

STOP AND STAY IN ARNHEMS BUITEN

AFSTUDEER PRESENTATIE

HENS ZOET



Op welke manier kunnen de gebouwen van het de
Zoetenlabensemble in Arnhems Buiten worden geherstructureerd,
waarbij de functies van een conferentiehôtel en treinstation
worden geïmplementeerd?



foto: Rob 't Hart





INHOUD

ANALYSE

MASTERPLAN

ANALYSE

UITGANGSPUNTEN

ONTWERP

CONCLUSIE

Arnhem



Arnhem



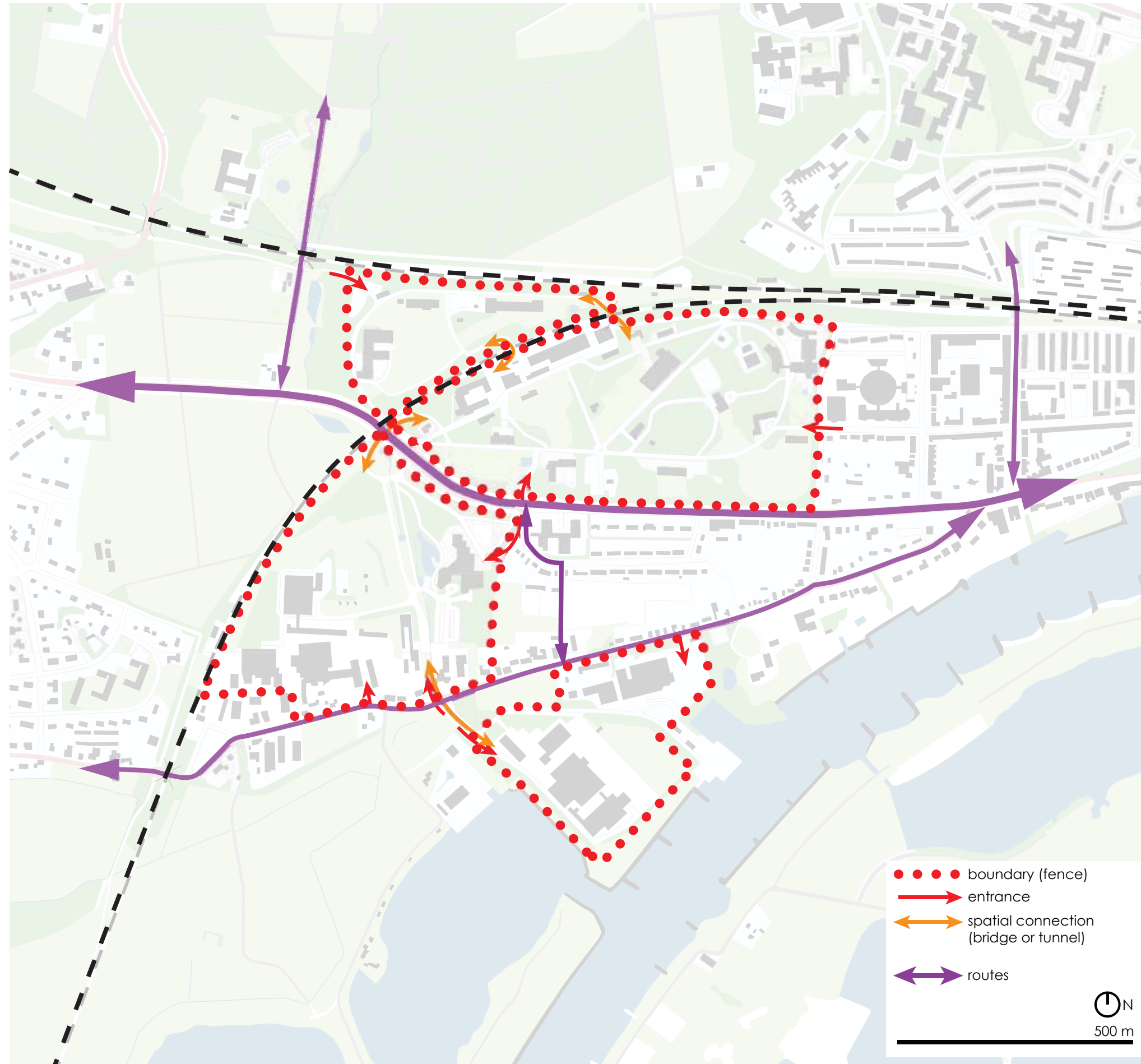
Arnhem bron: Google Earth



motivatie

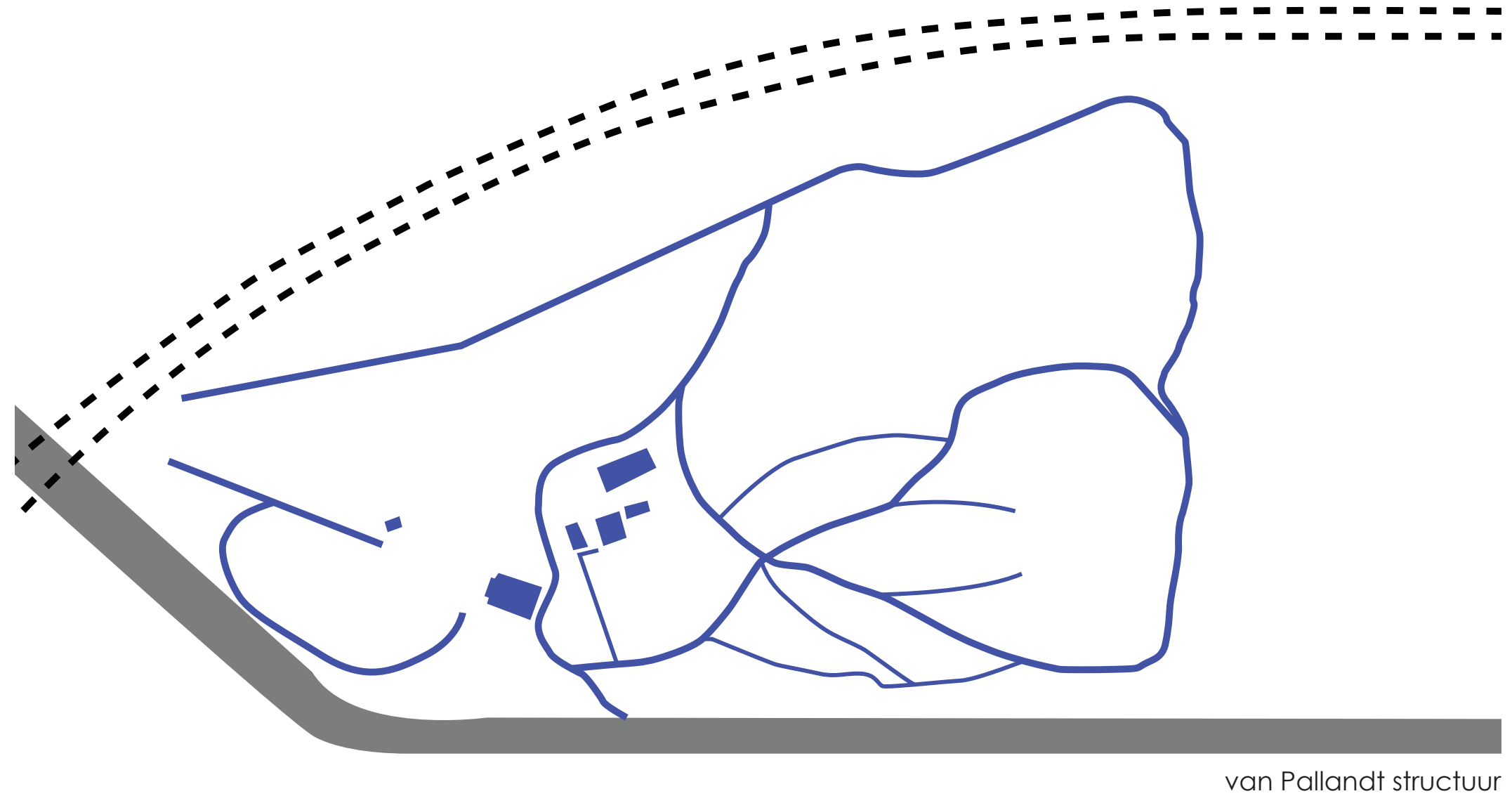


grenzen



den Brink

van van Pallandt naar KEMA



den Brink

van van Pallandt naar KEMA

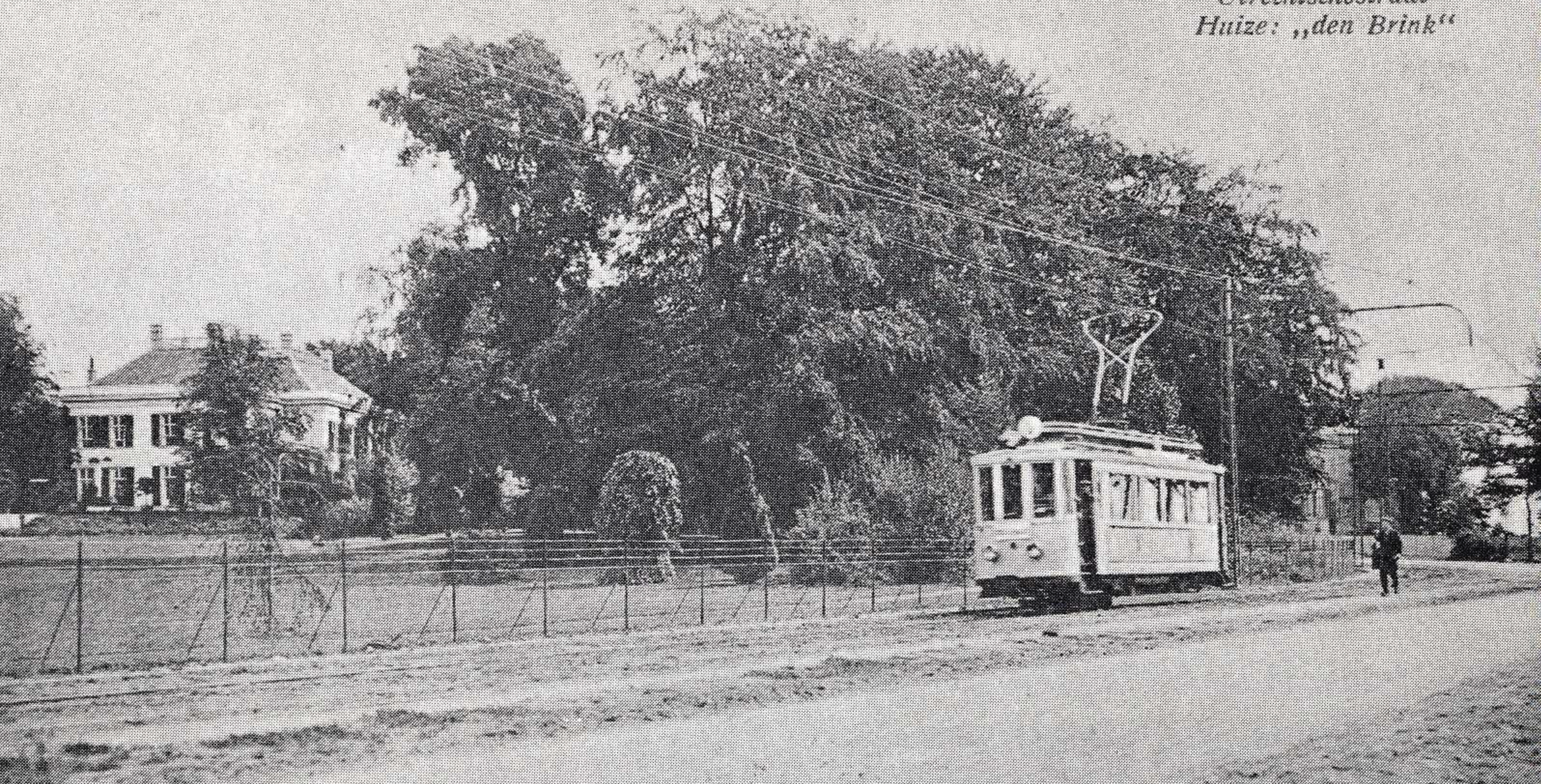


opzet KEMA over opzet van Pallandt

Oosterbeek

Utrechtschestraat

Huize: „den Brink“













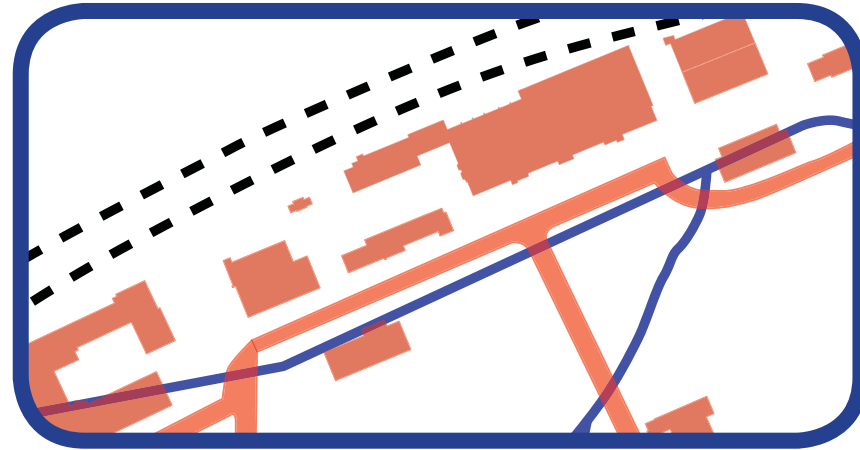
Gebouw B12

14-RD-DH

54-HBN-8

175-GR-VT

hoog



opbouw ensemble

positief



heldere KEMA structuur

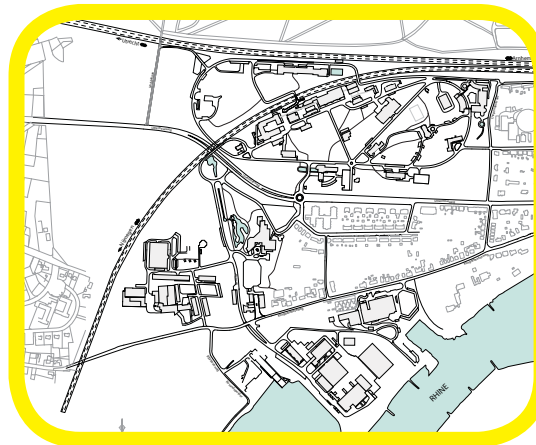


spoorlijn

indifferent

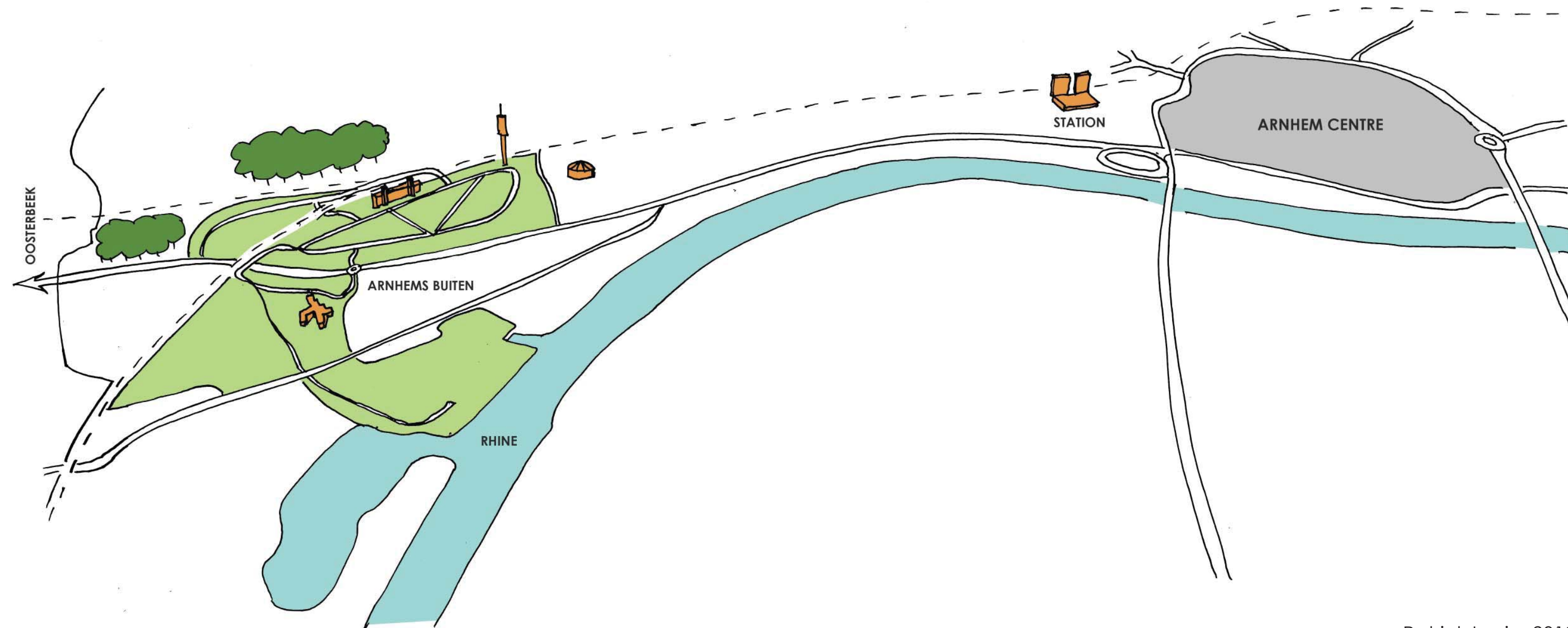


grenzen



onheldere huidige structuur

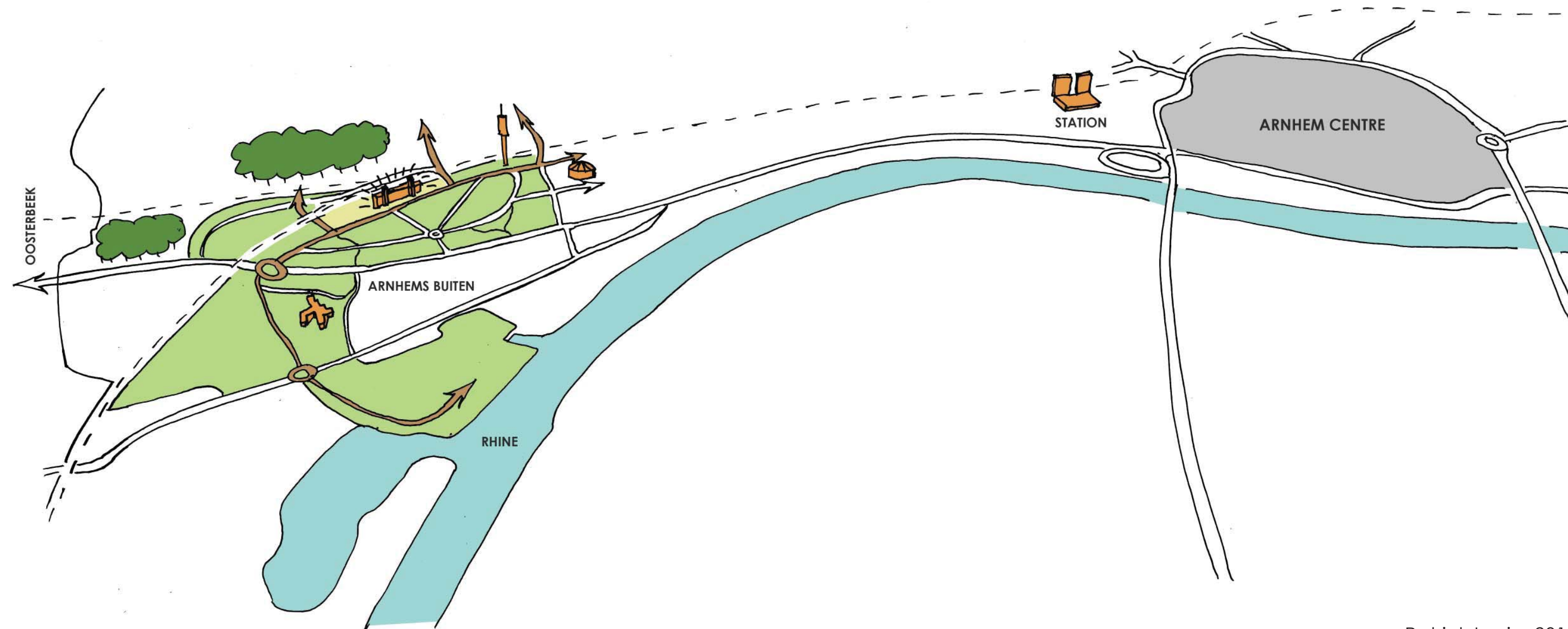
masterplan



Patrick Levie, 2012

masterplan

openstellen
Den Brink is het hart
behoud van park



Patrick Levie, 2012

masterplan

i.s.m. Patrick Levie & Paul Mulder

extra eigen invulling: toevoegen
treinstation Arnhems Buiten op
ensemble



masterplan den Brink

i.s.m. Patrick Levie & Paul Mulder

ensemble is het hart van het park

lineaire richting wordt benadrukt in
carpet en bestrating

parkeren op Mariendaal

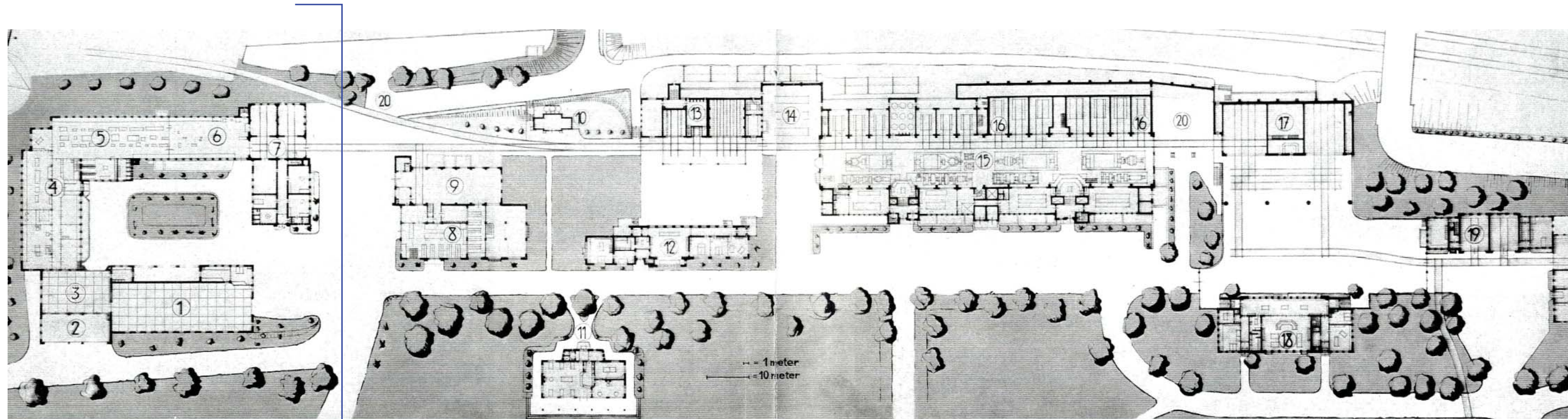
gebouwkeuze: explosielab & de
Zoetenlaboratorium



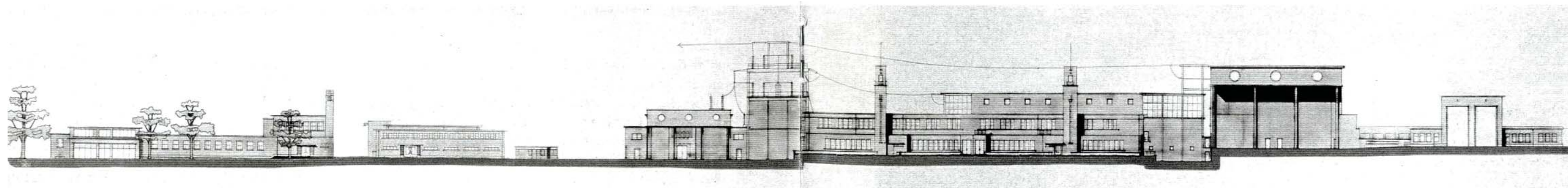
ensemble

volgt oude van Pallandt opzet in
vallei

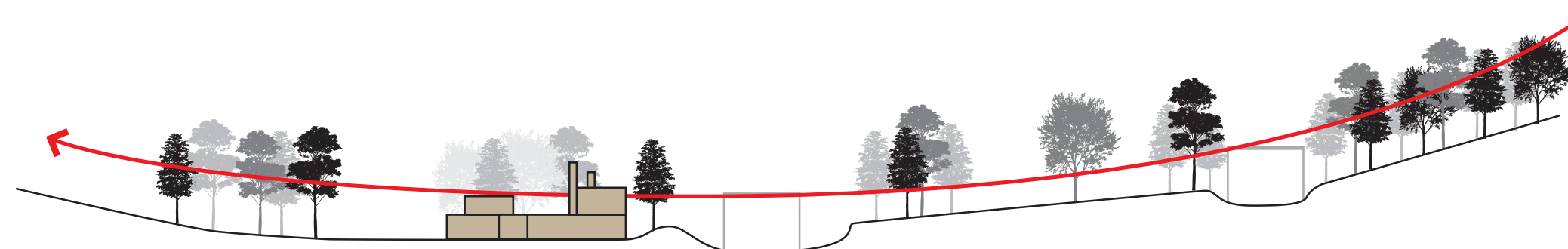
langs spoorlijn Arnhem-Nijmegen



originale plattegrond Zoetenlab ensemble



originale gevel Zoetenlab ensemble

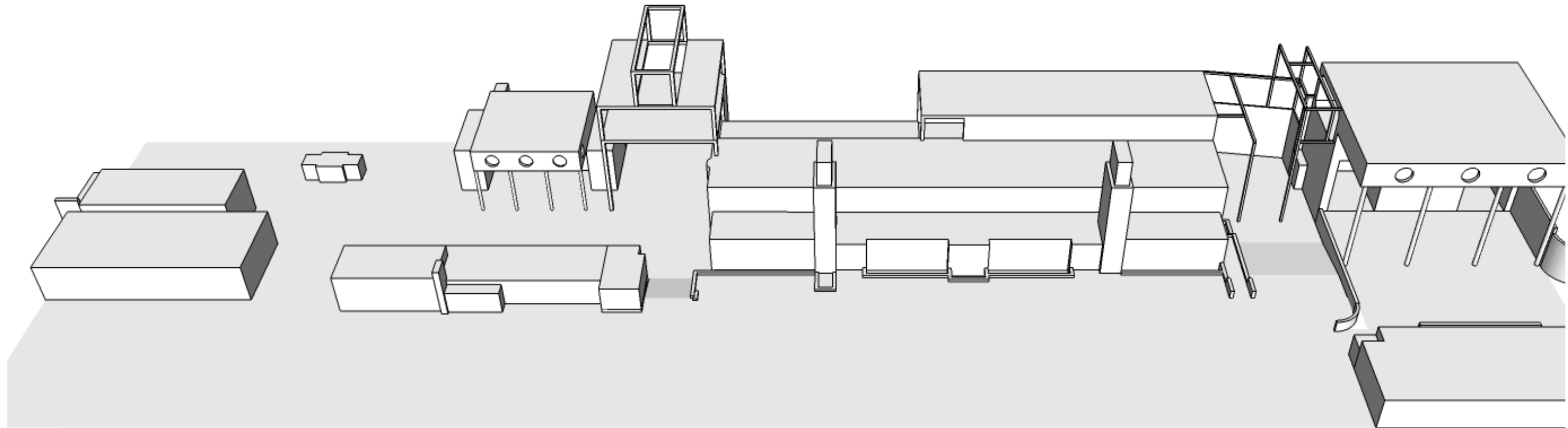


snede vallei bron: Douwe Strating

ensemble

begin ontwikkeling 1936, derde
fase 1956

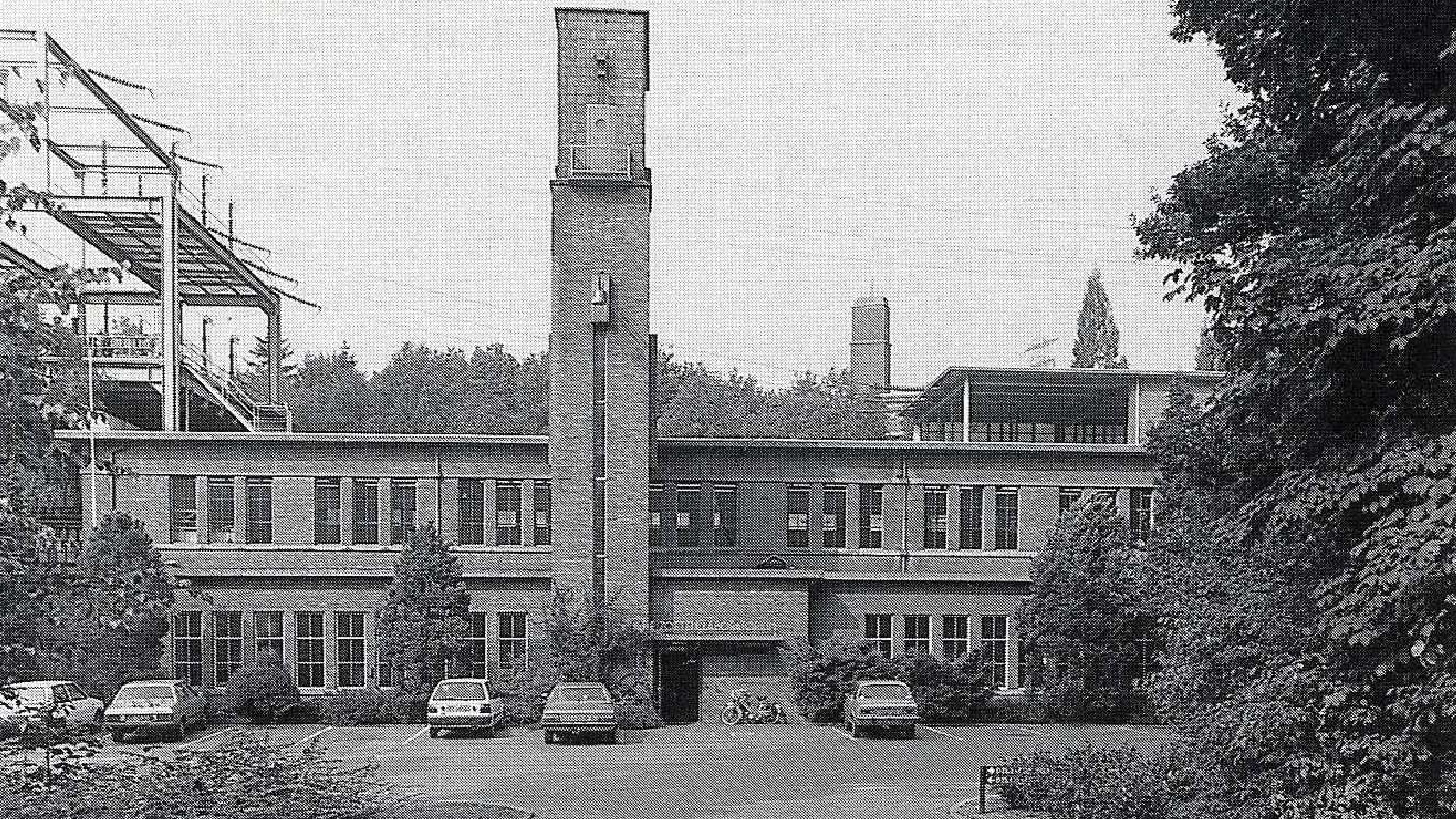
architecten de Zoeten-
laboratorium: Fels & Schoemaker



