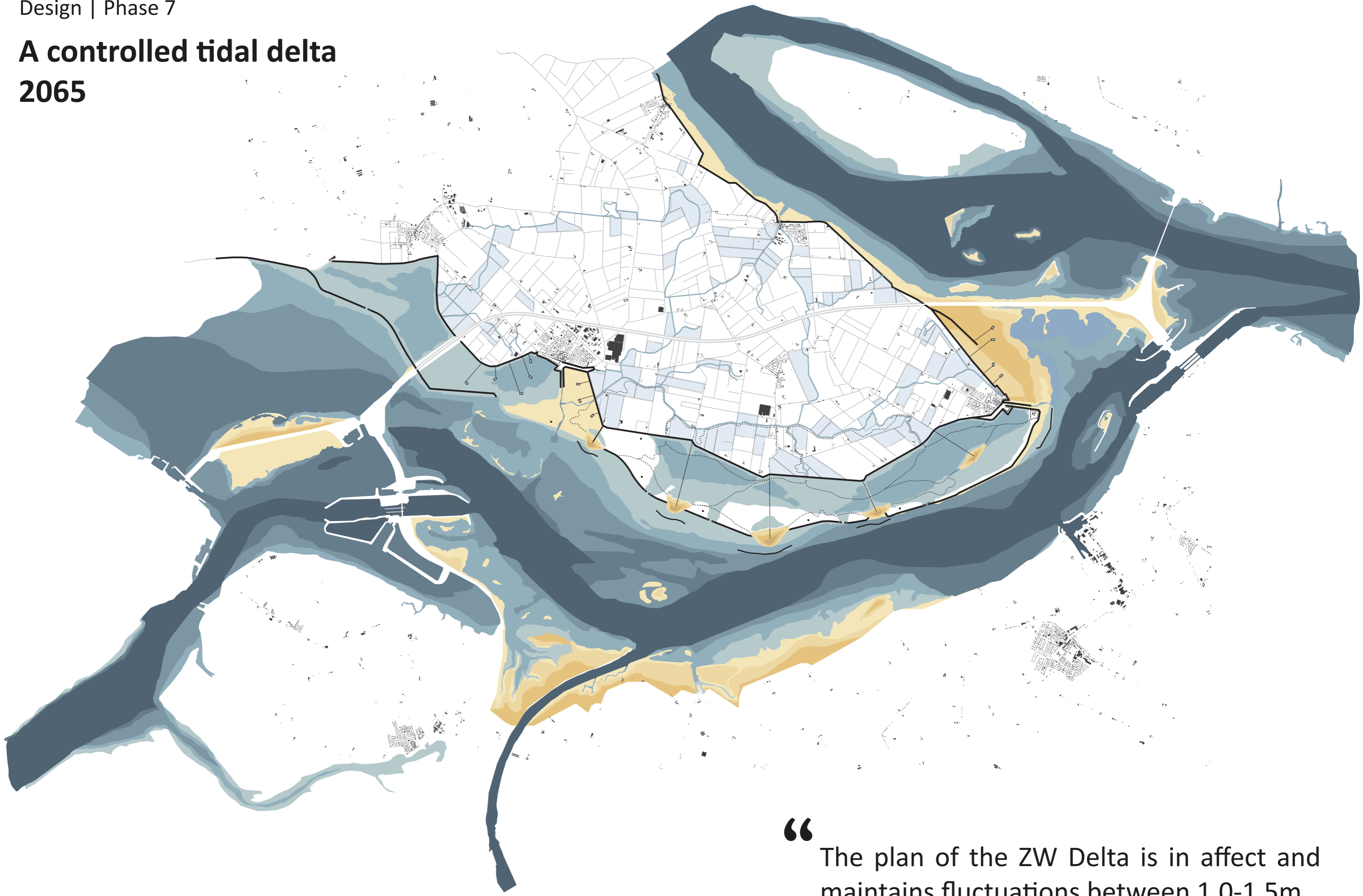
“ The plan of the ZW Delta is in affect and maintains fluctuations between 1,0-1,5m ”

A controlled tidal delta 2065



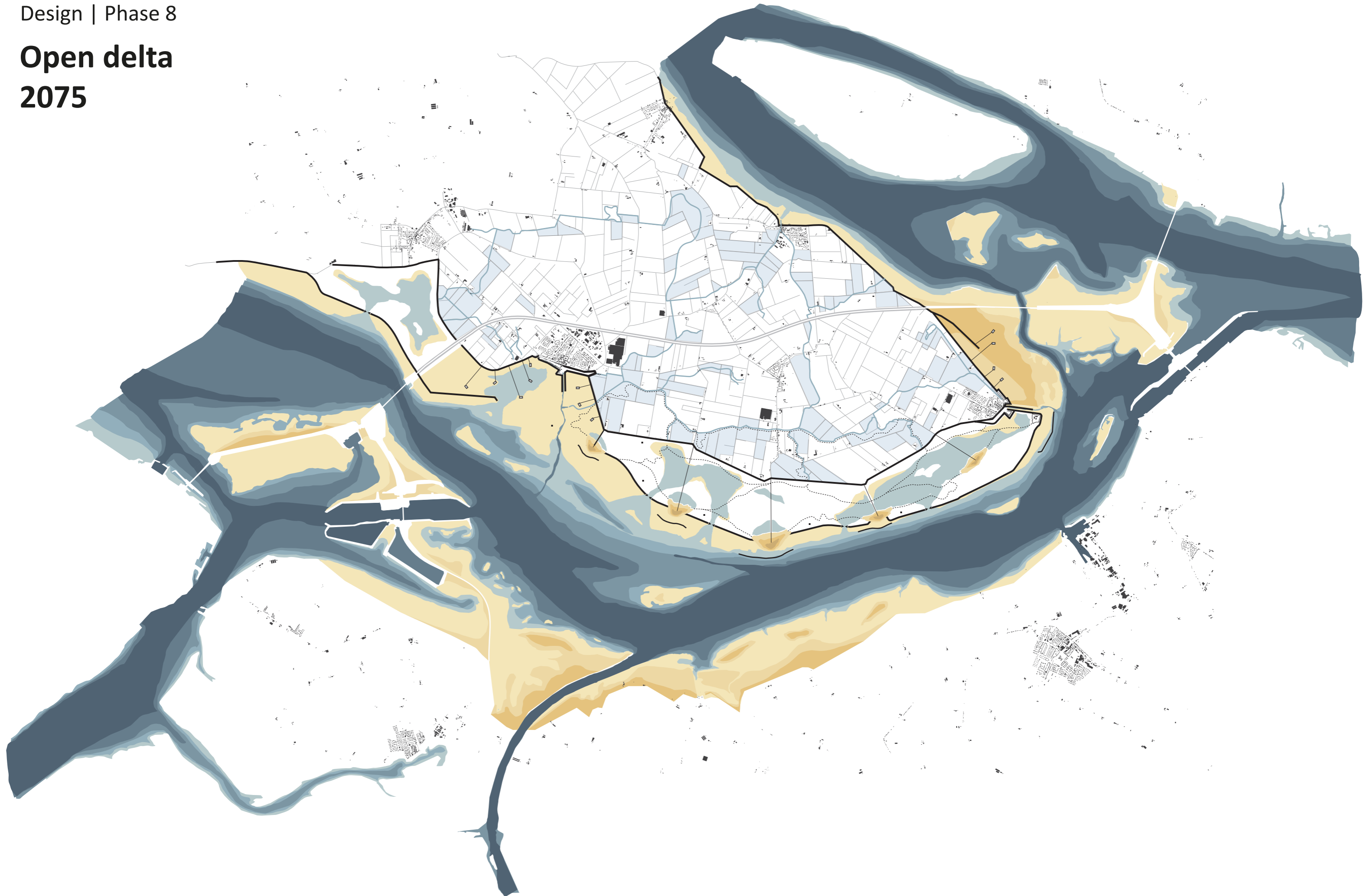
“ The plan of the ZW Delta is in affect and maintains fluctuations between 1,0-1,5m ”

