

NOVEMBER 7, 2022

# The Biosolids Must Go Here!



Platinum member

JASON OLINSKI

Iona Island  
Iona Island



J.L. Richards

ENGINEERS · ARCHITECTS · PLANNERS

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# Agenda

**01** PROJECT DEFINITION

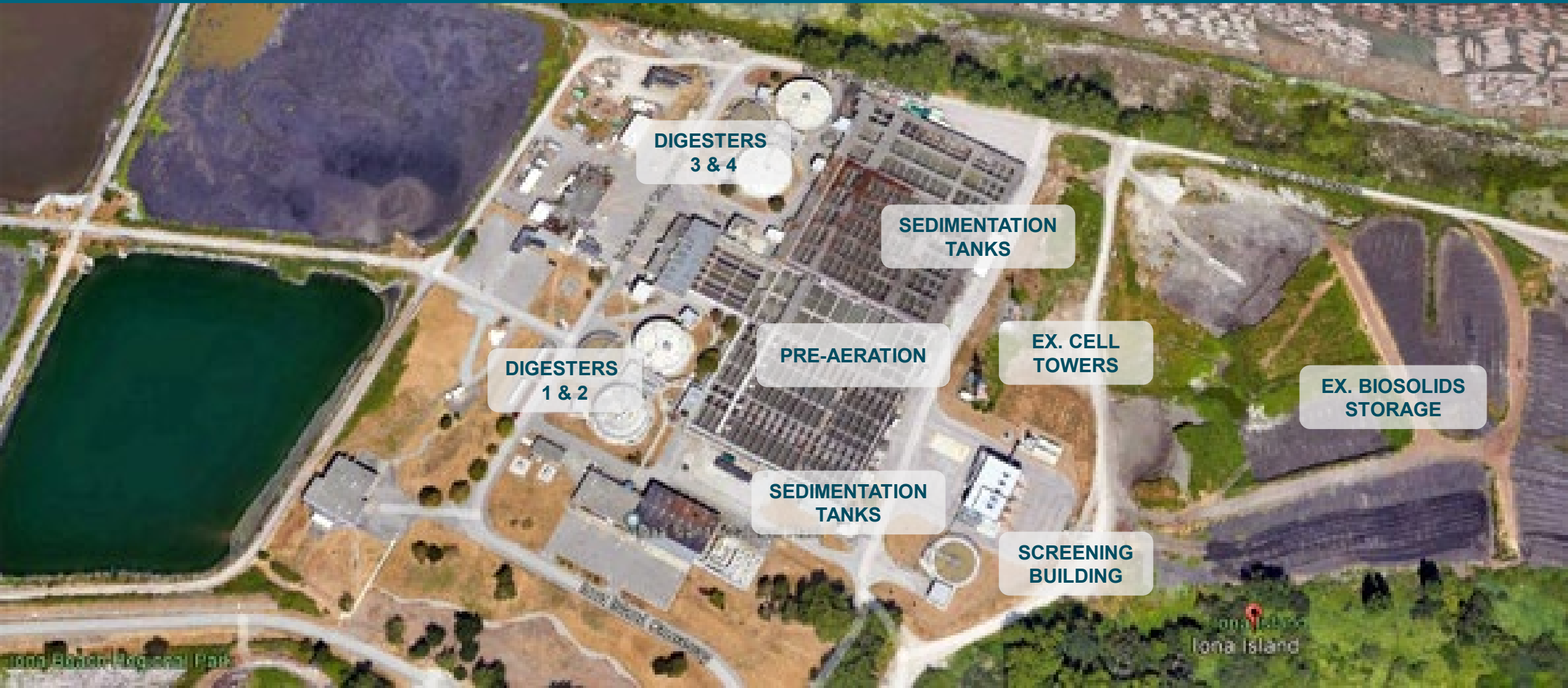
