

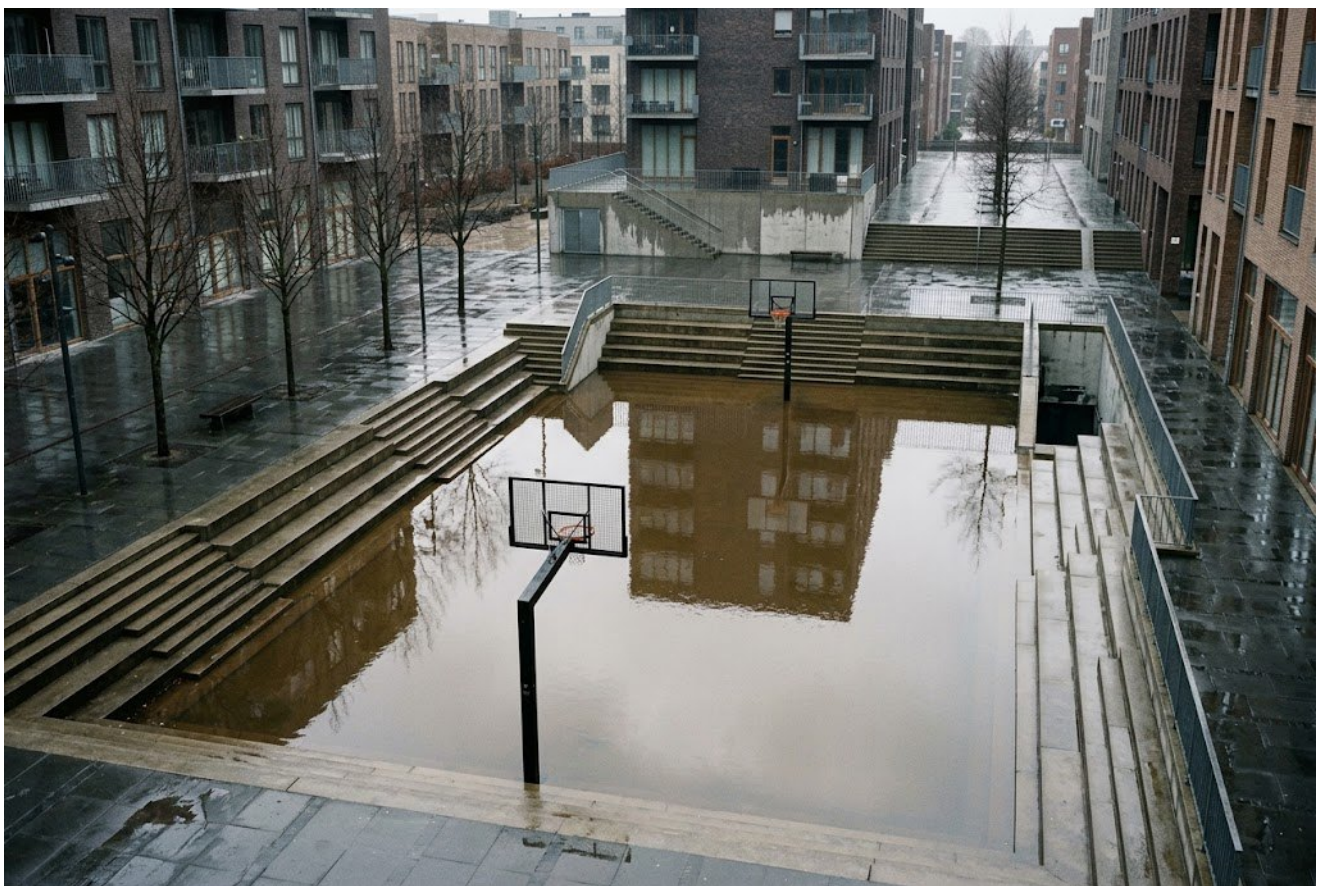
The Square That Fills With Rain

A basketball court that is also a reservoir, in a city that stopped fighting water.

6 min read

Before you read

- **catchment** — the whole area from which rainfall drains to one point
- **retrofit** — to add something new into a structure that already exists
- **resilience** — the ability to absorb a shock without breaking down
- **contingency** — a plan held ready for a situation that may not arise
- **deliberate** — done on purpose, after consideration
- **consensus** — general agreement reached across a group
- **surplus** — more of something than the system can currently use
- **conceal** — to hide from view



A sunken public square in Rotterdam, designed to flood during heavy rain

¹ The first thing Joris noticed was that the court was gone. Not damaged — gone, under a metre of brown water, with the hoops standing above the surface like something left behind by a flood. He had been playing on it the previous afternoon.

² Nothing had failed. The square had done exactly what it was built to do.

³ Rotterdam has a particular relationship with water. Most of the city lies below sea level, protected by an engineering system that is among the most sophisticated on Earth. For most of the twentieth century the governing idea was straightforward: keep water out, move it away, get it underground and into pipes as fast as possible. It worked, and it is still working.

⁴ The problem is cloudbursts. A drainage system is built for a certain volume arriving over a certain time, and in a short, violent downpour, far more arrives far faster. The pipes fill, the surplus has nowhere to go, and it comes up through the drains into streets and basements. Enlarging every pipe beneath a dense old city is possible in principle and close to unaffordable in practice.

