



**Intentional's**

**Interest in Rammed Earth**

**Presentation to TEN Community, UK**

Charles Donald, CEO

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Friday, 8<sup>th</sup> April 2022

# Introductions – Charles Donald

Graduated from University of Surrey in 1981 BSc Hons Civil Engineering

Member of the Institution of Civil Engineers (MICE) 1989

Worked as a Structural Design Engineer for six years in the UK

From Scotland, based in Dubai since 1989.

## Places

- Scotland & England
- Dubai
- Abu Dhabi
- Al Ain
- Sharjah
- Bahrain
- Qatar
- Kuwait
- India
- Africa
- Turkey
- China
- Pakistan

## Roles

- Draftsman
- Structural Engineer
- Project Coordinator/  
Owner's Rep
- Technical Manager
- Project Manager
- Resident Engineer
- Design Manager
- Project Director
- Director of Development
- Director of Facilities  
Management
- COO
- Founder, CEO

## Employer Types

- Design Consultant
- Contractor
- Building Owner
- Professional Project  
Management Firm
- Developer
- A.D. Government
- Self Employed – Founder  
and CEO of Intentional  
Engineering

## Project Types

- Industrial Buildings
- Roads
- Retail – Malls (Wafi), Stores (Apple)
- Interiors
- Commercial
- Airports
- Government Buildings
- Ship Construction Yard
- Hospitality e.g. Four Seasons, Doha
- Al Ain Wildlife Park & Resort
- Museum/Visitor Centre
- Container Port
- PPP Project



Charles Donald's  
Projects in the Middle East and India  
1989 to 2022



Wafi Mall – Charles' first project in Dubai



Wafi Mall



Sheikh Zayed Grand Mosque



Sheikh Zayed Desert Learning Centre



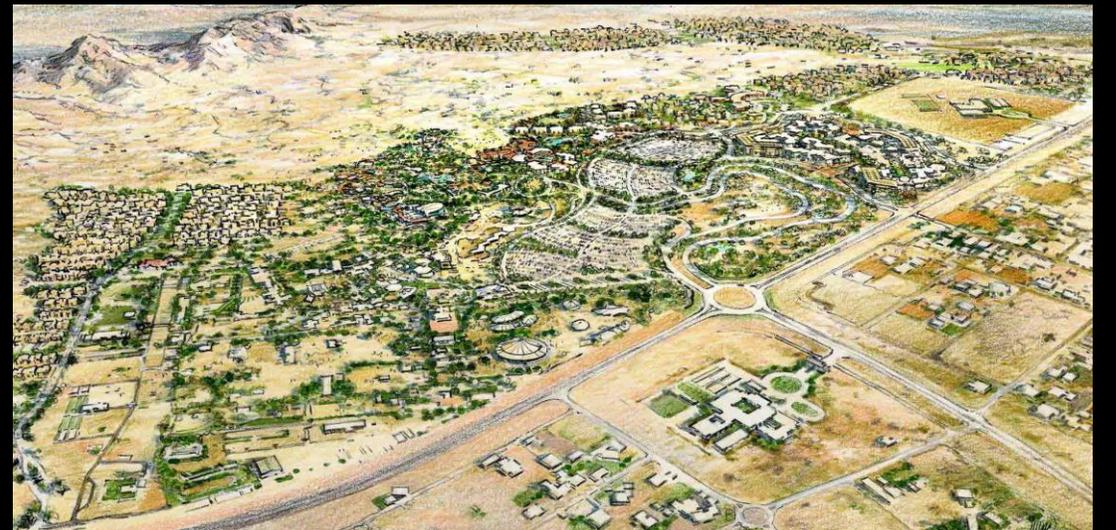
**West Bay Complex (Includes Four Seasons Hotel)**



**Wisdom Tree Residential Complex, Bangalore**



**Mubarak Al Kabeer Container Port**



**Al Ain Wildlife Park and Resort**



Adma-Opco Adgas Headquarters



Amiri Flight, Abu Dhabi



Etihad Museum



Four Seasons, Doha Spa



Dubai Creek Marina Harbour Terminus

Which project was the most satisfying for me and why?