A controlled tidal delta 2065

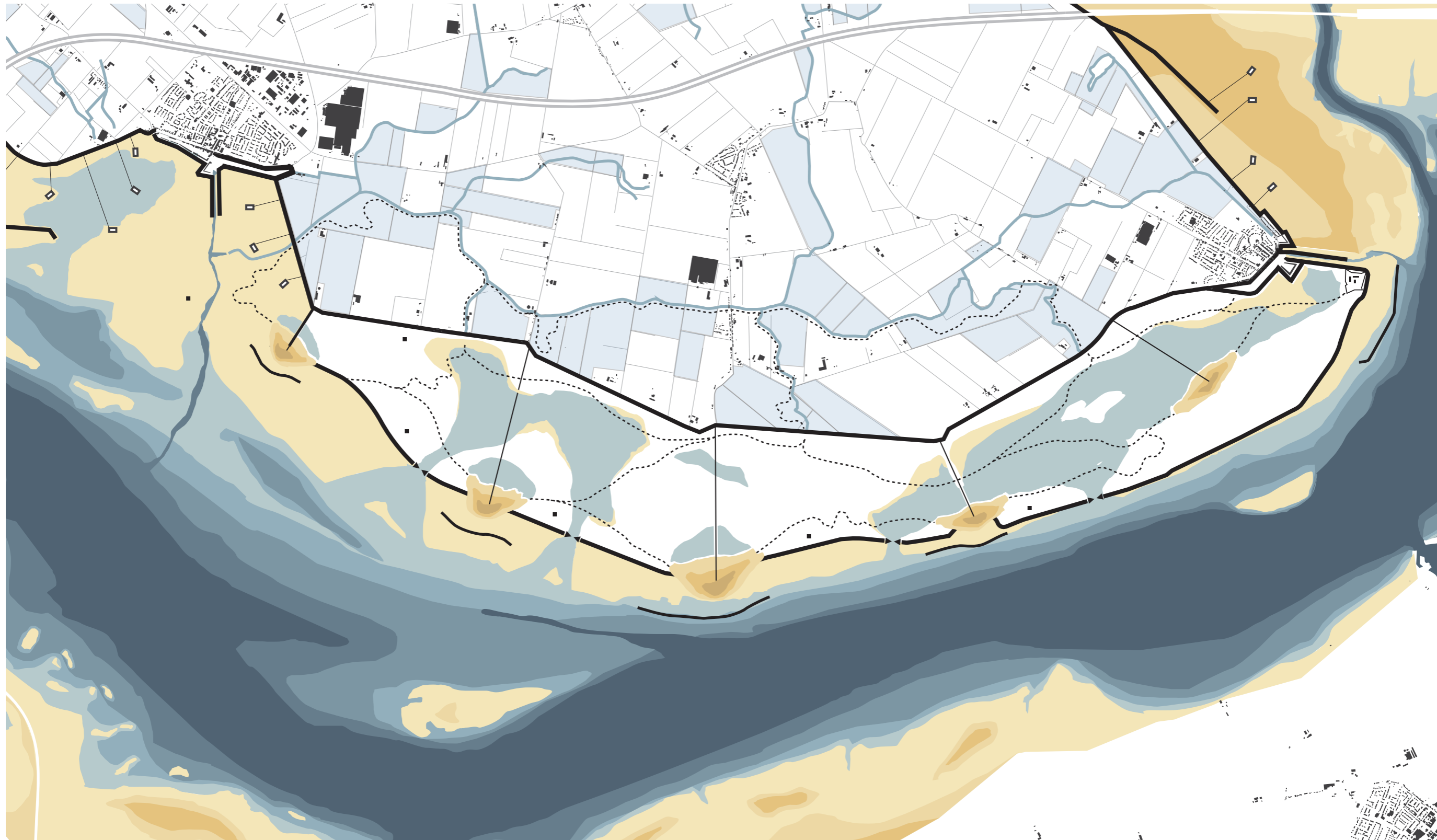


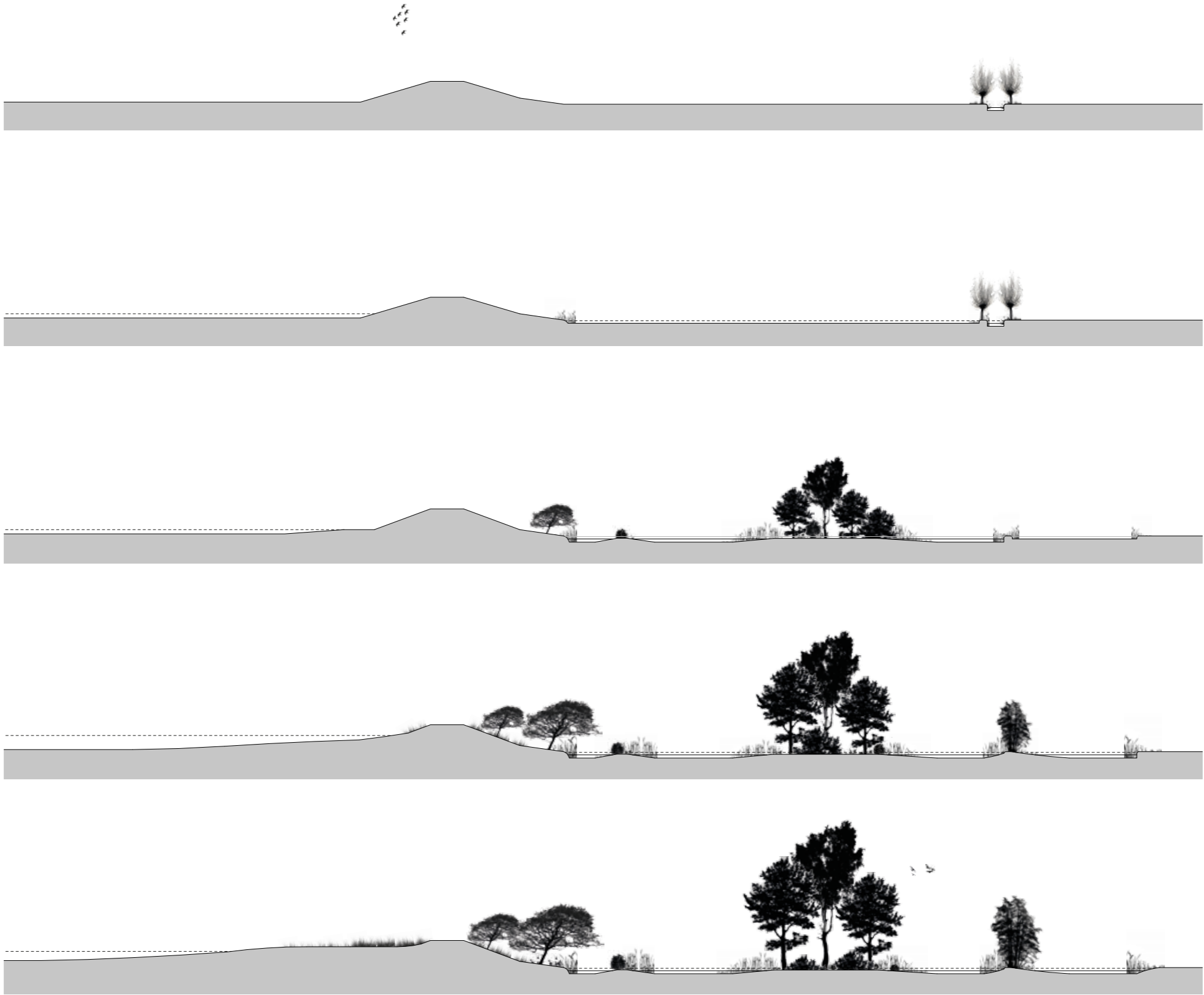
“ The plan of the ZW Delta is in affect and maintains fluctuations between 1,0-1,5m ”

