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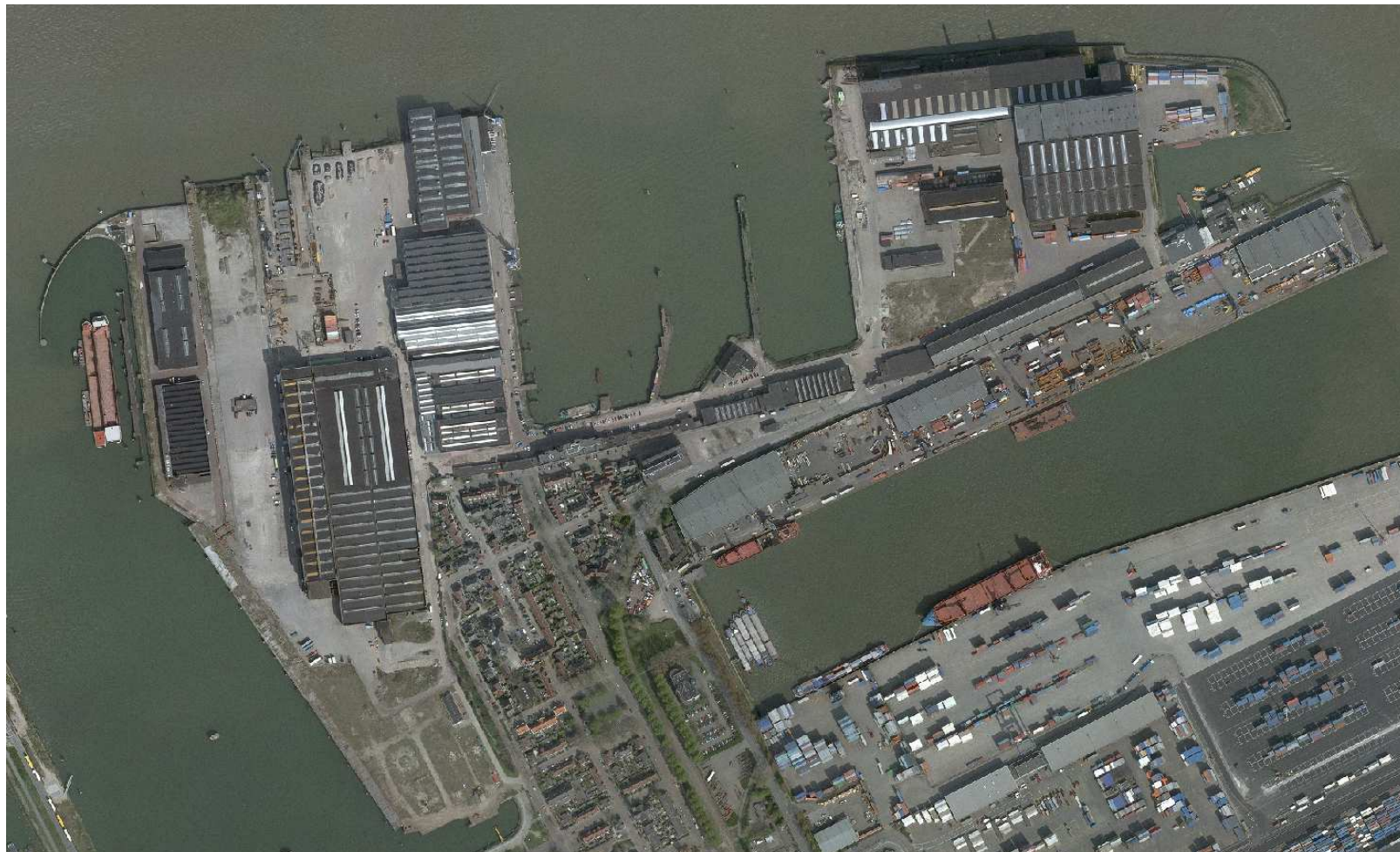