Abu Dhabi Ship Building shipyard because the Client was most engaging and I managed both its design and construction



# Sustainability Interests/Experience

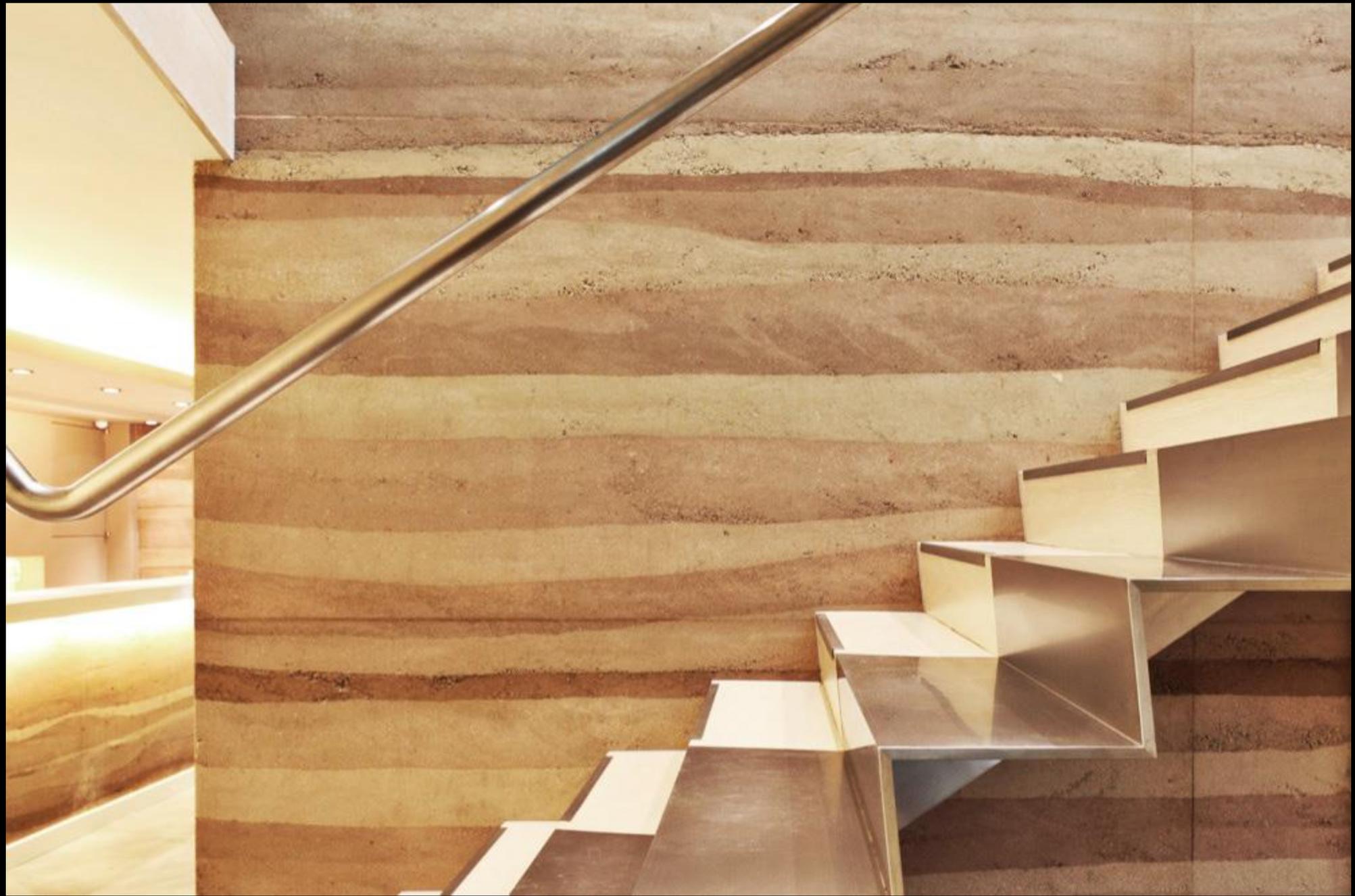
1. Rammed Earth
  - Intentional Engineering
  - Lots of research into its benefits
  - Cheetah Accommodation at Al Ain Zoo
  - House in India
  - Pilot Project in Uganda
2. Zero Carbon Construction – Embodied Carbon
3. Recycled Concrete
4. Recycled Plastic – Eco Plastic Industries
5. Green Energy
6. High Quality, Sustainable Interior Design
7. High Performance Insulation
8. Passive Cooling
9. Grey Water use
10. Water saving devices
11. Solar Cooking
12. Solar Water Heaters
13. High Performance Glazing
14. Tubular Daylight Devices
15. Smart Buildings
16. Impact Investment
17. Performance Measurements