Open delta 2075



Open delta 2075

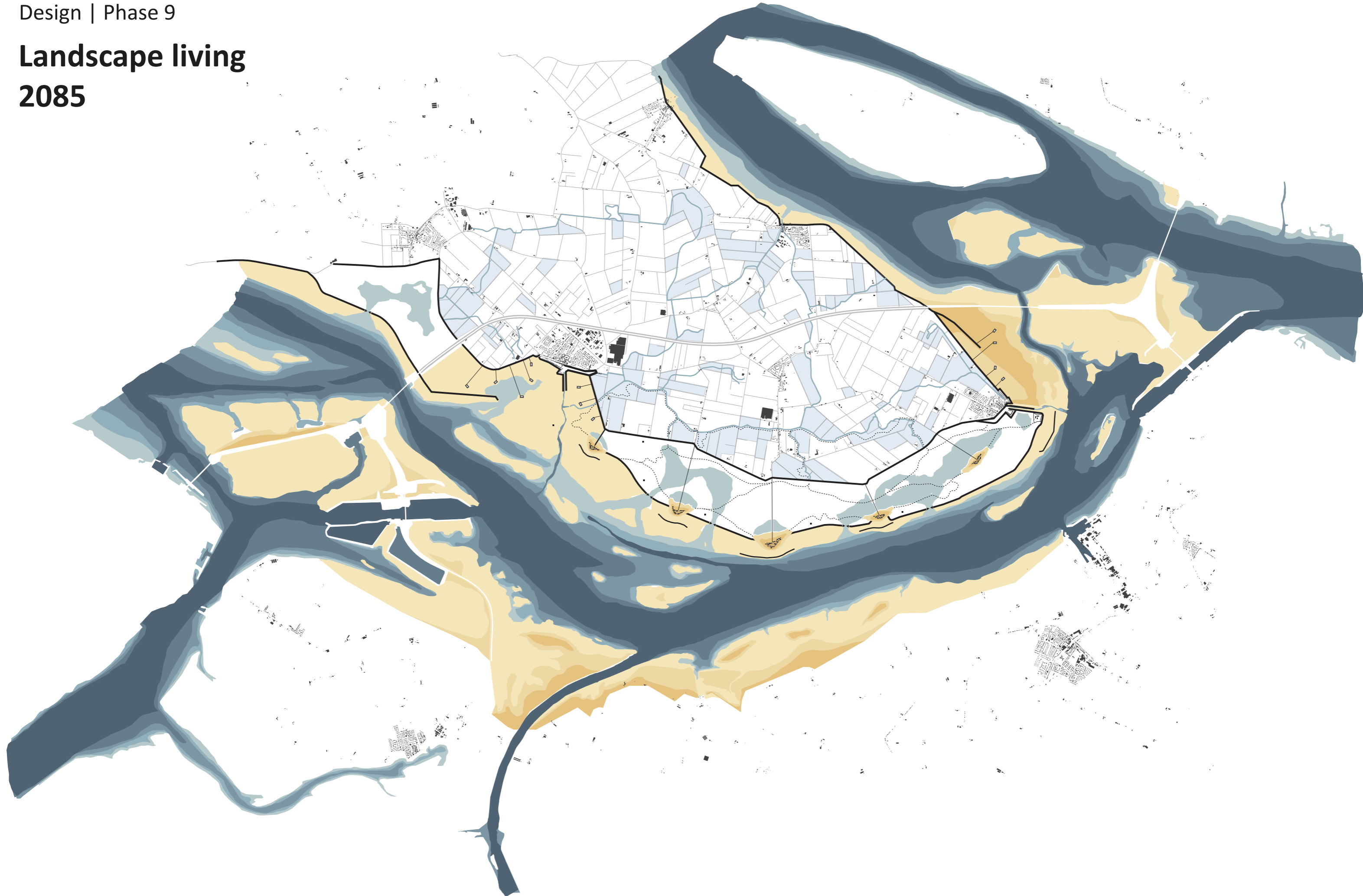




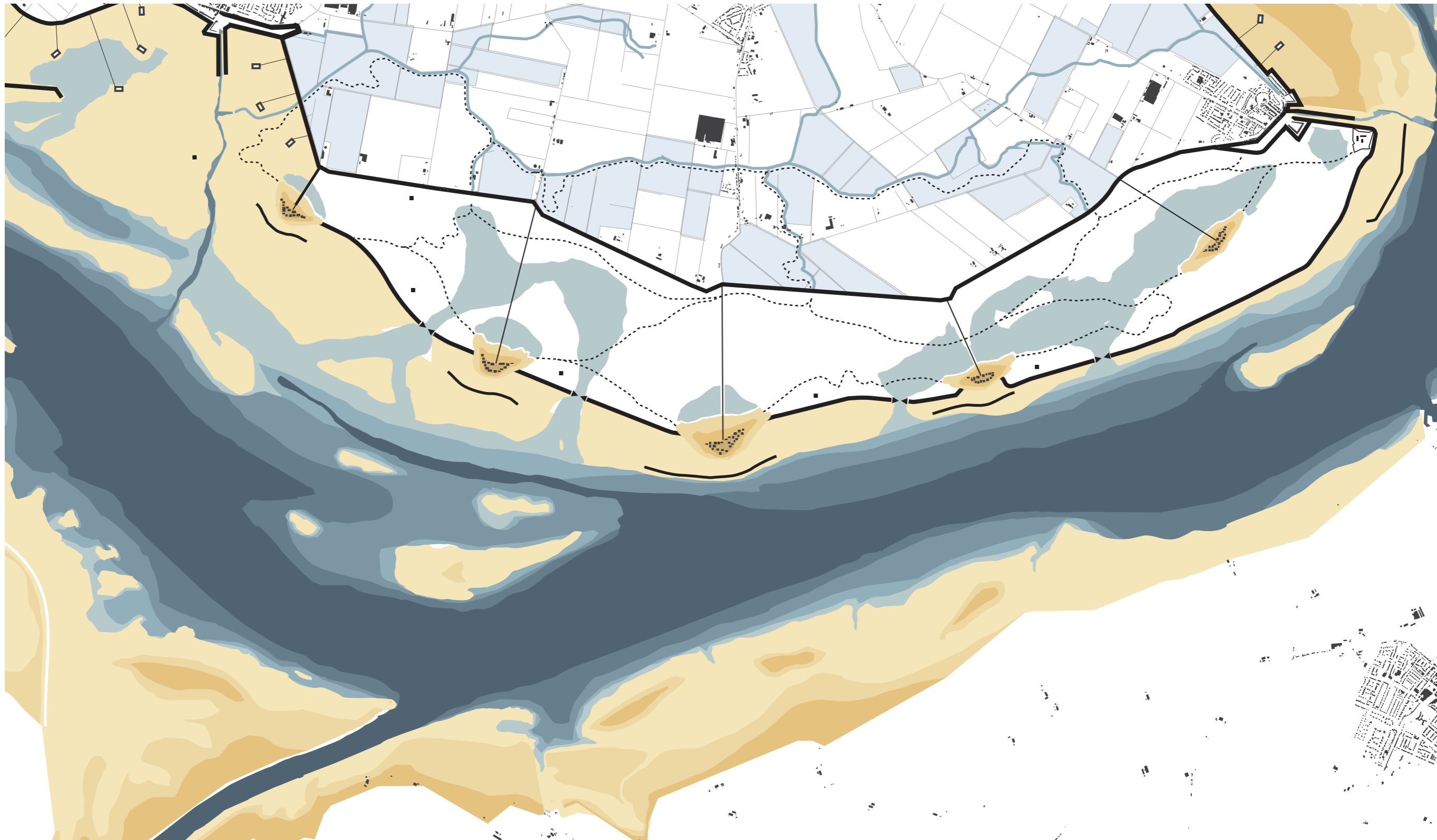
“ As the outer dike, the inner dike will transform from a hard border to a natural water defense

