

# *High Level Conference “Along the Silk Roads”*

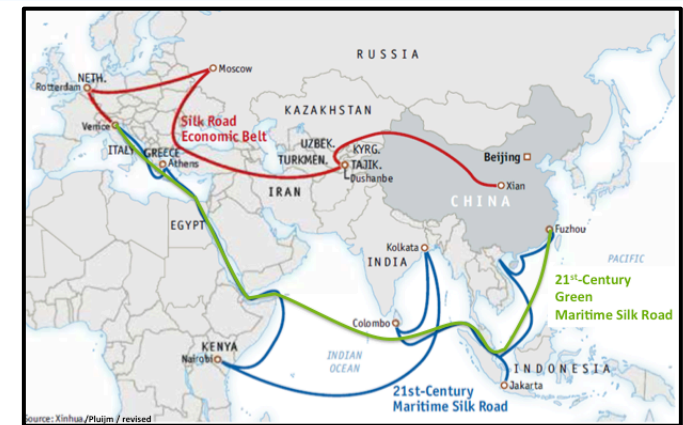
## *European Opportunities and Challenges*

**The ability of the Venice Offshore Port to  
meet current and future requirements**

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## Contents

- Introduction
- Changes, Challenges and Opportunities
- Development Options
- Conclusions



21st Century Green Maritime Silk Road

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## **Introduction**

- The initial plans, layout and design of the V.O.O.P.S. offshore port have developed over time
- Most recent plan adjustments and re-calculations of terminal efficiency date from December 2014
- Since that date, a number of major changes in the world container transportation industry have happened
- Each of them may have its impact on the V.O.O.P.S. offshore port
- Challenging the development options of the scheme within the boundaries as provided by the concept and current layout itself, EIA related conditions and permits

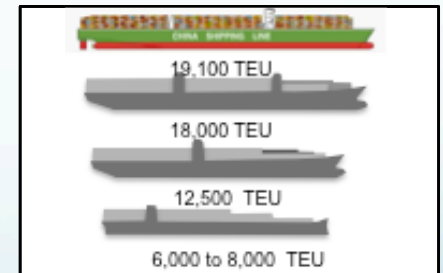
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## Changes, Challenges and Opportunities

- **Changes** in the world container transportation industry:
  - Continuous **shrinking margins**
  - Expansion of the **Suez Canal**
  - Further consolidation in liner **Alliances**
  - Further optimization in **Economy of Scale**
- **Challenges** due to these changes :
  - The use of larger, more cost- and energy effective vessels
  - Larger parcel sizes per call
  - Need for increased efficiency per call
  - Steady growth, also for the long(er) term
- **Opportunities**, as a result of these challenges :
  - Optimization of the plan for efficiency, economic and commercial reasons



Suez Canal Expansion



Growth in Container Vessel Capacity

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**Development Options Operational** to accommodate potential growth and enhance efficiency:

- **Capacity of the Container Terminal**
  - Current concept seems to be planned and designed in the tradition of a land based container terminal rather than an Offshore Container Transshipment Facility
  - The latter of which would deliver a higher throughput
  - Expanding to the long(er) term capacity needs of the terminal could ask for innovative solutions
- **Arrangement of the Barge Operations**
  - Current mooring, berthing, unmooring and Mama-vessel arrangement and procedures advised to be optimized
  - Ditto, introducing an alternative container loading and offloading methodology



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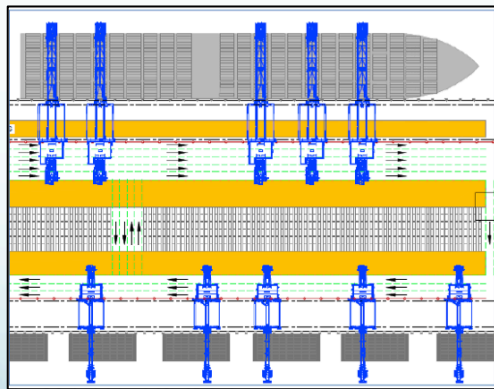
**Development Options Financial**, related to the financial and commercial viability of the overall plan:

- **Capacity and Operations**
  - Terminal and berthing arrangement
- **Reduce Construction Costs**
  - Breakwater length and type advised to reconsider
  - Overall construction method, making use of different construction approach, elements and materials
- **Commercial**
  - Reduction of the investment cost per net square meter operational area
  - Multiple Operators
  - Multi Stakeholder engagement, other functions
  - Enhanced Sustainability by appealing to more functions which may be triggered by an alternative construction approach