Rammed Earth









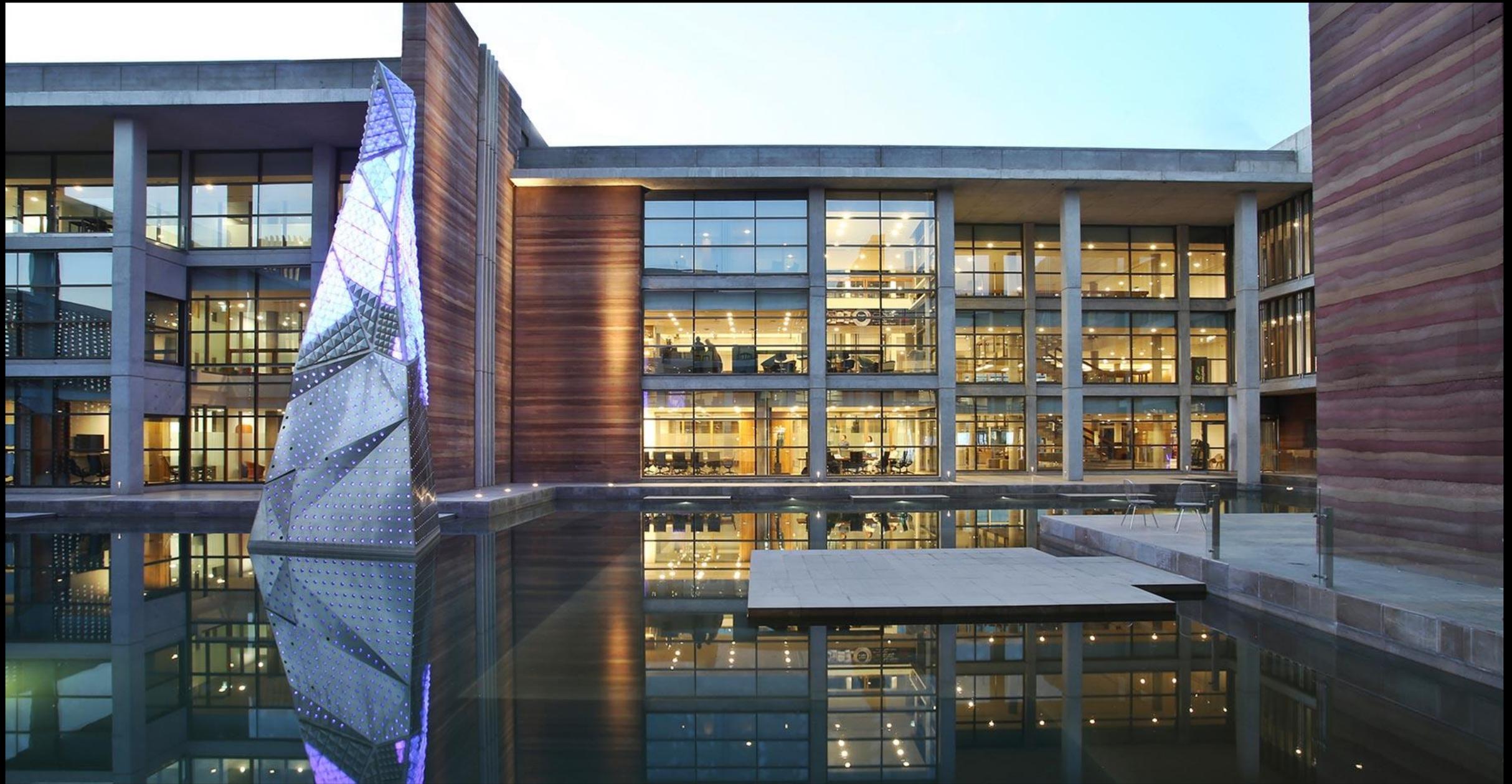






















## Advantages of Rammed Earth

- Sustainability
  - Low embodied carbon, particularly if material sourced local to the site
  - Easy to recycle or dispose without risk of contaminating the environment
  - Opportunity to use crushed materials from building demolition
- Architectural Quality
  - Beautiful finish with opportunity to introduce different colours from different material sources or using dyes
  - Walls may be battered in section or curved on plan
  - Can use relatively inexperienced labour force for many of the activities
  - No need for addition of wall finish
- Building Health and Performance
  - Walls regulate internal relative humidity between 40% and 60% improving indoor air quality, removing asthma triggers and reducing respiratory diseases
  - Bulky mass contributes to passive environmental performance
- Speed of Construction



**Dr Paul Jaquin**

(Consultant to Intentional  
has a PhD in Rammed  
Earth)

