RAS AL HAMRA DEVELOPMENT PROJECT

Iain Liversage
RAH Development Non Residential
Construction Lead
PDO VISION

“To be renowned and respected for the excellence of our people and the value we create for Oman and our stakeholders”.
PDO has an urgent need to redevelop the RAH areas aged housing stock and facilities.

It is recognized that the RAH area is a prime site in the context of Oman’s tourism aspirations.

The RAH redevelopment is pursued on a “win-win” nature with the following objectives:

- Addresses PDO’s requirements within the concession agreement period;
- Facilitates the tourism development of the Sultanate;
- Creates a high quality and attractive residential area that will leave a lasting legacy after the expiry of the concession period; and
- Maintains a security buffer zone to the industrial area.
Project Scope

- **Residential** – Total of 1067 units comprising of villas, townhouses, apartments.
- **School** – New international school for approximately 650 pupils to capable of covering years 1-7 (plus pre-school) located in the area identified as Sayyala Terrace.
- **Club** – Redevelopment of club facilities with the addition 35 guest rooms, existing sports hall/fitness gym to be retained and modernised.
- **Golf Course** – 9-hole floodlit course and only full golf course in Oman where night golf will be possible. This will be the first time in Oman this type of paspalum grass will be used, it is sustainable and is highly durable.
- **Hotel** – 5-Star boutique hotel on the land adjacent to Barik Road and Marjan Beach. To be developed by Omran as a third-party developer.
- **Mosque** – At the entrance of the development on Ras Al Hamra Street with a capacity of 240 persons (200 men and 40 women) with parking and ablution areas.
- **Sablah** – To be constructed adjacent to the mosque.
- **Road Dualisation** – Seih Al Maleh road from existing traffic lights to PDO gate-2 and Fahoud Street to Ras Al Hamra street junction.
- **MAF Medical Centre** – Located adjacent to PDO gate-1.
- **Infrastructure and Utilities** – Site wide infrastructure comprising of roads, water supply, sewerage, telecommunication, power supply, TSE and landscaping.
Design features

• Modern interpretation of traditional Omani architecture
• Freestanding villas
• Attached villas
• Townhouses
• Apartments
Sustainability

Examples of the Construction Philosophy geared towards Sustainable Development.
Energy Efficiency

→ External Insulation Finishing System (EIFS): Reduces the heat transfer through the building.

→ Use Autoclaved Aerated Concrete Block (AAC) for external building walls to minimize the heat transfer through the external wall fabric.

AAC blocks:

- Highly sustainable building material which consumes at least 60% less raw materials compared to conventional concrete blocks.
- It has high thermal insulation properties.

→ Utilize the solar cell:

- Solar Water Heaters.
- Solar LED Street Lights.
Energy Efficiency

→ Using LED lights for internal lighting:
   - Saves at least 70% of energy consumption.
   - Achieves long life which optimises the operation and maintenance costs over the life-cycle.
   - Enhanced lighting levels and occupant comfort.

→ Using appliance/white goods rated of energy efficient
   - Have significant energy consumption; optimise life-cycle savings.
Energy Efficiency

Conventional (HVAC) systems consume up to 70% of a buildings energy without the application of any energy efficient systems/equipment. Priority has been given to energy optimisation throughout the development.

- Energy efficient Variable Refrigerant Frequency (VRF)
- Individual room control for A/C
- Heat recovery AHU for apartments and school.

HVAC:
- Reduced energy consumption
- Enhanced internal air quality
- Thermal control for occupants
→ Use drip irrigation systems.

→ Use of TSE for all landscaping and the golf course.

→ Using grey water treatment for non-potable uses.

→ Planting native/adaptive plants.

→ Using low flow water faucets.

Water Efficiency:
- Optimise the water consumption and prevent any unnecessary watering.
- To minimize the use of potable water.
PDO International School

New School is the first LEED Certified International School in Oman
Silver Rating Achieved

- Kindergarten and Primary School
- 650 students Capacity
- School includes:
  - Classrooms
  - Learning Souq
  - Multipurpose Hall & Indoor Sports Hall
  - Multipurpose Sports Surface & Play Ground
  - Shaded Temperature Controlled Swimming Pool
  - 150 car parking
Key Features of PDO School:

- Energy Efficiency
- Reduction in Water usage
- Occupant Comfort Ability
- Maximum Usage of Recycled and Regional Materials
- Sustainability and Environmental Friendly
- The School as a Learning Tool
LEED Requirement for the School

Energy & Atmosphere

→ Using Insulated Glass Units with low emissivity high efficiency glass.

→ Considering the layout and orientation of rooms.

→ Use Insulated roof.

Material & Resources

→ Use at least 20% of local materials –available within 500 miles- and from sustainable sources.

→ Use at least 20% of recycled materials for building component.

* Reduce the Power consumption by about 25% from baseline consumption which is a significant economic & environmental benefit.

*Reduction in carbon footprint by using local and sustainable materials considerable.

*Reducing the impacts resulting from the extraction and processing of new virgin materials.
PDO School is performing 28% better from the baseline i.e. 590 MWh annual energy savings.

<table>
<thead>
<tr>
<th>Energy Model</th>
<th>Energy Consumption</th>
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<tbody>
<tr>
<td>Proposed Building</td>
<td>2537 MWh/yr</td>
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<tr>
<td>Baseline Building</td>
<td>3524 MWh/yr</td>
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Sustainability and Environmental Friendly

• Reduce pollution from construction activities by controlling soil erosion, waterway sedimentation and airborne dust generation.
• 75% of total roof area is covered with materials having Solar reflectance index (SRI) of 78+ which minimize the impact on microclimate and human and wildlife habitat
• 75% of total on-site construction waste is diverted to recycling and Reuse excluding hazardous waste.
• 10% of materials used on the project are made from recycled content based on cost of materials
• 95% FSC-COC certified wood is procured based on cost of new wooden items
• 75% of regularly occupied indoor spaces are illuminated by day lighting
• Complete building weather proofing system
All construction contracts are awarded to Local contractors ($200M)

Approximately 70% of materials are local products.
Working in developing 14 SME’s at various scopes from modeling to fixing.
300 Omanies already trained and provided jobs in construction companies sponsored by RAH project ($3M)
200 Omanies will be trained in skilled jobs such as designers, quantity surveyors and quality inspectors.
25 Omanis been trained and working in Phase-1 residential were given certificates by RAH team.
Driving initiative to establish local manufacturing of solar street lights and solar water heaters in Oman.
Project Awards
Ras Al Hamra is an investment for PDO families providing quality living for the future
Thank you