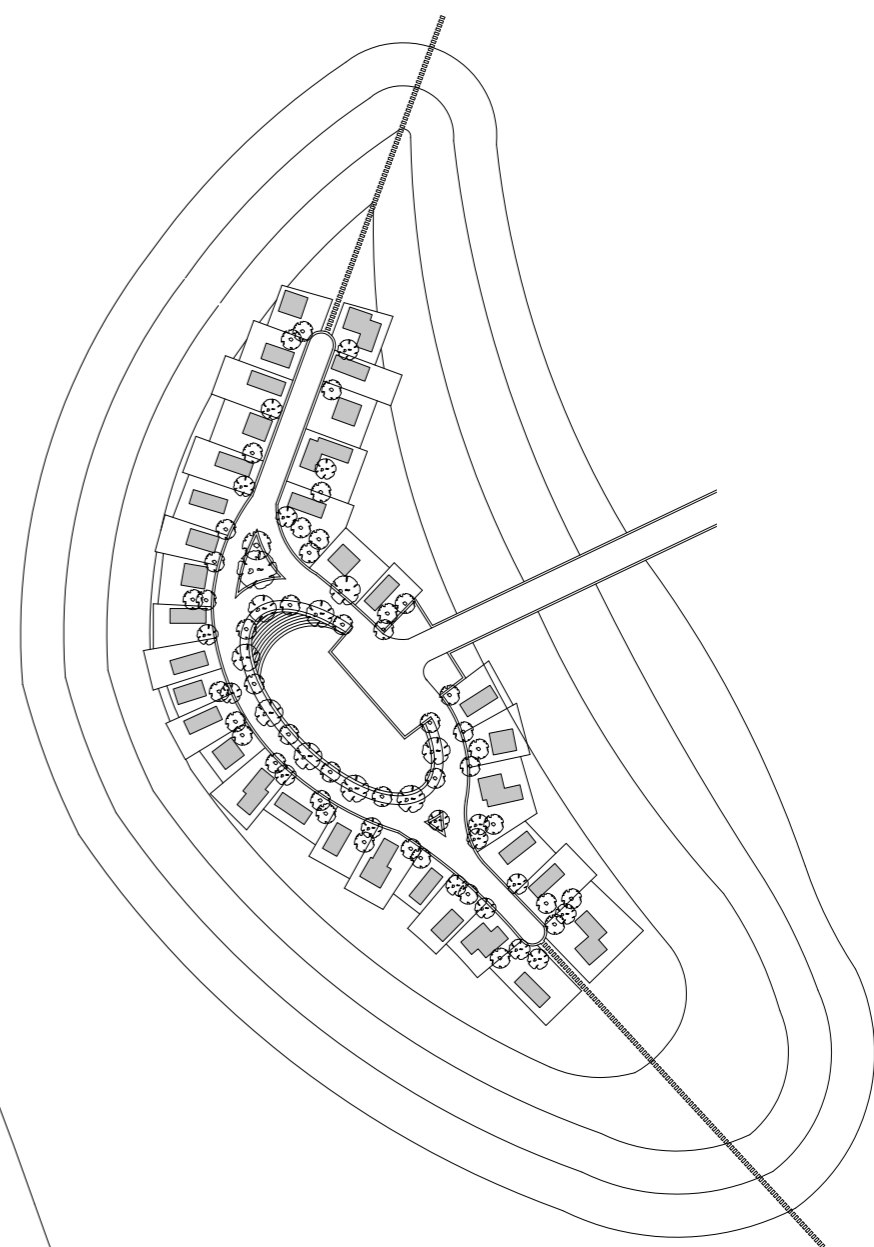
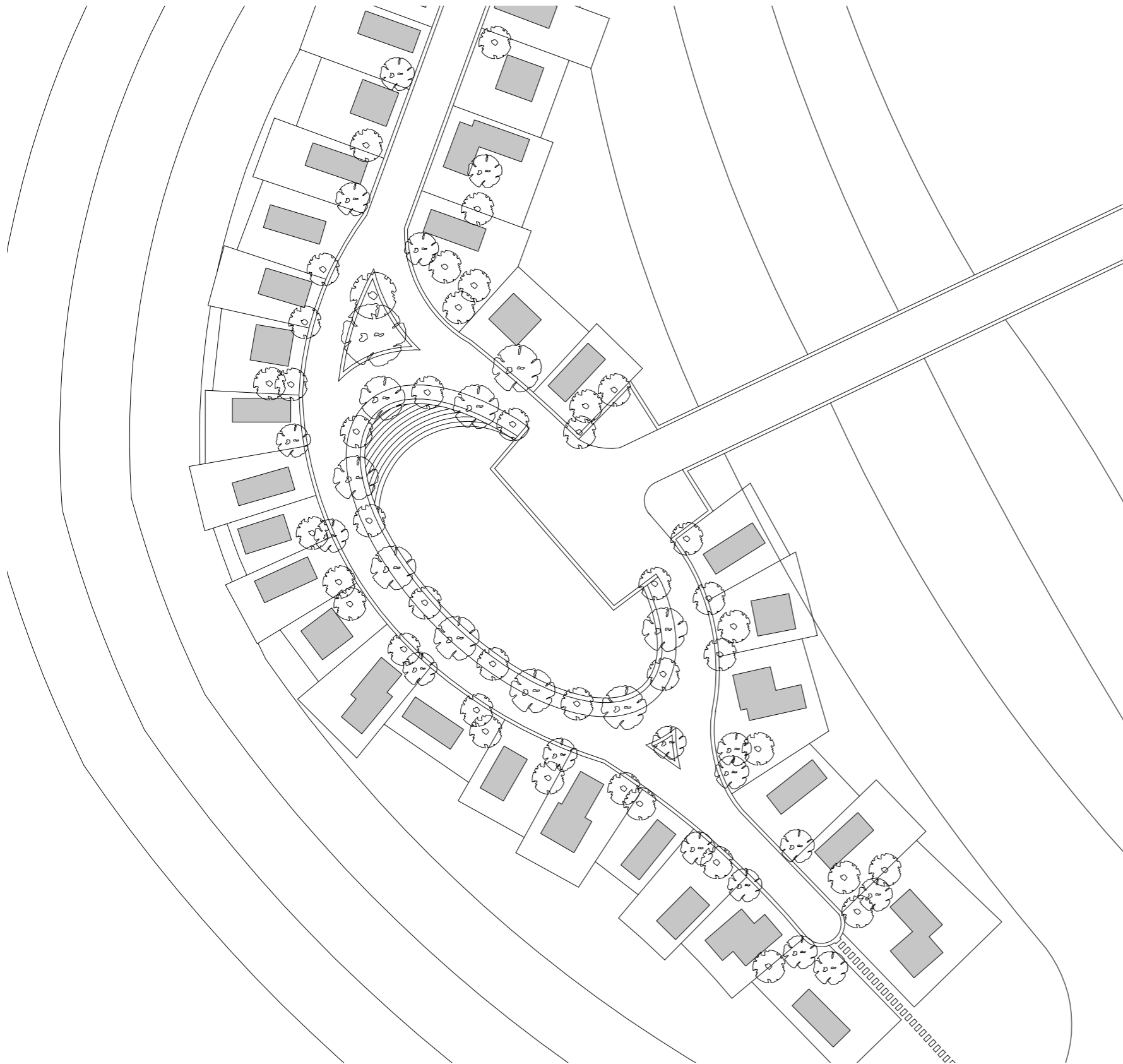
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Landscape living 2085