## Building and Training Teams - Uganda





## Pilot Boundary Wall for Empower African Children

Intentional Communities  
Uganda Ltd

15<sup>th</sup> - 18<sup>th</sup> April 2013

<https://www.youtube.com/watch?v=kM-yNcynxM>



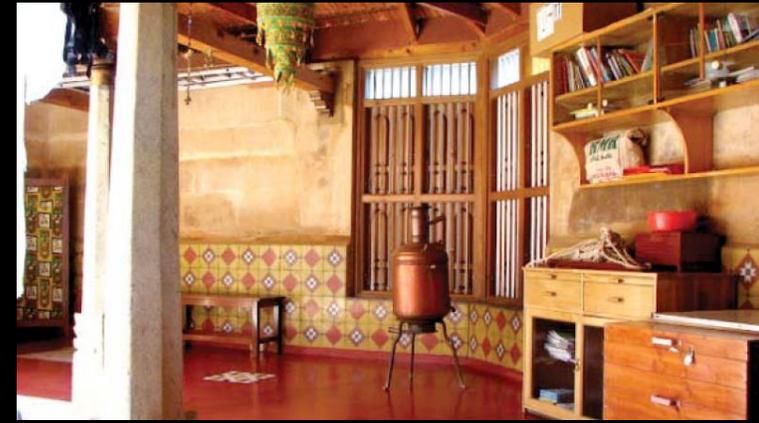
What can we do for you?





**Interior Design  
Karen Michelle Evans**







**Abdul Hamid Khoory  
Eco Plastic Industries**

**I believe nothing is a waste**

I believe in faith. I believe in good. And I believe that the work you do will never be wasted.





**The simplest way  
to make rammed earth**

**The most sophisticated  
approach to rammed earth**



<https://www.youtube.com/watch?v=DVVzyApciWs>



**DATE DRYING  
FACILITY AT  
FUJAIRAH FARM FOR  
GREEN COAST REAL  
ESTATE**

**16m x 10m (160sqm)**

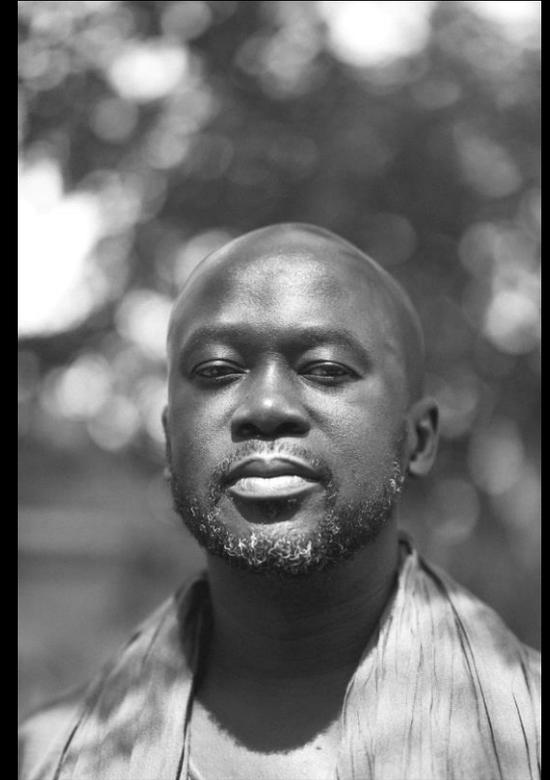
# SIR DAVID ADJAYE OBE

Sir David Adjaye OBE is an award-winning Ghanaian-British architect known to infuse his artistic sensibilities and ethos for community-driven projects. His ingenious use of materials, bespoke designs and visionary sensibilities have set him apart as one of the leading architects of his generation. In 2000, David founded his own practice, Adjaye Associates, which today operates globally, with studios in Accra, London, and New York taking on projects that span the globe. The firm's work ranges from private houses, bespoke furniture collections, product design, exhibitions, and temporary pavilions to major arts centers, civic buildings, and master plans. His largest project to date, The National Museum of African American History & Culture in Washington, DC opened on the National Mall in Washington DC in 2016 and was named Cultural Event of the Year by The New York Times.

In 2017, Adjaye was knighted by Queen Elizabeth II and was recognized as one of the 100 most influential people of the year by TIME Magazine. Most recently, Adjaye was announced the winner of the 2021 RIBA Royal Gold Medal. Approved personally by Her Majesty the Queen, the Royal Gold Medal is considered one of the highest honors in British architecture for significant contribution to the field internationally. Sir Adjaye is also the recipient of the World Economic Forum's 27th Annual Crystal Award, which recognizes his "leadership in serving communities, cities and the environment."