Zoetenlab ensemble 1956 bron: Patrick Levie & Judith Rodenburg











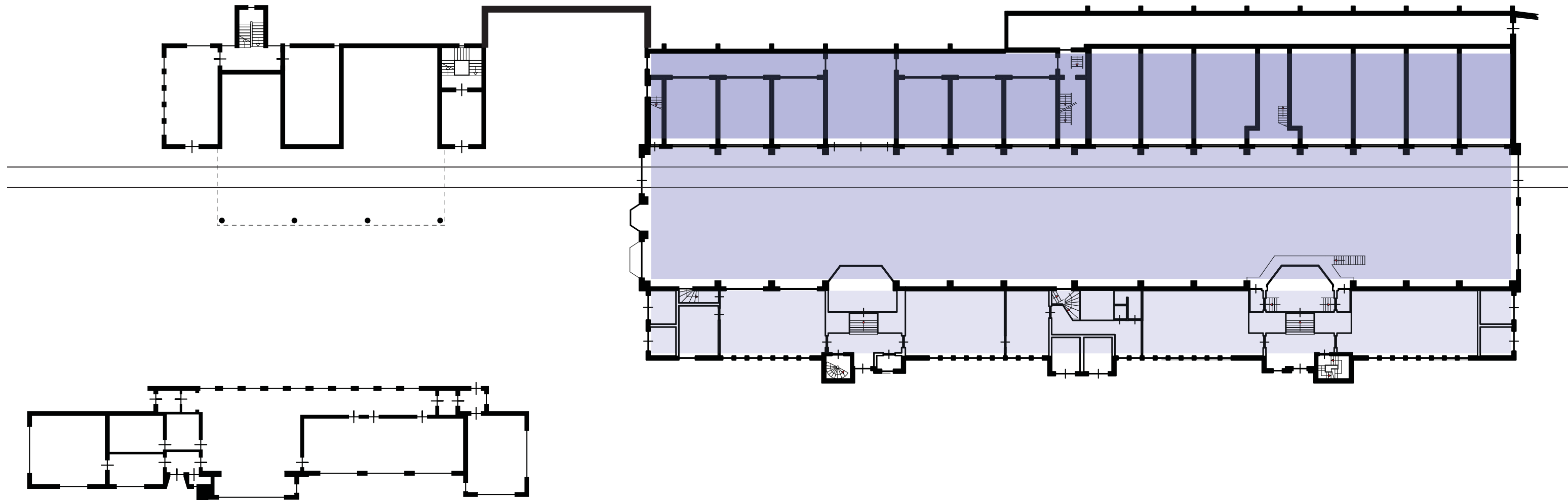
zuidzijde de Zoetenlaboratorium



noordzijde de Zoetenlaboratorium

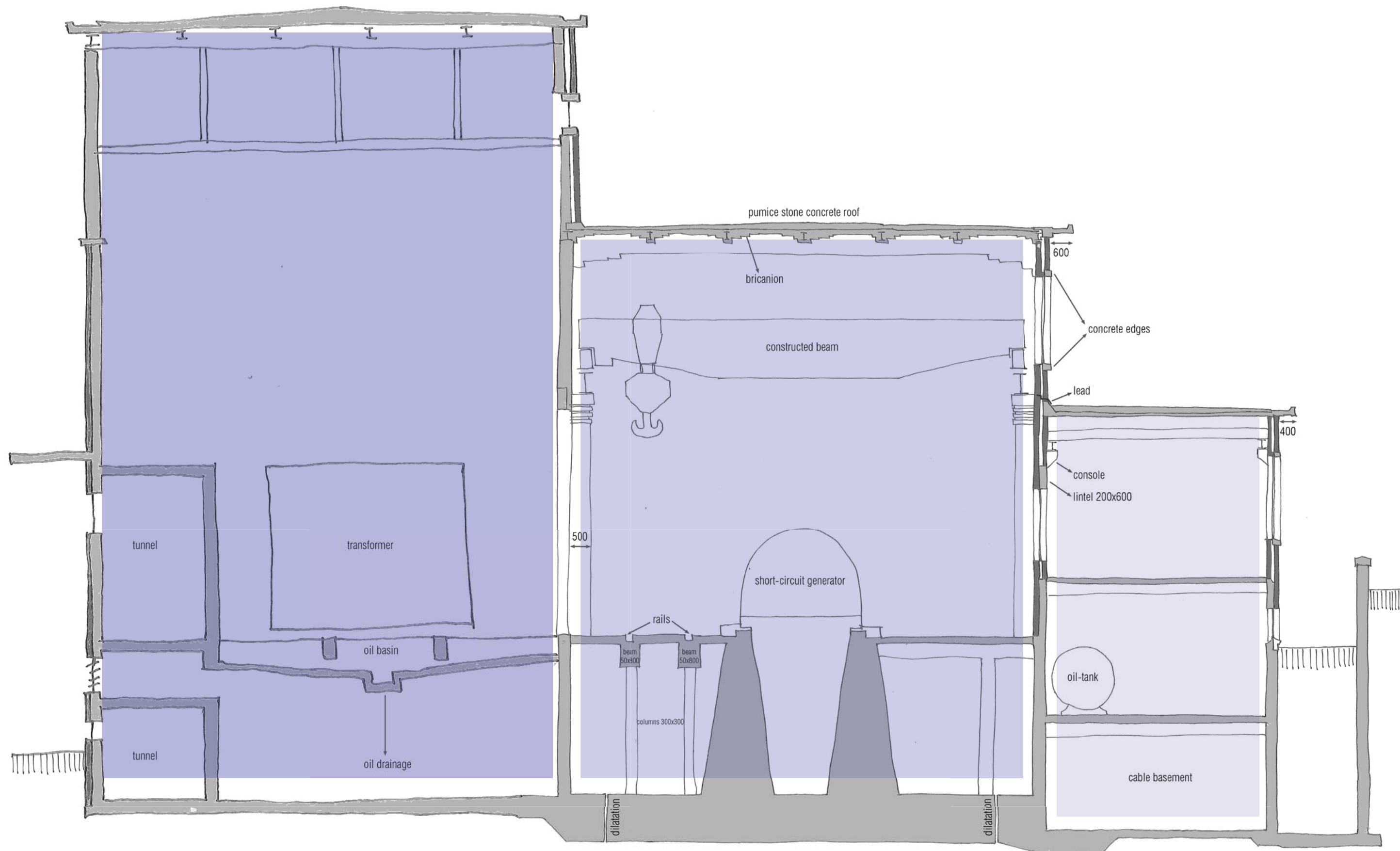
de Zoetenlab

drie zones

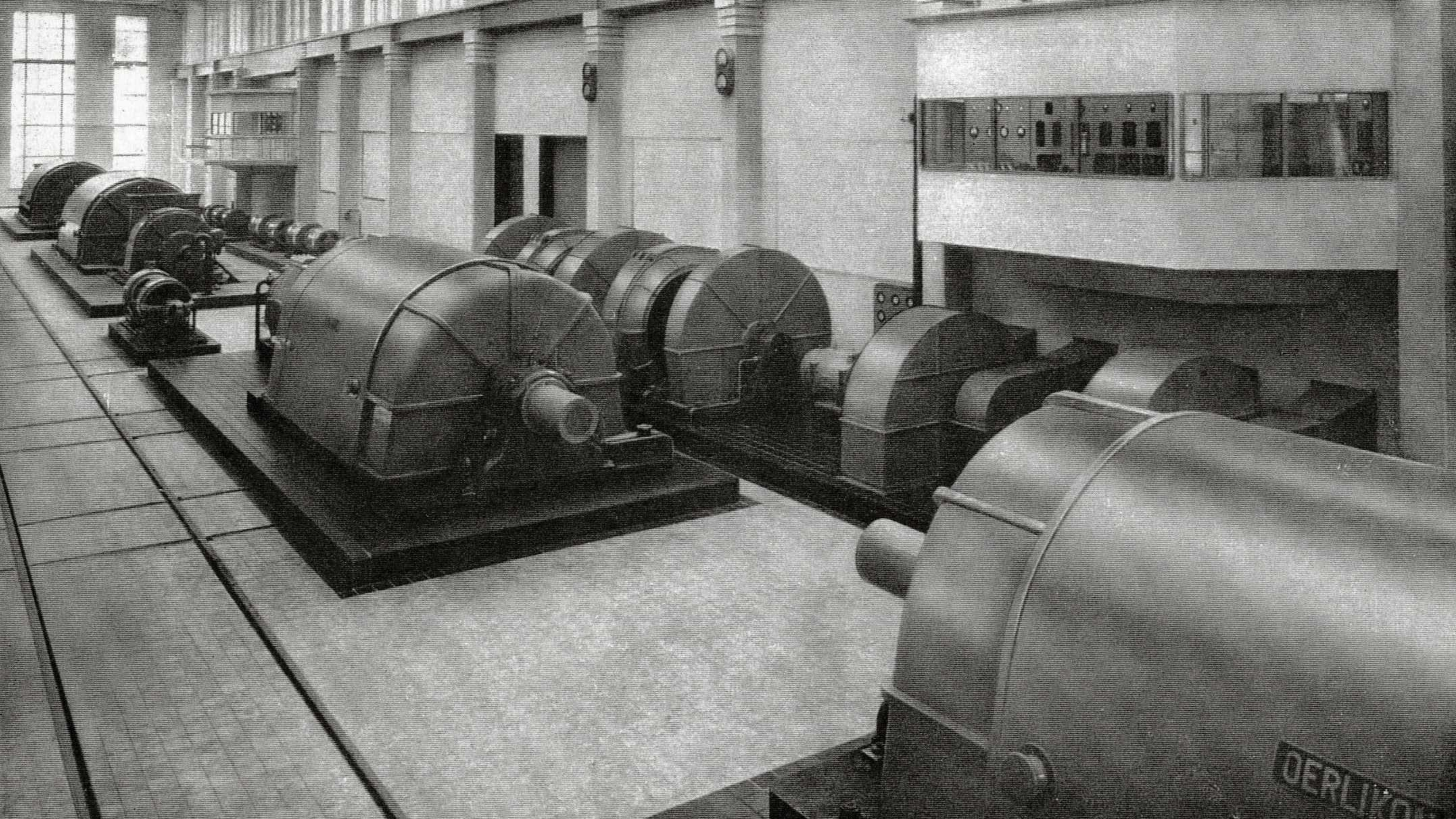


de Zoetenlab

drie zones



doorsnede Zoetenlab bron: Patrick Levie & Judith Rodenburg



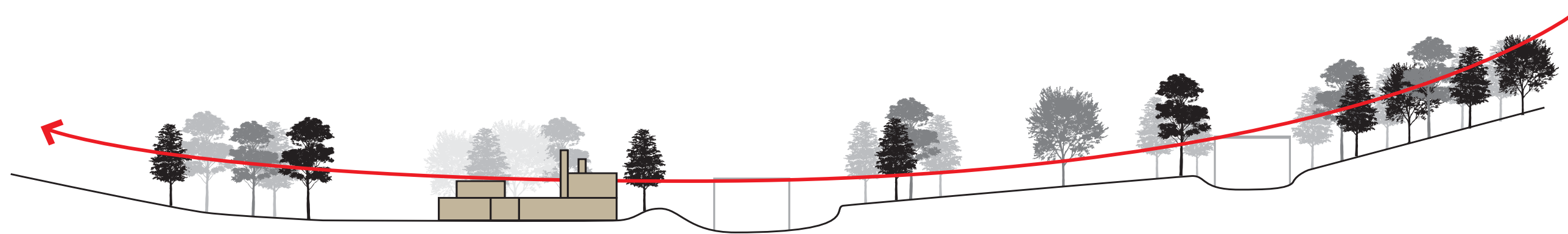


verband met park

20-25 m bomen (gebouw 18m)

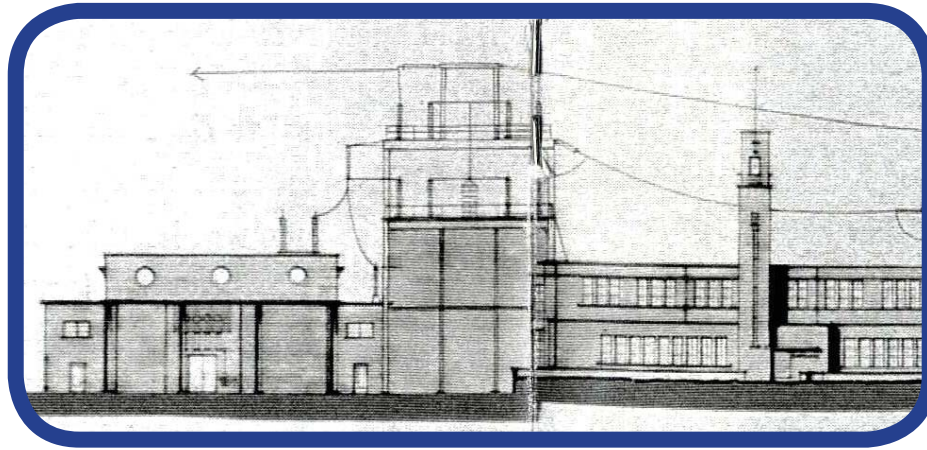


op het dak van het de Zoetenlab

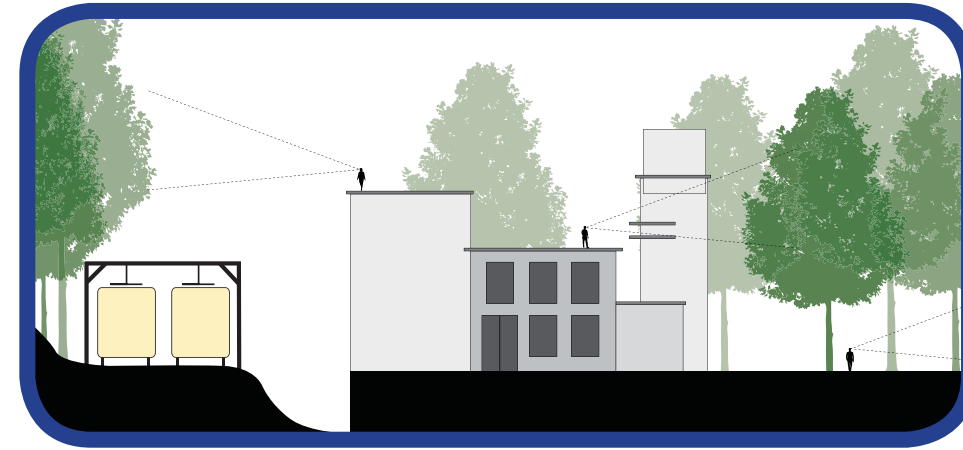


snede vallei bron: Douwe Strating

hoog

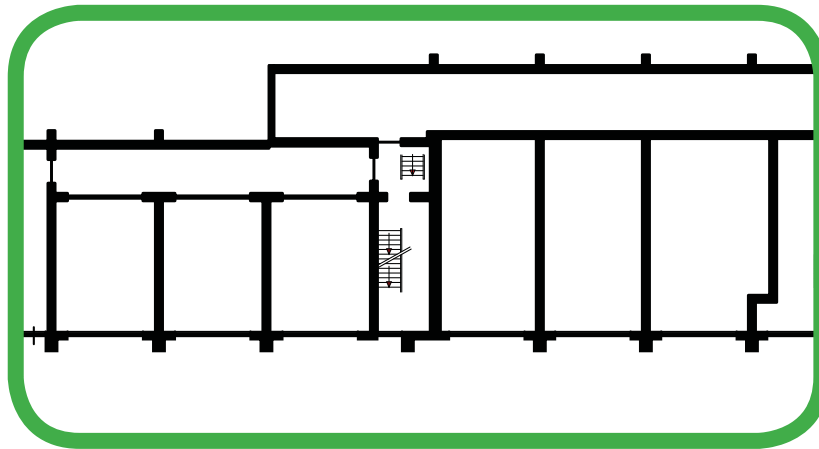


open zuidgevel



bomen

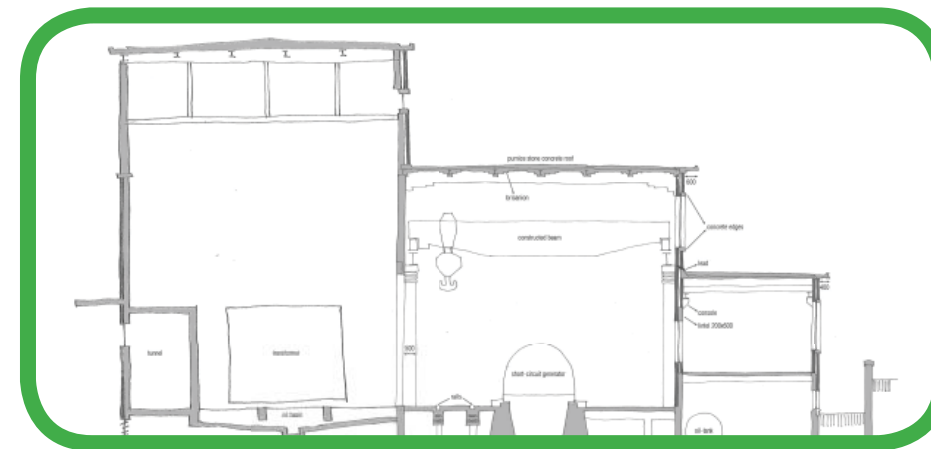
positief



richting gebouw

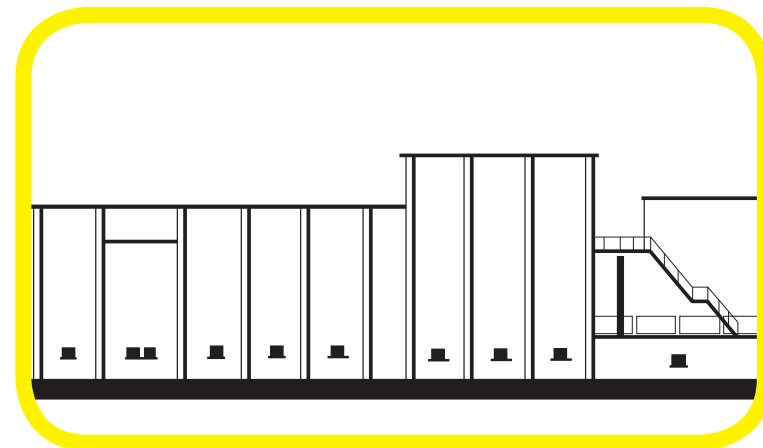


open noord gevel

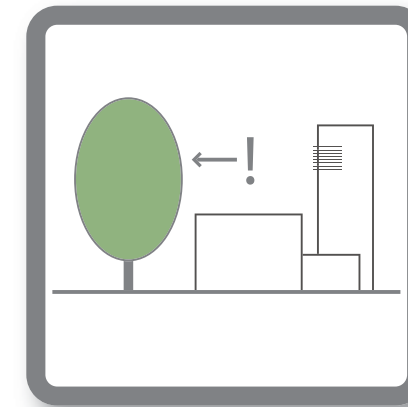
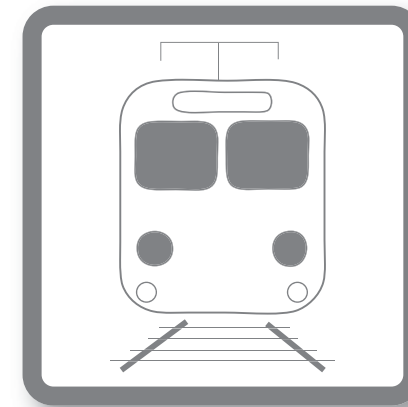
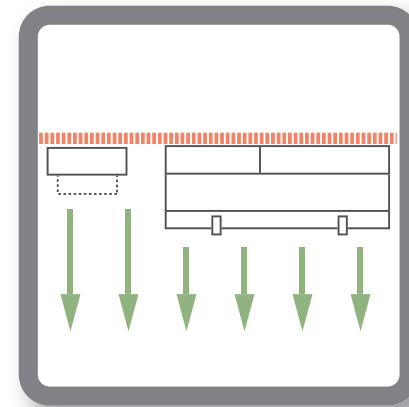
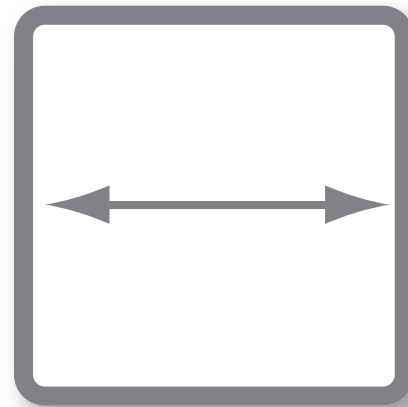
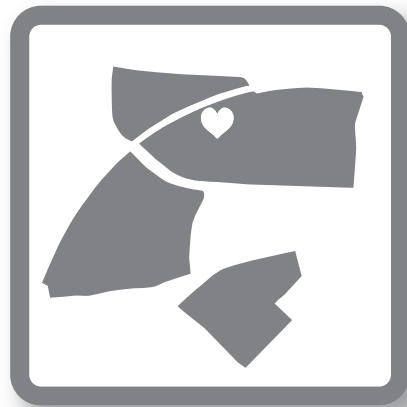


zonering en open zaal

negatief

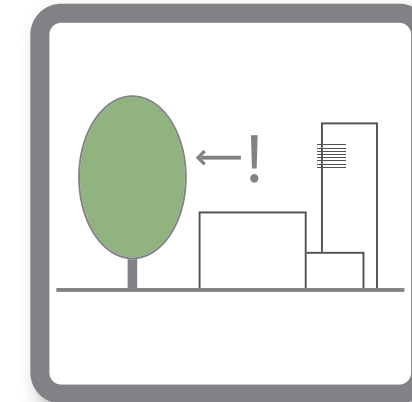
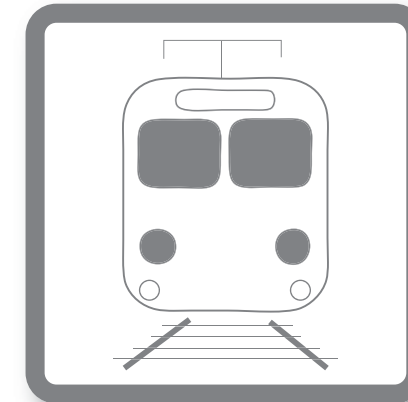
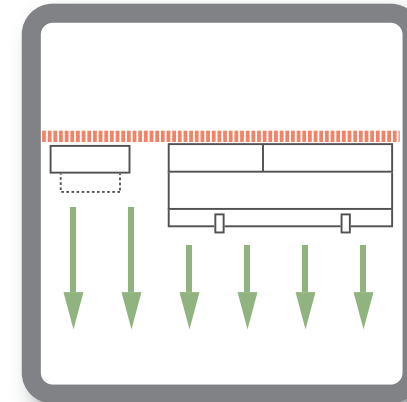
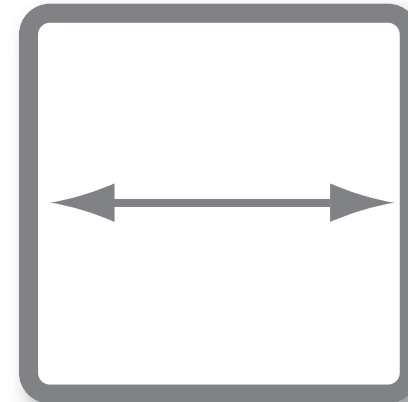
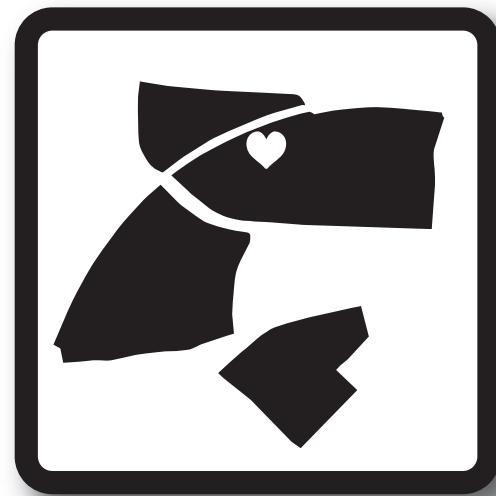


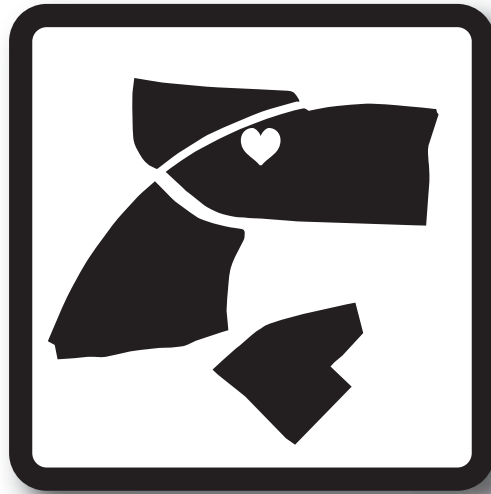
gesloten noordgevel



uitgangspunten

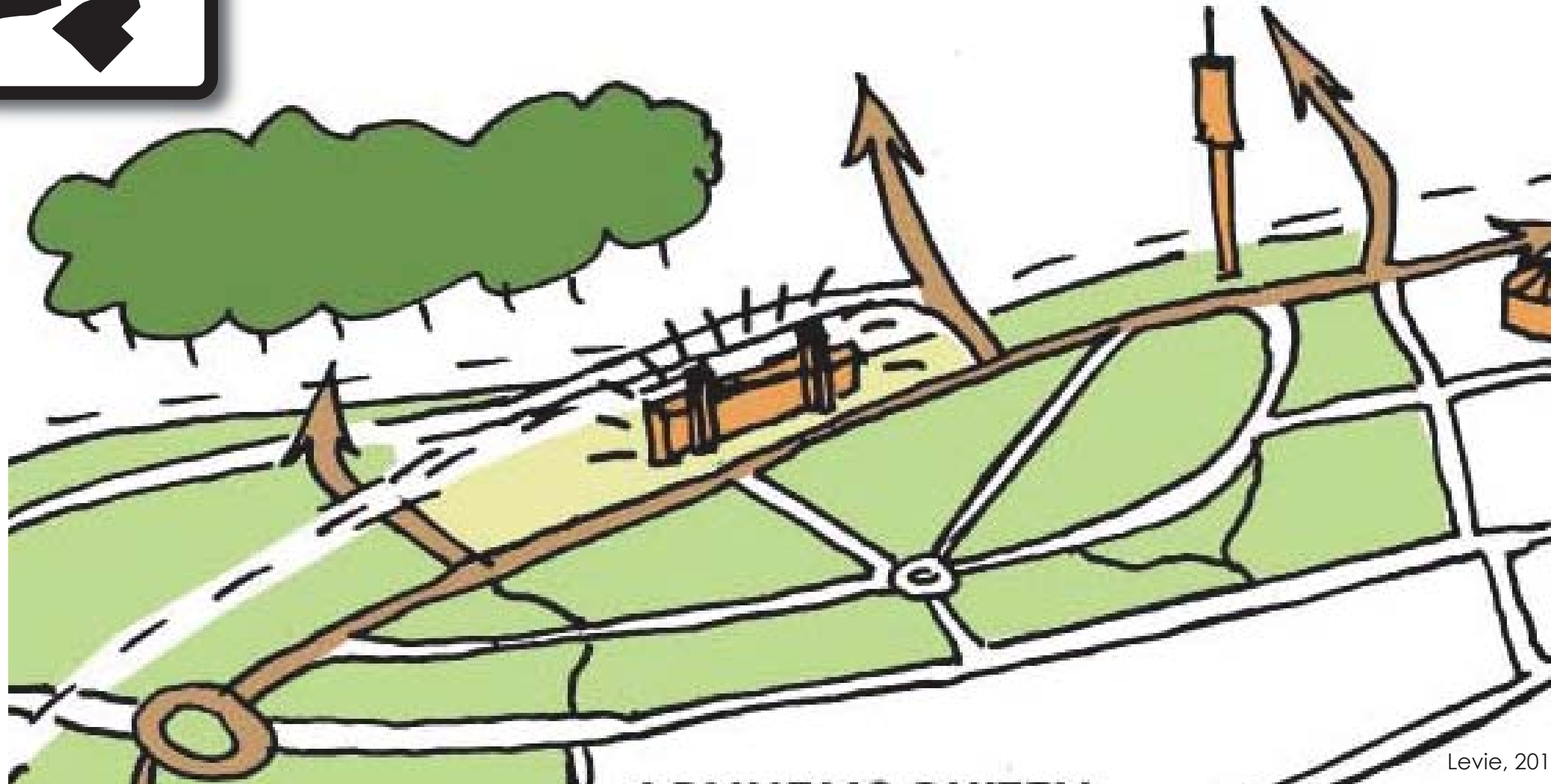
ensemble is het hart





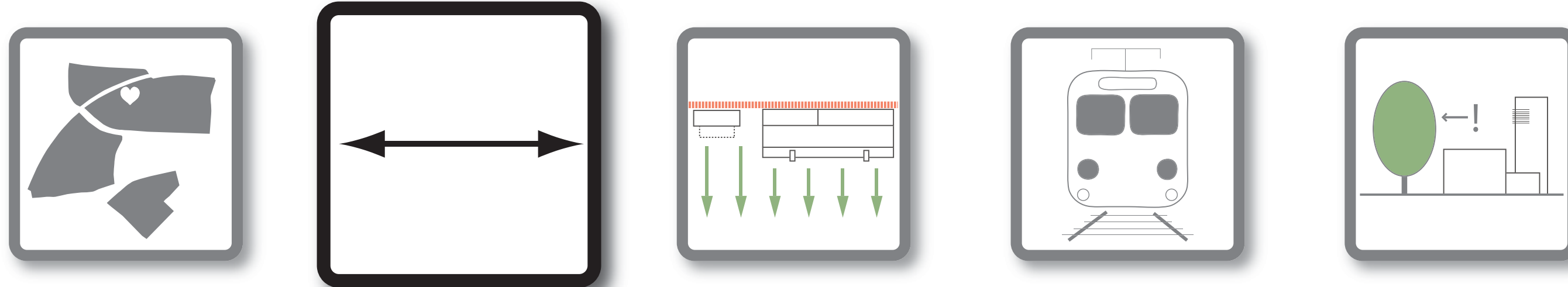
uitgangspunten

ensemble is het hart



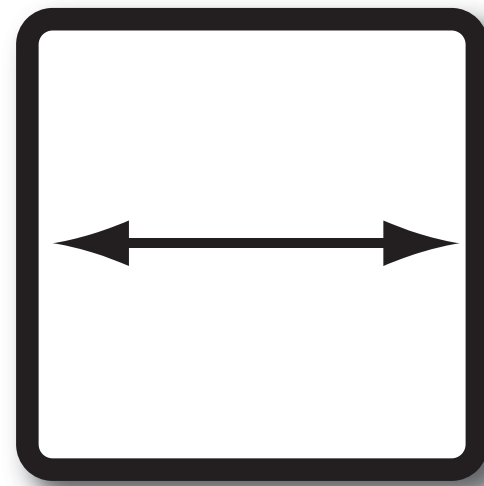
uitgangspunten

lineaire richting van ensemble



uitgangspunten

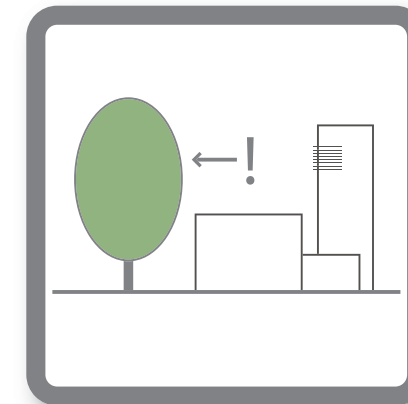
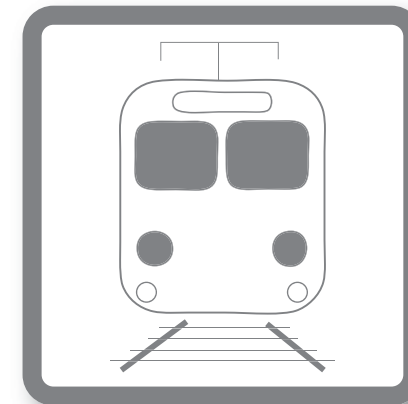
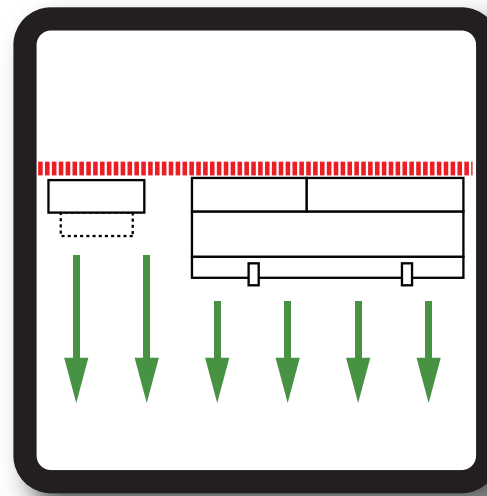
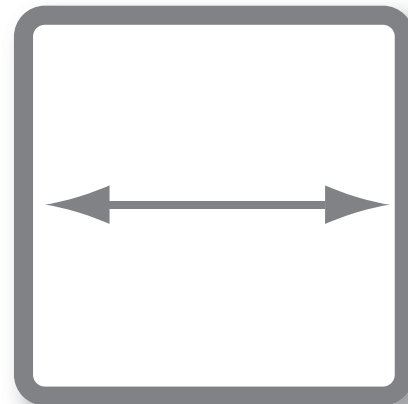
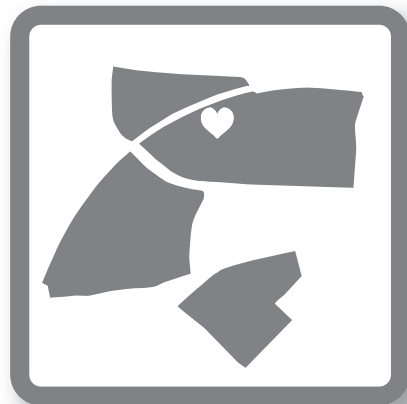
lineaire richting van ensemble en
gebouw

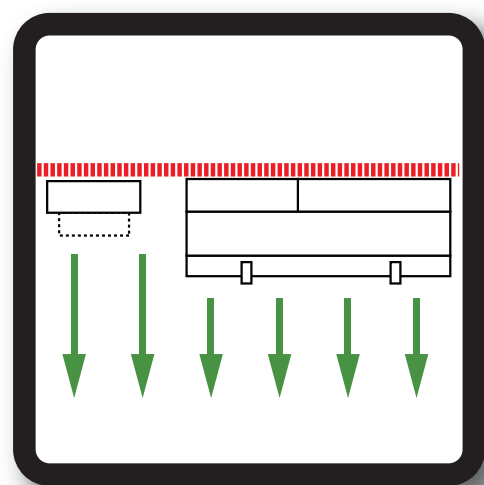


opzet KEMA over opzet van Pallandt

uitgangspunten

open zuidzijde, dichte noordzijde





uitgangspunten

open zuidzijde, dichte noordzijde



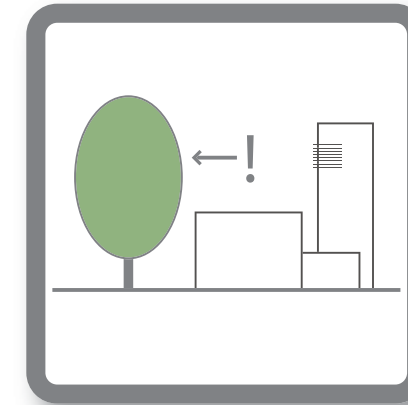
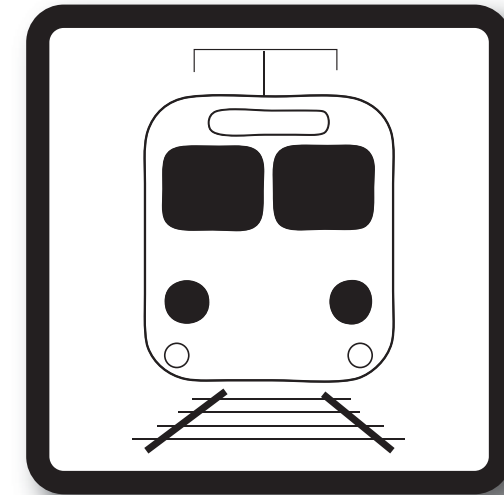
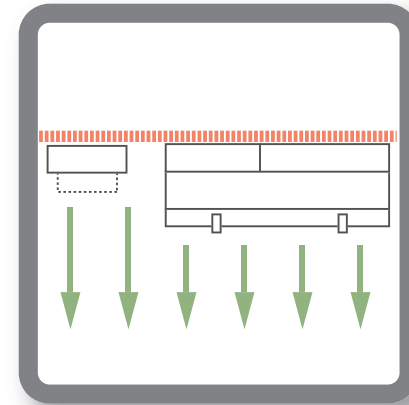
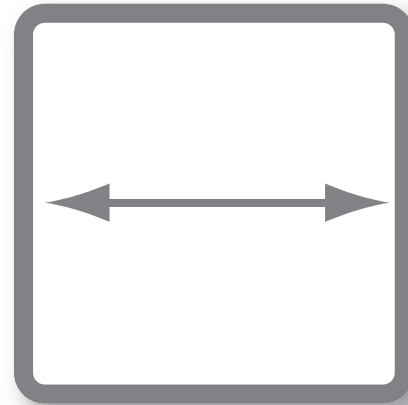
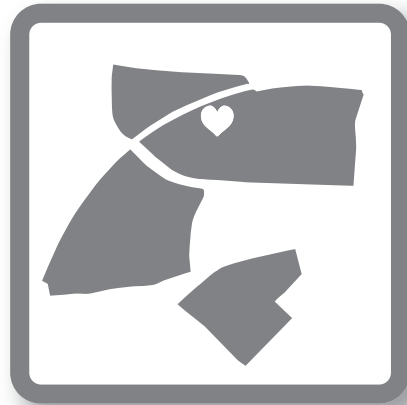
gesloten noordgevel