**02** PROJECT CHALLENGES

**03** PROJECT SOLUTIONS

**04** OPPORTUNITIES

**05** QUESTIONS

# Project Definition



DIGESTERS  
3 & 4

SEDIMENTATION  
TANKS

DIGESTERS  
1 & 2

PRE-AERATION

EX. CELL  
TOWERS

EX. BIOSOLIDS  
STORAGE

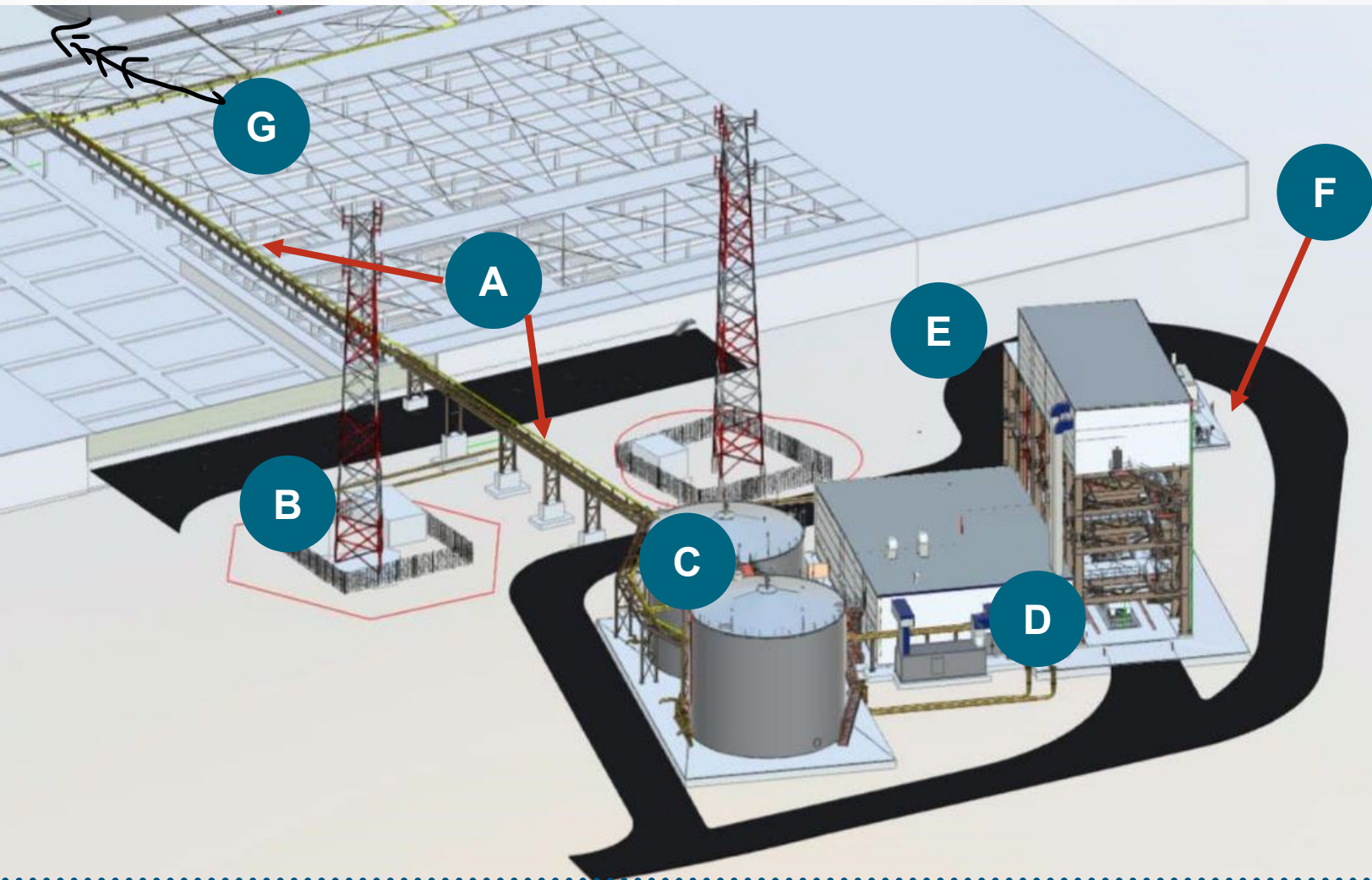
SEDIMENTATION  
TANKS

SCREENING  
BUILDING

Lona Island

1000 Boston Road, Lona Island, NY