As a young boy born in 1966 in Dar es Salaam, Tanzania, Adjaye's childhood saw stability in movement as his father Affram was a diplomat whose work took the family all over the world to places such as Kampala, Nairobi, Cairo, Beirut, Accra, and Jeddah. Adjaye was born into a vibrant era of hope where just previously Kwame Nkrumah had won the country independence from the British in 1957 and the spirit of emancipation was one that influenced the family's mobilities. In his early adulthood, one of the many prolific projects that evolved out of David's travels is the 'Adjaye Africa Architecture: A Photographic Survey of Metropolitan Architecture'. The project took place over a ten-year period documenting fifty-four major African cities and showcasing a concise urban history, fact file, maps and satellite imagery that come together in a rigorous analysis and reconceptualization of what African architecture is and can truly be.

A formative moment in Adjaye's childhood was when he realized the inequities that his brother Emmanuel – who was partially paralyzed — faced when visiting his specialized school. Adjaye noted how inefficient, run-down and degrading the actual facility was. During his university education at South Bank, he began to think about designing a facility that would provide better care for the handicapped, a moment he describes as changing everything. He came to the understanding that architecture should serve people and as a prevalent force within all our lives it too should take to the realm of egalitarianism.



# ABRAHAMIC FAMILY HOUSE, ABU DHABI



# AFRICAN INSTITUTE, SHARJAH



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# AFRICAN INSTITUTE, SHARJAH