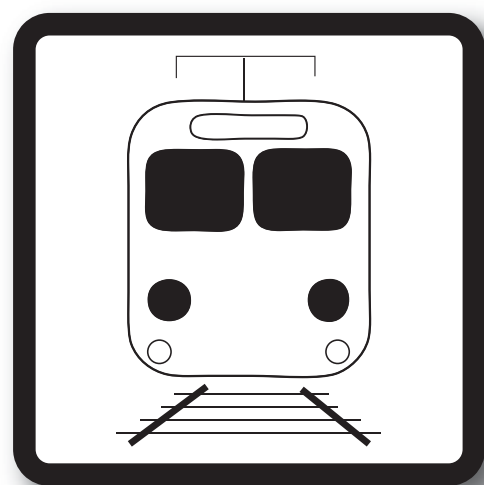


open zuidgevel

uitgangspunten

spoorlijn is nieuwe toegang
Arnhems Buiten





uitgangspunten

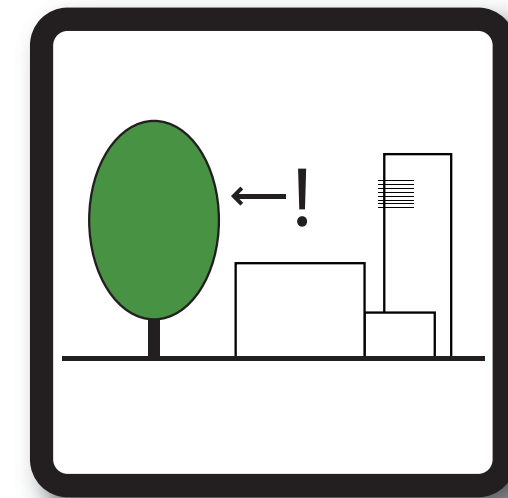
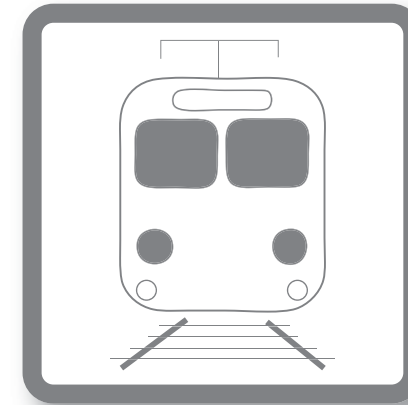
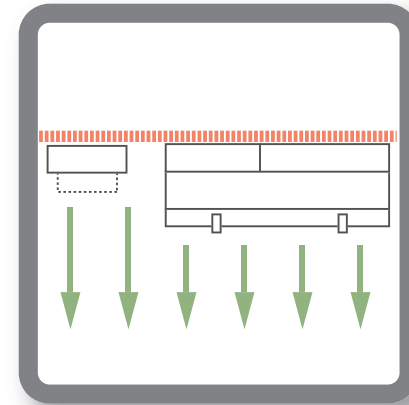
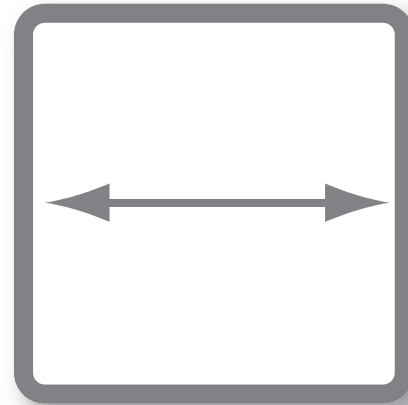
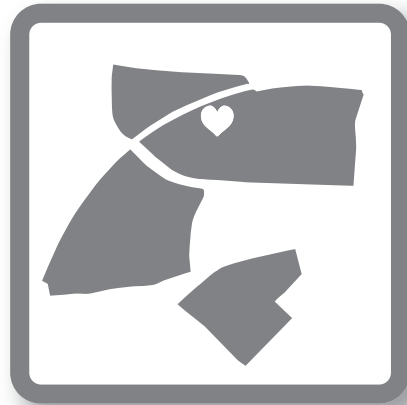
spoorlijn is nieuwe toegang
Arnhems Buiten

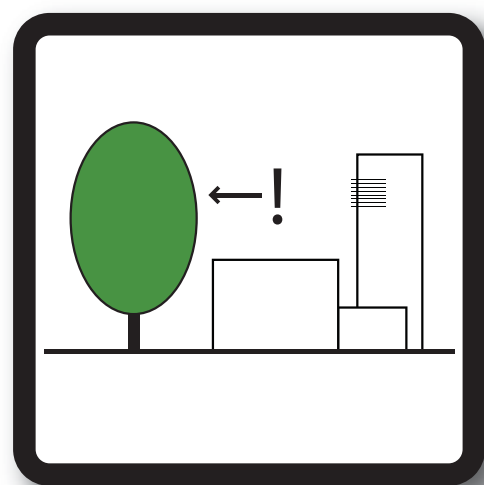


trein op Arnhems Buiten

uitgangspunten

omringende bomen geven
kwaliteit aan hooggelegen ruimtes





uitgangspunten

omringende bomen geven
kwaliteit aan hooggelegen ruimtes



op het dak van het de Zoetenlab

functie

conferentiehotel & klein trein-station

sluit aan bij wensen eigenaar TCN
& grote energiebedrijven

verbetering van bereikbaarheid

aansluiting bij businessfunctie van
het park



sprinter ¹⁾



conferentie westergasfabriek Amsterdam ²⁾



conservatorium hotel Amsterdam ³⁾

programma

treinstation en conferentiehotel

totaal nieuw programma: 5000 m²

treinstation in situatie

conferentiehotel in detail

treinstation

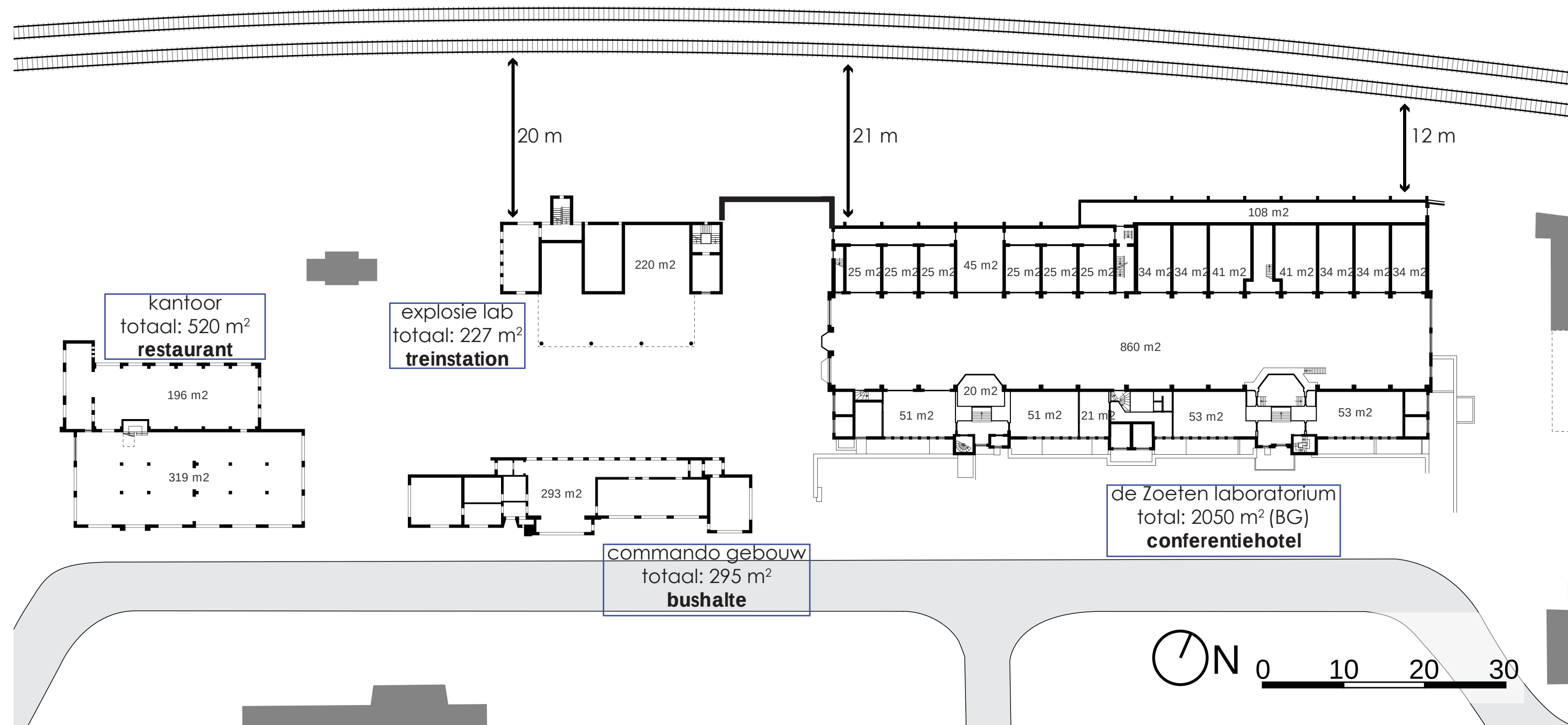
- 2 perrons 180 m
- stationsgebouw

conferentiehotel

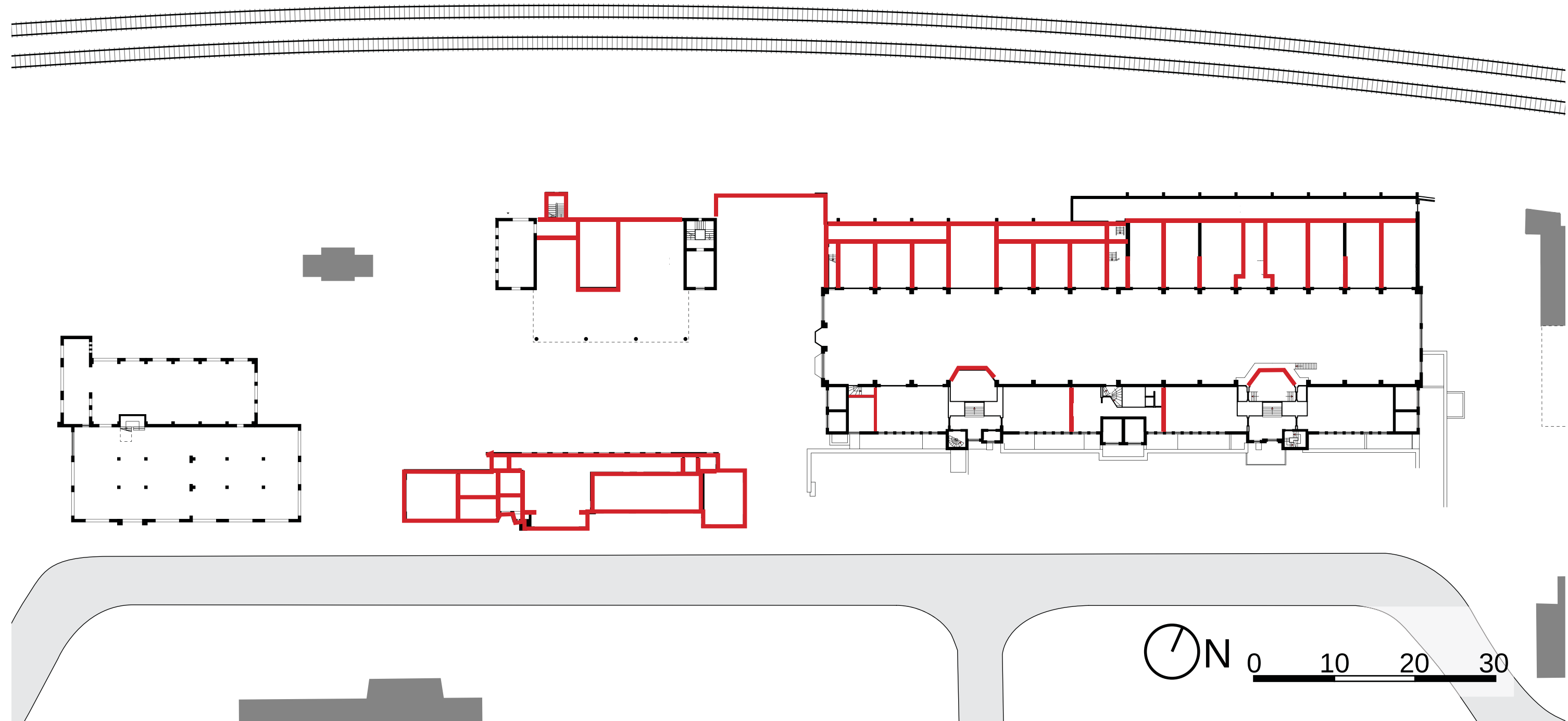
- 76 kamers
- zakenhotel
- grote zaal: 400 man
- verscheidene kleinere zalen
- restaurant