⁵ So Rotterdam tried the opposite approach. Rather than moving the water away immediately, hold it where it falls and release it slowly once the pipes are free. That requires somewhere to put it — and in a built-up city, the available space is already a square, a car park or a playground.



The deepest basin, dry and in use as a court between storms

⁶ The water square that opened in 2013 in the Benthemplein district is the clearest version of the idea. Three shallow basins sit below street level and function as ordinary public space: seating, a stage, a sports court. Painted channels carry rainwater from the surrounding roofs and paving into them. In light rain only the smallest basin takes water. In a serious storm all three fill, holding well over a million litres, and then drain down over the following hours.

⁷ What makes it unusual is not the engineering, which is comparatively simple. It is the decision not to conceal any of it. The tank could have been buried under the square, invisible and maintenance-free from the public's point of view, as hundreds of such tanks are. Instead the system was put where people stand in it, sit in it and play in it, and where a storm visibly takes the space away for a day.

⁸ That was deliberate, and it was not universally popular. Residents were consulted over a long process, and the objections were reasonable ones: a sunken square can feel enclosed, standing water raises questions about mosquitoes and hygiene, and a sports court is less useful if it is occasionally a pond. Consensus was reached slowly and not completely.

⁹ The argument that carried was about understanding. A hidden tank solves a drainage problem for the people who maintain it. A visible basin solves it for everyone else as well, because the neighbourhood can see what a hundred-millimetre rainfall actually looks like. People who have watched their basketball court disappear have a working idea of why the city talks about heavy rain. People standing on a concrete lid do not.

¹⁰ Dutch water policy has moved in this direction more broadly. Along several major rivers, the long-standing response of building the embankments ever higher was partly reversed: embankments were moved back, floodplains deliberately reopened, and in some cases farmland was given up so that a river in flood had room to spread rather than a narrower channel to accelerate through. Giving ground on purpose, in order not to lose it accidentally later, is the same reasoning as a square that is allowed to flood.

¹¹ None of it means the defences have been abandoned. The barriers and dykes remain, and the water square is a contingency within a system, not a replacement for one. What has changed is the acceptance that a system designed to never fail will still occasionally be exceeded, and that it is better to decide in advance where the surplus goes.

¹² By the following afternoon the basin was empty and someone had swept it. Joris went back down with a ball. The marks on the wall showing how high the water had reached are part of the design, and they are not removed.

Part A Choose the best answer

Circle the letter next to the right answer.

1. Why does ordinary drainage fail during a cloudburst?
 - A The pipes are blocked by debris from the streets
 - B More water arrives in less time than the pipes can carry
 - C The sea level rises faster than the pipes can drain
 - D The pipes freeze and crack during storms
2. What happens to the Benthemplein square in light rain?
 - A All three basins fill at the same rate
 - B The water is pumped directly into the sea
 - C Only the smallest basin takes water
 - D The painted channels are closed off
3. Why was the storage built visibly rather than buried under the square?
 - A Burying a tank was technically impossible there
 - B So that residents can see and understand the problem
 - C To reduce the cost of maintaining the basins
 - D Because the ground beneath the square is unstable
4. Which objection to the design does the passage record?
 - A The basins would be too expensive to drain
 - B The square would be unusable for most of the year
 - C A sunken square can feel enclosed and raises hygiene questions
 - D The system would make flooding elsewhere worse

5. What does the passage say about the river embankments?

- A They were raised higher than ever before
- B They were removed entirely along several rivers
- C Some were moved back to give rivers room to spread
- D They were replaced by water squares

Part B Write your answer

Answer in three or four sentences, using evidence from the passage.

6. Explain the difference between a hidden tank and a visible basin as the passage presents it. Why does the writer treat this as the important decision?

7. The passage says the square “did exactly what it was built to do”. Explain why the writer states this so early, immediately after describing what looks like a failure.

8. Explain how moving river embankments back and allowing a square to flood follow the same reasoning.

Part C Think deeper

There is no single right answer here. Take a position and justify it.

9. The design accepts that a public space will sometimes be unusable. Is that a reasonable trade for the neighbourhood, or should the inconvenience fall somewhere else? Take a position and say who bears the cost under it.

10. The passage argues that people manage a risk better when they can see it. Is that generally true? Give one example from your own experience that supports it and one that complicates it.

Answer key

For parents and teachers

Part A

1. B | 2. C | 3. B | 4. C | 5. C

Part B

6. A buried tank is invisible and solves the problem only for the engineers; a visible basin shows the neighbourhood what heavy rainfall actually amounts to. The writer treats it as the key decision because the engineering was simple while the choice to expose it changed public understanding. Credit answers that identify understanding, not capacity, as the difference.

7. Placing it there reframes everything that follows: the reader is told not to read the flooded court as damage. Accept any answer identifying that the writer is correcting the reader's assumption before it settles.

8. Both give up ground on purpose — floodplain, or a usable court — so that water has a planned place to go, rather than defending every metre and being exceeded somewhere unplanned. Strong answers state the shared principle rather than describing both cases separately.

Part C

These answers vary. Mark the reasoning, not the answer.

9. Mark whether the student names who actually bears the cost in their preferred option — this neighbourhood, another neighbourhood, taxpayers funding a buried tank, or basement owners during the next storm. A position without a bearer of cost is incomplete.

10. A strong answer gives a genuine complicating case: visible risks that are ignored through familiarity, or invisible risks managed well through trust in experts. Mark the quality of the counter-example, not the conclusion.

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