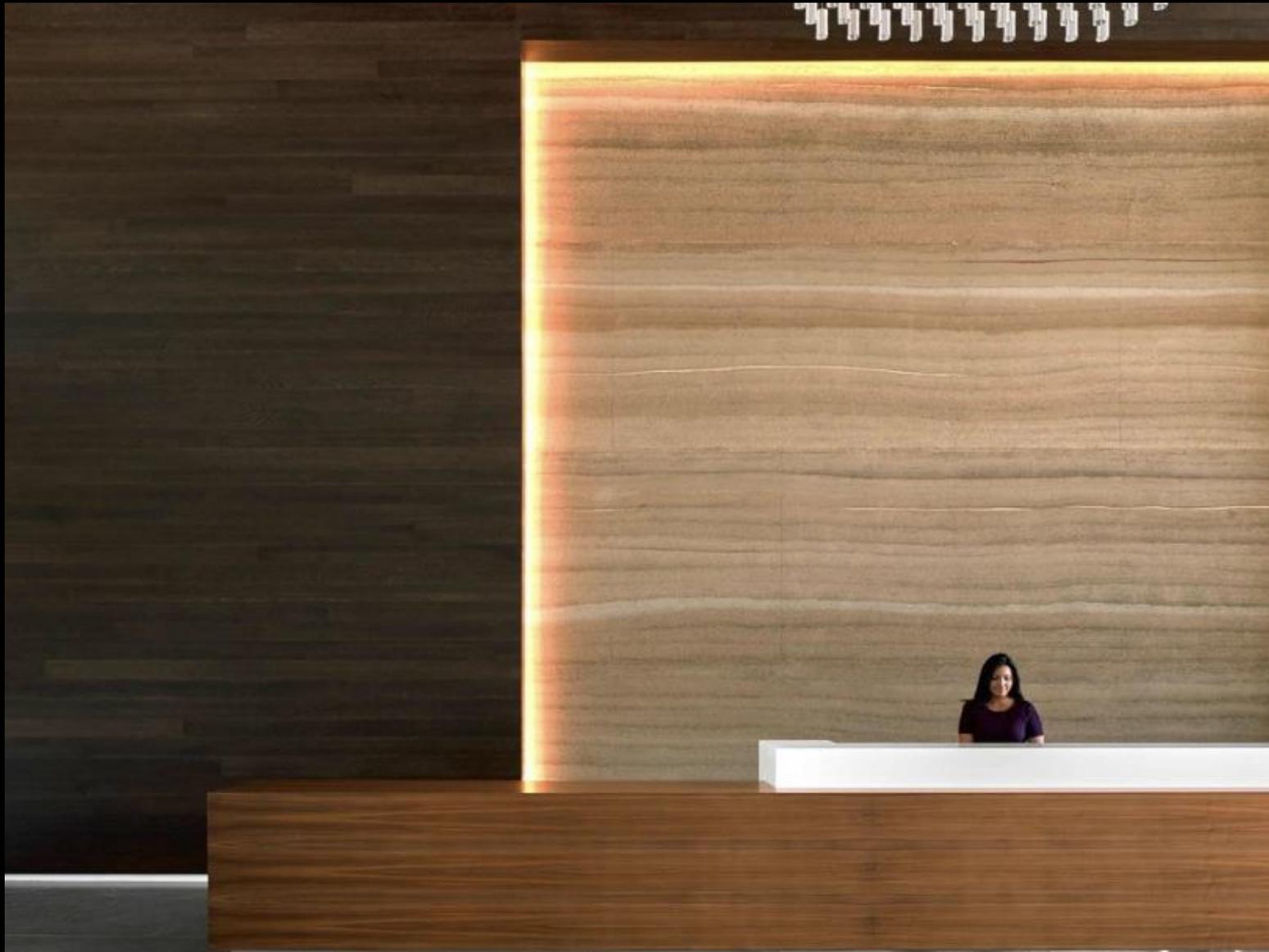
## RAMMED EARTH WORKS, CALIFORNIA

Rammed Earth Works completed more than 300 rammed earth projects since the 1970s. They started in traditional rammed earth construction and later developed thin rammed earth cladding panels. A sister company also produced rammed earth blocks.

Sadly the Founder passed away in 2021. Before passing he instructed his Operations manager, Dan Alvarado to run the company down.

Charles is collaborating with Dan and another ex-colleague, Jesse Bojarsky to strengthen his rammed earth capabilities. There is a plan to bring Jesse to Dubai for one month in the second quarter of 2022.