# Project Definition

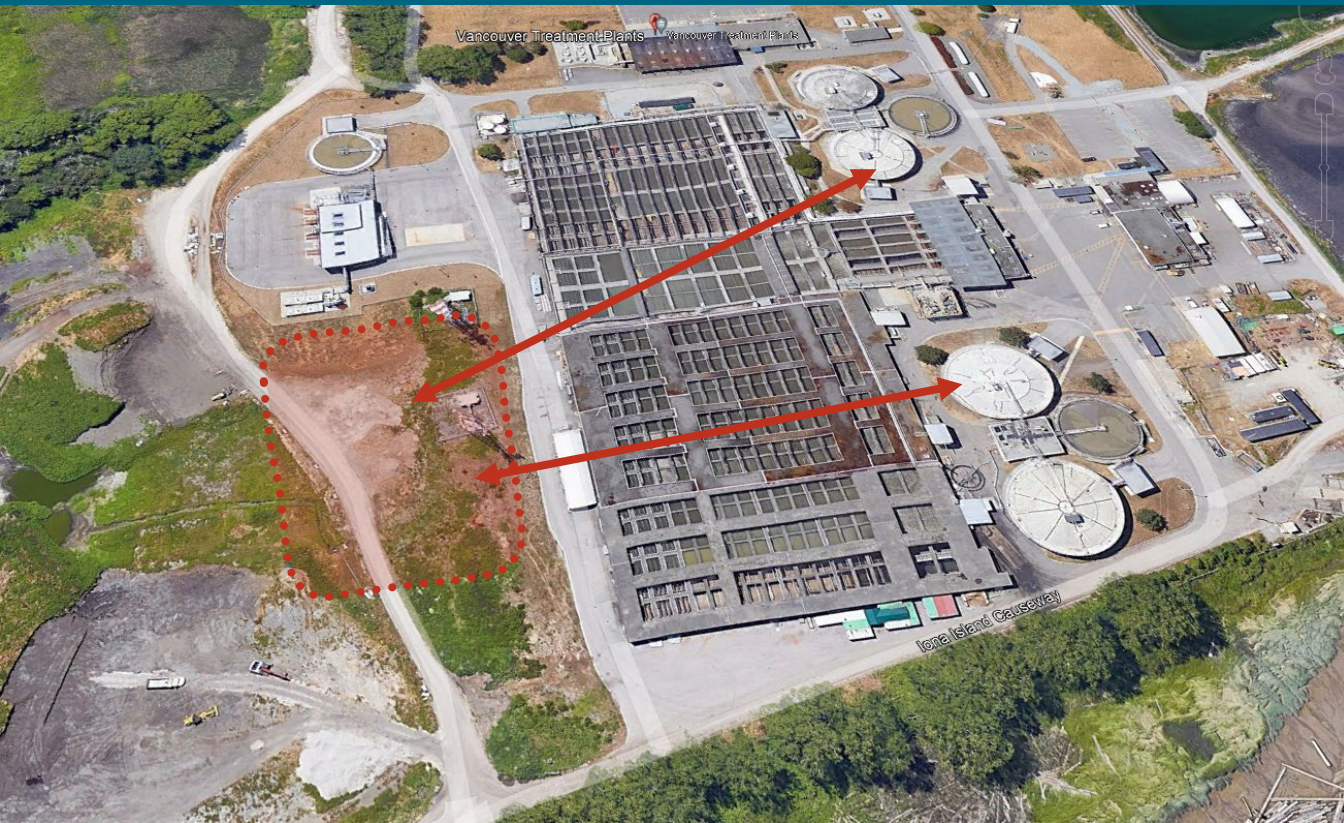


- A. Digested Sludge Transfer Piping**
- B. Cell Tower Foundation Zone**
- C. Digested Sludge Storage Tanks**
- D. Dewatering Building**
- E. Truck Load-out Building**
- F. Odour Control Facility**
- G. Digested Sludge Pump Buildings  
(Integrated into existing)**