## Surgical Quay-wall Renovation

*Renovation of 'RDM kraanbaan 13'  
quay-wall in Rotterdam Heijplaat*

- Background
- Challenges
- Approach
- Lessons learned

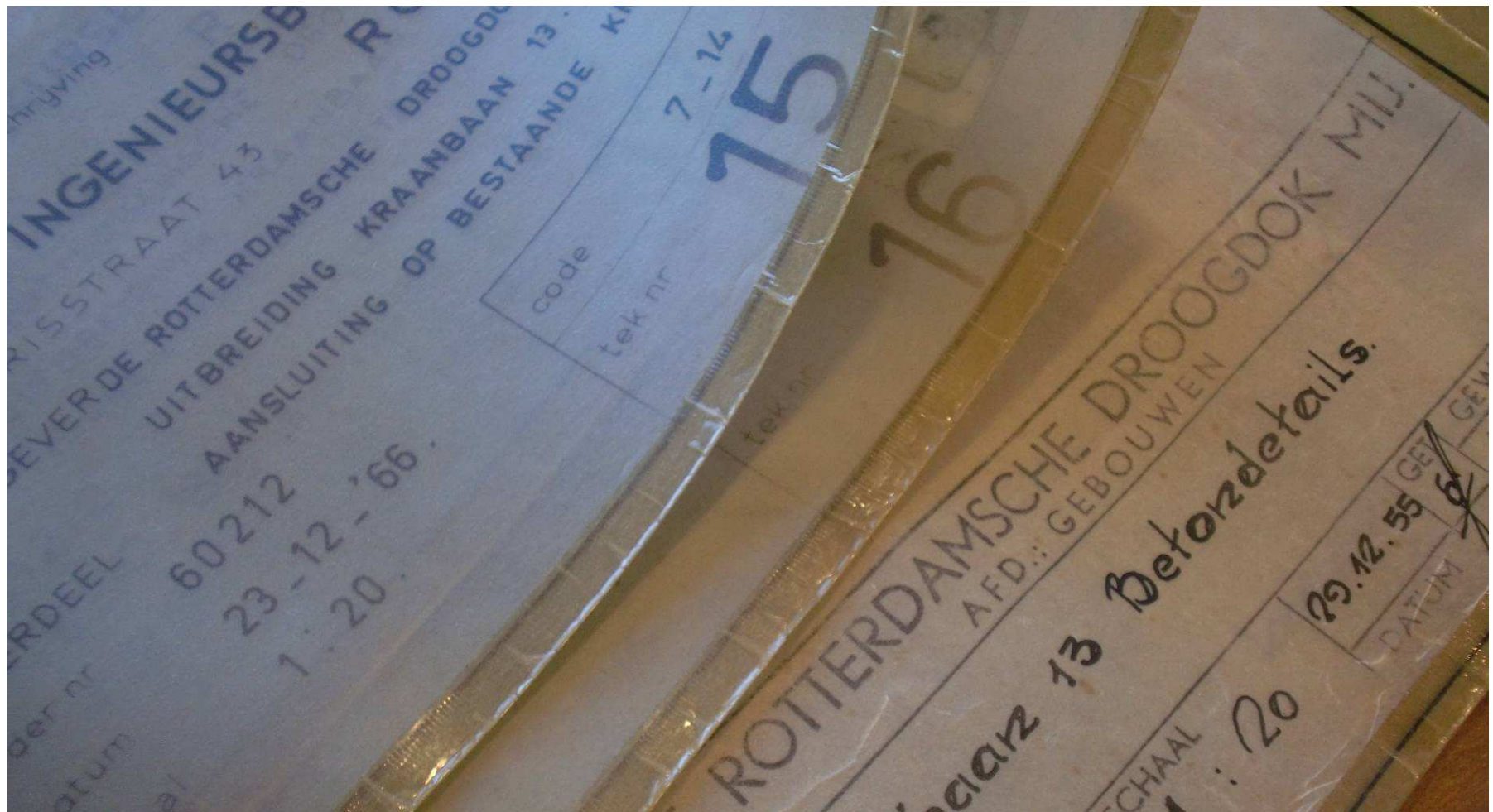
# Surgical renovation – RDM premises



# Surgical renovation – flight through history



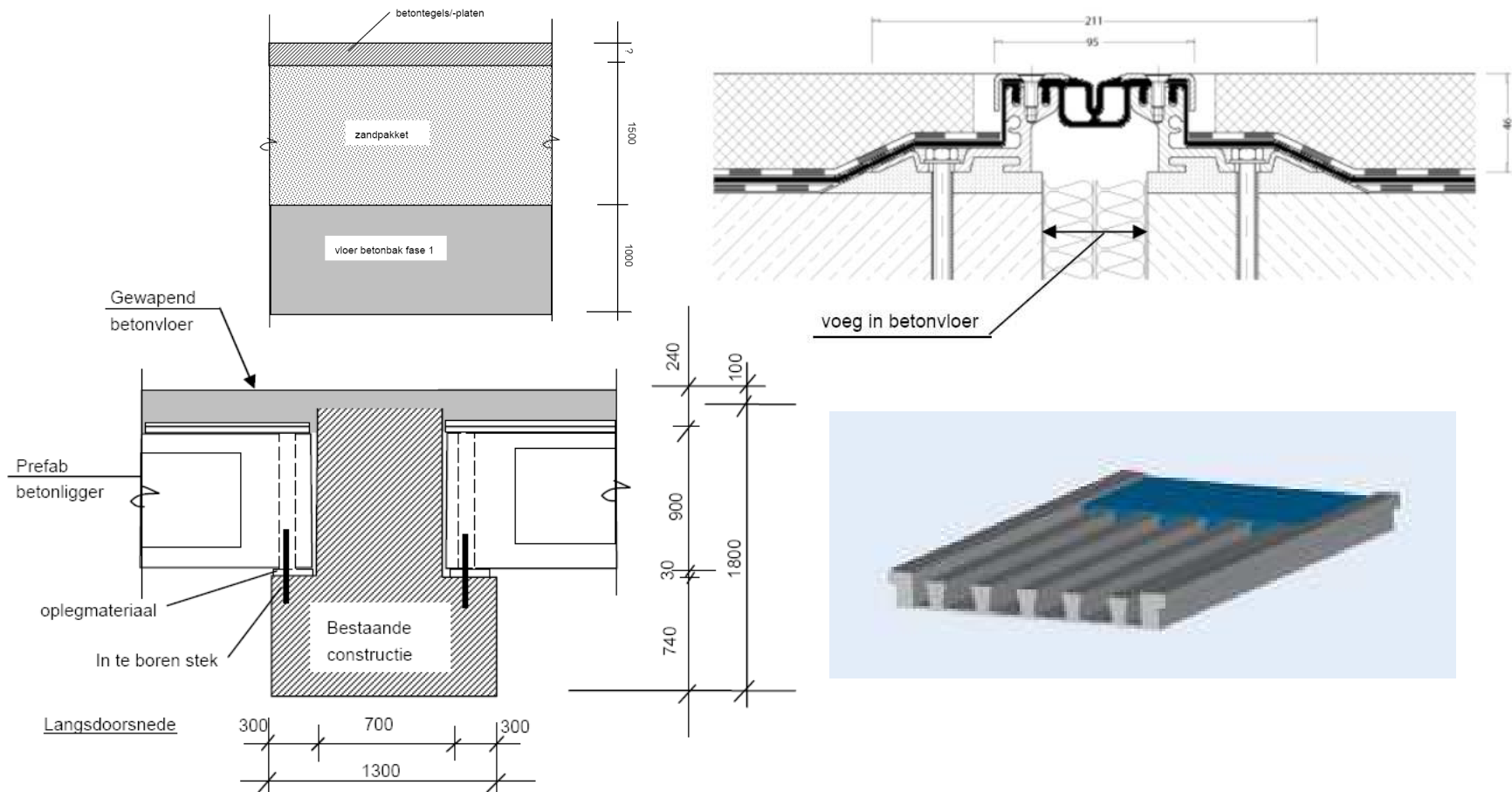
# Surgical renovation – Source of information