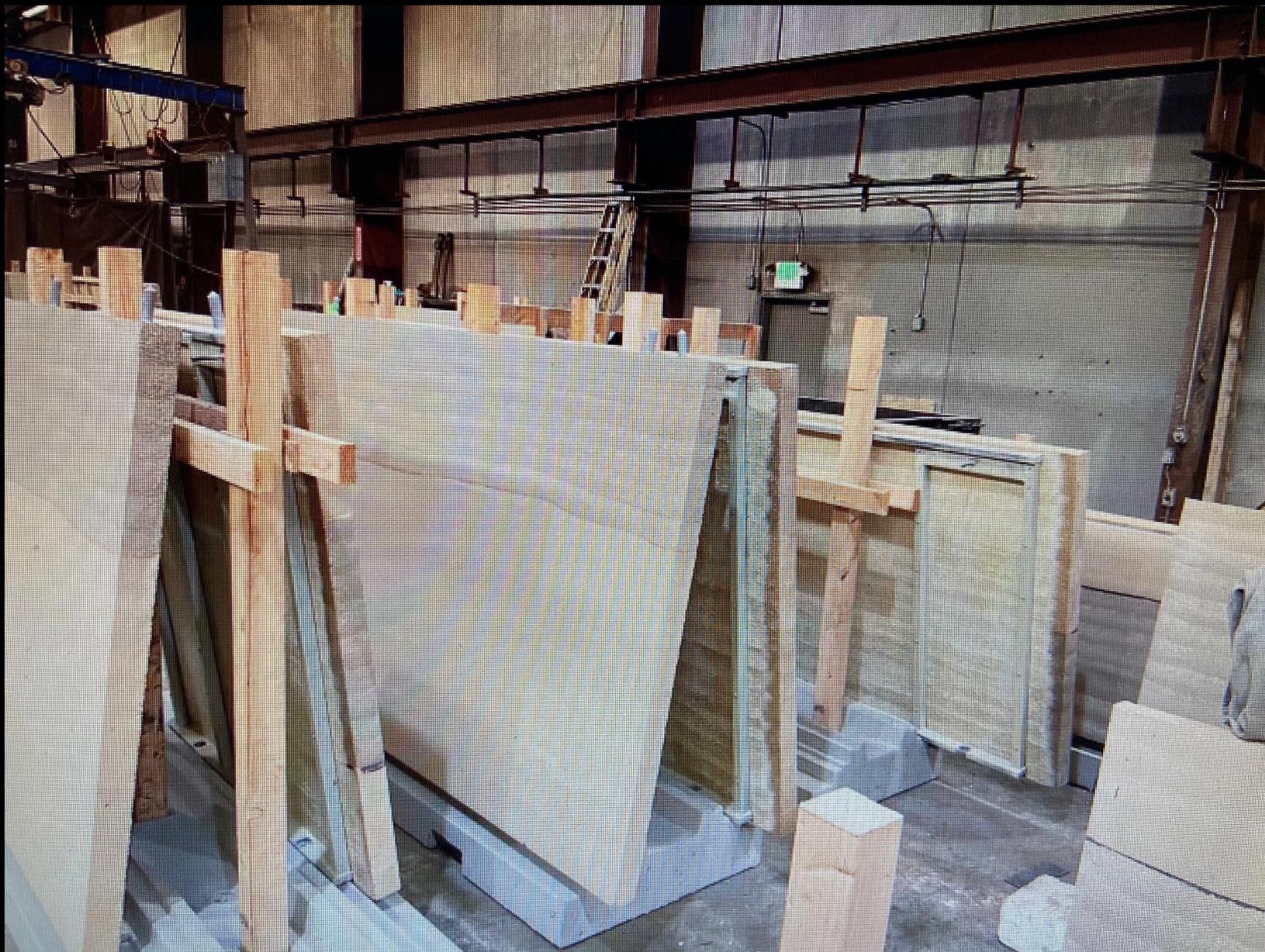
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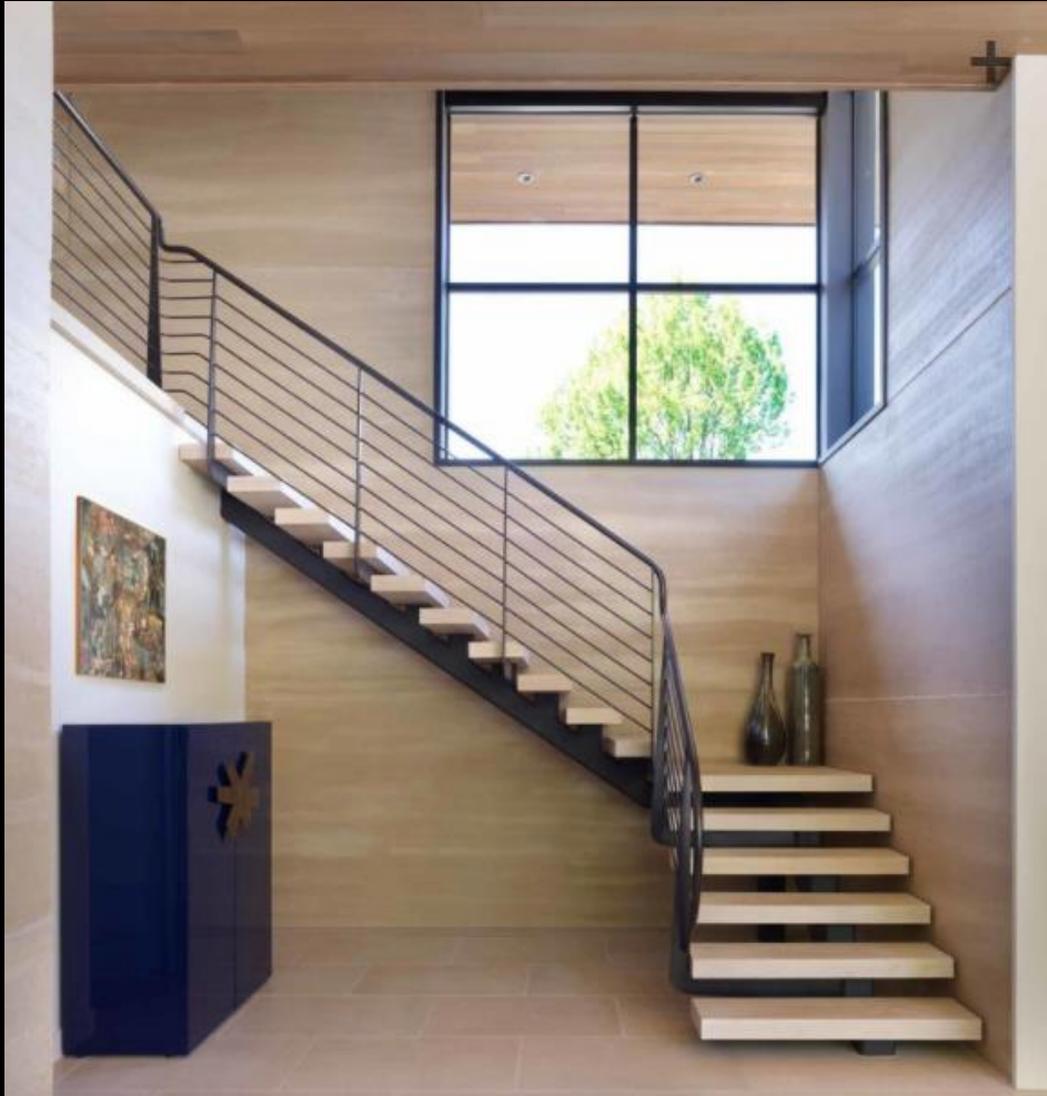
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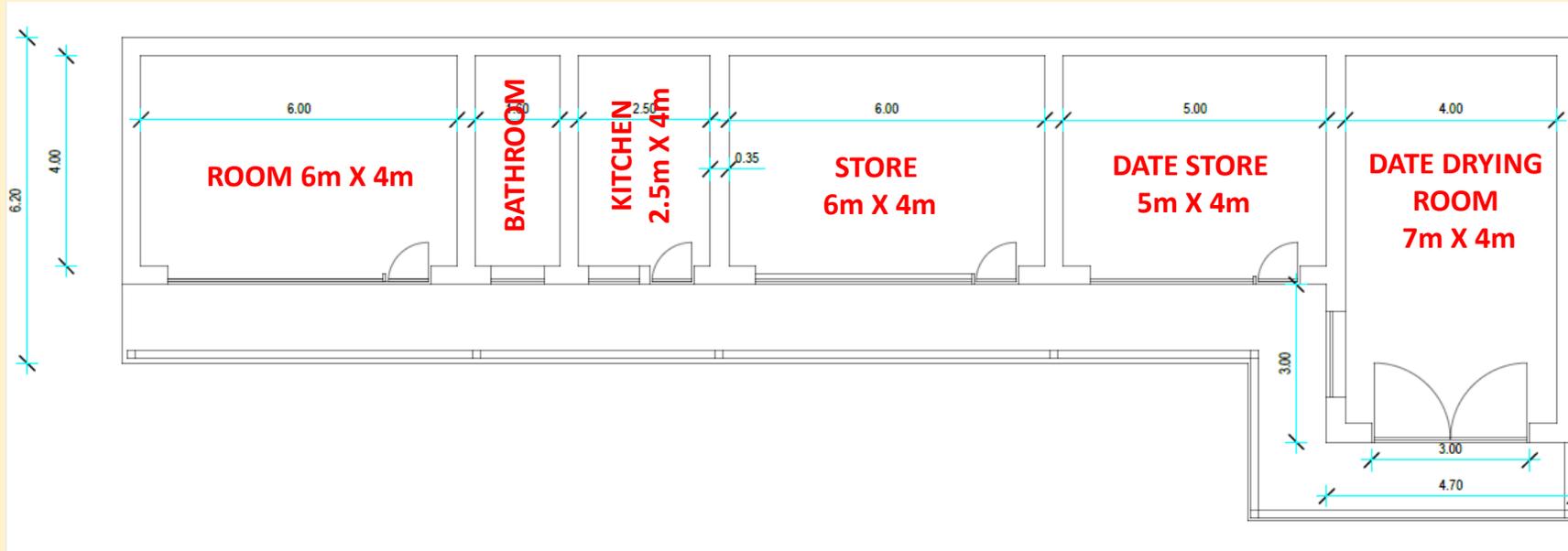