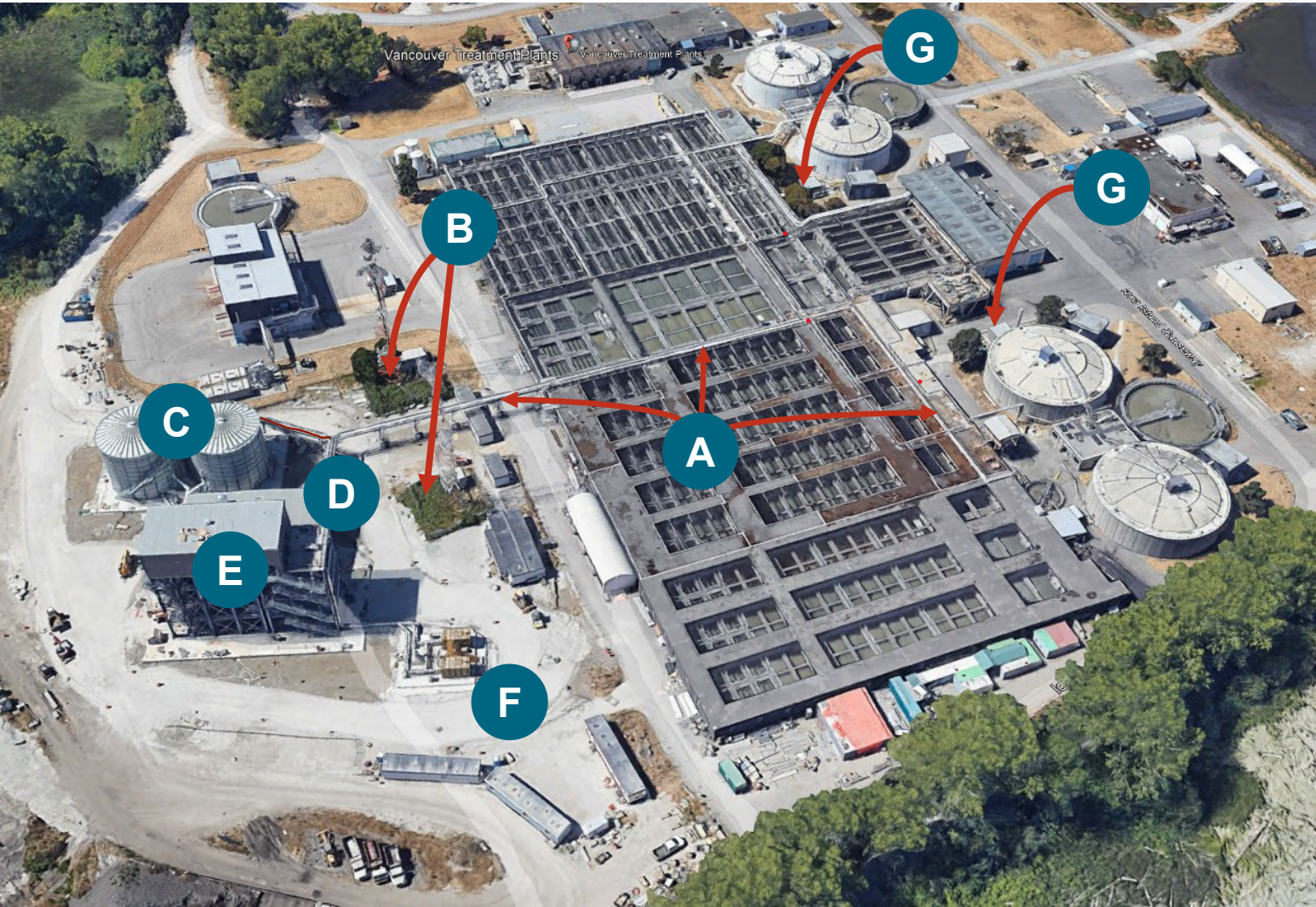
# Project Challenges

- Constrained site
- Geotechnical conditions
- Transport of biosolids
- Operations and maintenance





# Constrained Site and Transport of Biosolids



- A. Digested sludge transfer piping
- B. Cell tower foundation zone
- C. Digested sludge storage tanks
- D. Dewatering building