Landscape living 2085

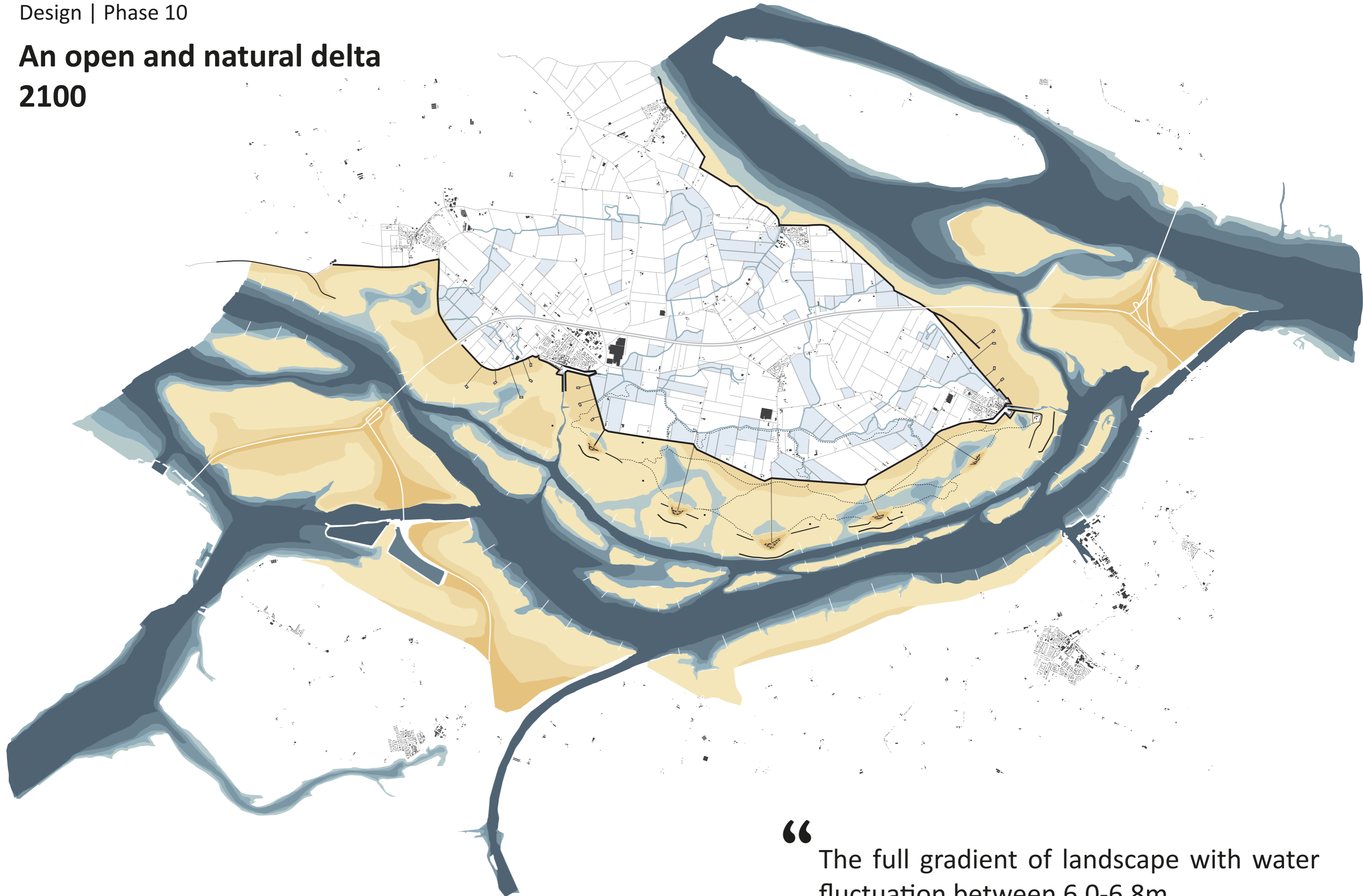




“ The design is related to the urban form of 'wierden' in Northwestern Europe ”

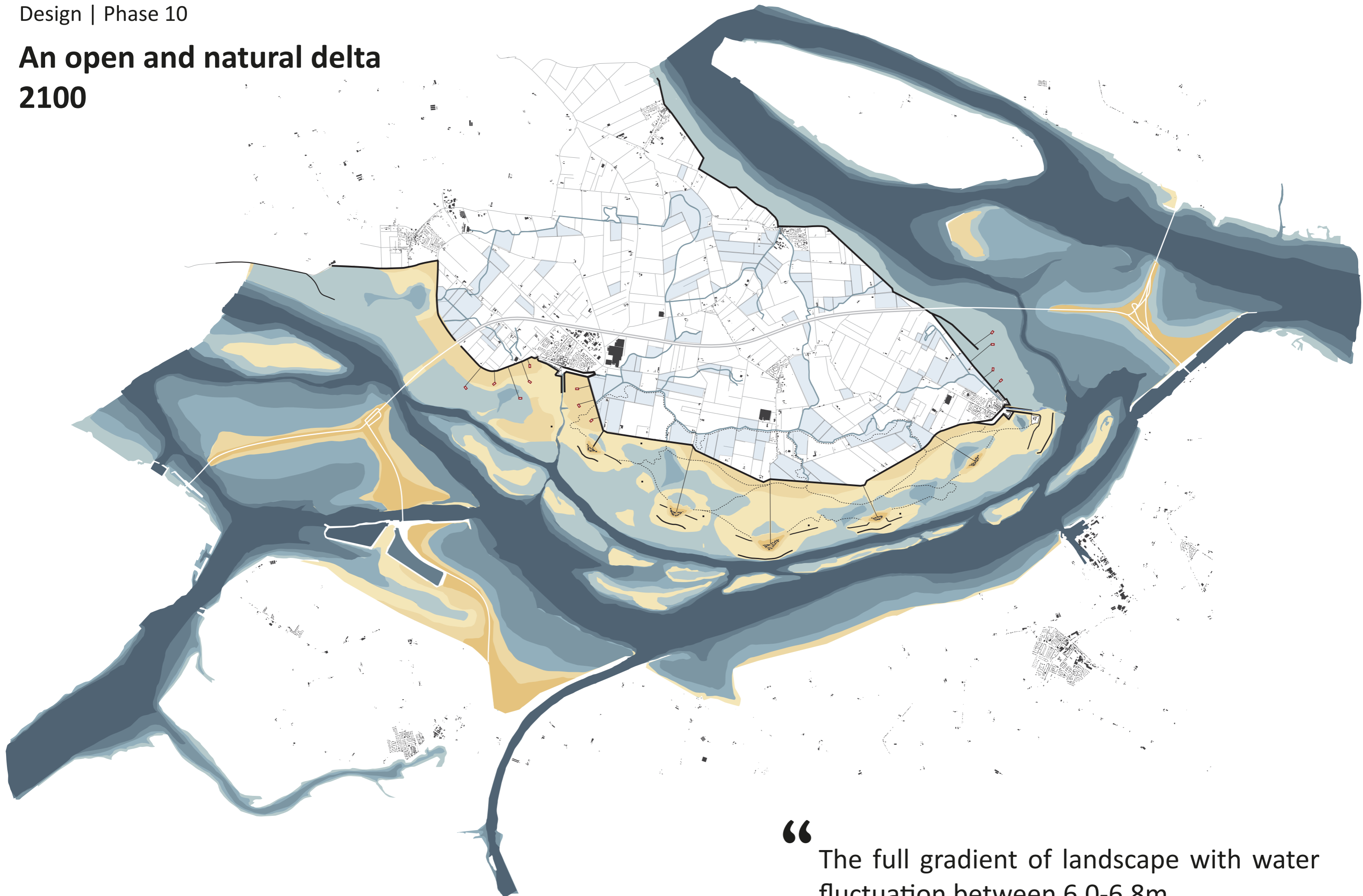
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An open and natural delta 2100