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## Development Options towards the future

- What's presented is a healthy and robust concept
- Providing possibilities for expansion and optimization within the existing contour of the project
- Meeting the requirements of the current EIA and permitting
- Add quality with respect to feasibility and flexibility and so to the financial, commercial, sustainable and economic viability of the project

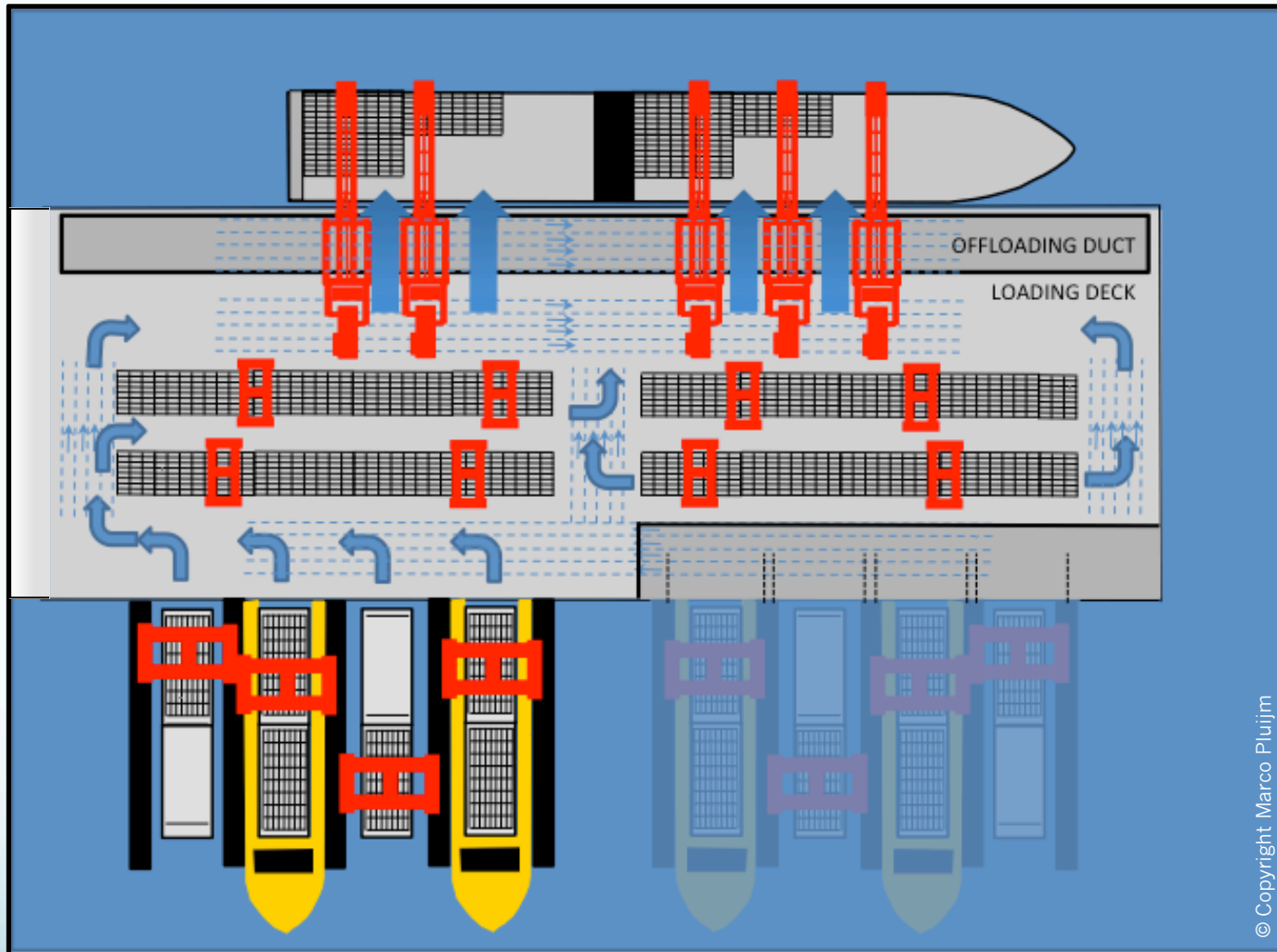


Container Terminal Arrangement RHDHV



Barging Arrangement VPA / RHDHV

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Upper Deck Arrangement for Outgoing Containers