- E. Truck load-out building
- F. Odour control
- G. Digested sludge pump buildings



# Geotechnical

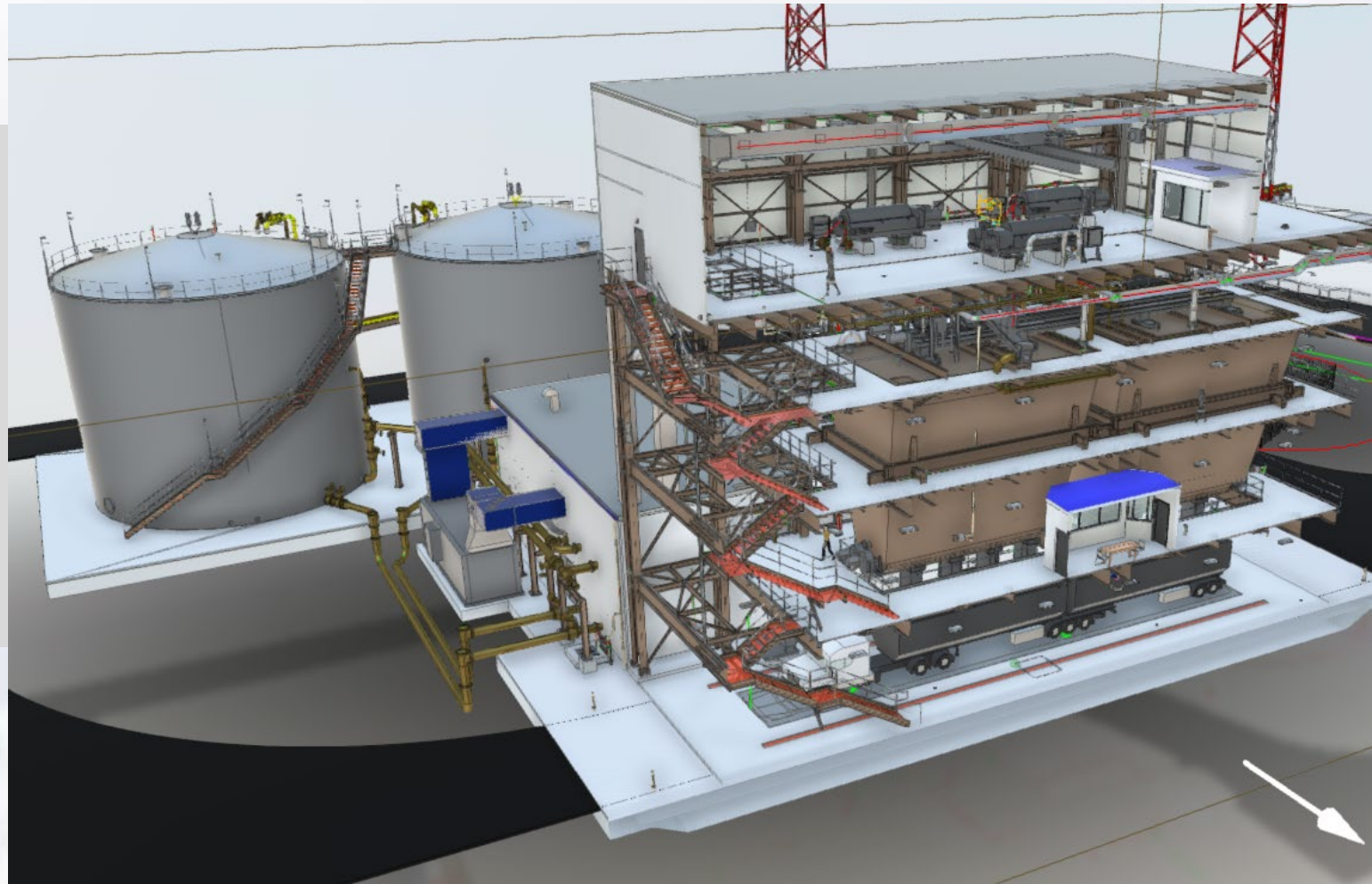
- Highly compressible soil subgrade
  - Liquefiable soil layers under earthquake
  - Existing features and their foundations
  - High seismicity (1g)
  - High groundwater table (el. 4.5m)
- .....