bebouwing nu

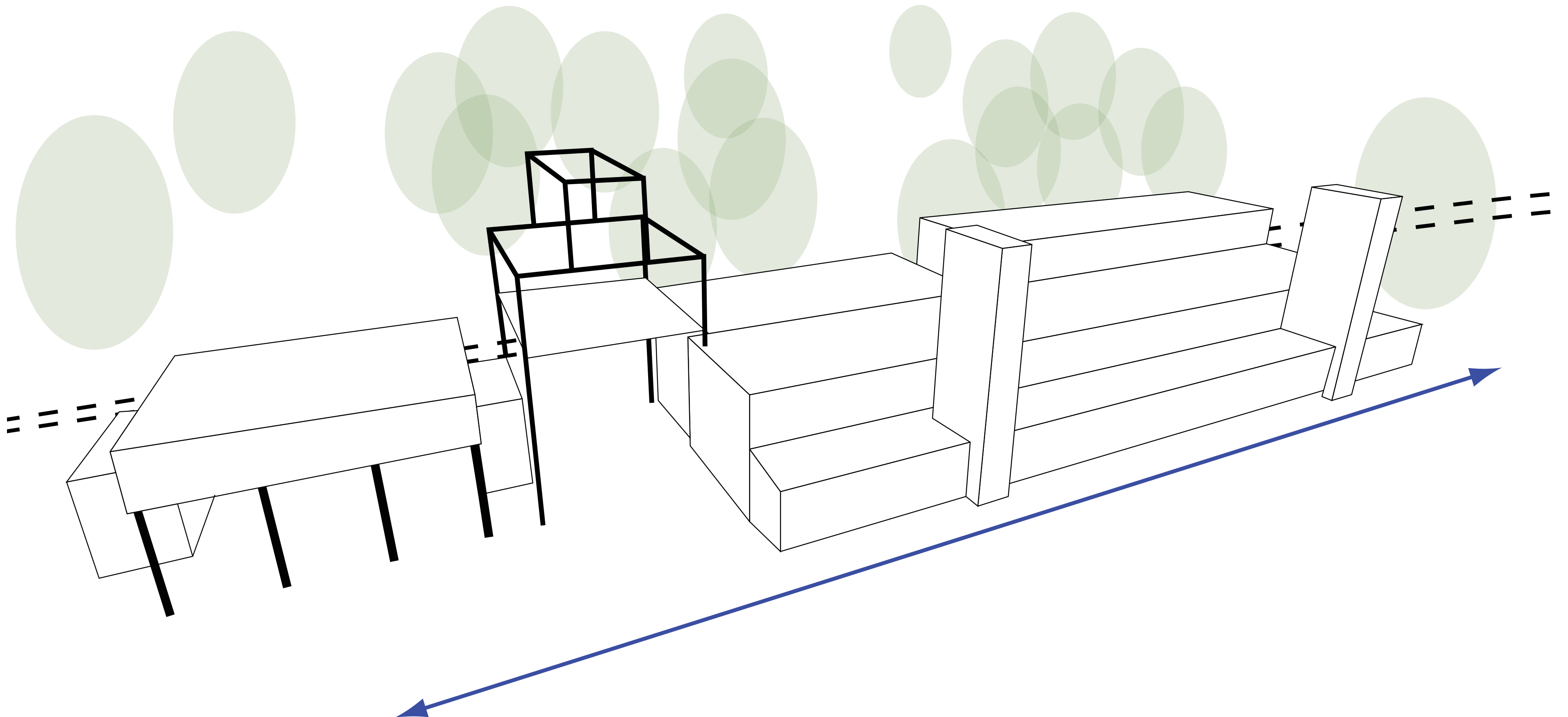
afmetingen



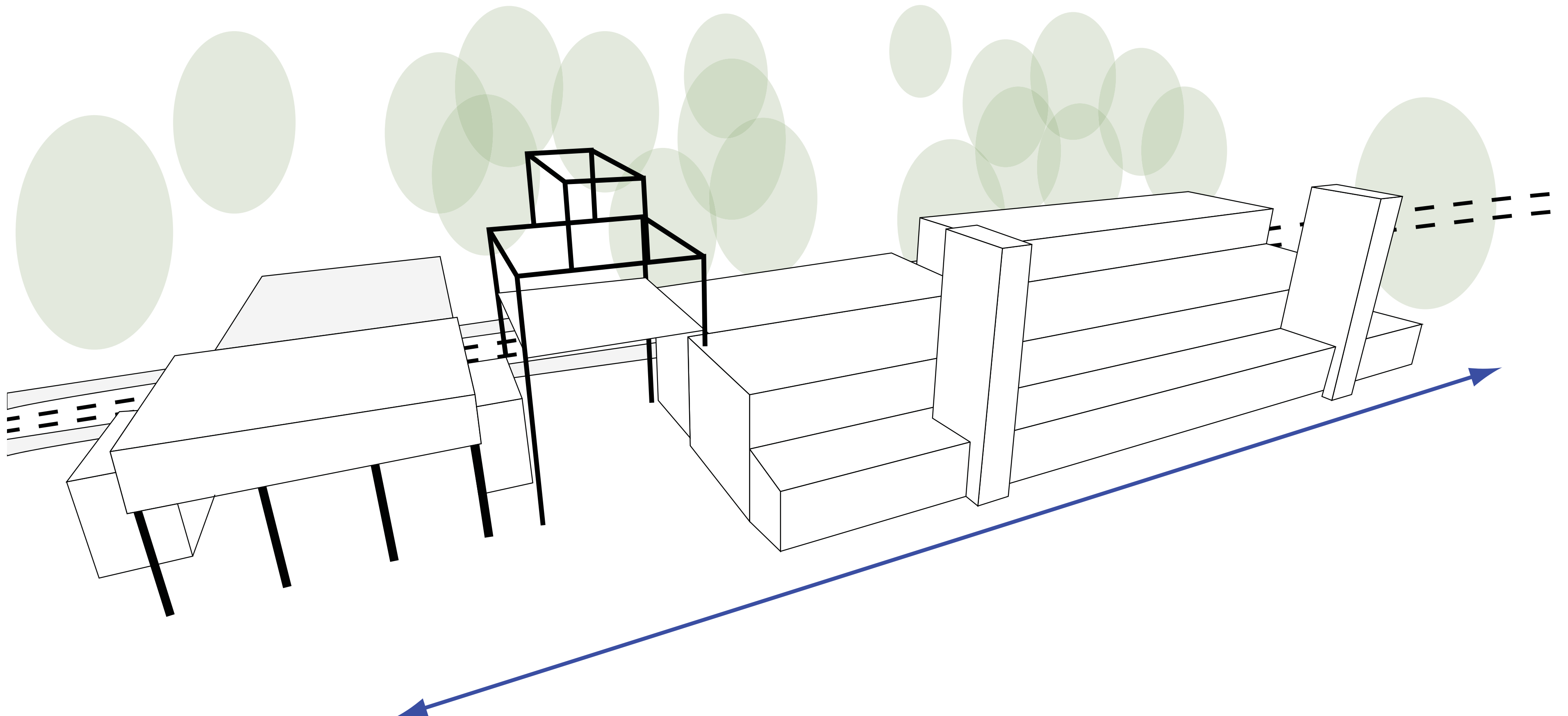
sloop



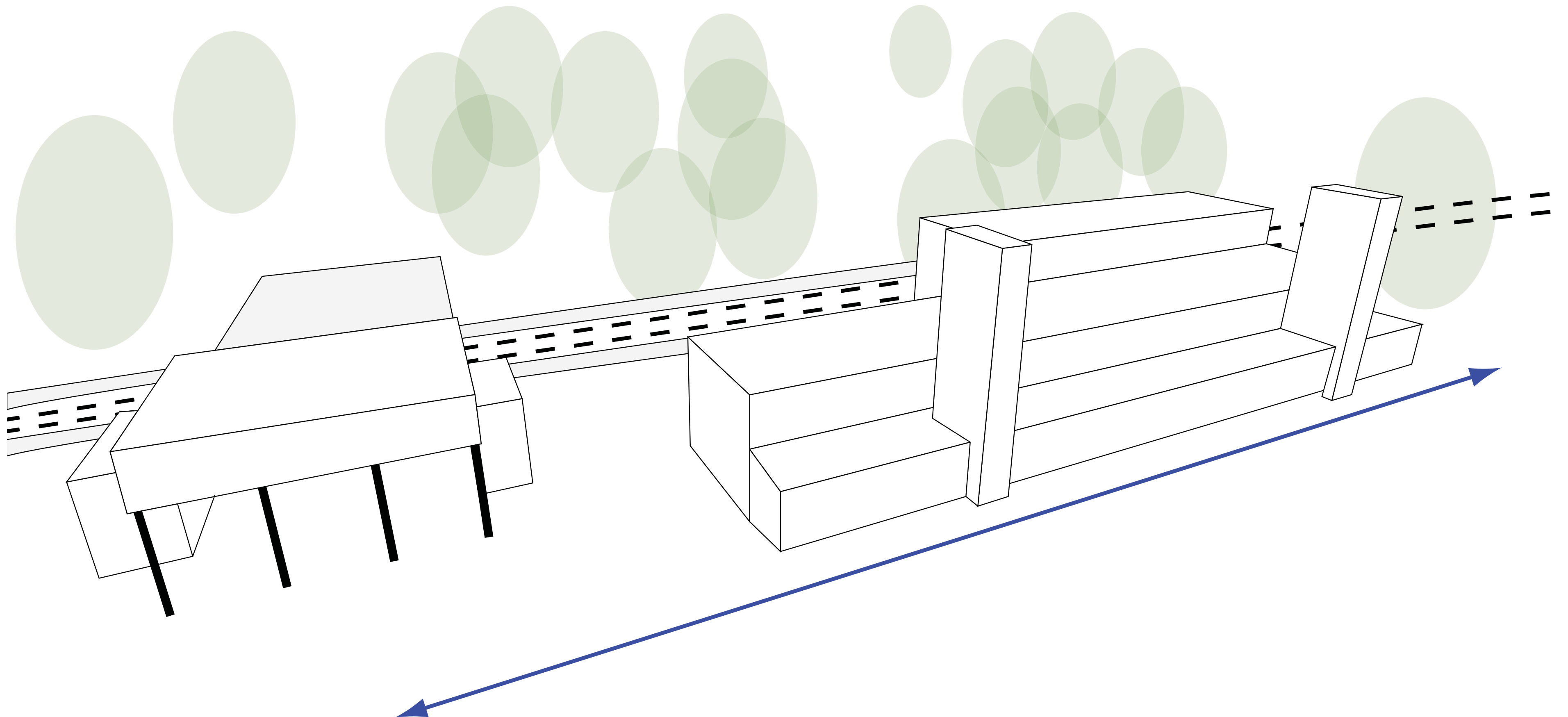
ontwikkeling
ontwerp



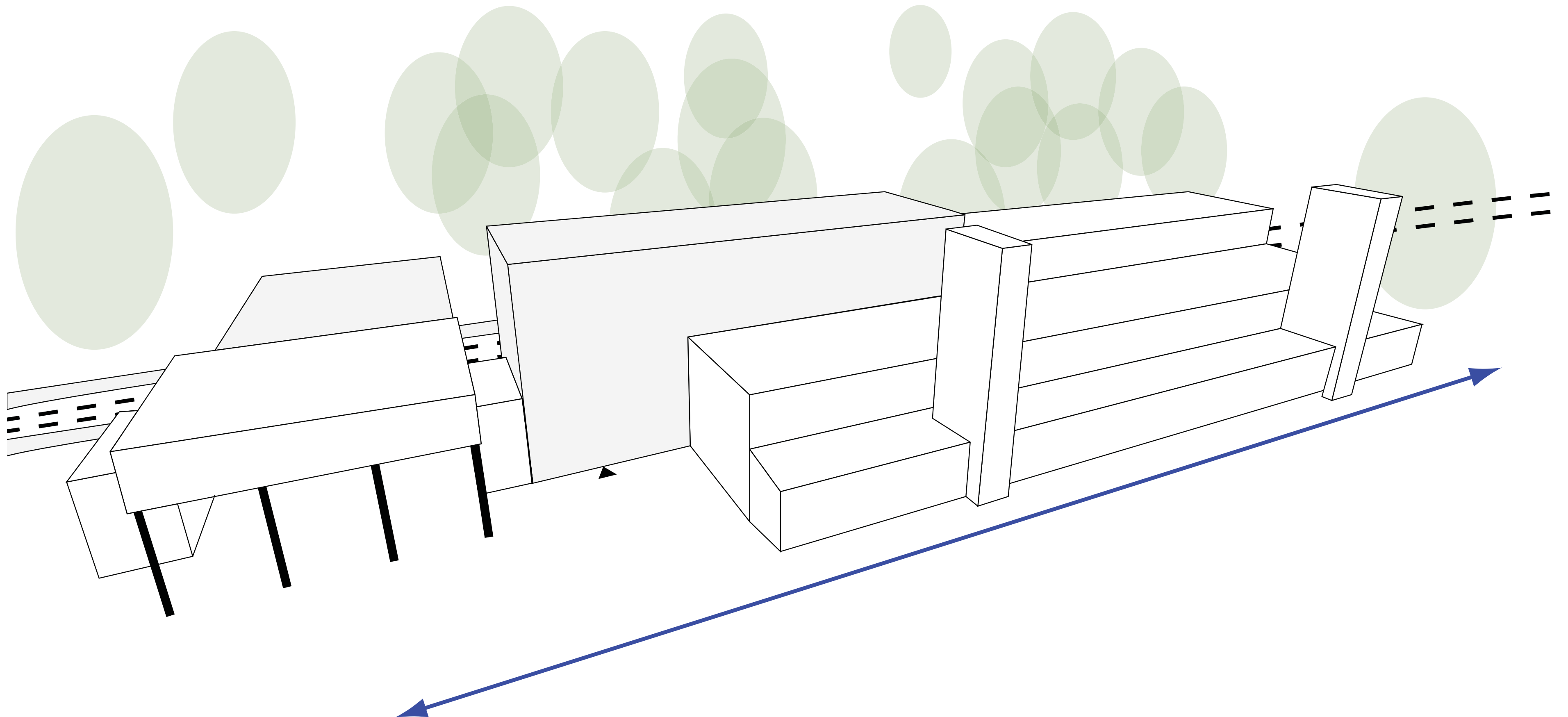
ontwikkeling
ontwerp



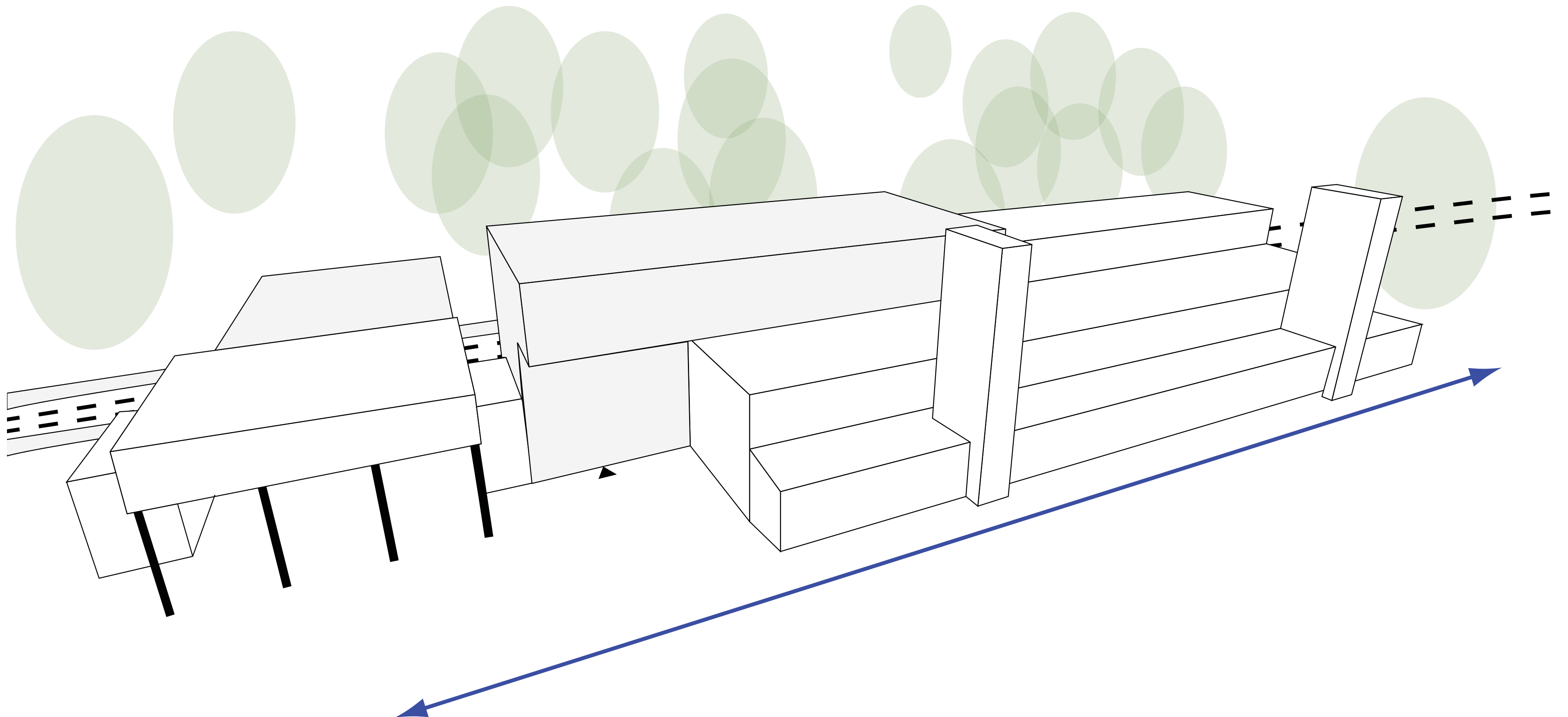
ontwikkeling
ontwerp



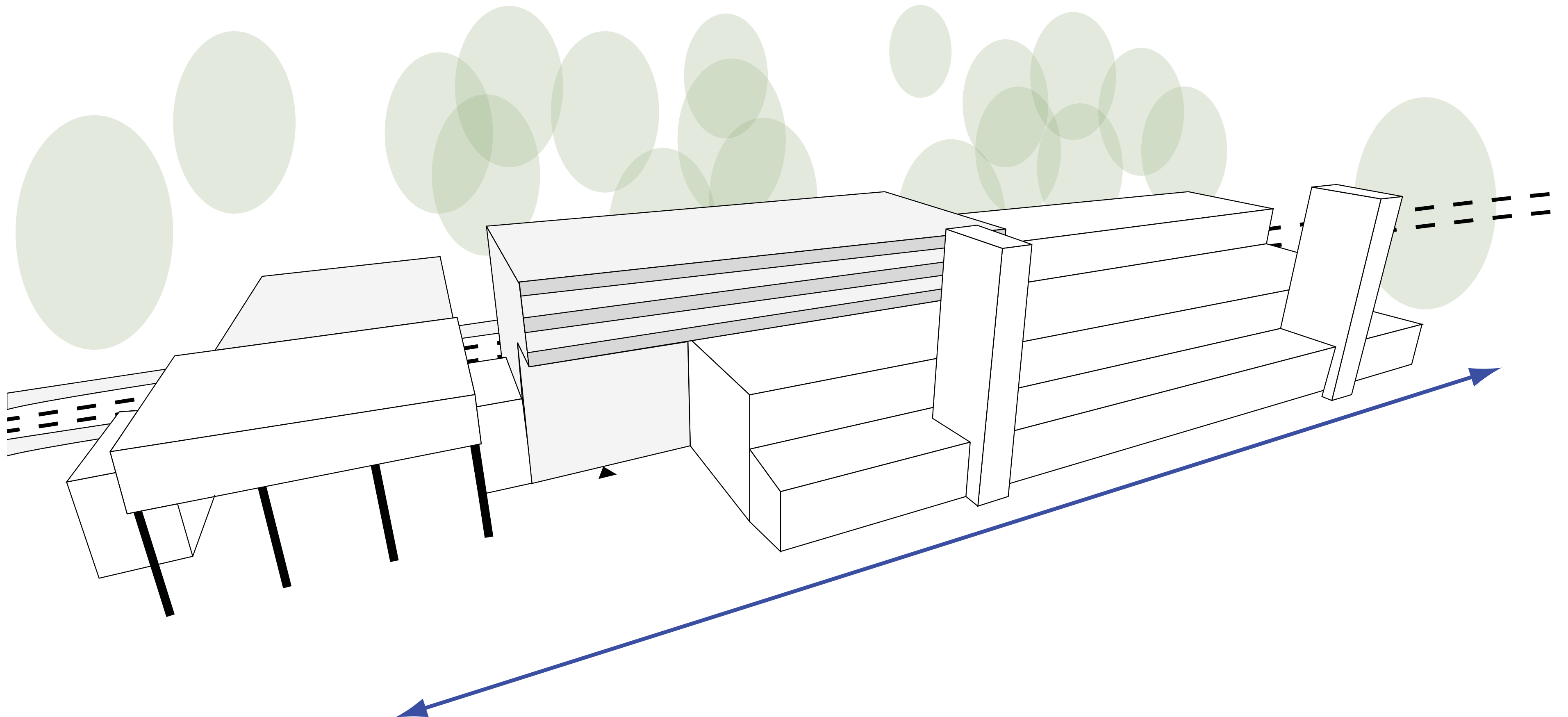
ontwikkeling
ontwerp

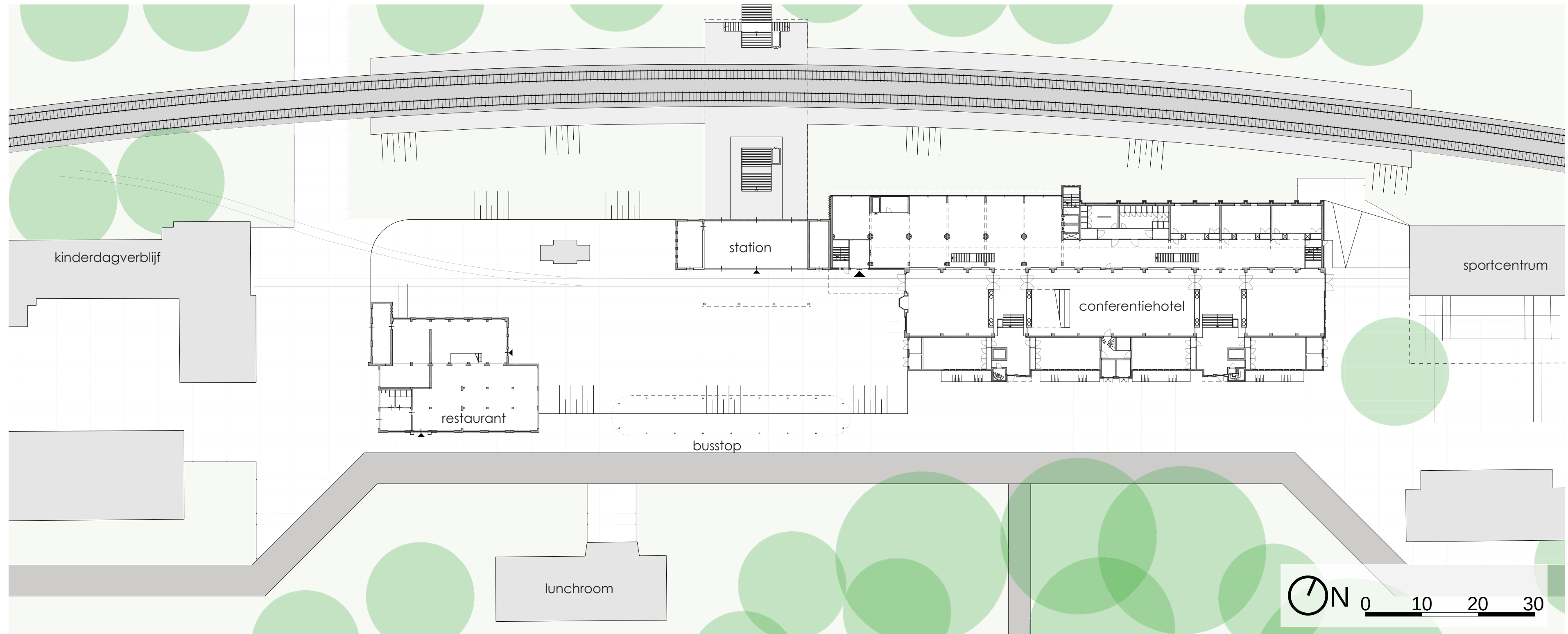


ontwikkeling
ontwerp



ontwikkeling
ontwerp





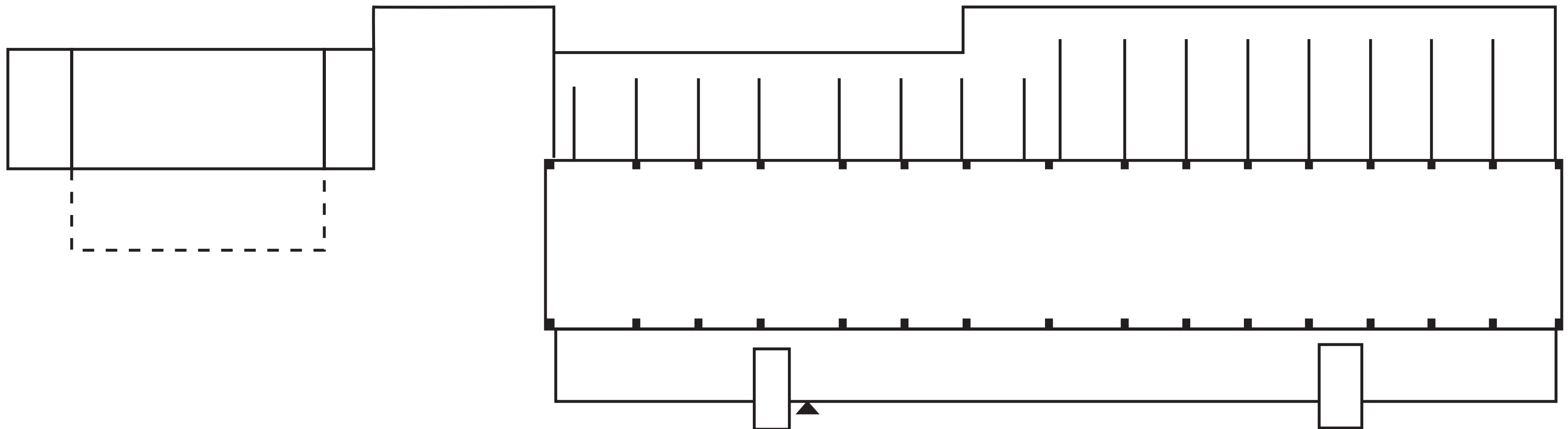


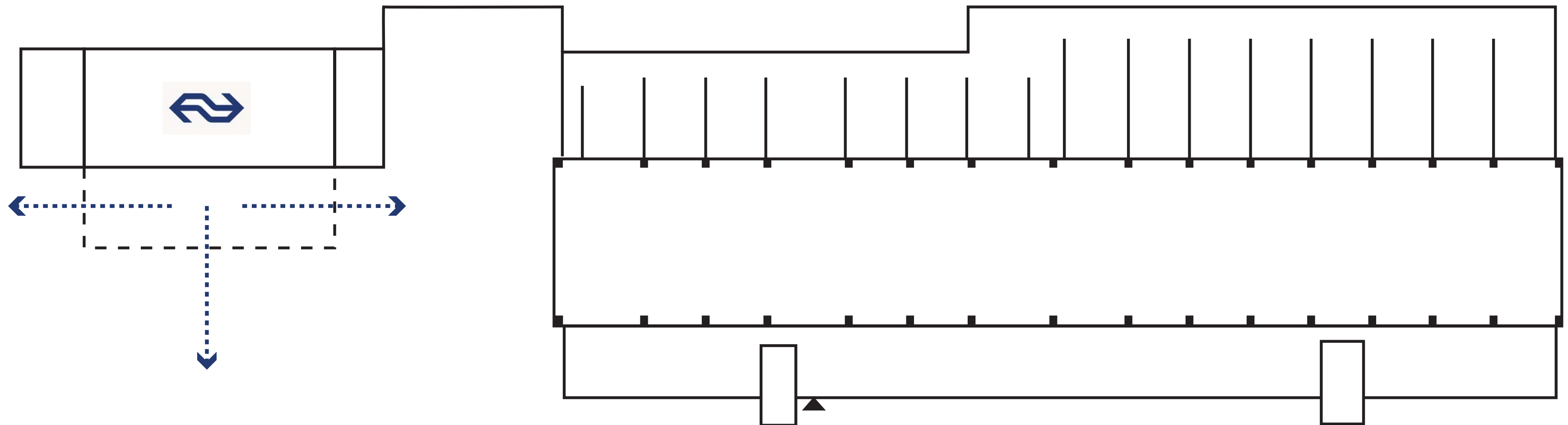


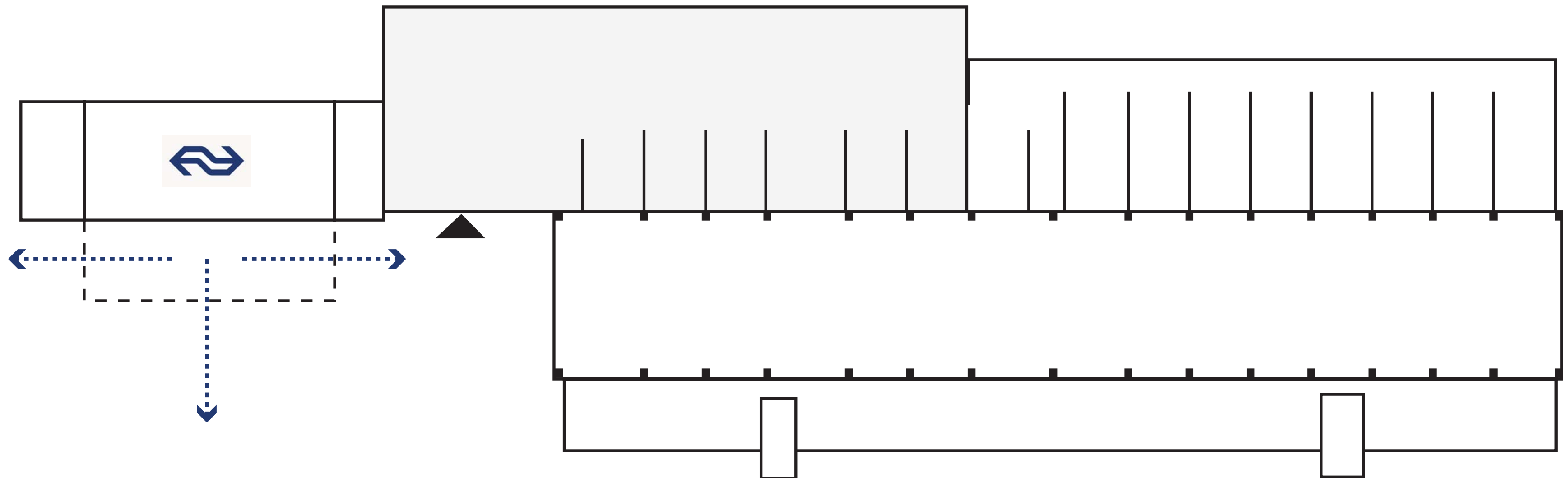
Station Amhem's Buiten

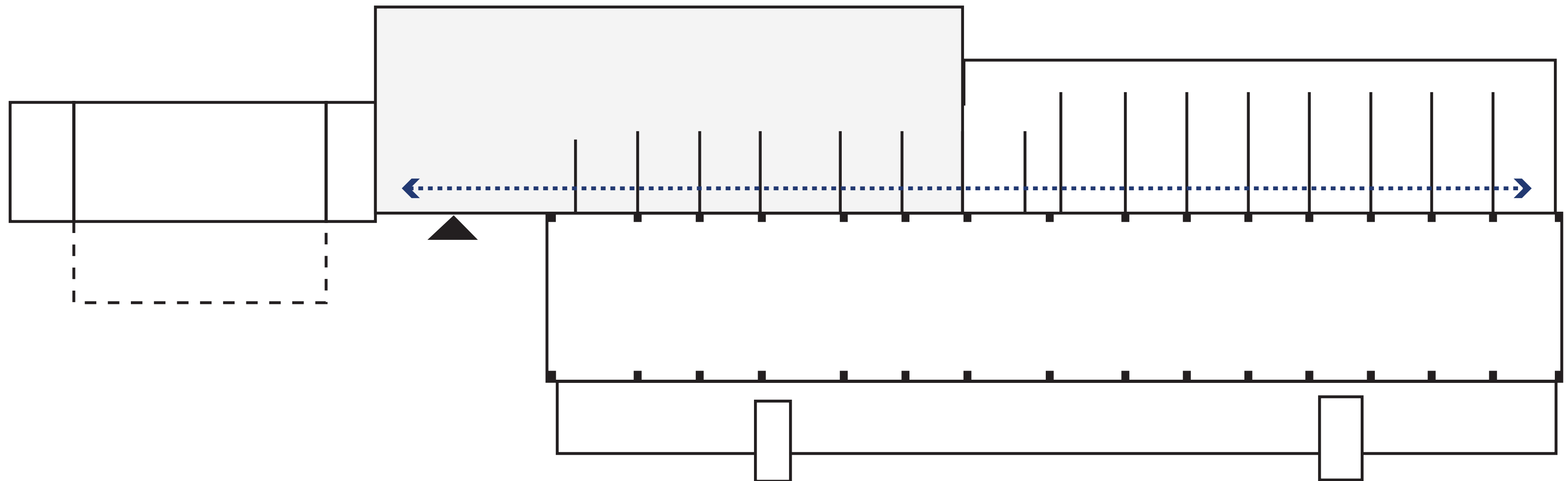
conferentiehotel
DE ZOETEN

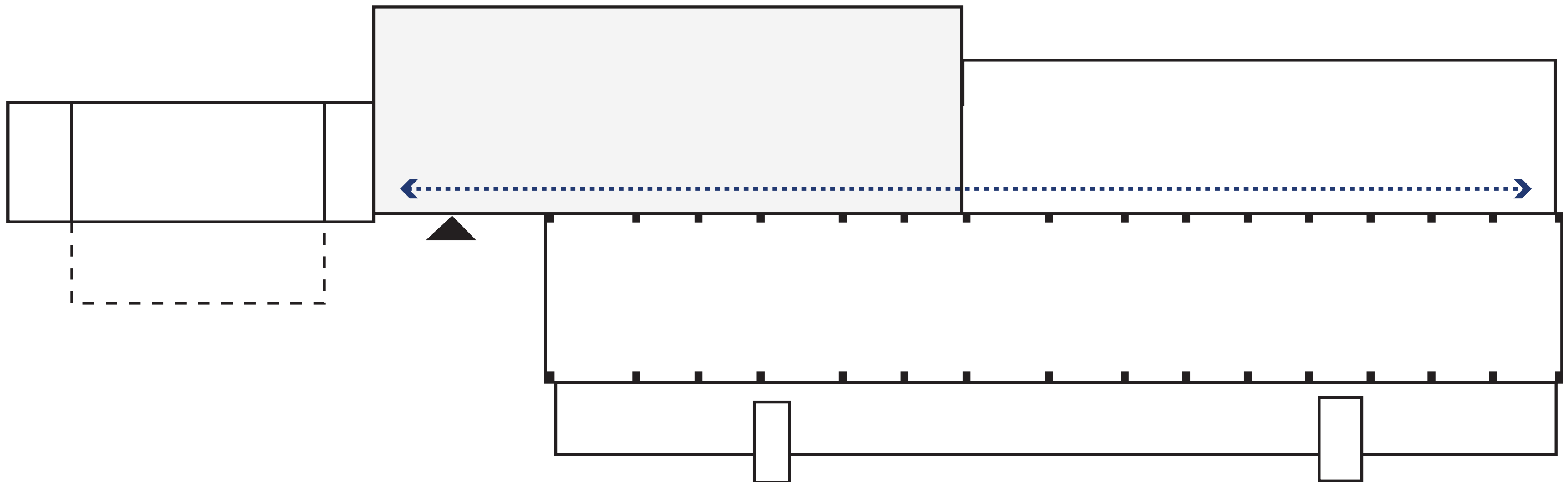


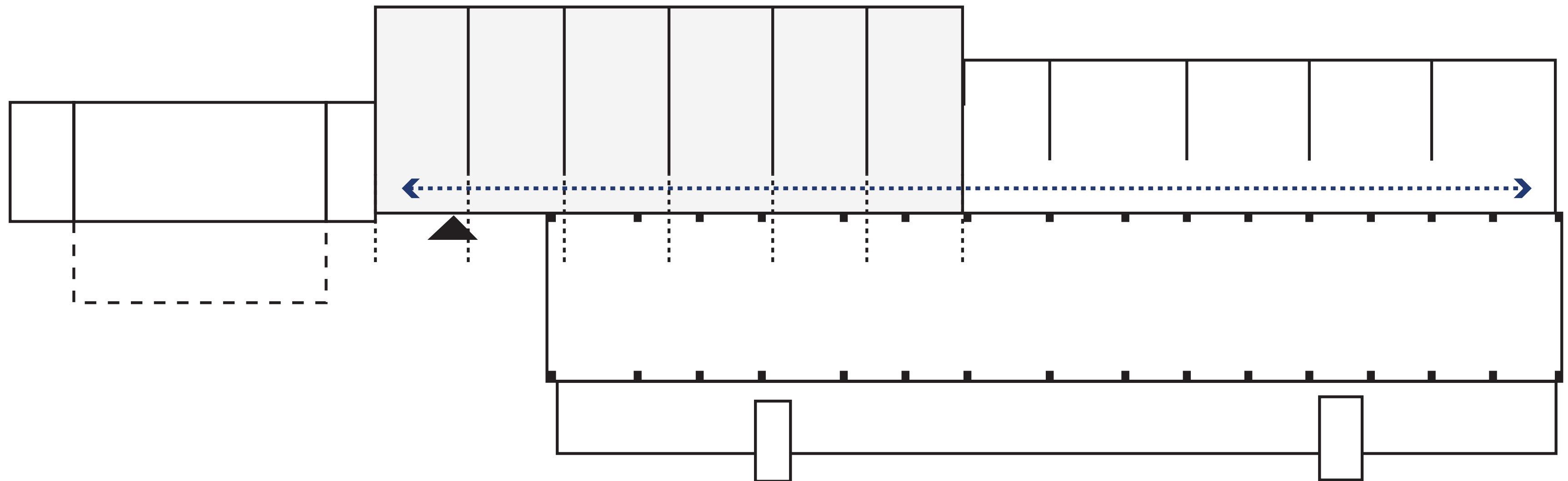




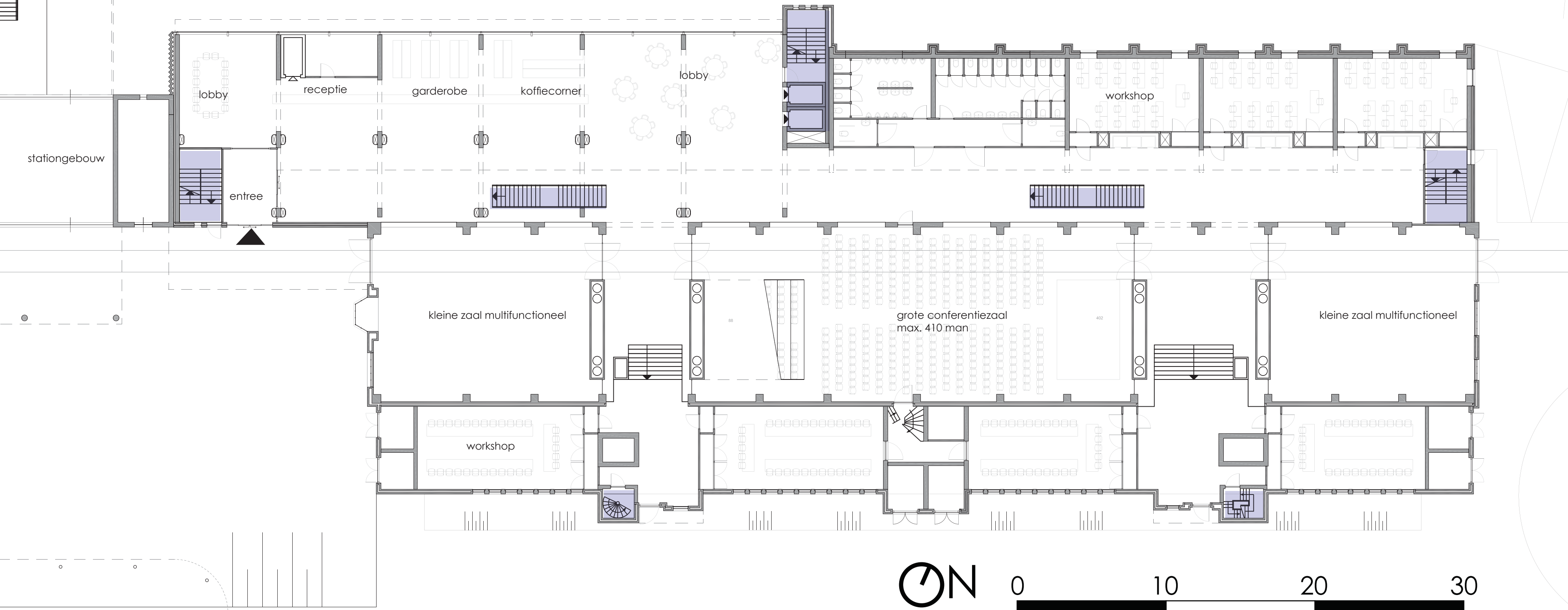




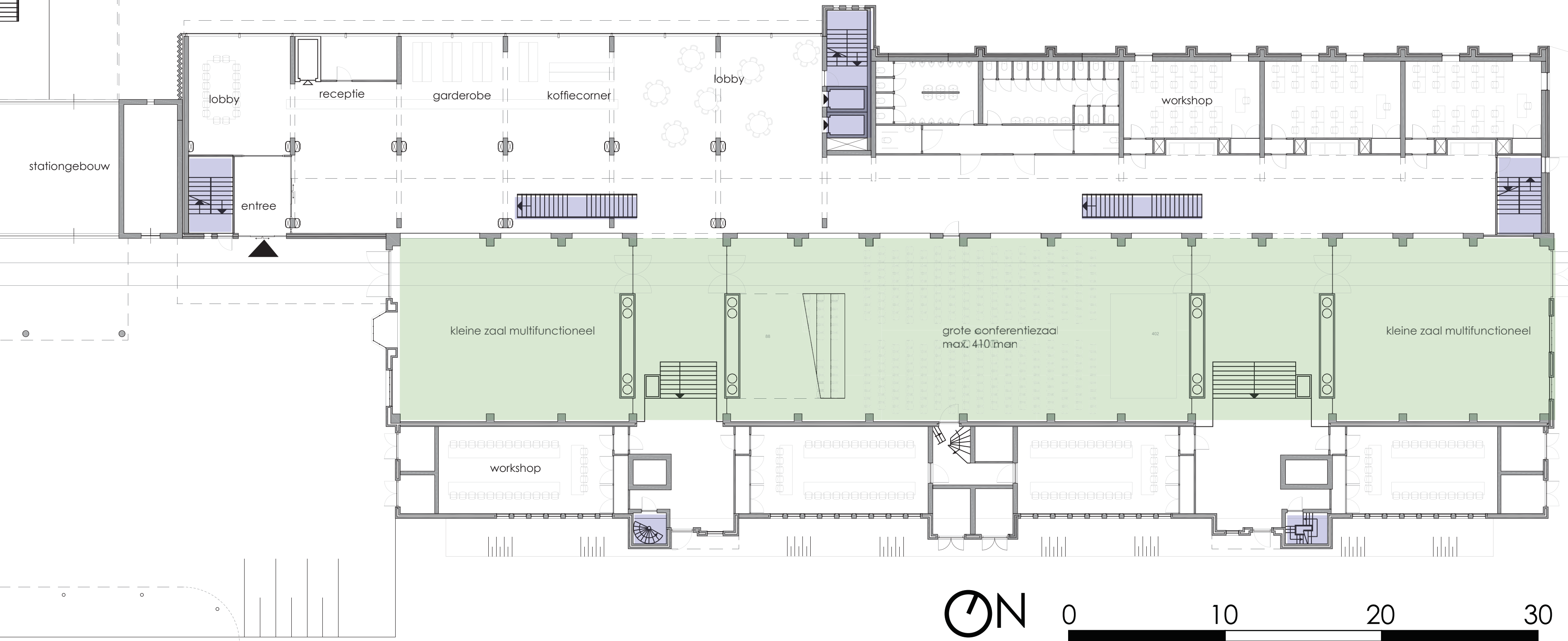




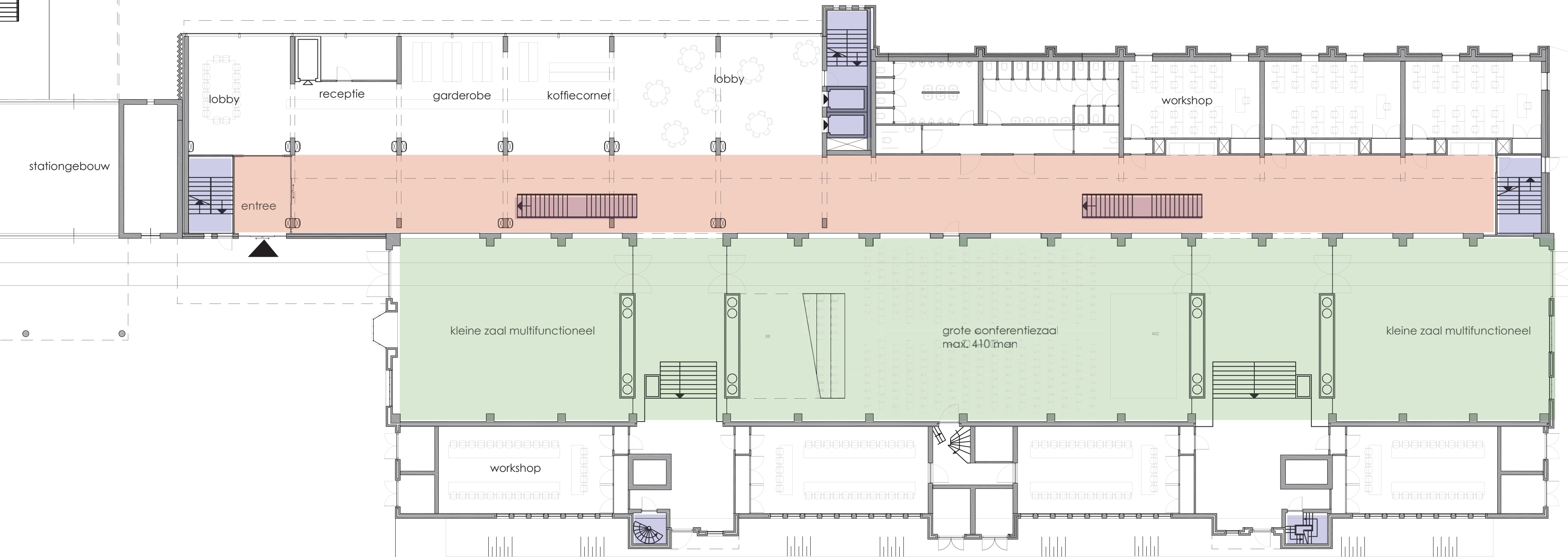
begane grond



begane grond



begane grond



0

10

20

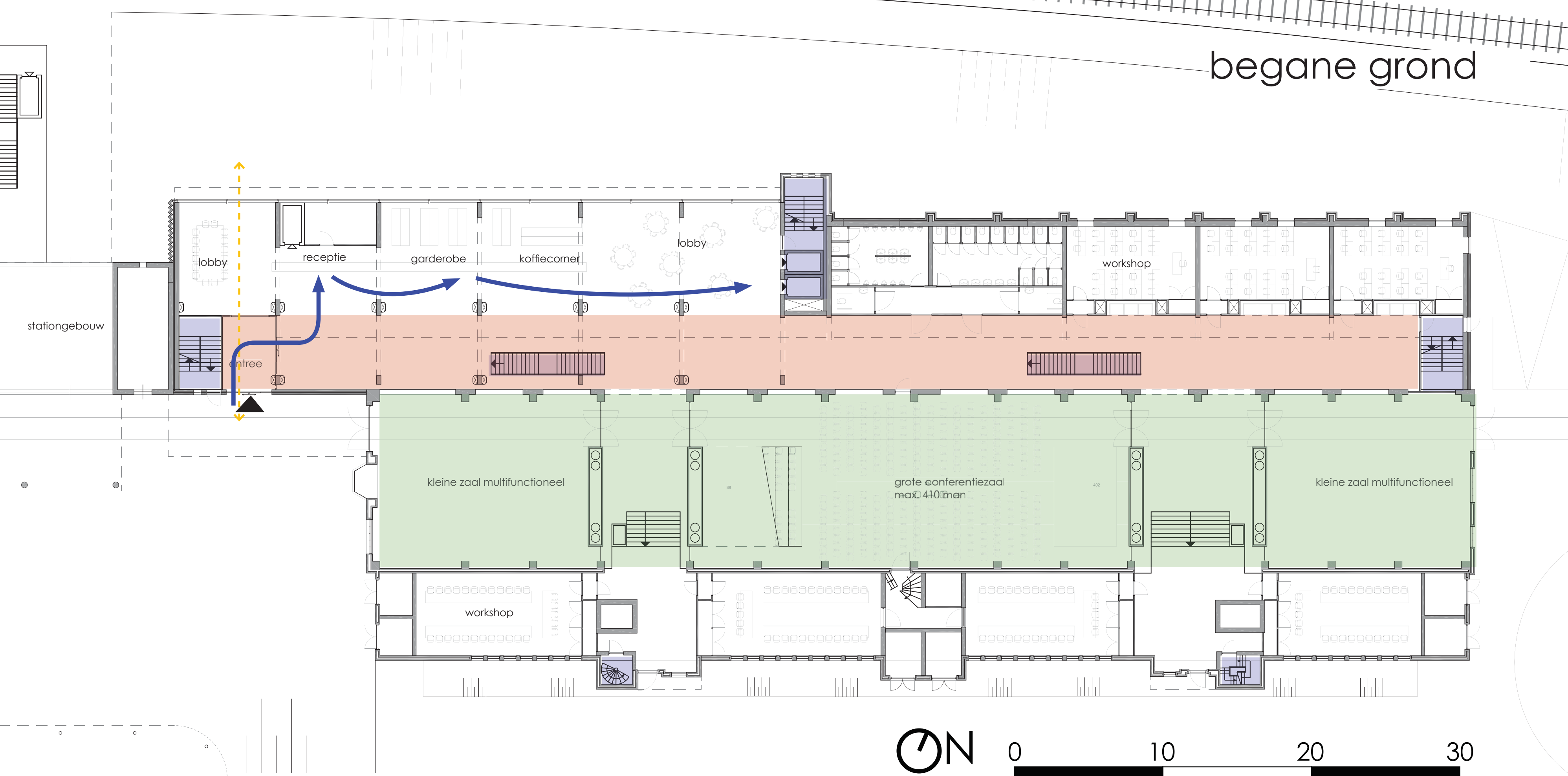
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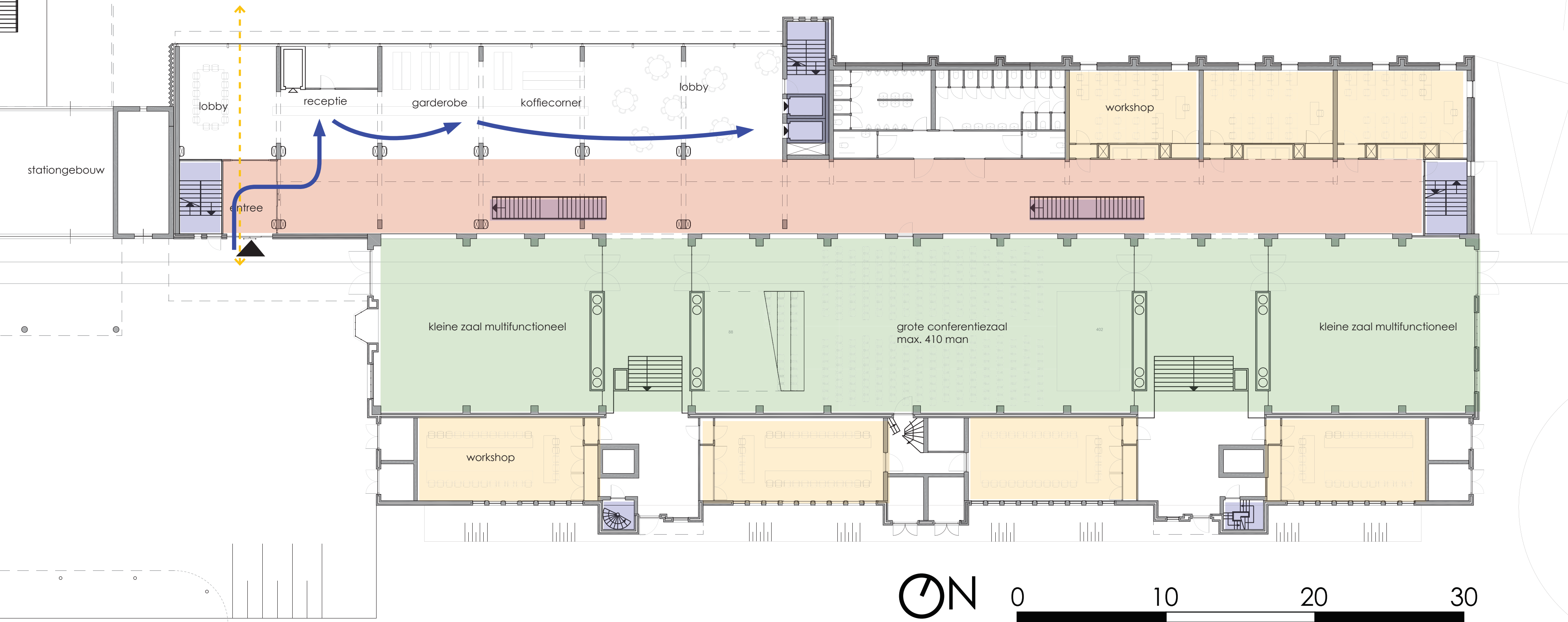
The image is a 3D architectural rendering of a modern building's exterior. The building features a mix of red brick and light grey panels. A large, multi-paned glass entrance is prominent on the left side of the central section. To the right, there are several large, multi-paned windows, some of which are bay windows. A balcony with a wooden railing and glass balustrade is visible on the upper floor. Silhouettes of people are used to provide a sense of scale: two people on the balcony, several people walking on the ground level, and a person standing in the foreground on the right. The ground is a dark, paved plaza. The sky is a clear, light blue.