# Surgical renovation – What we started with



# Surgical renovation – preliminary design

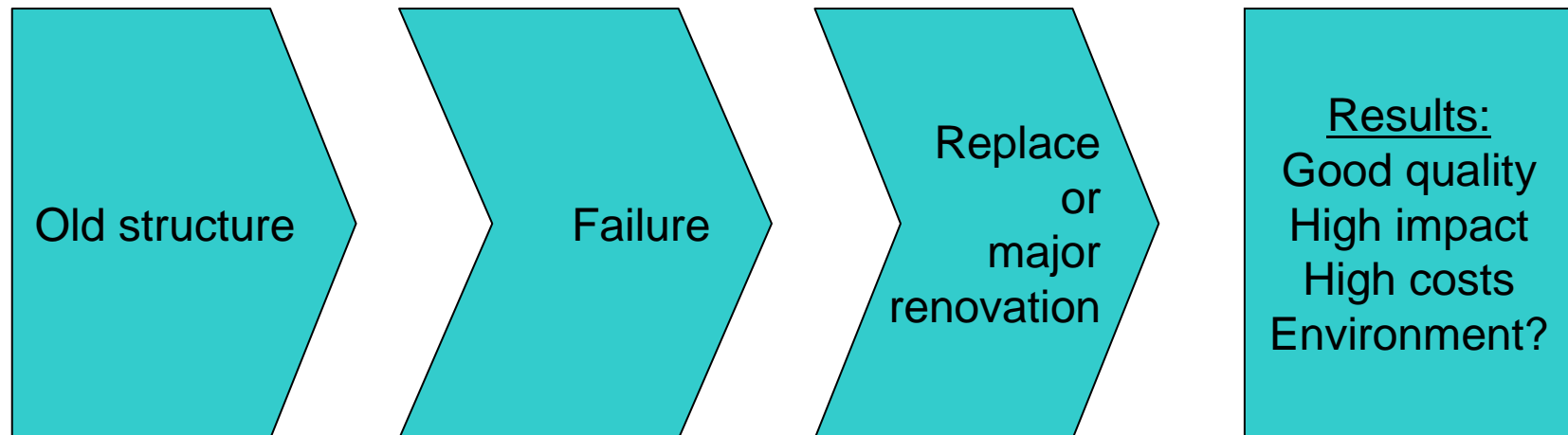


# Surgical renovation - Approach



- **Traditional Approach**

*Full replacement of deck, keep all piles*





# Surgical renovation - Approach



- **Approach project team**  
*Surgical quay-wall renovation*

Old structure



replace  
only  
broken  
parts'

Results:  
Good quality  
Lower impact  
Lower costs  
Environment

# Surgical renovation – Save the structure!





# Surgical renovation – Test!





# Surgical renovation - Approach



## Summary approach

1. Detailed inspection, and tests
2. Team wants to save the structure
3. Back to original design & capabilities
4. Keep all that is still functional
5. All activities in parallel...

# Surgical renovation - Approach



## Advantages

1. Lower construction costs
2. Significantly lower environmental impact

## Disadvantages

1. Higher preparation costs
2. Increased management attention required

# Surcical renovation – Approach



## Lessons learned

1. Follow the original design principles to prevent a cascade of modifications
2. Really want to keep as much as possible and design the renovation accordingly
3. Good communication and quick decision making