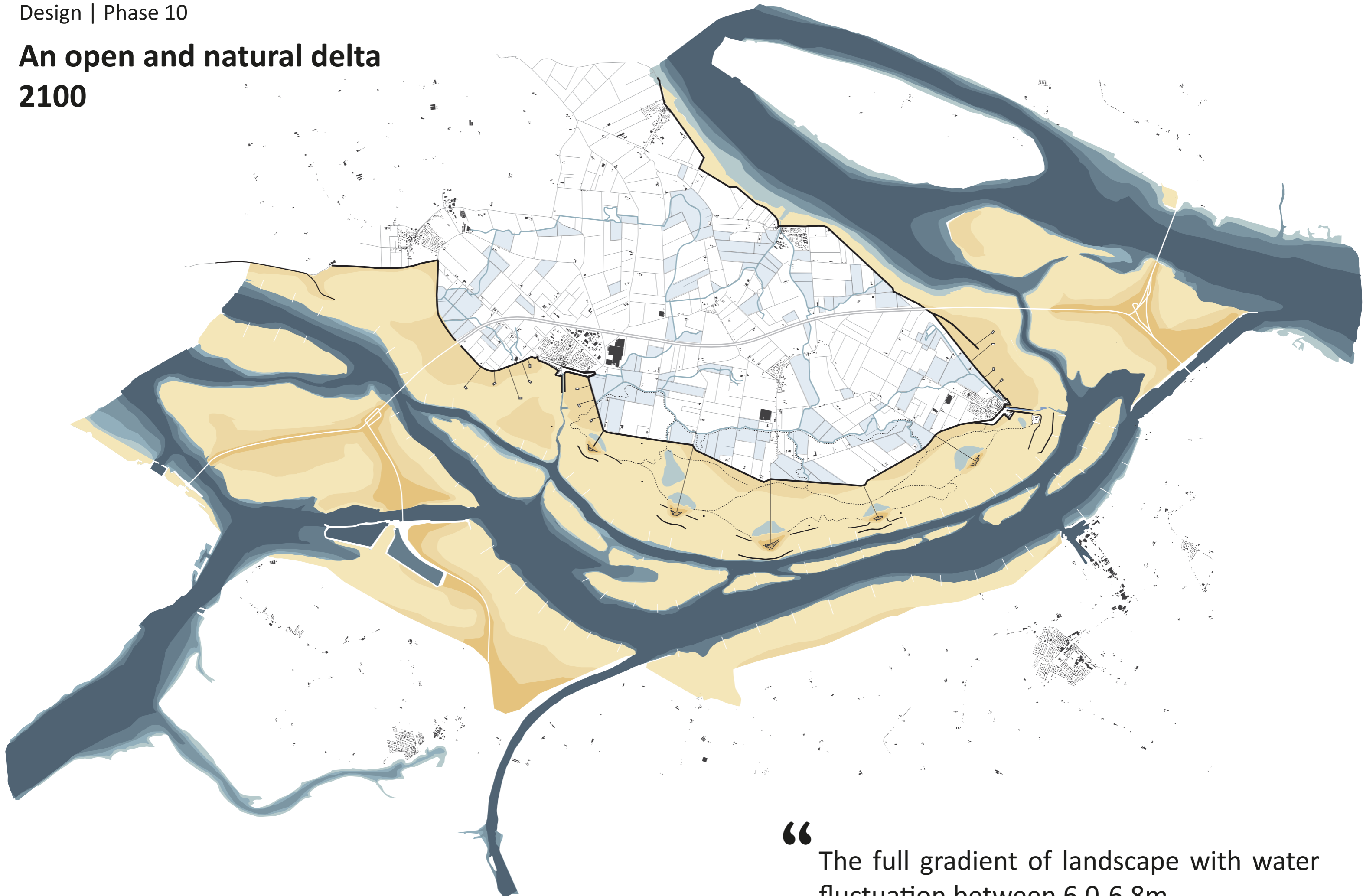
“ The full gradient of landscape with water fluctuation between 6,0-6,8m ”

An open and natural delta 2100



“ The full gradient of landscape with water fluctuation between 6,0-6,8m ”