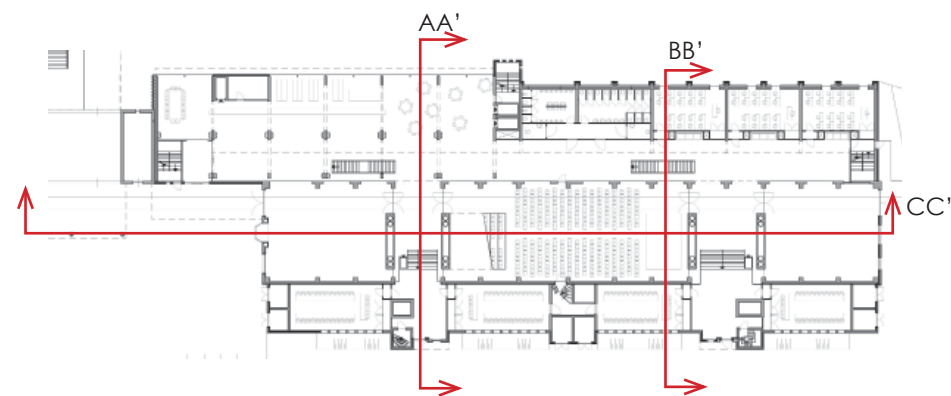
conferentiehotel
DE ZOETEN

begane grond

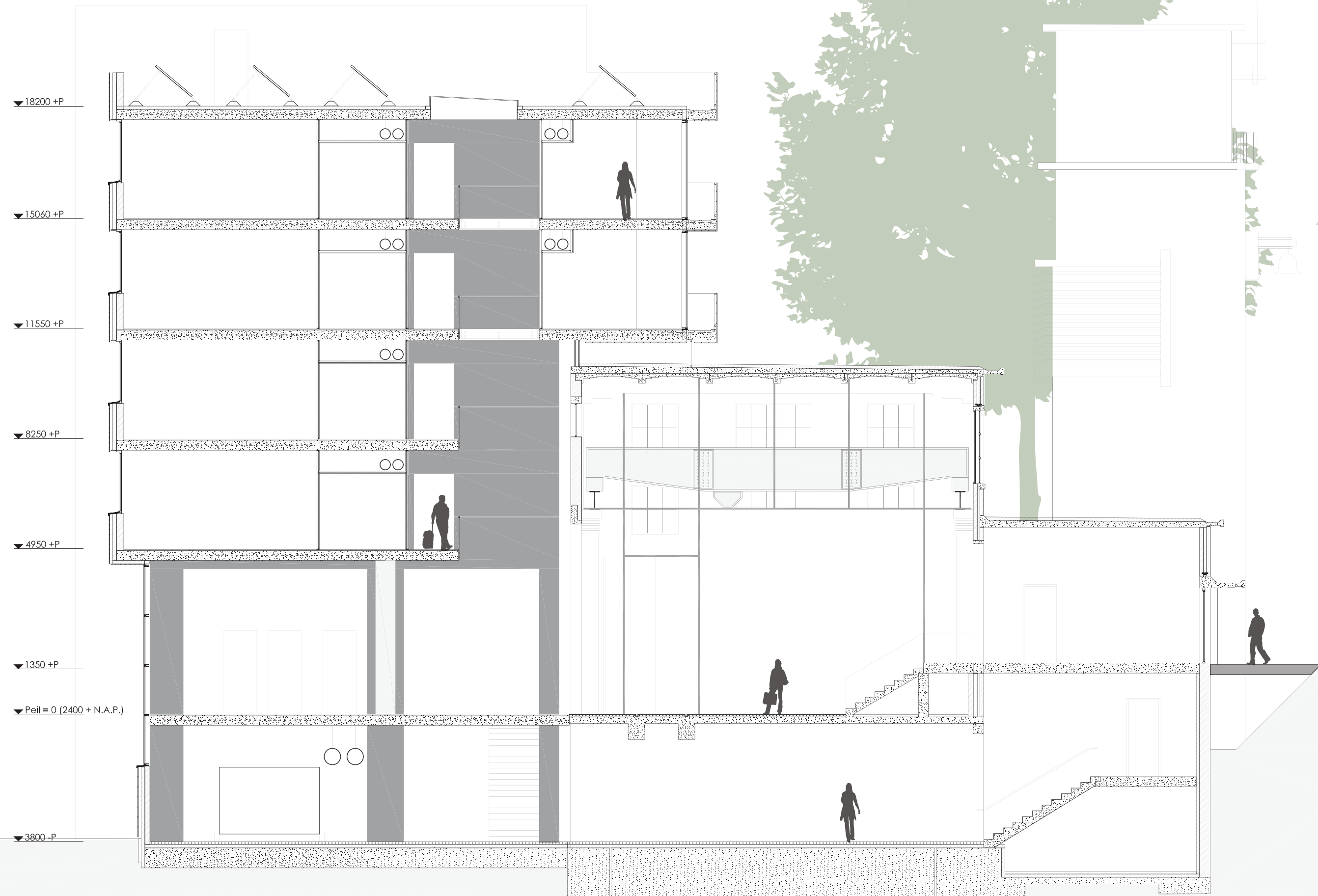


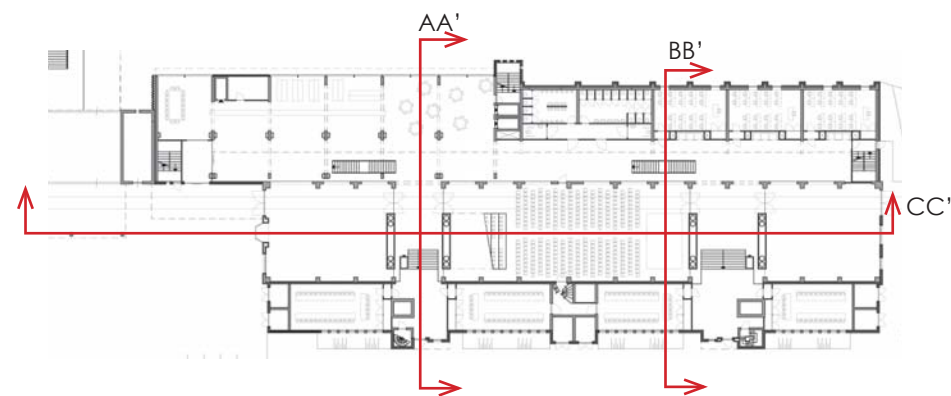
begane grond





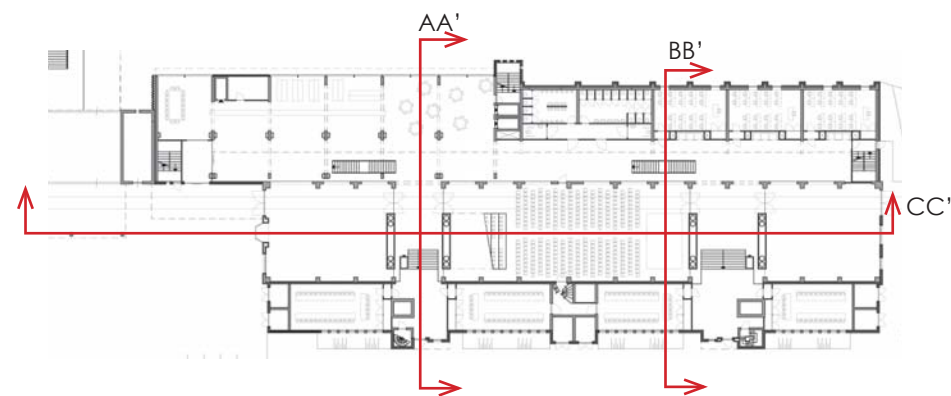
doorsnede AA'



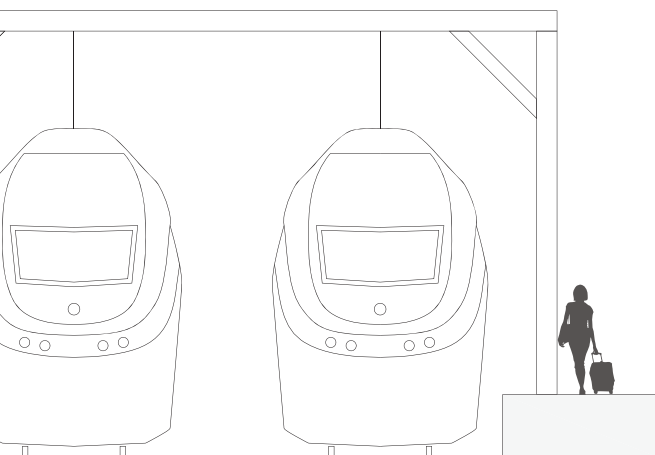
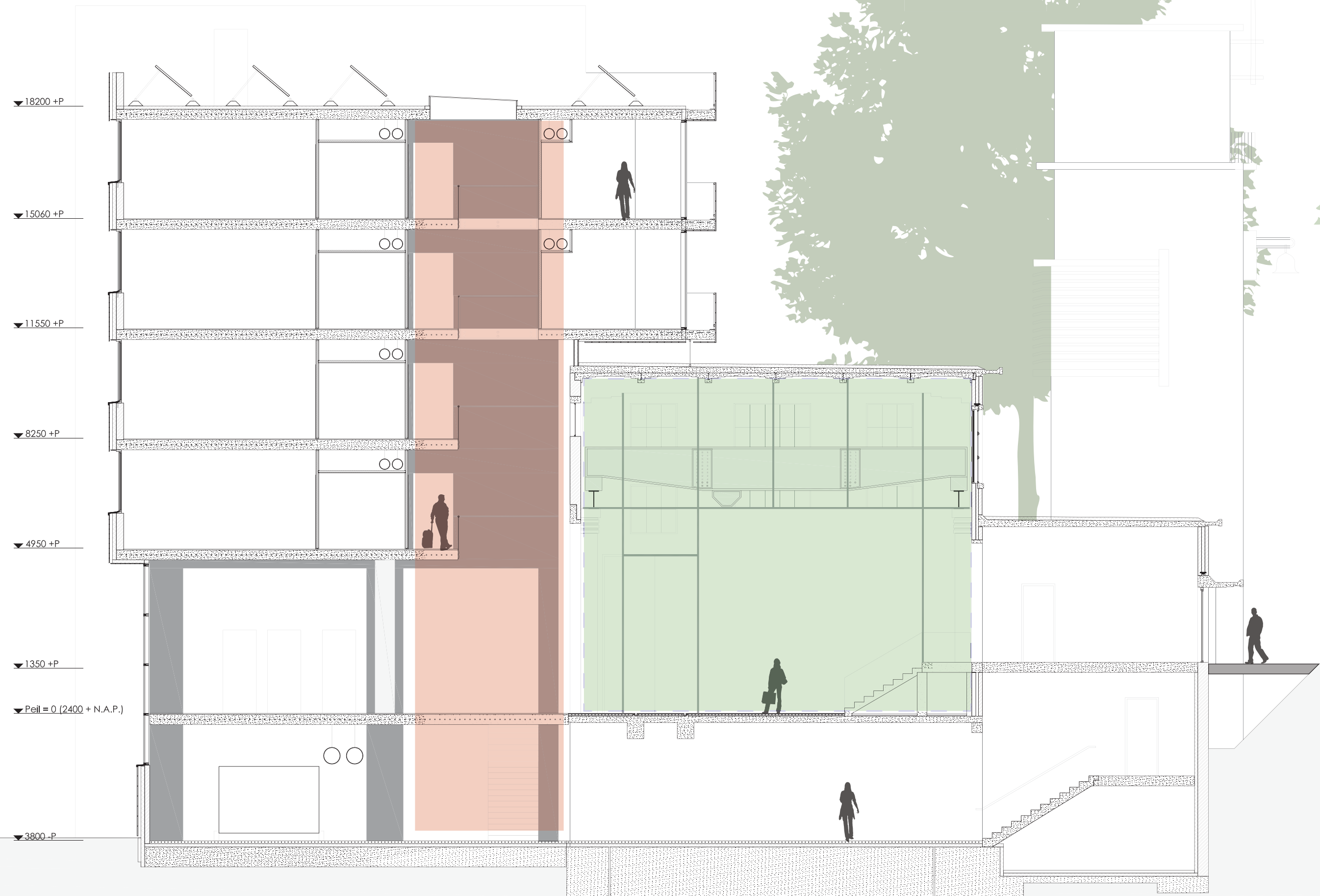


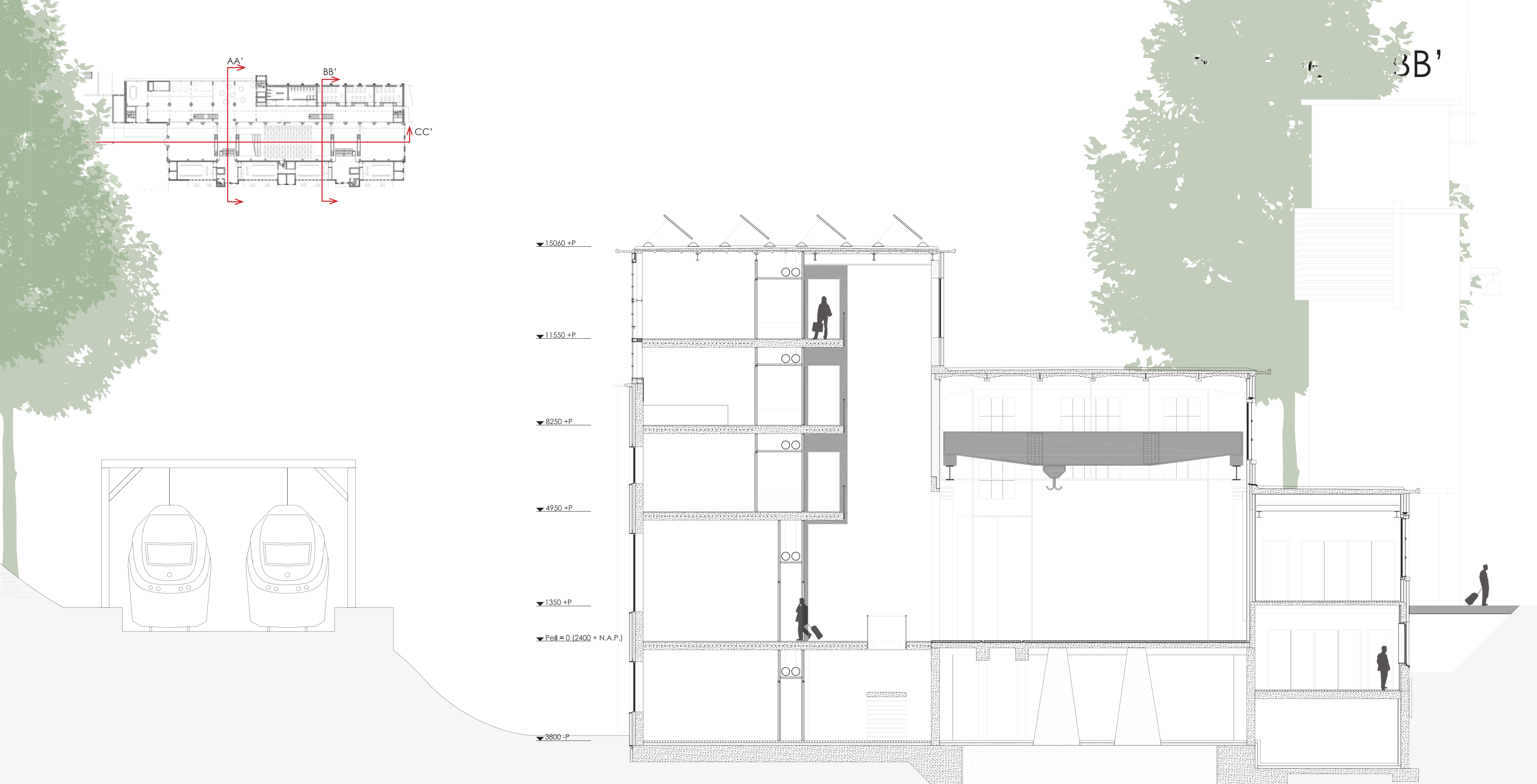
doorsnede AA'

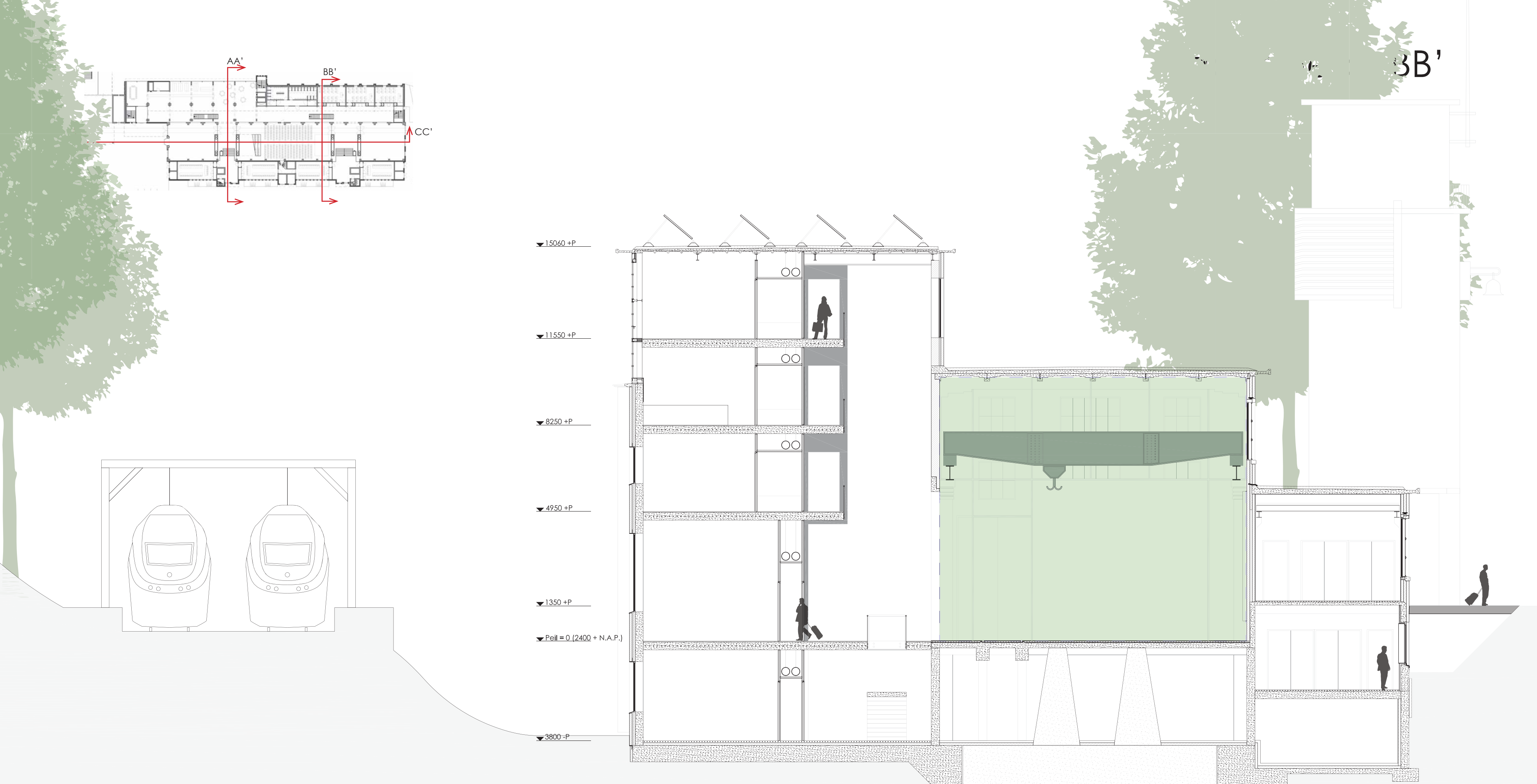


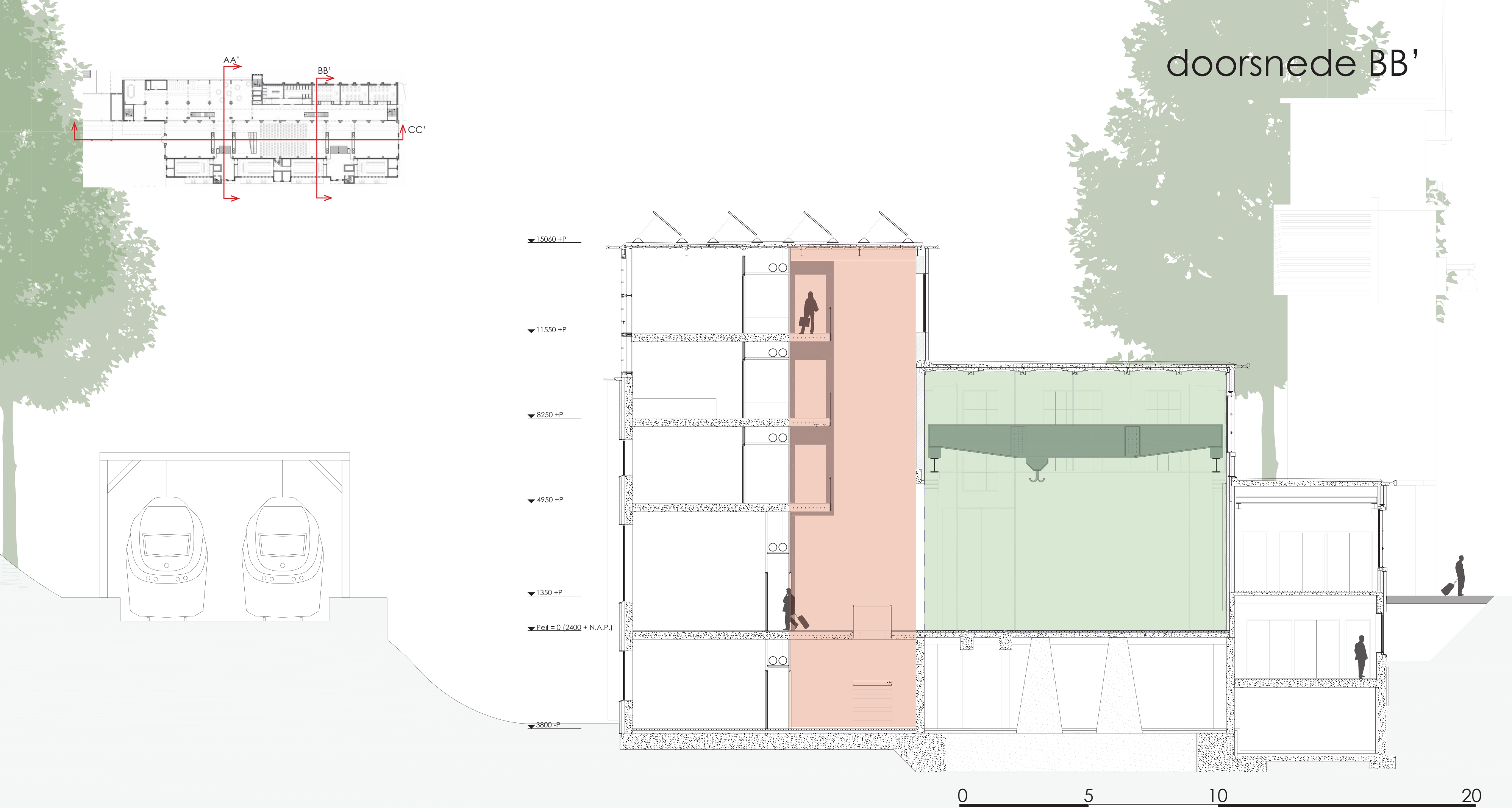


doorsnede AA'









doorsnede BB'

▼15060 +P

▼11550 +P

▼8250 +P

▼4950 +P

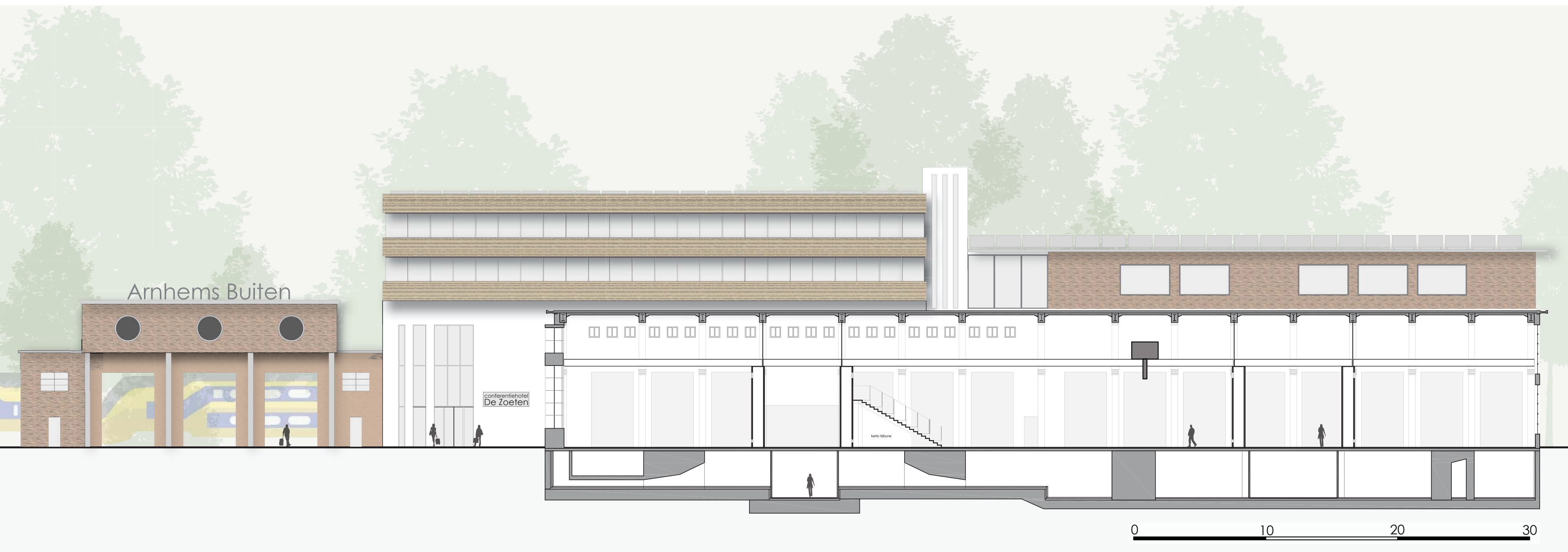
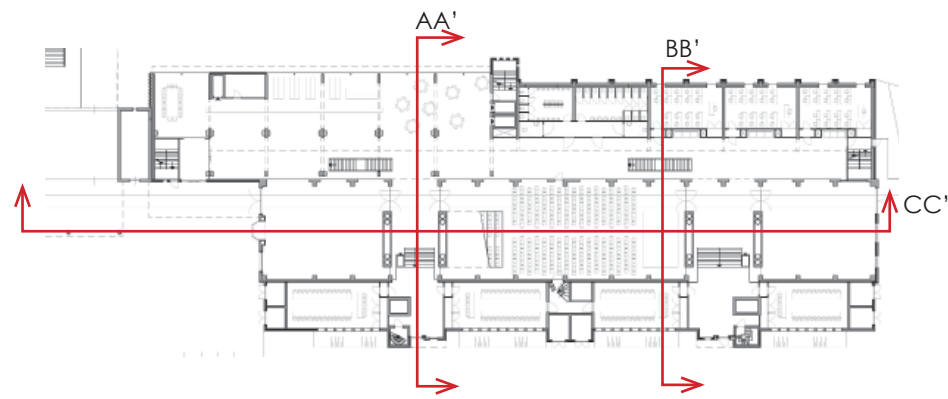
▼1350 +P

▼Peil = 0 (2400 + N.A.P.)

▼3800 -P

0 5 10 20

doorsnede CC'