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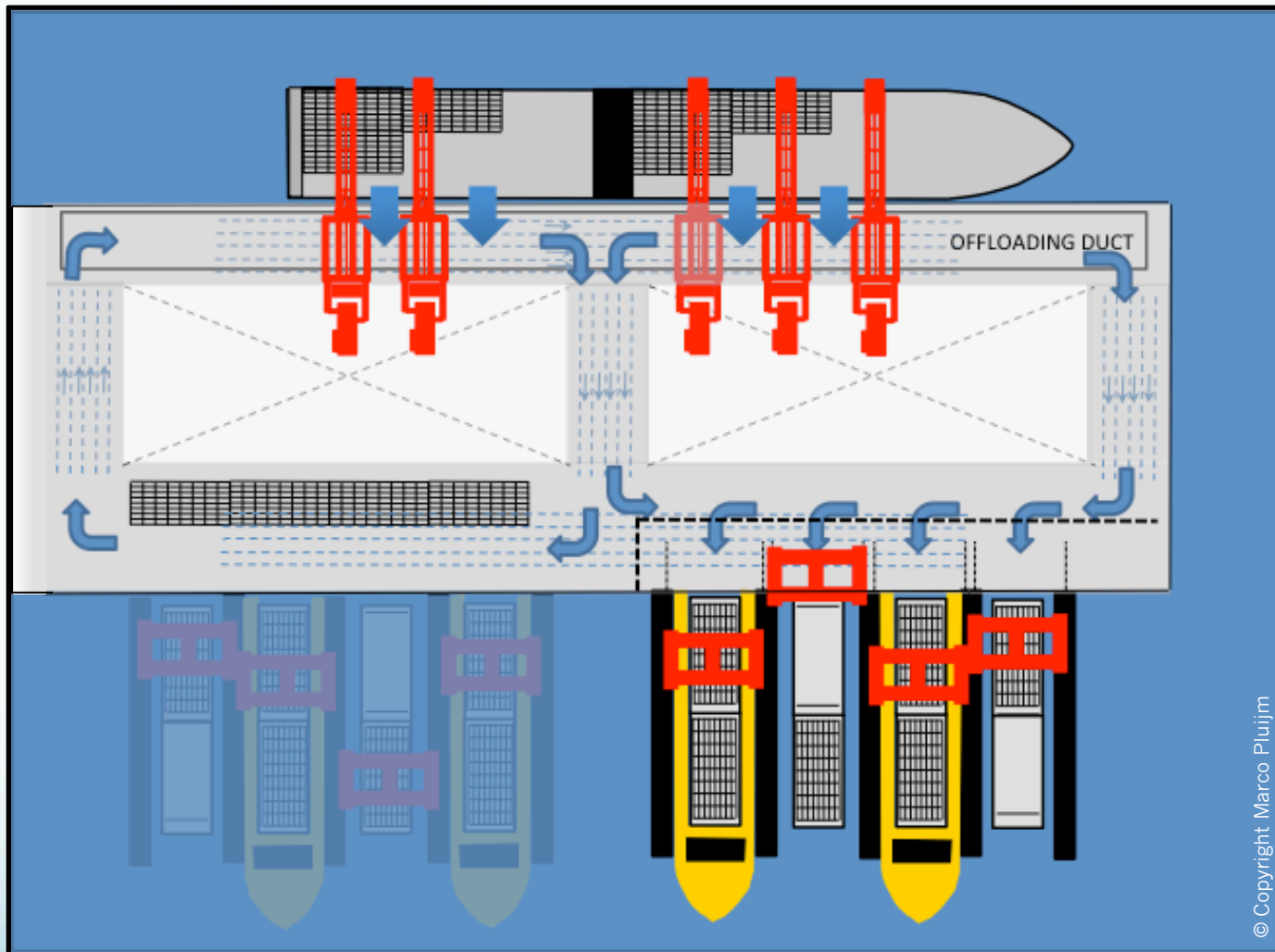
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Lower Deck Arrangement for Incoming Containers