NEXT STEPS



# **ACCOMODATION – STORE COMPLEX**

## **AL AWIR FARM**



**PLAN**

REFERENCE IMAGE 1



REFERENCE IMAGE 2



### REFERENCE IMAGE 3



REFERENCE IMAGE 4



**END OF PRESENTATION**



**BEE'AH RECYCLED CONCRETE, SHARJAH**



# WHAT ELSE IS INTENTIONAL DOING?

**Intentional is officially registered in Dubai as Charles Donald Project Management Services.**

**It focusses in three areas:**

- 1. Intentional Engineering (development of rammed earth falls under this)**
- 2. Intentional Development**
- 3. Intentional Communities**

# INTENTIONAL CURRENT PROJECTS

Intentional is currently providing consultancy services:

1. To a group of Arab believers who have a vision to develop The City of Refuge, Georgia. This is to be a respite for disadvantaged people. It will begin with a boarding school, an orphanage, a retired peoples home and offices/workshops for start ups
2. To a pastor in Zanzibar who has a tourism business and wants to build an African Village / Resort
3. To a group in Uganda wanting to build affordable housing in rammed earth
4. To the US NGO Tying Vines/Walk With Me – on the development of housing for Syrian refugees on some land that they have purchased in Lebanon
5. To the US NGO Tying Vines/Walk With Me – on a 100 bed field hospital to be located in Poland on the Ukrainian border. Obtained five quotations but now negotiating with the Canadian government to gift hospital they ordered for Covid but don't need.
6. To a Christian group from Washington who want to invest in/develop affordable housing in the UAE for young, middle income Christians probably in Dubai

# **INVITATION**

**You are invited to partner with  
Intentional in any of our initiatives**

**END OF PRESENTATION**