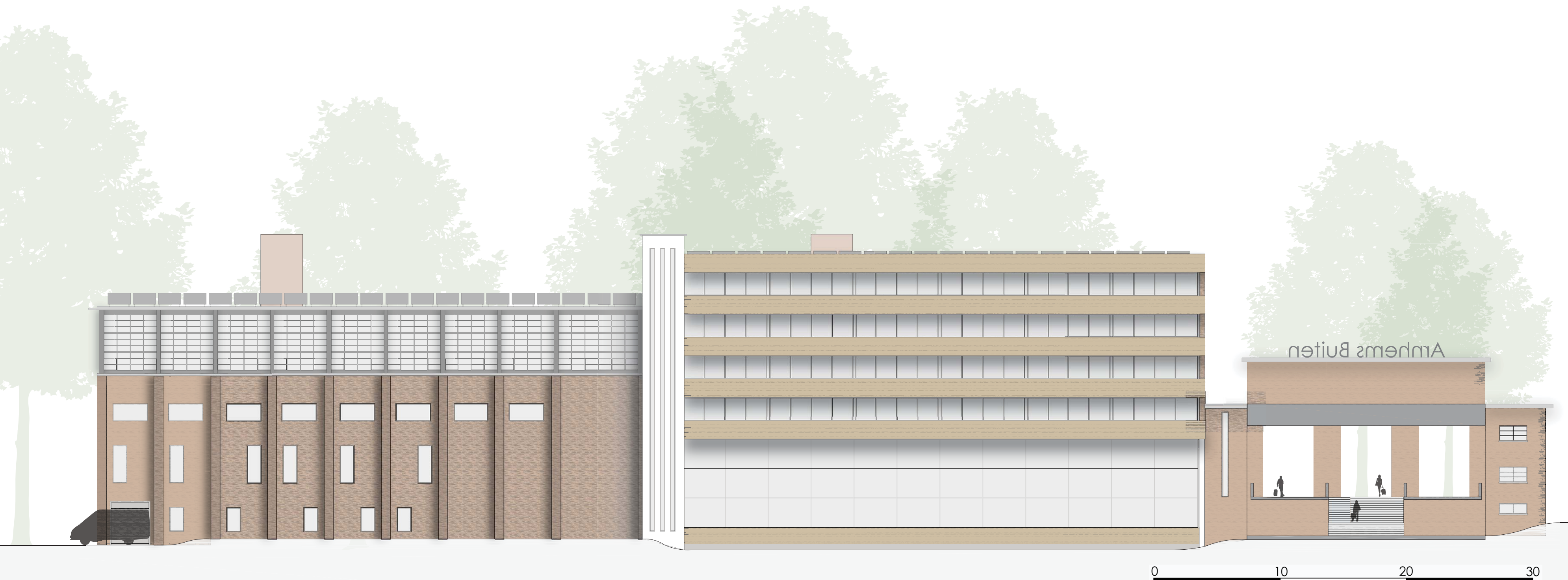




Station Amhem's Buiten

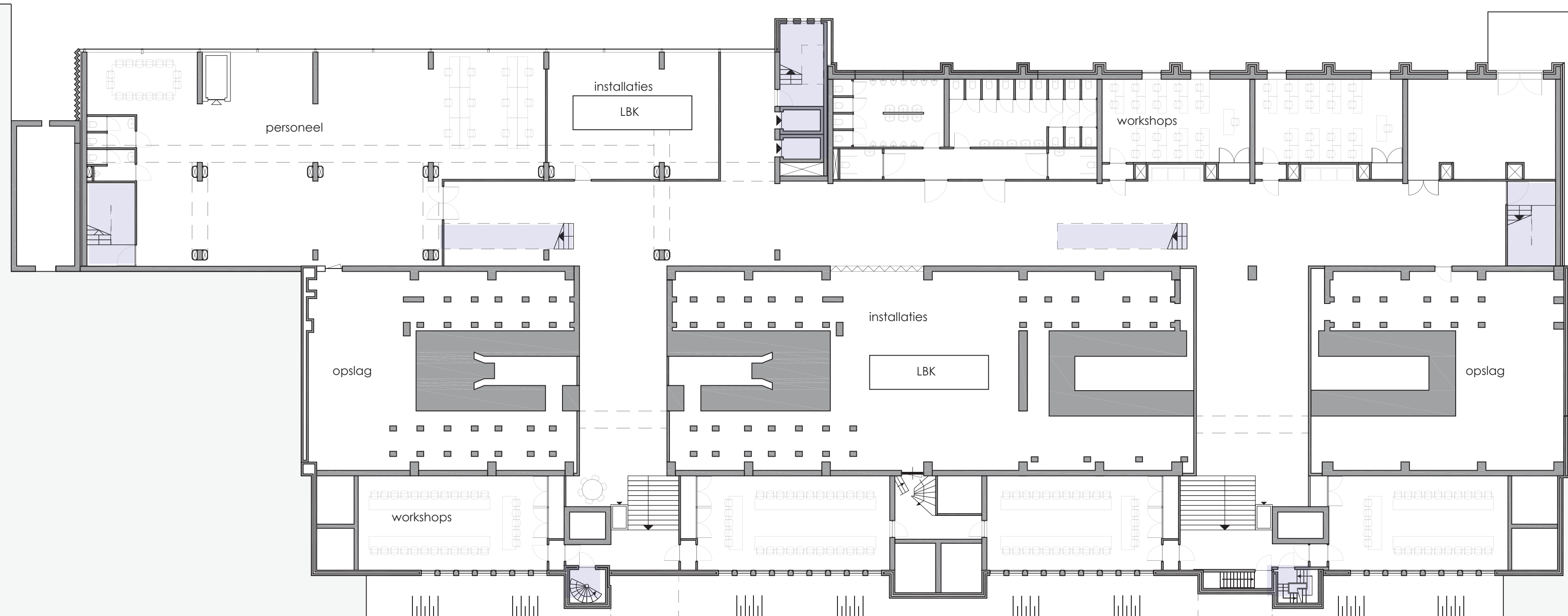
conferentiehotel
DE ZOETEN

noordgevel

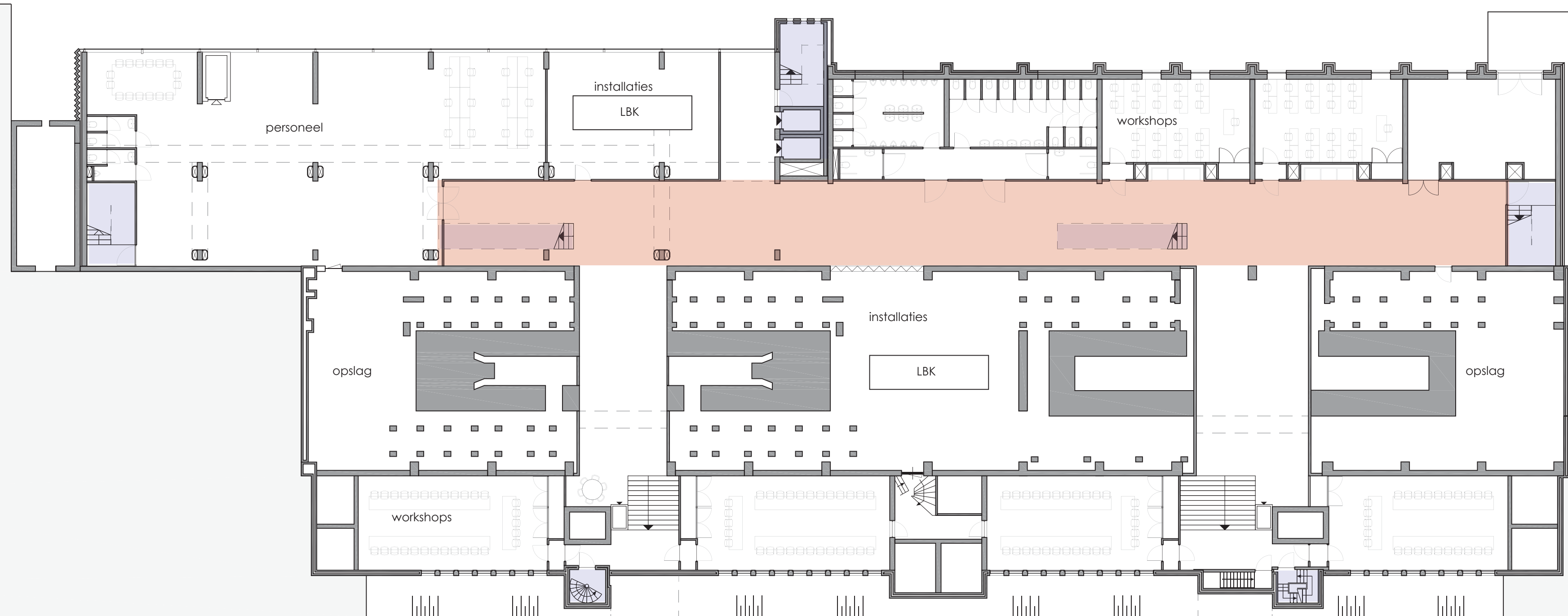




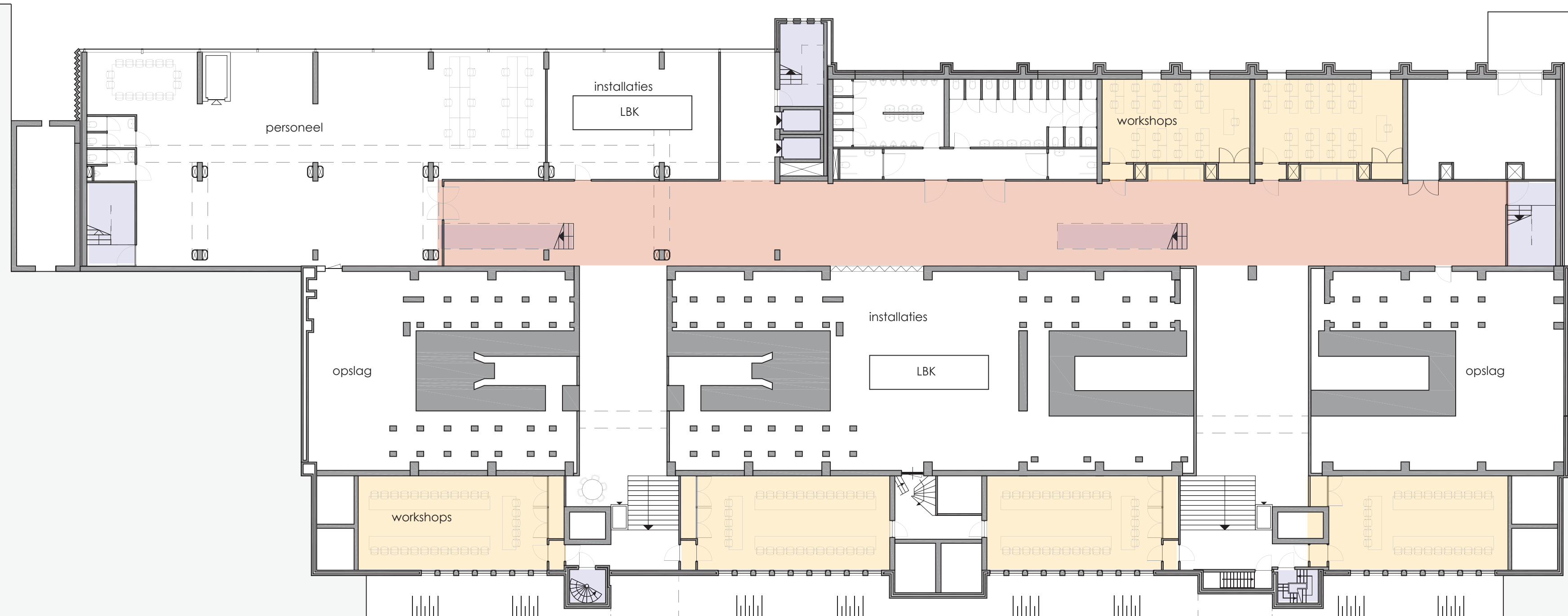
souterrain



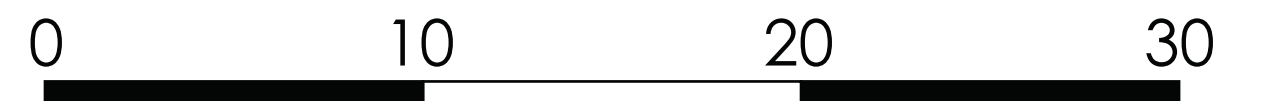
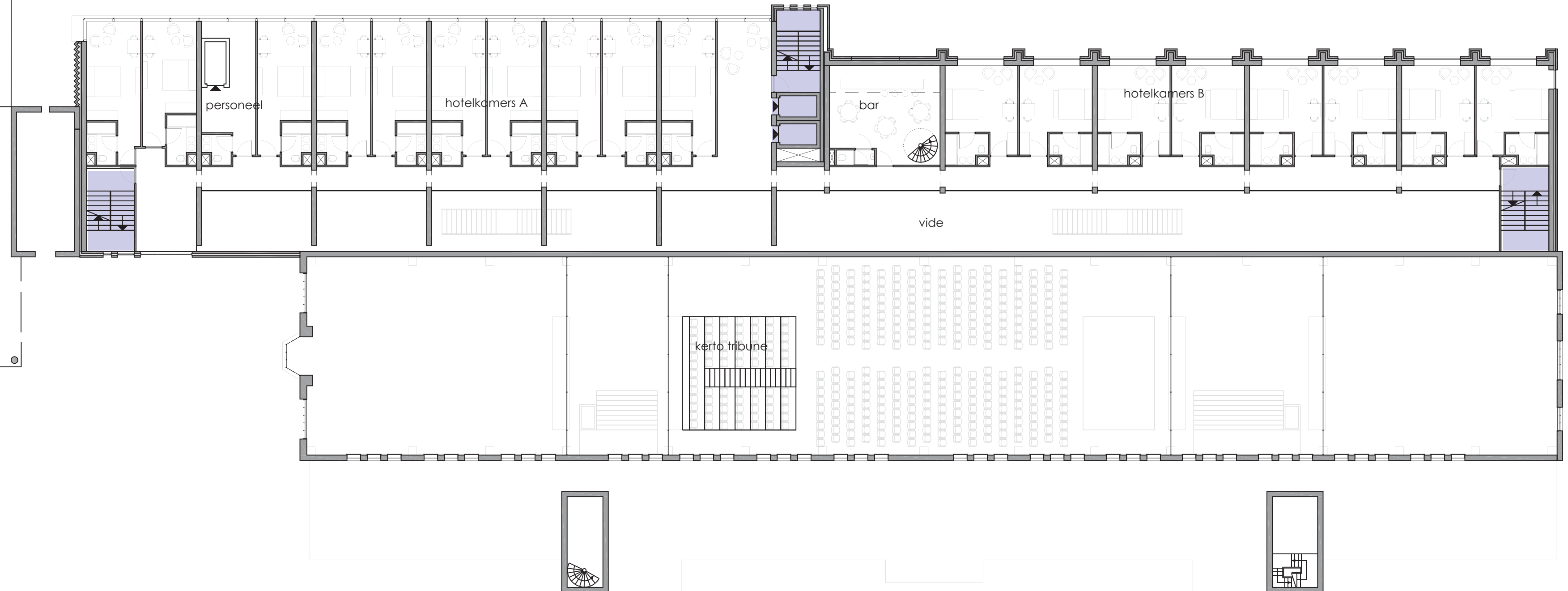
souterrain



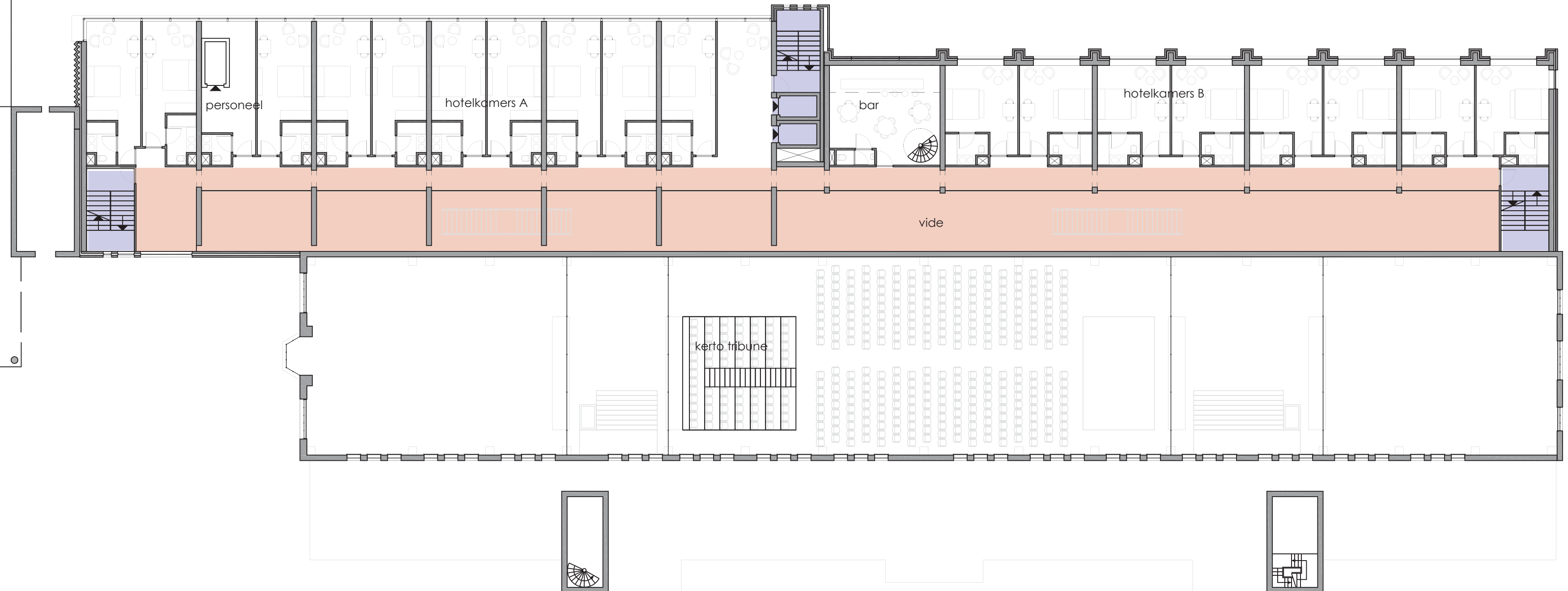
souterrain



1e en 2e verdieping



1e en 2e verdieping



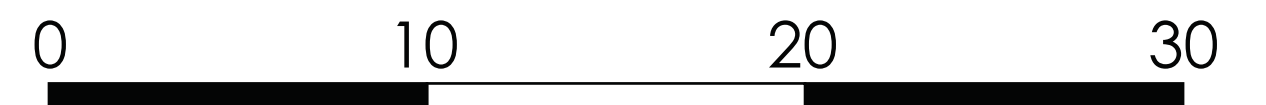
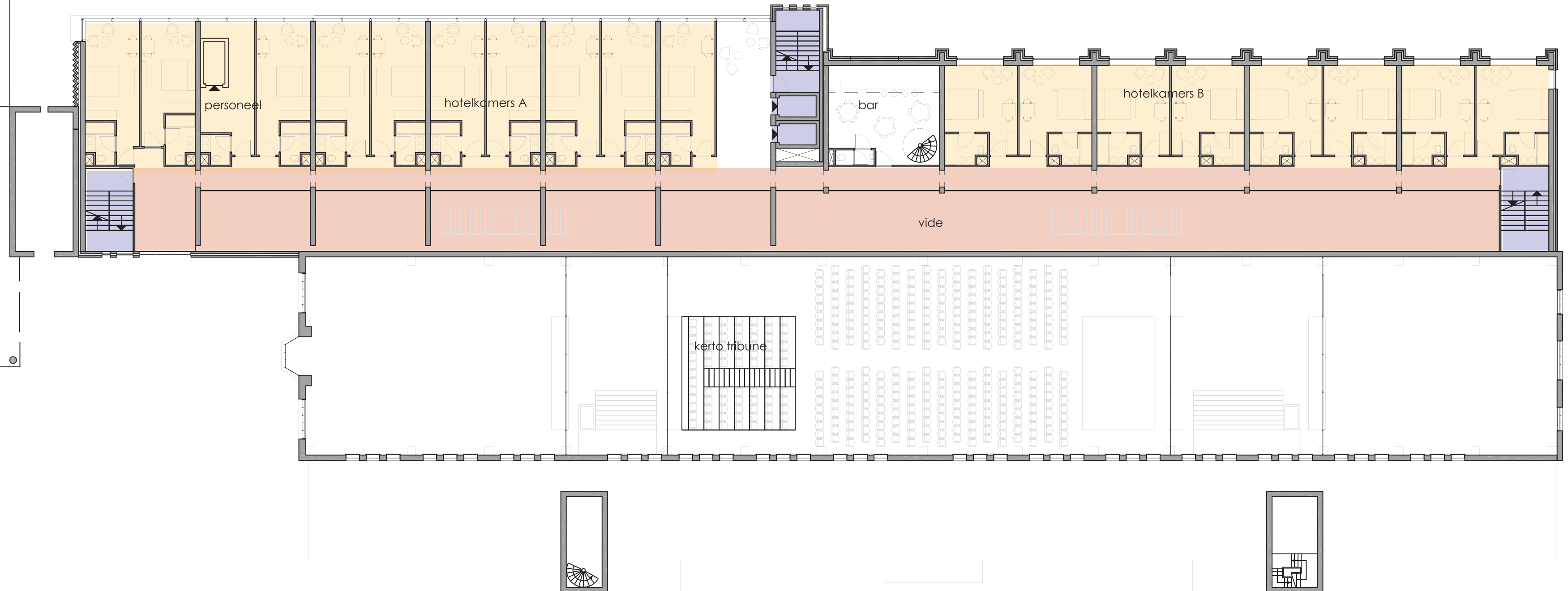
0

10

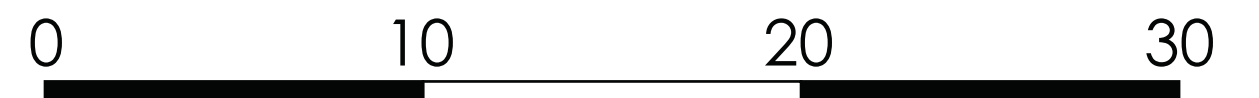
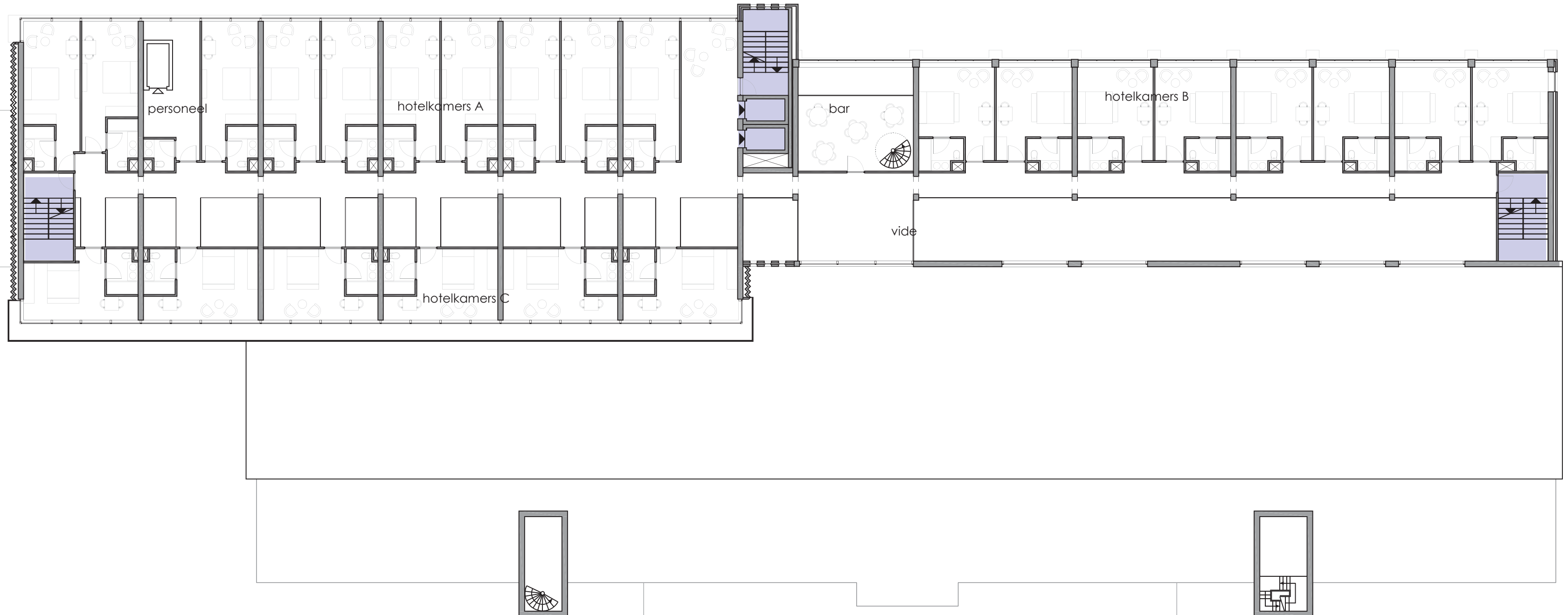
20

30

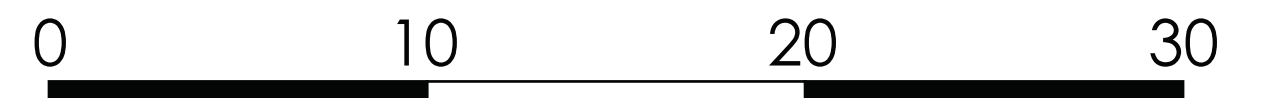
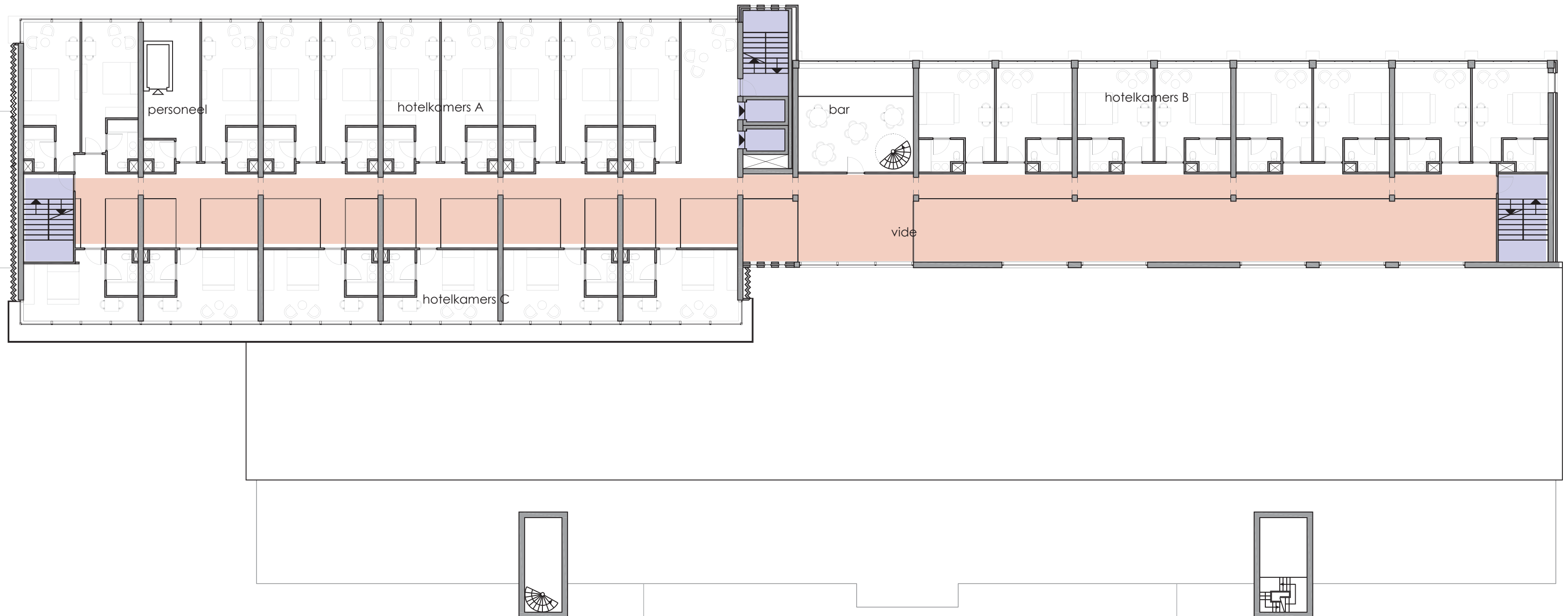
1e en 2e verdieping



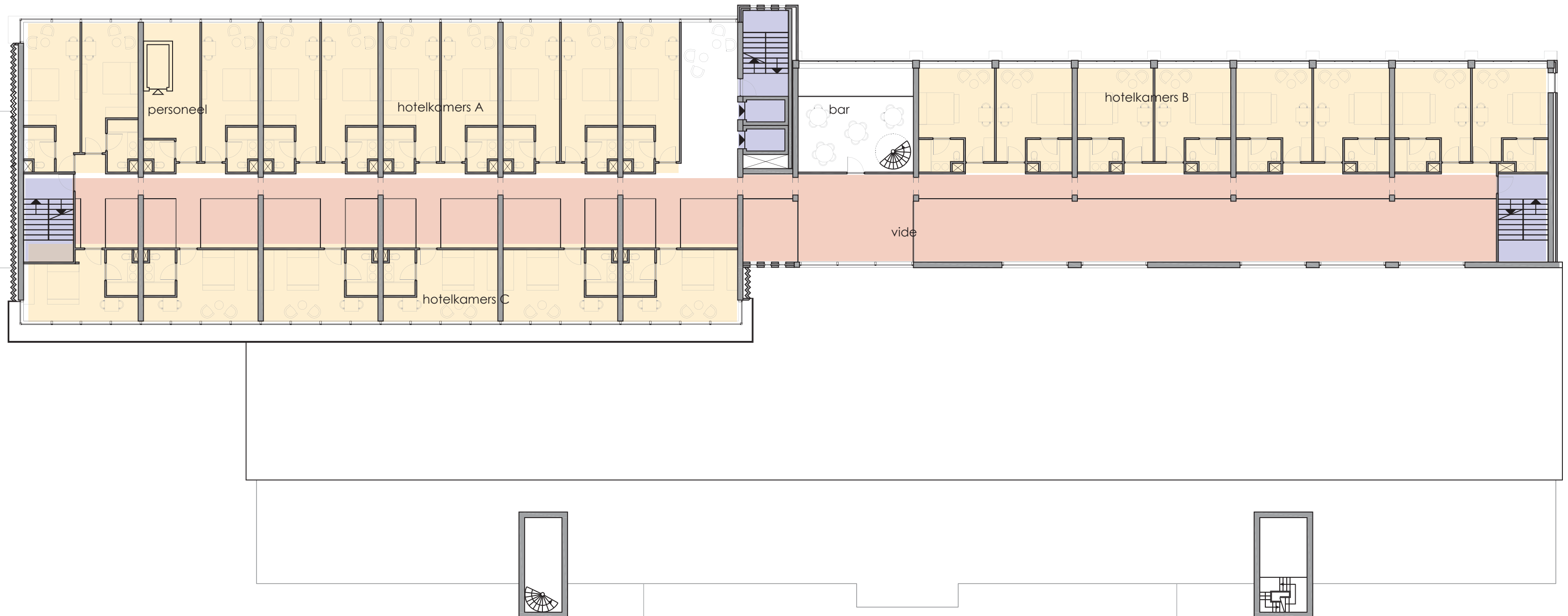
3e verdieping



3e verdieping

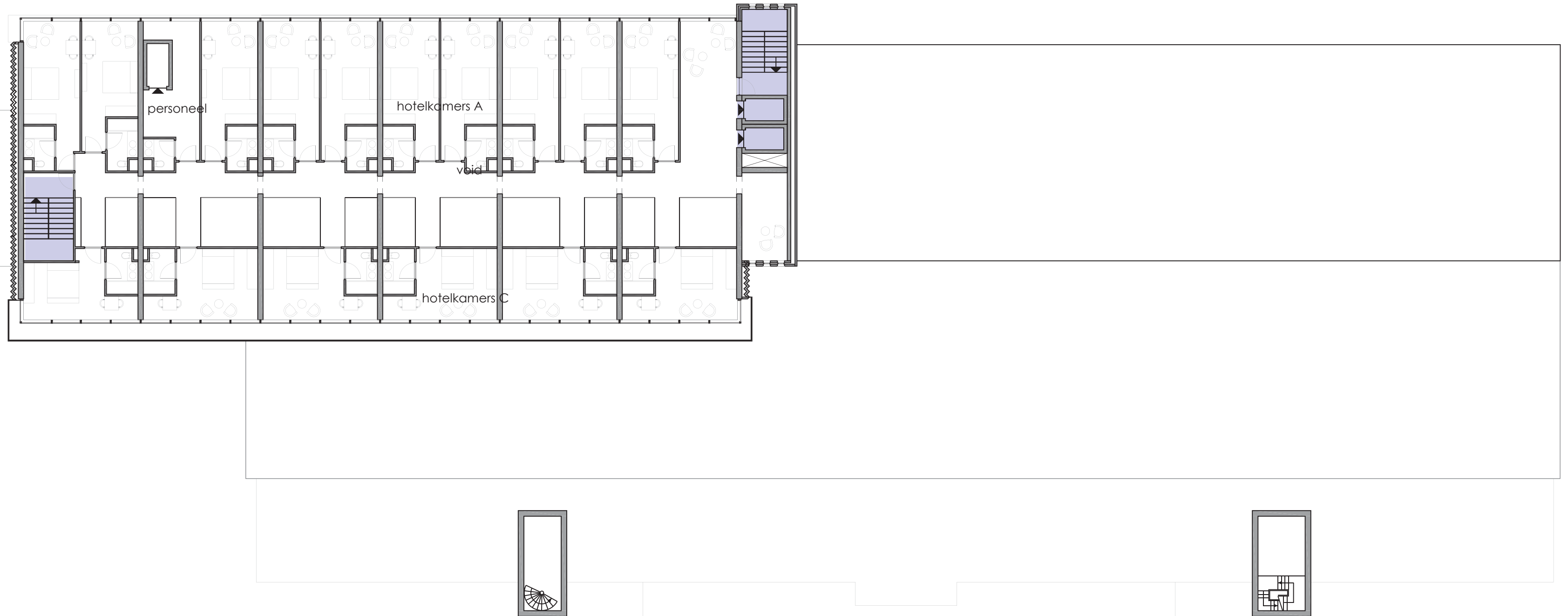


3e verdieping

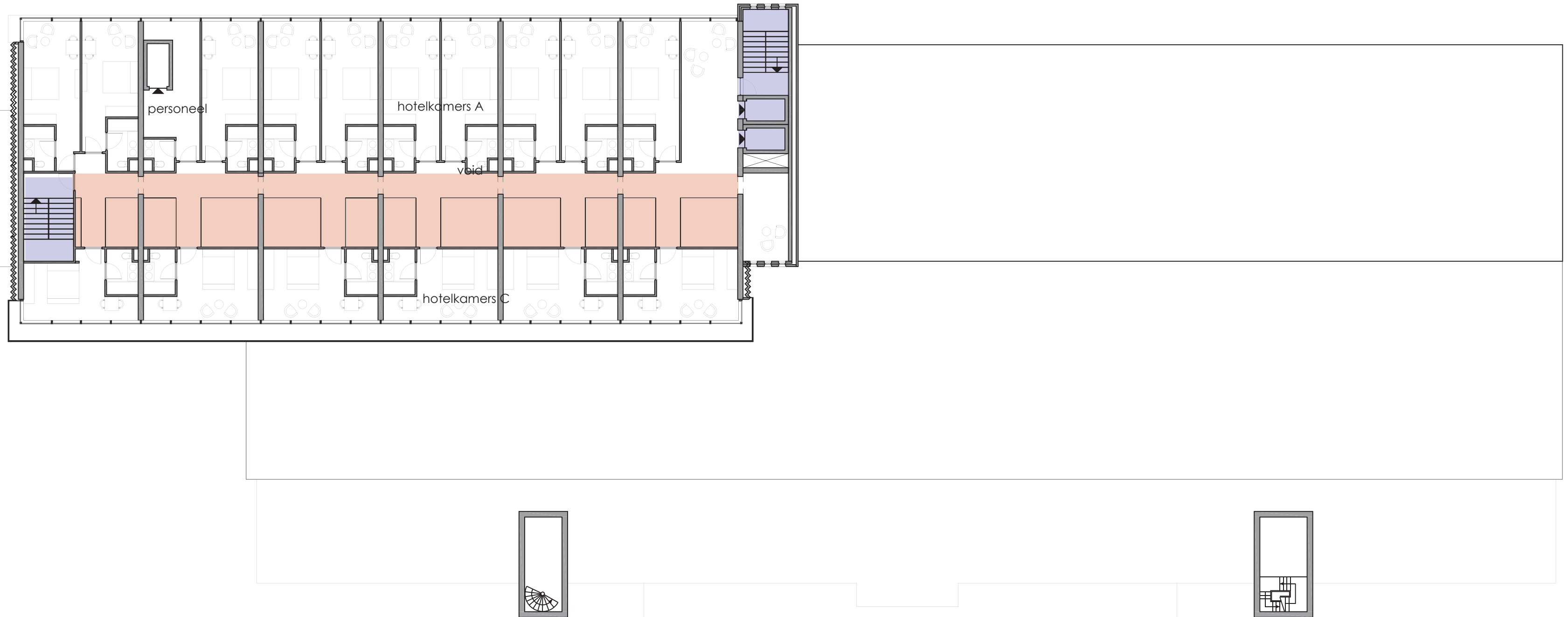


0 10 20 30

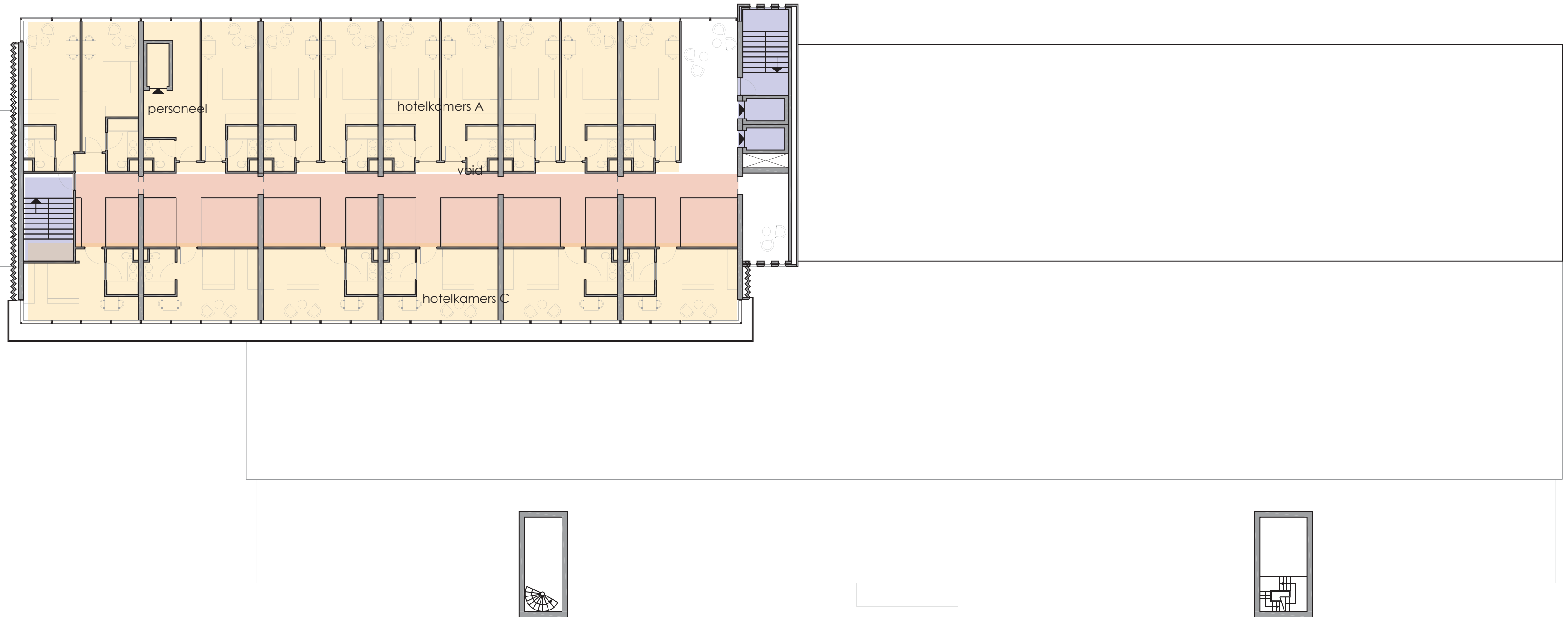
4e verdieping



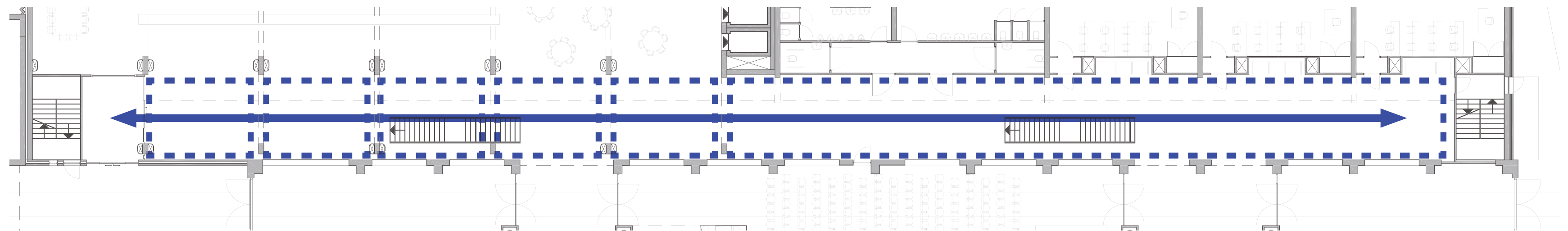
4e verdieping



4e verdieping



centrale hal

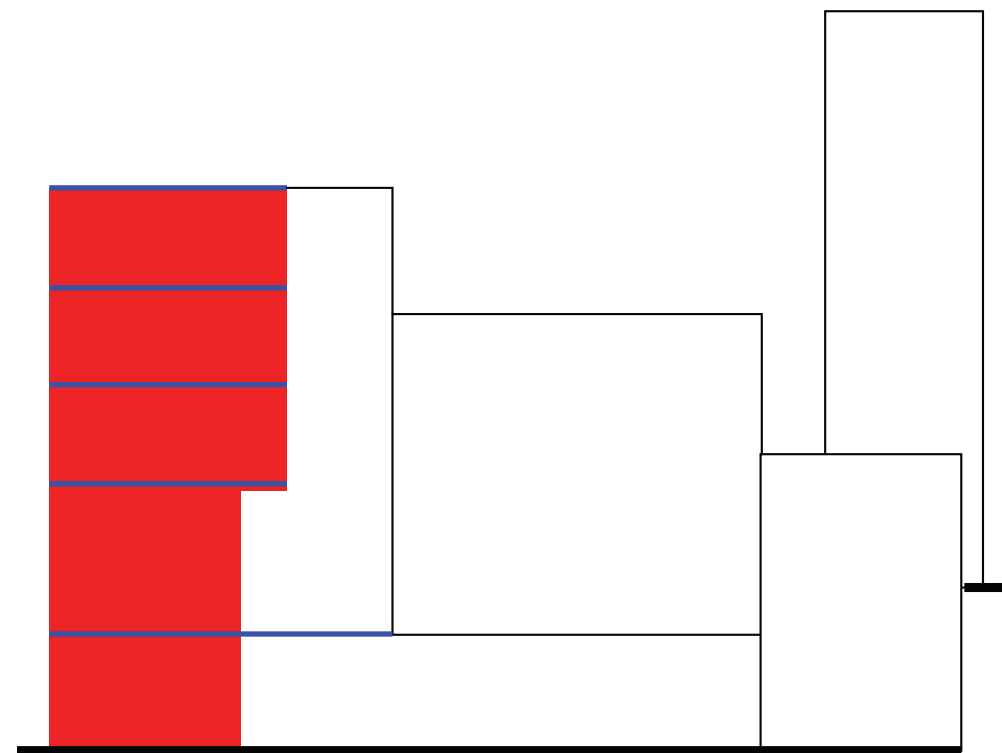


centrale hal constructie schijven

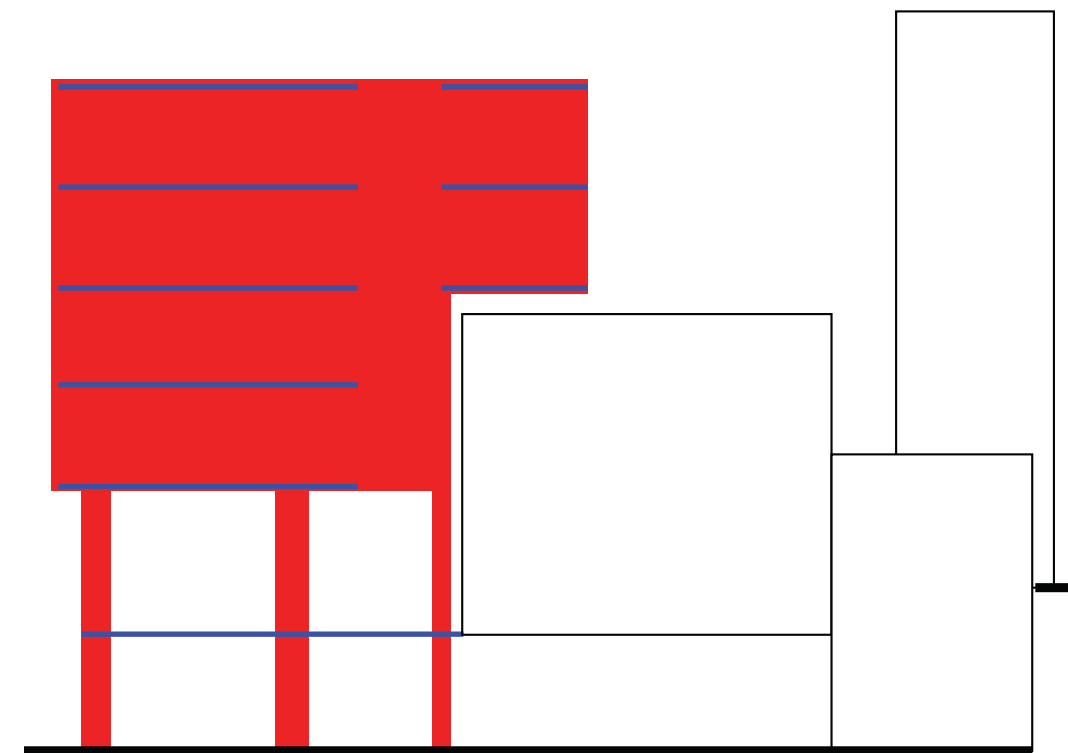
schijven worden grote balken

in het werk gestort beton voor
momentvaste verbinding

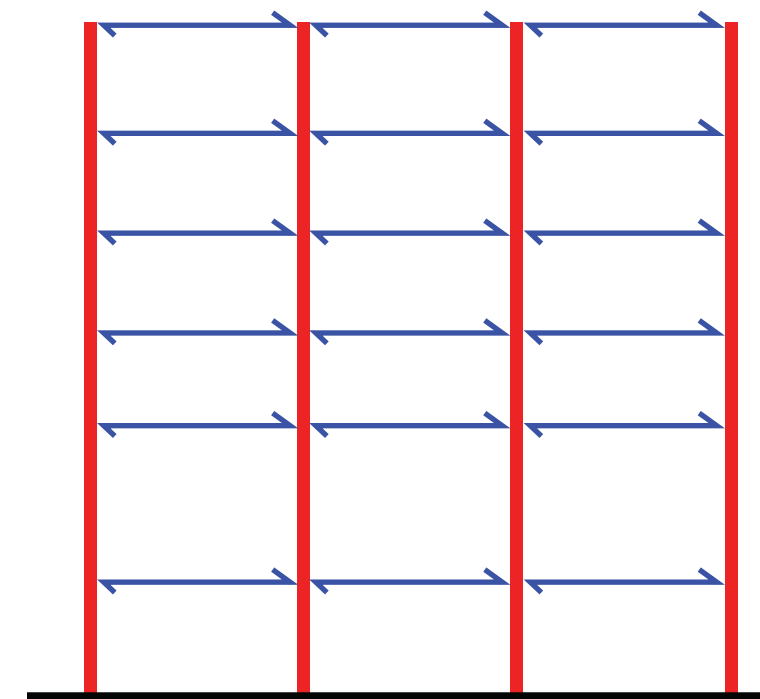
overspanning 6,8 m, scheiding door
metal stud wand