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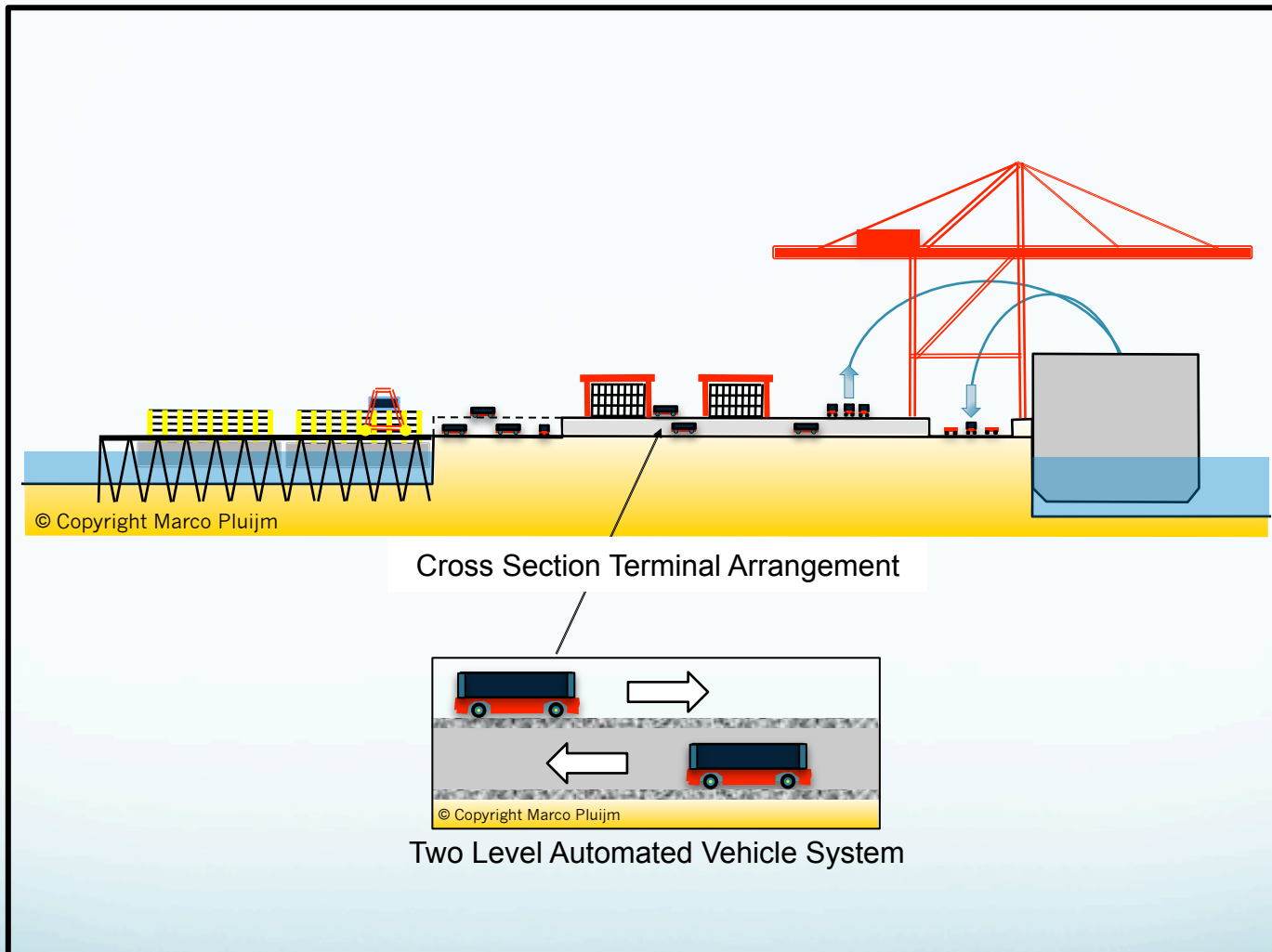
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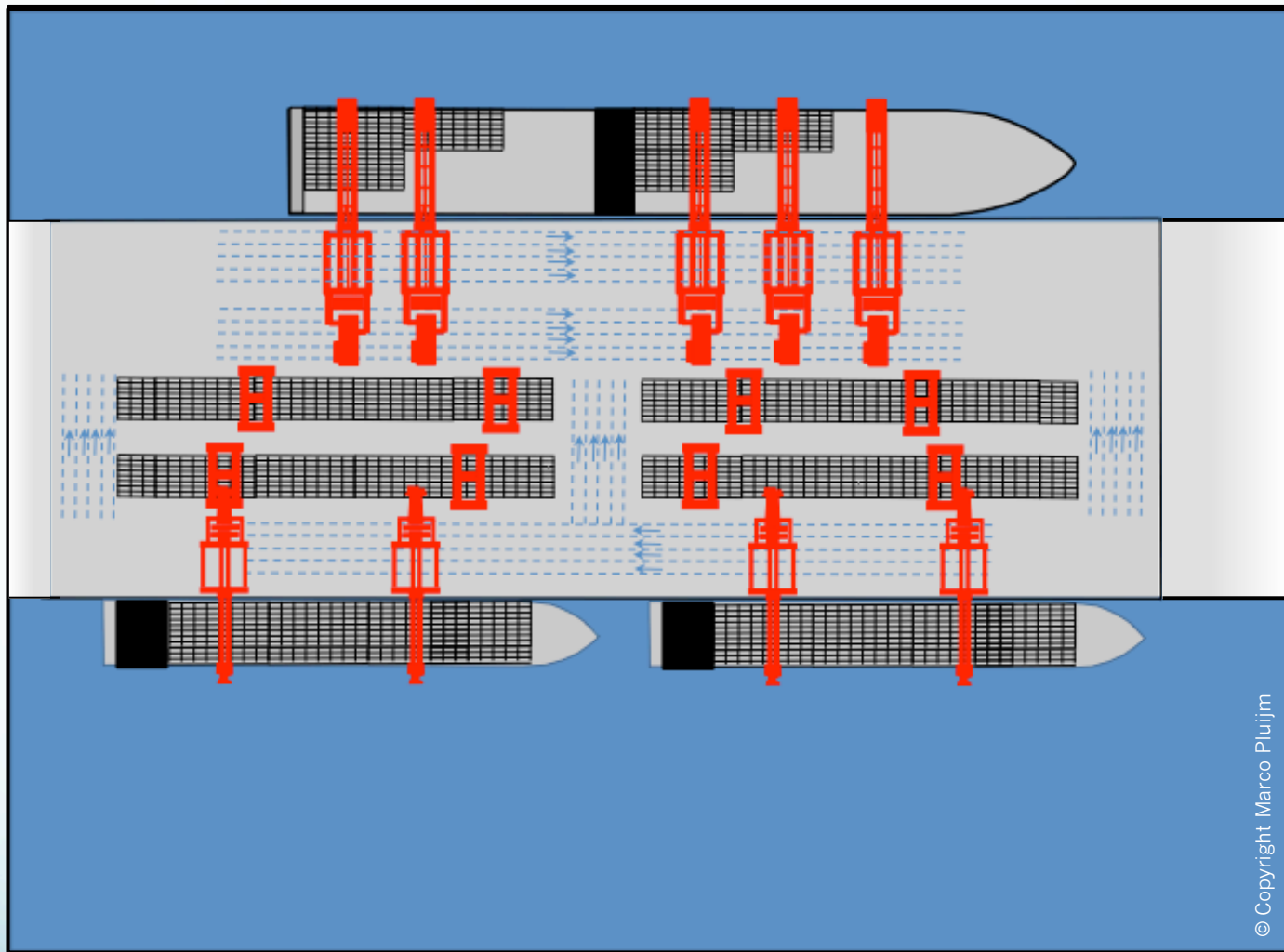
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Cross Section Terminal Arrangement

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Conventional Terminal Arrangement

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Overall Terminal Arrangement with Sustainable Breakwater

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## **Conclusions**

- The configuration and layout of the V.O.O.P.S. offshore port have developed over time
- Recent developments in the container industry make that the plan may need updating in terms of capacity and operations
- The V.O.O.P.S. concept is believed to be able to deal with current and future capacity requirements
- Optimizations are recommended in order to enhance the operational, financial and economic feasibility of the project
- Proposed optimizations do fit within the current physical boundary conditions of the plan, EIA requirements and permitting
- Offshore Infrastructure is often considered to be too valuable to build for one single purpose only. Multiple stakeholder engagement is therefore recommended
- Alternative construction options can attract such engagements
- Further detailing is advised



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