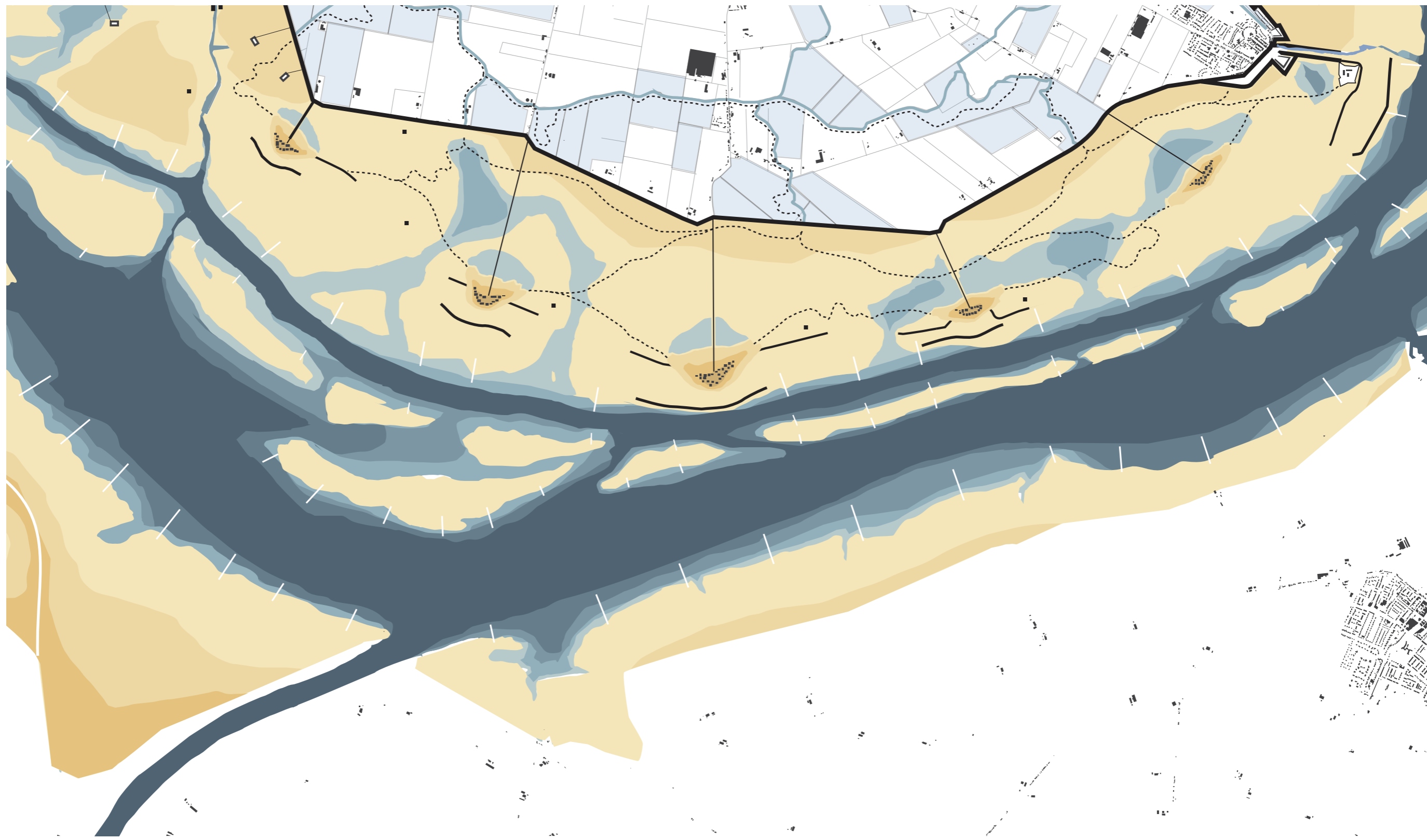
An open and natural delta 2100



“ The full gradient of landscape with water fluctuation between 6,0-6,8m ”

An open and natural delta

2100





“ An attractive shipping route from the Har-
ingvliet to the delta cities

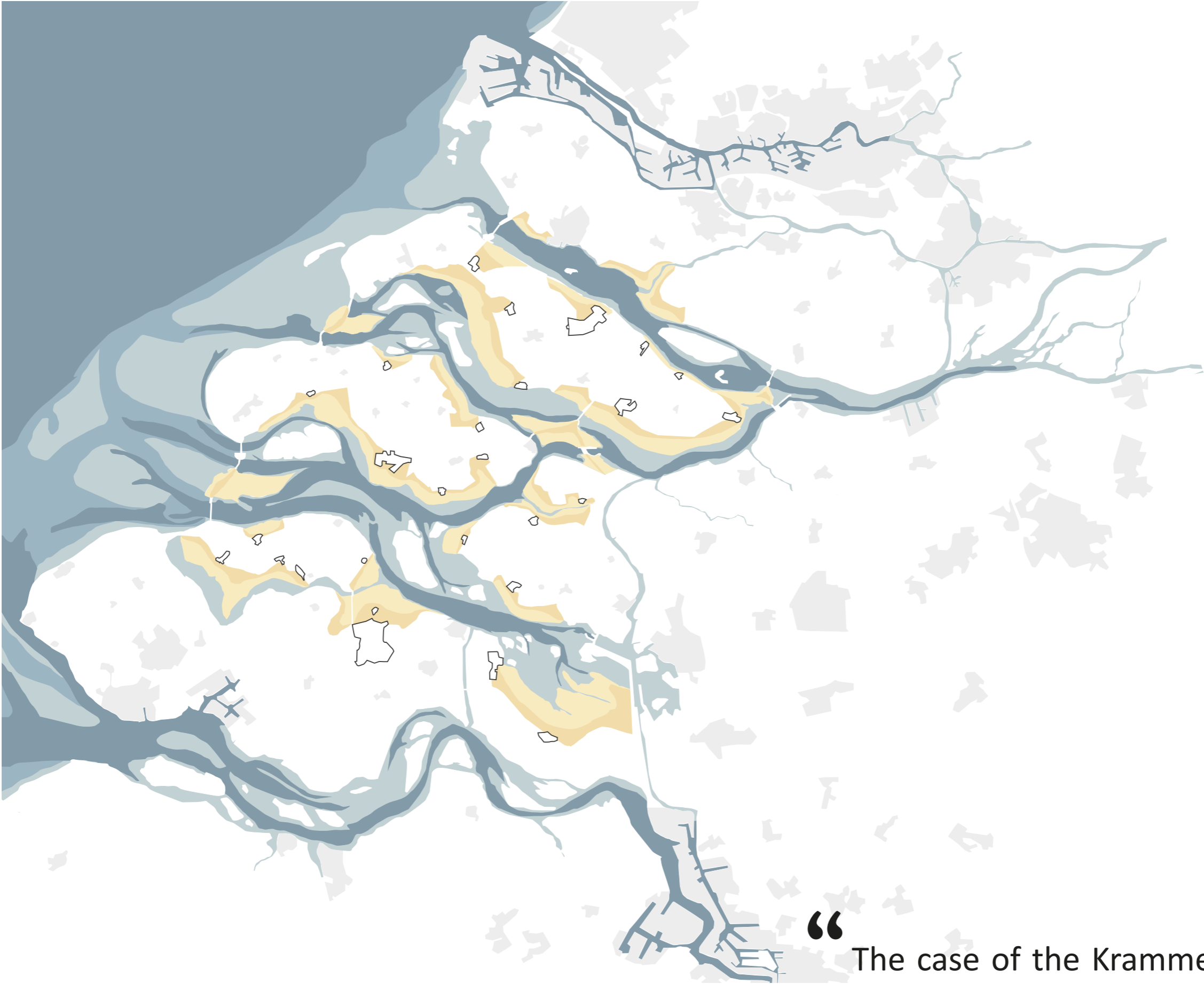
”

“ Conclusion

- # An open dutch southwest delta
- # Working with nature
- # Questions

”





“ The case of the Krammer Volkerak can be applied in the whole delta

”



“ Working with nature can add value to the urban, cultural and natural layer in an open delta ”

“ Thank you for your attention! ”

“ Thank you for your attention! ”

“ Do you have any questions? ”