constructie schijven oudbouw



constructie schijven nieuwbouw



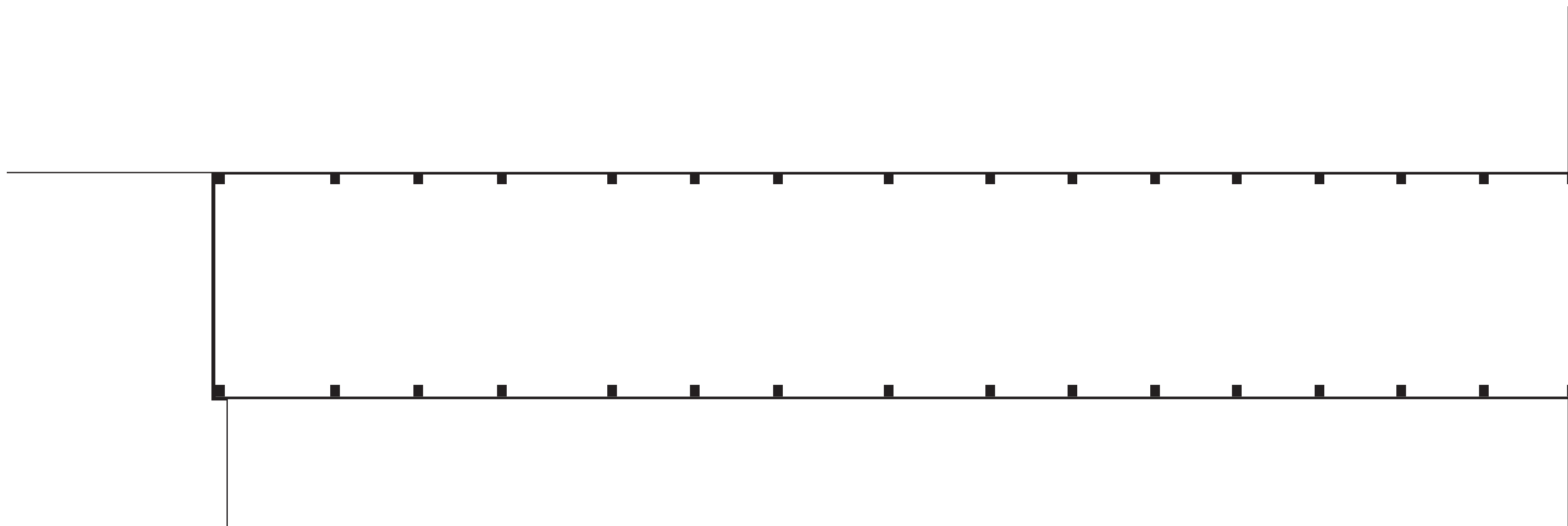
schijven en overspanningrichting



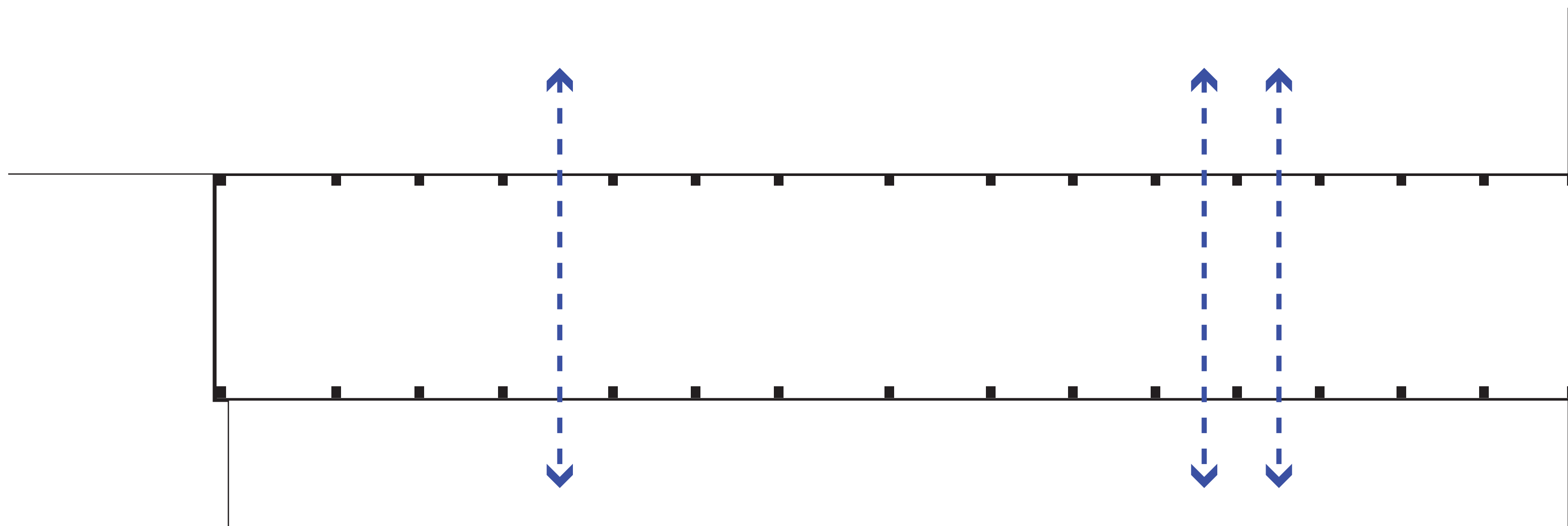
grote zaal



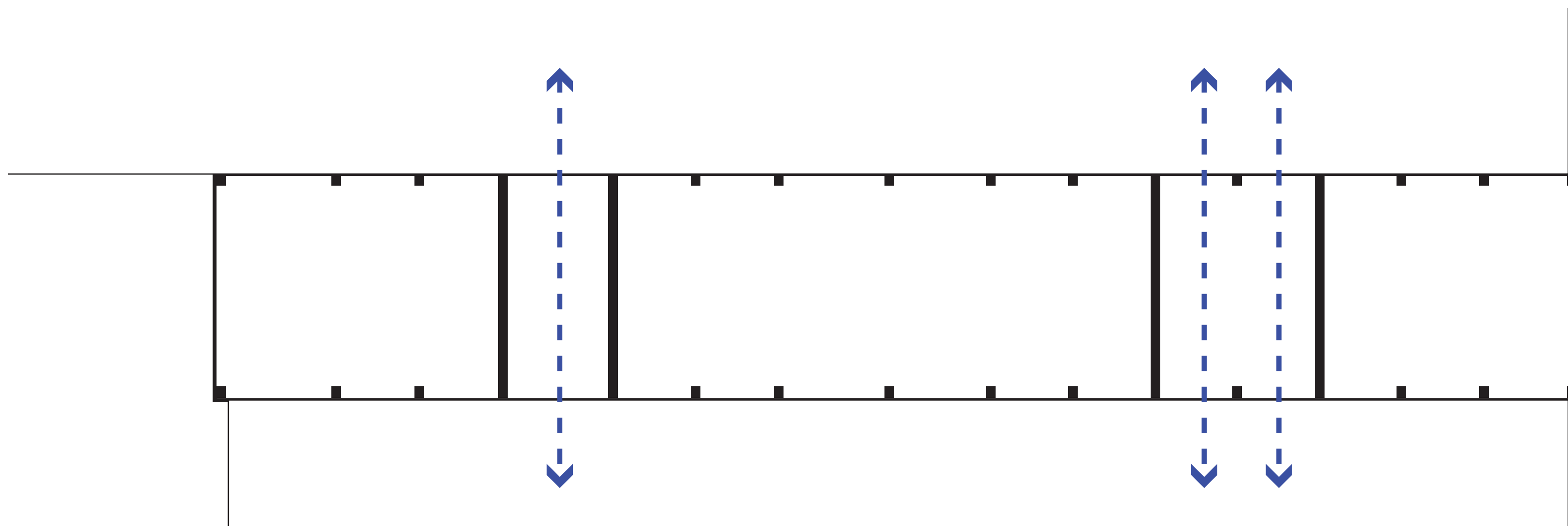
grote zaal



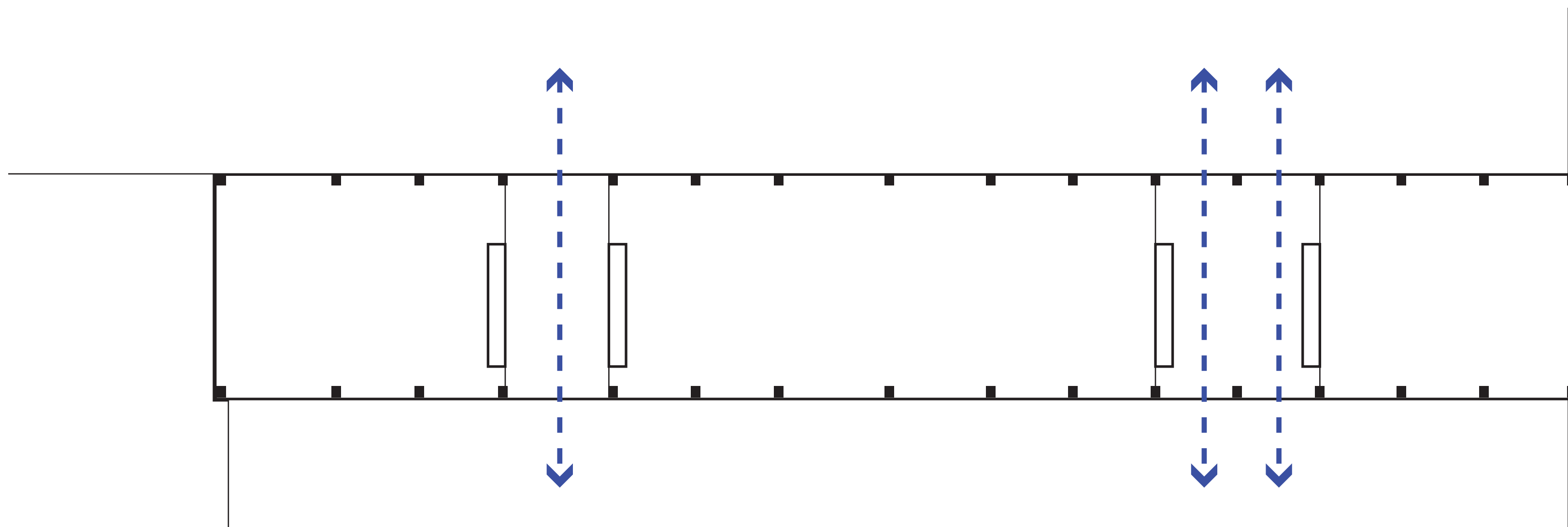
grote zaal



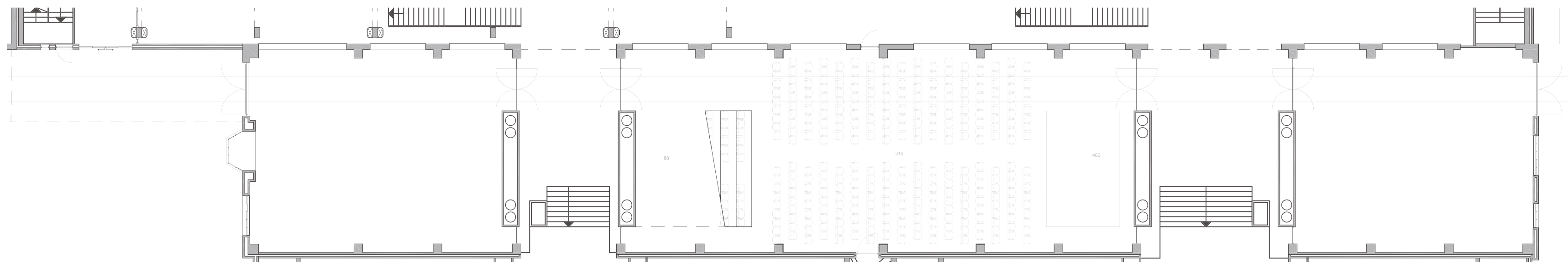
grote zaal

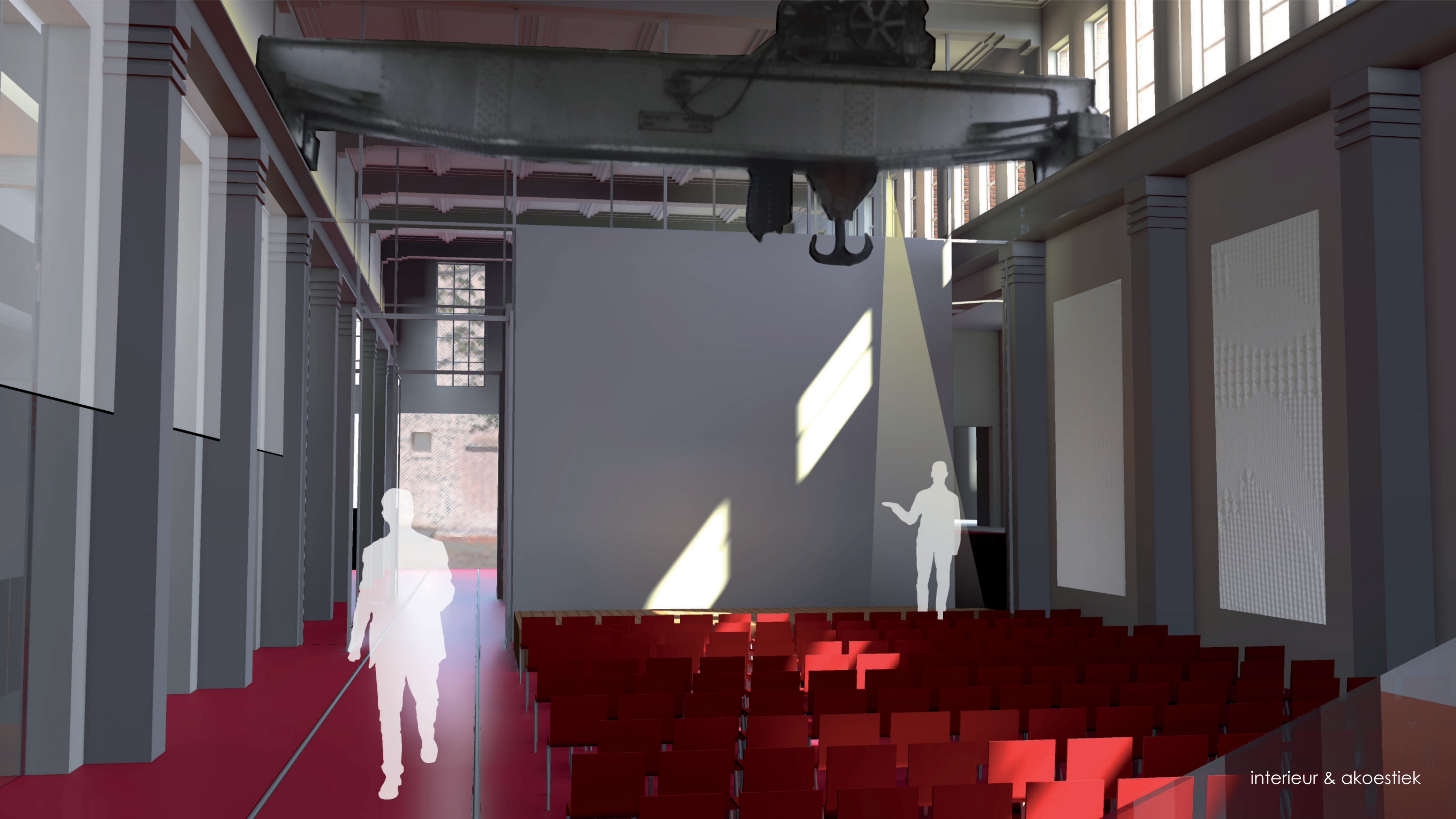


grote zaal

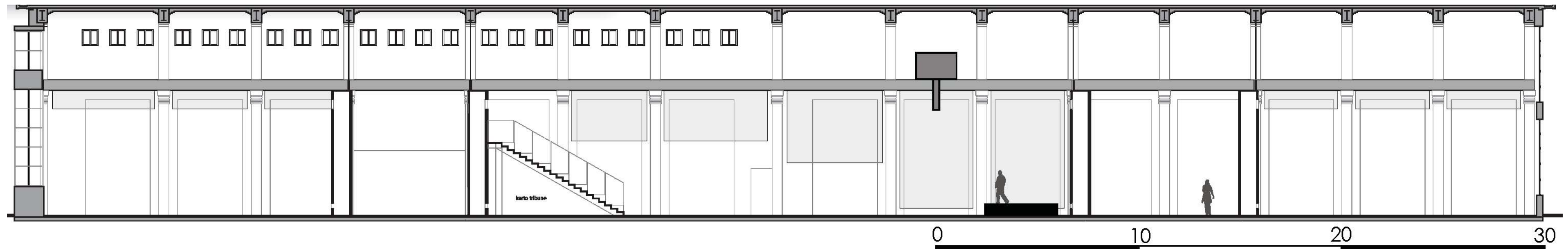


grote zaal

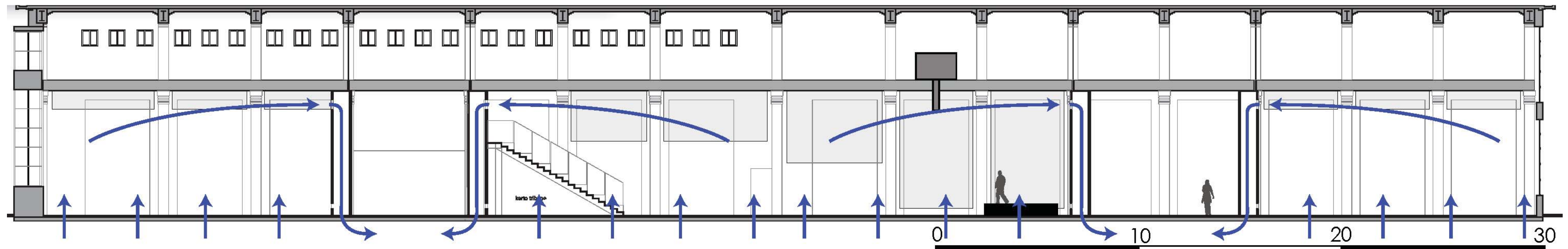




grote zaal doorsnede

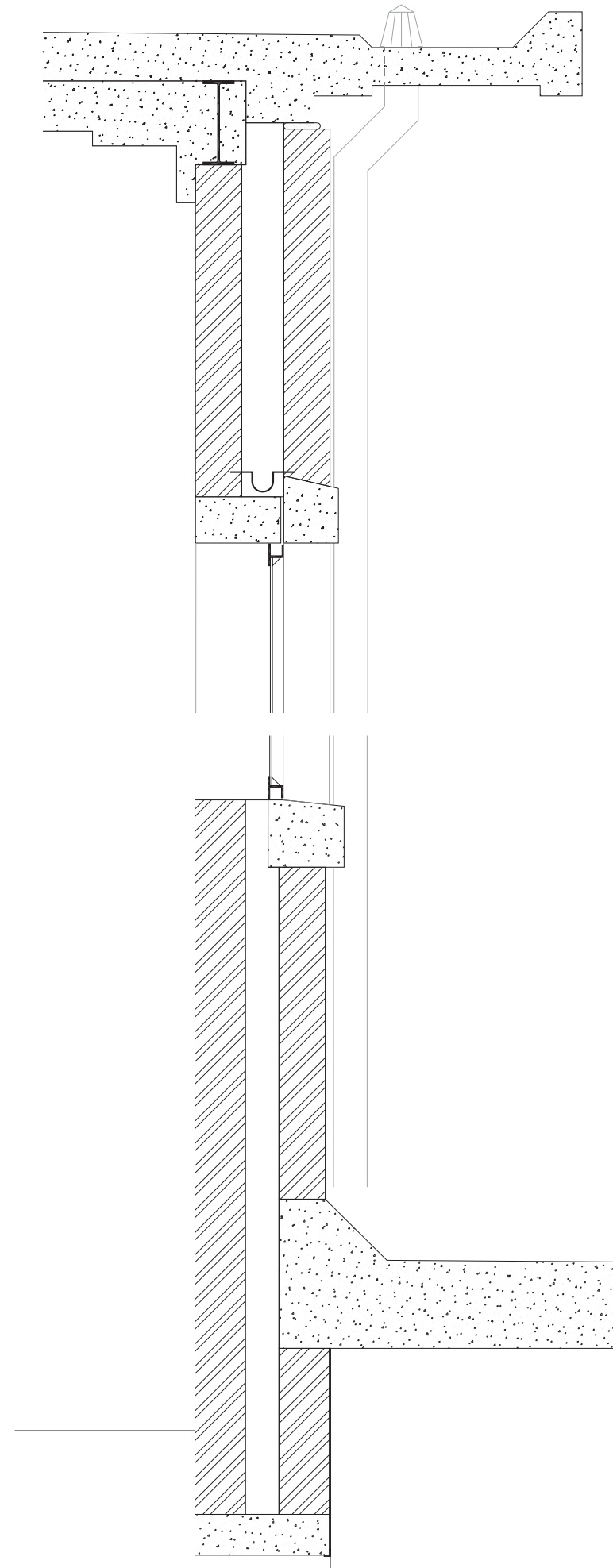
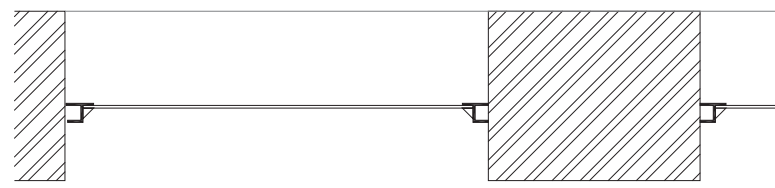
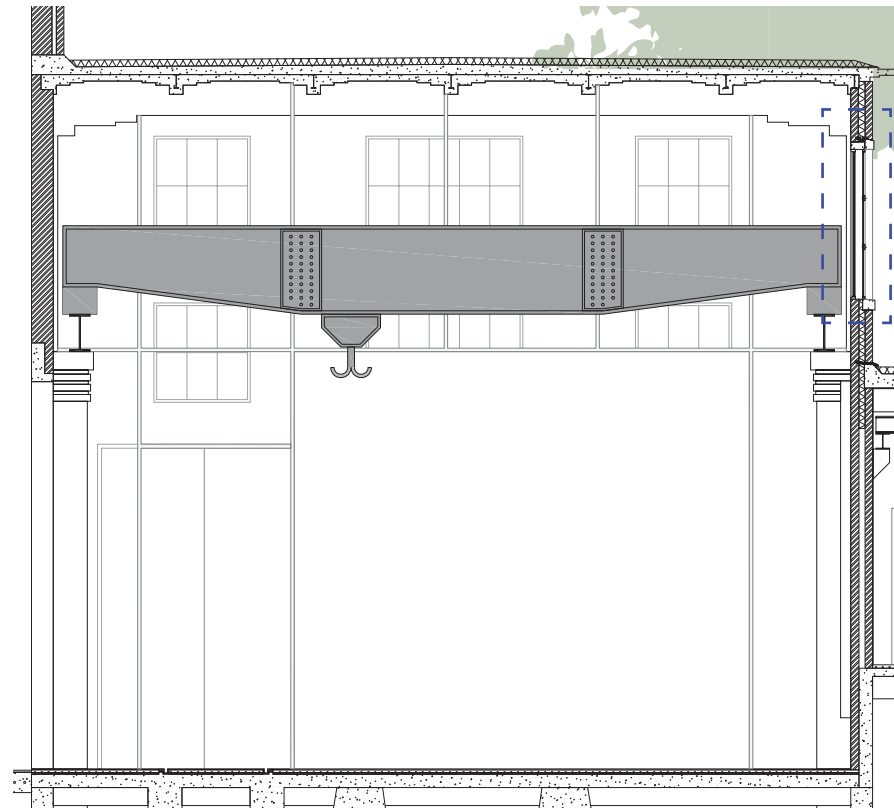


grote zaal
ventilatie

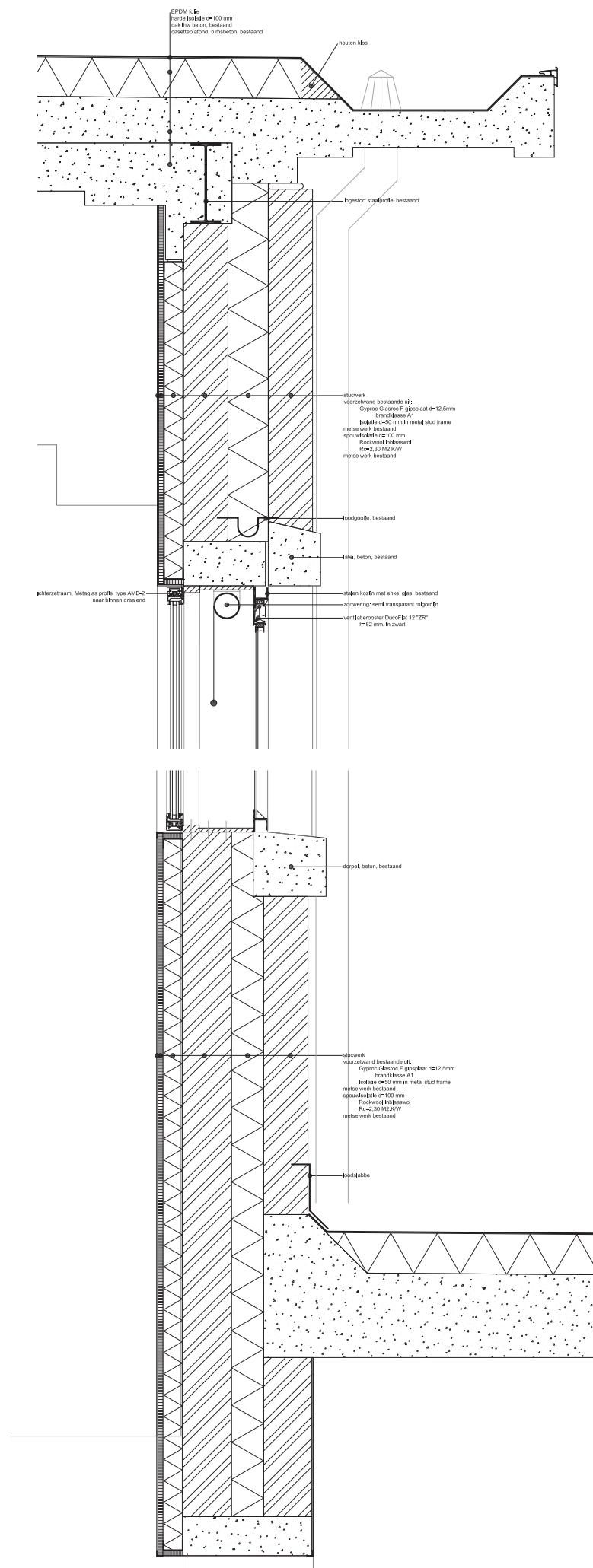
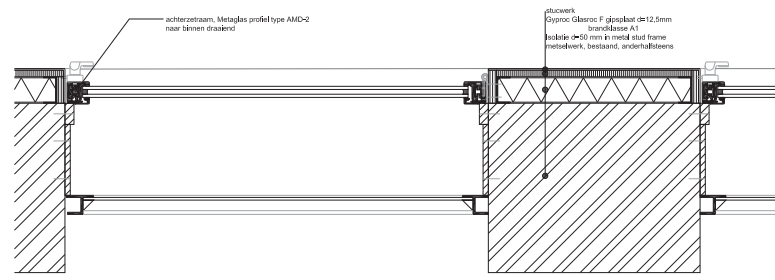
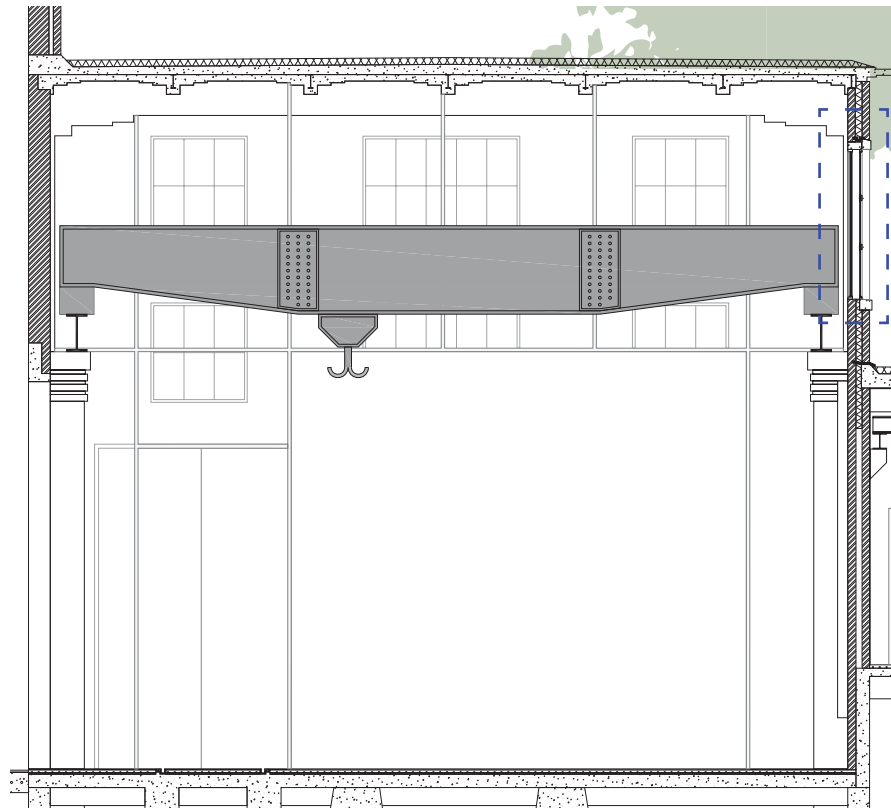


grote zaal
verlichting





grote zaal details



treingeluid

geluid van trein: 70-75 dB

gewenst geluidsniveau souterrain
& begane grond: 45-50 dB

gewenst geluidsniveau
hotelkamers: 40 dB (milieusite.be)

geluidsreductie

- op het spoor nieuwe "Tuned Rail Dampers" van Corus: min 3-5 dB (volkerrail.nl)
- nieuw glas in ramen:
"Pilkington Optiphon 44/2-16A-*4":
min 34 dB, 29 mm



noise nuisance from train at Arnhem Buiten
(http://www.geluidspoor.nl/geluidkaart_ref.html)

