Wadi Hanifah
Urban|Landscape Infrastructure for the 21st Century

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PROJECT TEAM

Client: Arriyadh Development Authority

Landscape and Planning Consultants: Moriyama & Teshima Planners Ltd., Canada

Engineering Consultant: Buro Happold, UK

Construction Firm: Badan Agricultural and Contracting Company

Wastewater Consultation Firm: Nelson Environmental
“The current screed is obsessively focused yet again on what is seen as the leadership role in urbanism of a powerful and invidious cabal at the Harvard Graduate School of Design (GSD), an effete elite that just doesn’t get it. This weirdly fetishistic animus has gnawed at Duany’s craw for years. What’s up with that? Give it a rest!”

- Michael Sorkin

"I offer the following response to the collection of personal tiffs you cobbled together as a review. [...] I would have thought an old relativist warrior like you, open to all sides of every argument, would be more careful to keep track of the stories he tells each group - if only to avoid becoming an obvious liar."

- Andres Duany
Riyadh, Saudi Arabia
24.6° N, 46.7° E

Wadi Hanifah Watershed
1980 – Technical and environmental studies

1994 – The Arriyadh Development Authority adopts a *Strategy for Wadi Hanifah*

2001 – Moriyama Teshima Planners hired to undertake a Wadi Hanifah Comprehensive Development Plan

- Environmental Appraisal and Plan for the wadi basin
- Water Resources Management Plan
- Land Use Plan
- First-stage 10-year implementation program

2004 – Construction begins

2010 – Official opening and beginning of operations
The “naive and counterproductive” belief that sustainable urbanism is dependent upon “certain bioregional metabolism, while assuming the place-form of some semi-ruralize environment”.

- James Corner (2006)
BIOREMEDIATION PERFORMANCE AVERAGE DATA, 2009 - 2013

- BOD
- TSS
- Phosphorous
- Ammonial-N (TAN-NH3-N)
- Carbon
- Total Coliform
- Fecal Coliform

Reduction Rate Percentage

0%  20%  40%  60%  80%  100%
“[The] irrigation of territories with potential”
- Rem Koolhass (1995)
“Do the advocates of such plans really believe that natural systems alone can cope more effectively with the quite formidable problems of waste and pollution than do modern technological plants?”

- James Corner (2006)
Out of clean water come great opportunities
### Wadi Hanifah Bio-remediation Plant

**Riyadh, Saudi Arabia**

#### At a Glance

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#### Former Land Use

Poluted Riverbed - Urban & Industrial waste water dump

#### Project Overview

7,372 linear feet of stream restoration, 72 acres of conservation easement were a floodplain.

#### Sustainable Features

- Used natural processes rather than mechanized processes to treat stormwater.
- Aerates dissolved oxygen to kill coliform bacteria and creates favorable conditions for microbes, fish and other aquatic organisms to continue naturally treating the water.
- Employs biocells in staged groups to assimilate nutrients in the water while continuing to filter out pathogens.
- Dry weather flow channels offer habitat for benthic invertebrates and other consumer species.

#### Role of Landscape Architect

- Planning schemes for the 134 remediation cells.
- Design of the riffle pools.
- Design of the Dry weather flow channels.

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“I remember watching children playing with what was close to raw sewage and thinking: We have to fix this. Right from the beginning we knew that this project was about future generations and would outlive us.”

- Drew Wensley