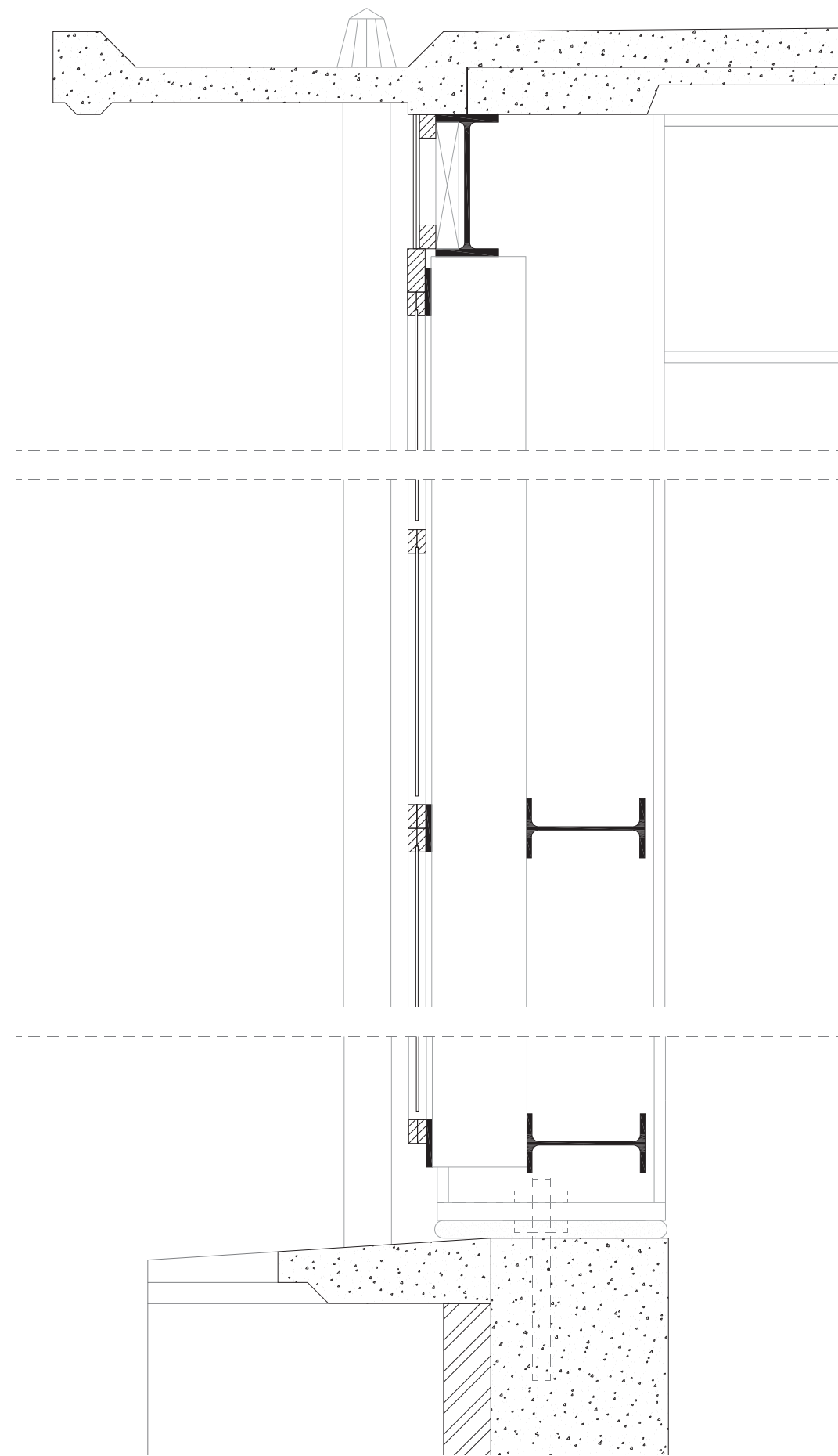


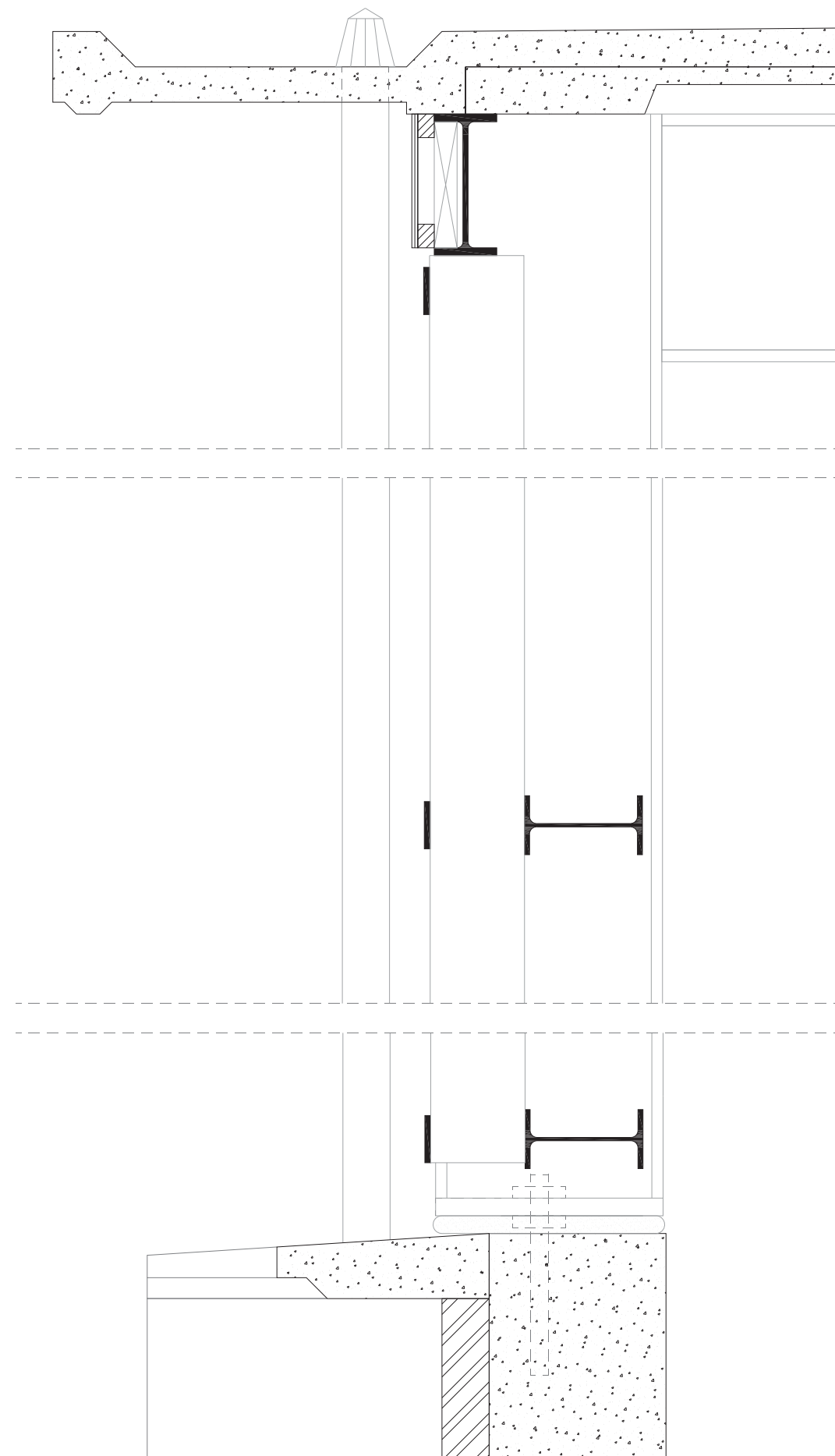
Tuned Rail Dampers
(<http://www.geluidnieuws.nl/2008/dec2008/raildemper.html>)

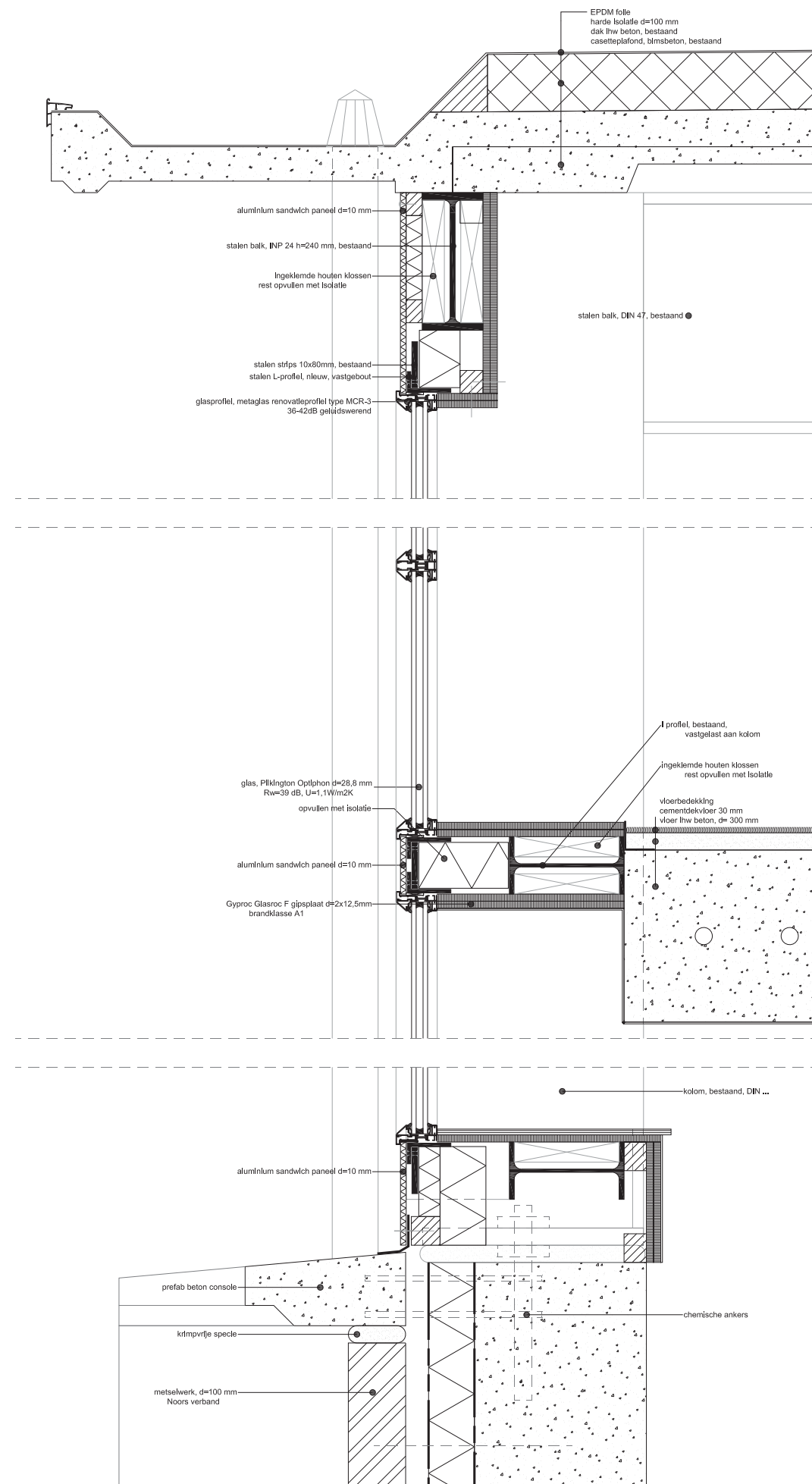












Op welke manier kunnen de gebouwen van het de
Zoetenlabensemble in Arnhems Buiten worden geherstructureerd,
waarbij de functies van een conferentiehôtel en treinstation
worden geïmplementeerd?

conclusie

- Arnhems Buiten geopend en verbonden
- treinstation voor betere bereikbaarheid en activiteit
- conferentiehôtel als ondersteuning van zakelijk gebruik van park
- versterking van bestaande structuur



sources:

1) <http://www.trouw.nl/tr/nl/4492/Nederland/article/detail/1860957/2011/03/16/SP-eist-wc-s-in-de-trein-GroenLinks-Motie-van-pissigheid-tegen-Schultz.dhtml>

2) <http://www.wagenmans.nl/locaties/westergas-fabriek-amsterdam/>

3) <http://www.meetingblog.nl/431/het-conservatorium-hotel-houdt-pronkstukken-nog-bedekt/bijeenkomst/2011/07/attachment/conservatorium-hotel-mock-up-3>

4) Ibis hotel by Ruland + partner architecten BNA, photographer: Jannes Linders

5) http://www.holidaycheck.com/fullscreen-hotel+De+Bildenberg+Restaurant-ch_ub-id_1157314078.html

6) <http://www.dearchitect.nl/nieuws/2012/04/04/nominaties-gulden-feniks-2012/nominaties-gulden-feniks-bekend.html>

VRAGEN?



installaties

betonkernactivering in
nieuwbouw, vloerverwarming/
koeling in bestaand deel

warmtepomp

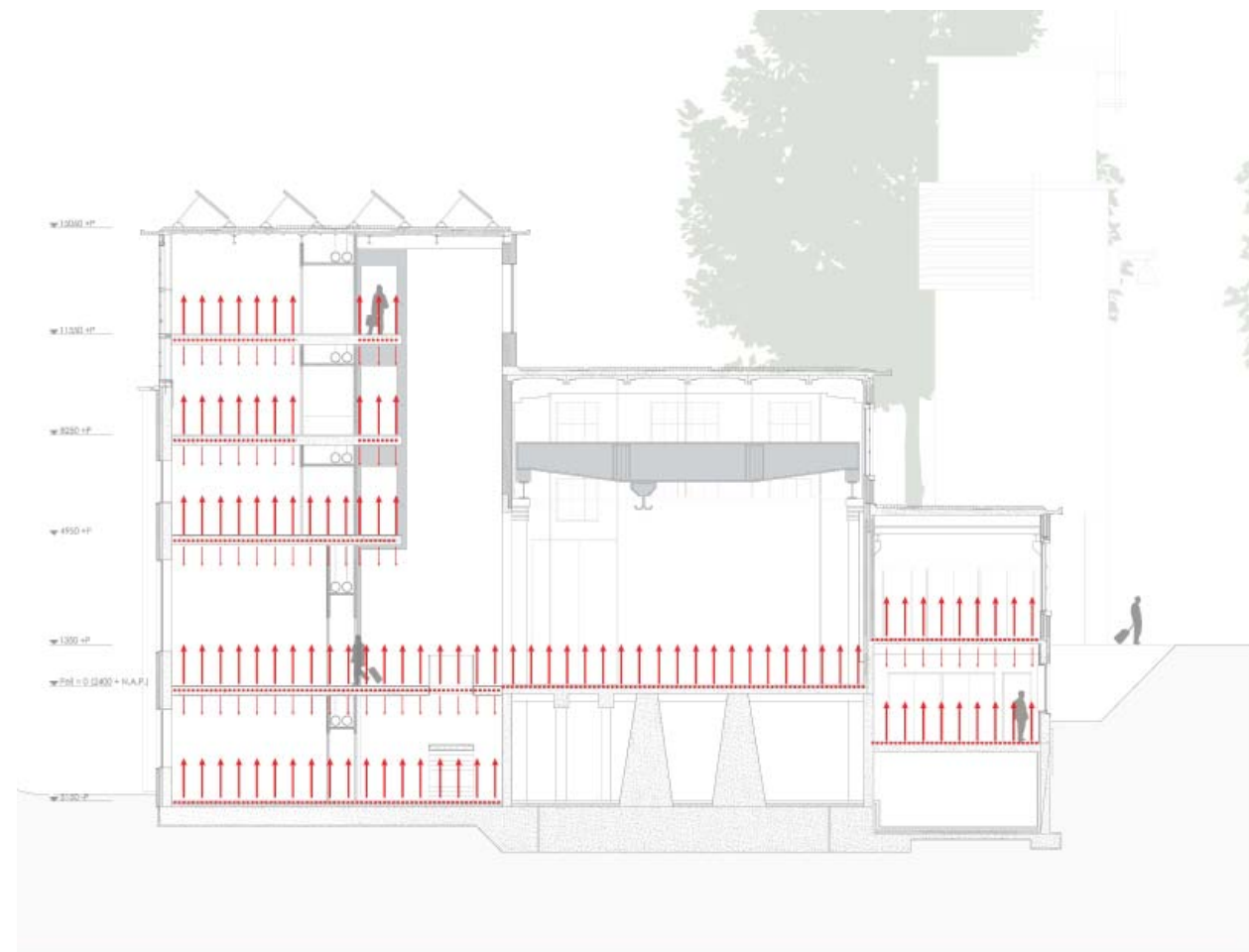
extra koelen of verwarmen d.m.v.
ventilatie



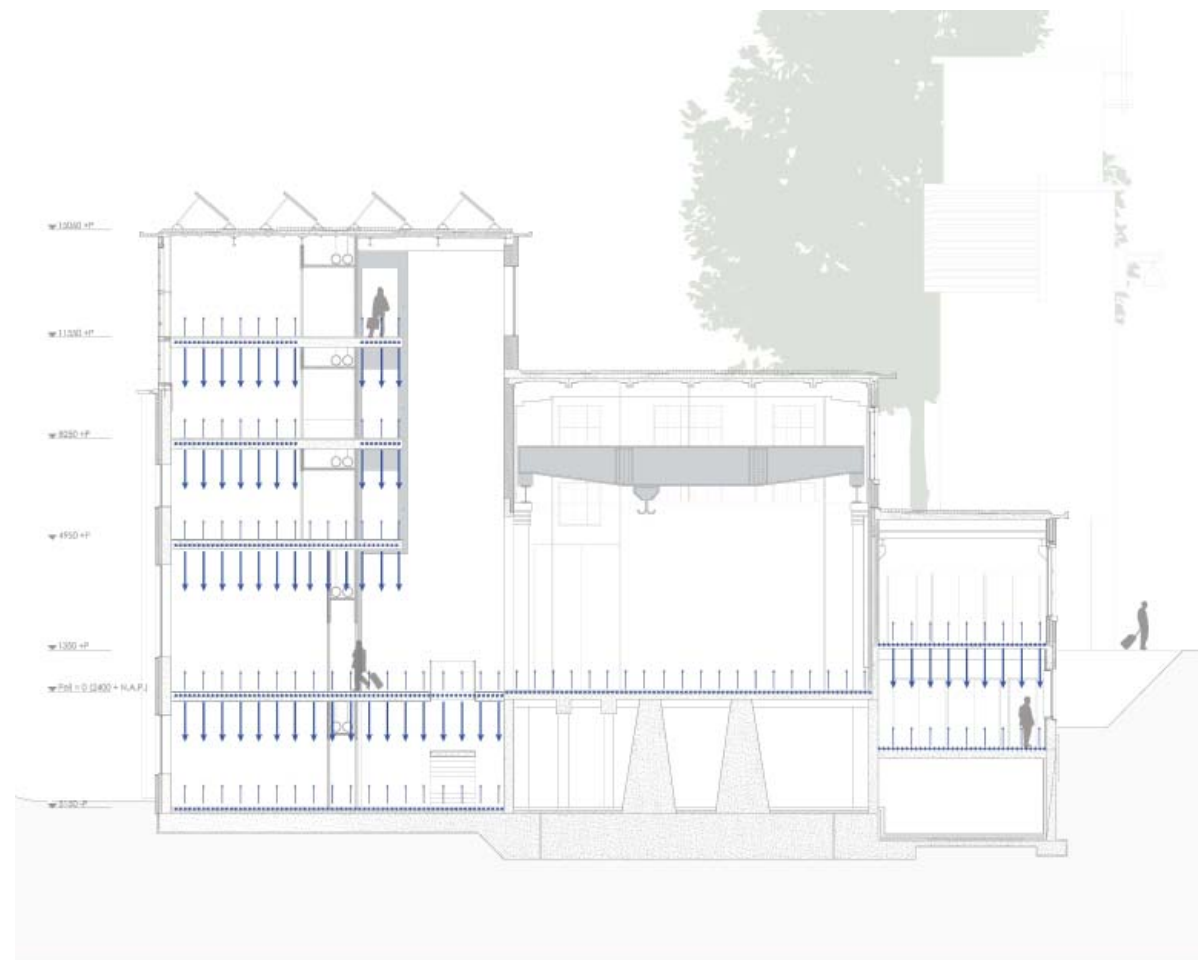
winter situation



summer situation



winter situation



summer situation

energie

Zonnepanelen

1m² ≈ 80 kWh per jaar (<http://www.energieleveranciers.nl>)

36.000 kWh per jaar opbrengst electriciteit. (12 woningen)

Hotel gemiddeld 75 kWh per m² per jaar. (Senter Novem)

Verbruik ≈ 375.000 kWh

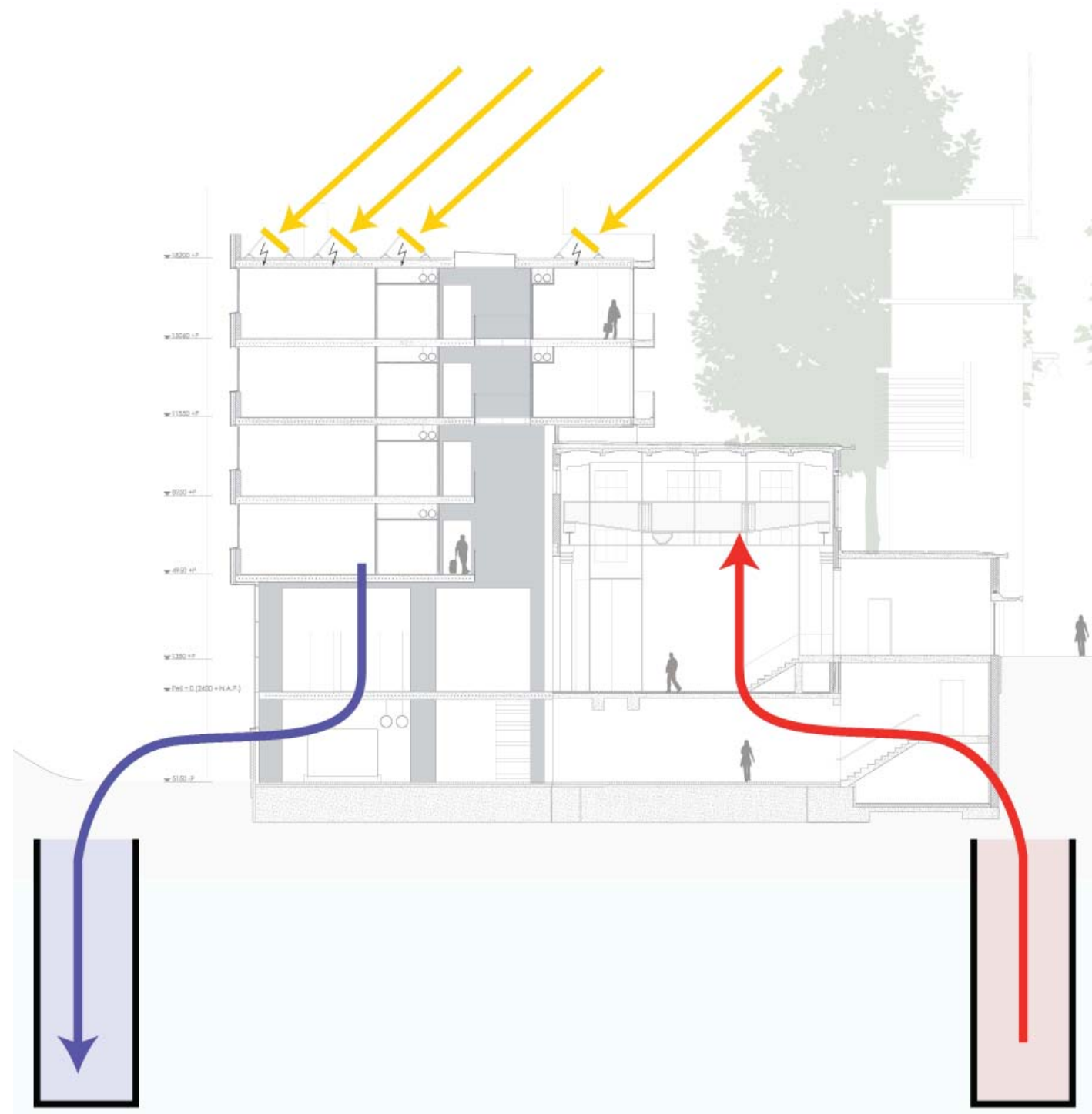
Zonnepanelen leveren ongeveer 10 % energiebehoefte.

Aardwarmte

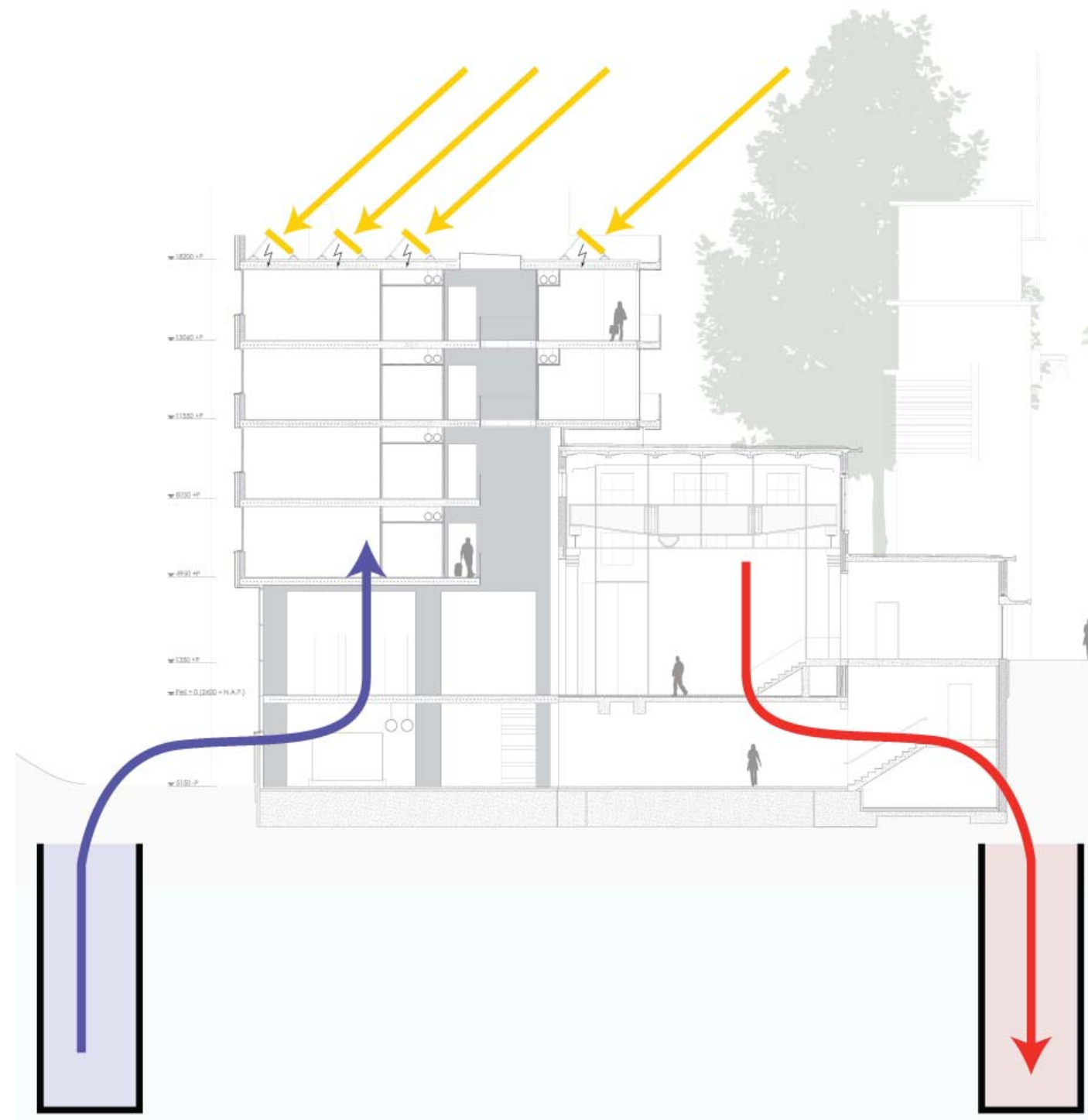
warmte putten uit grondwater

2 putten: een wordt warm water uit gepompt in winter en afgekoeld water teruggepompt in tweede put. U de tweede put wordt het koude water in de zomer gepompt en opgewarmde water in eerste put teruggepompt.

Open systeem warmtepomp in samenwerking met betonkernactivering



winter situatie open warmtepomp systeem



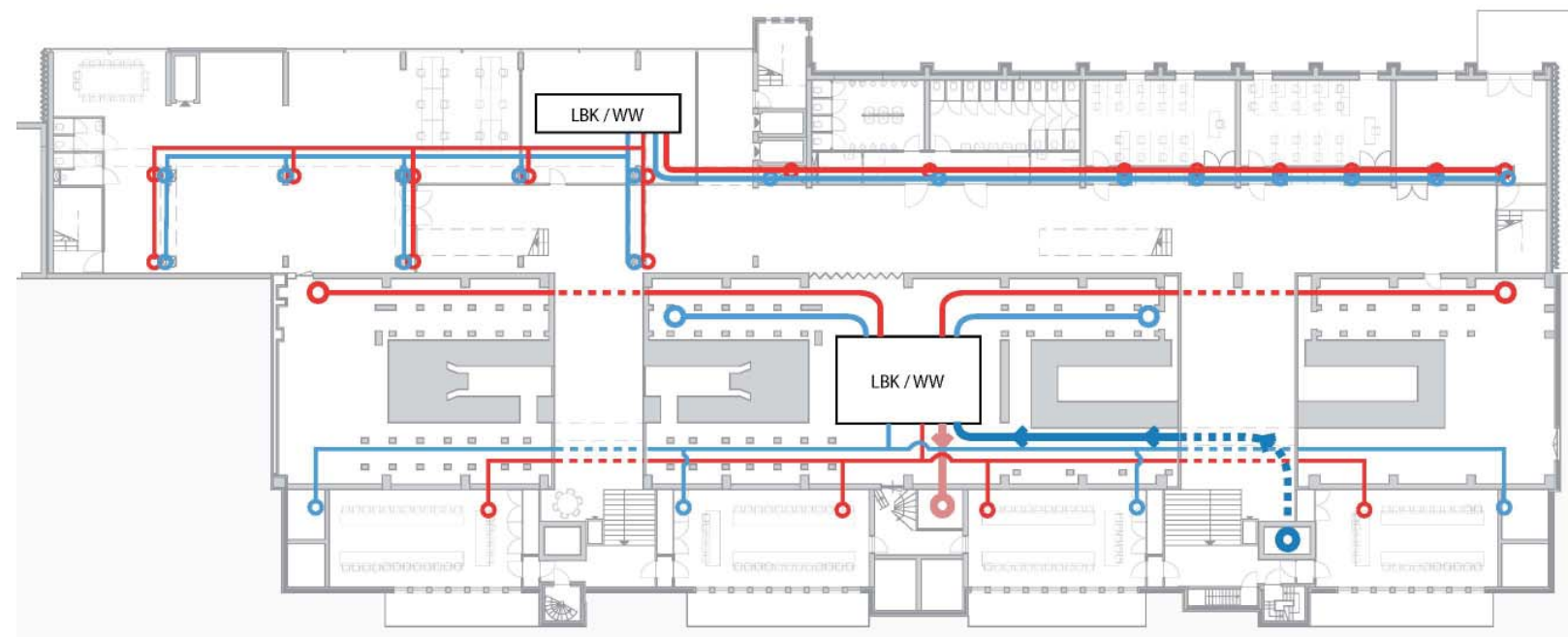
zomer situatie open warmtepomp systeem

ventilatie

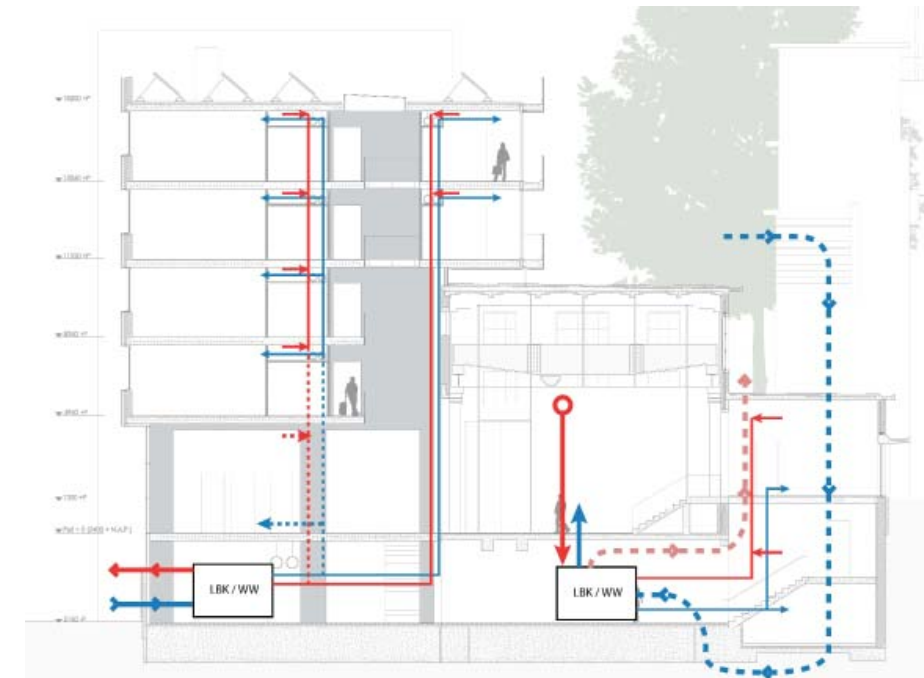
twee ventilatie zones: zuid deel
vanuit souterrain onder grote zaal,
noord deel vanuit souterrain onder
lobby

zuiden: verse lucht wordt
aangezogen vanuit de toren,
gebruikte lucht uitgeblazen uit de
bestaande schacht in het midden

noorden: verse lucht wordt
aangezogen aan gevel en
uitgeblazen aan gevel met 15
meter ruimte ertussen



ventilatie schema souterrain



ventilatie schema in snede