# Operations and Maintenance

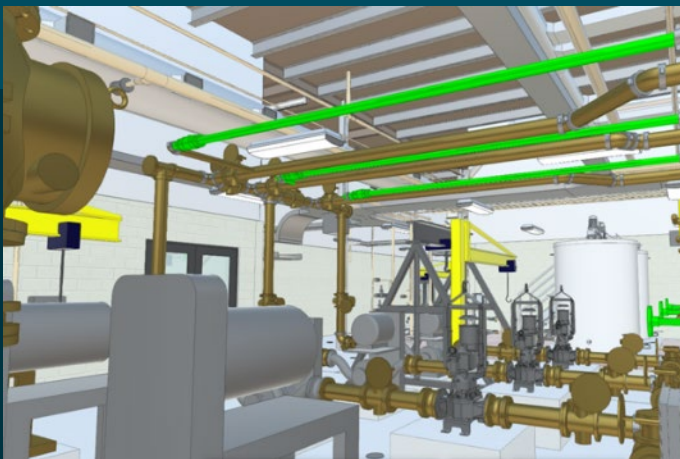
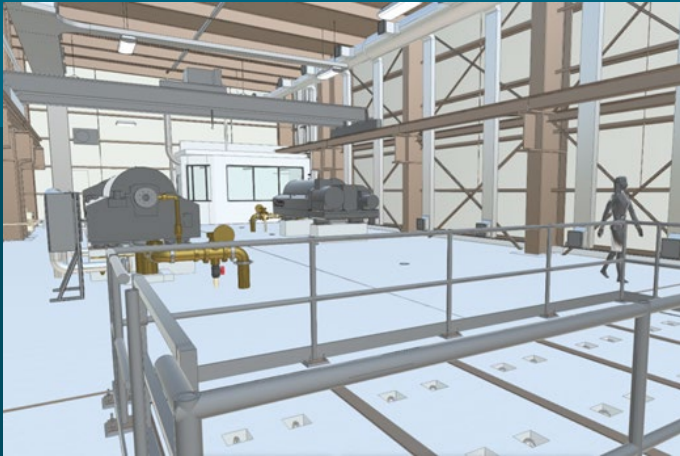
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- **14-day maintenance period**
- **Maintenance of key components**
- **Automation of truck loading**
- **Visualization of operations**





# Operations and Maintenance





# Alternative Delivery Opportunities

Benefits of  
Confidential  
Owner-proponent  
Meetings





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RFP Presentations  
of Concepts through  
BIM





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Alternative  
Designs from  
Indicative





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Benefits of  
Confidential  
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Alternative  
Designs from  
Indicative



Alternative  
Submission  
Approach





# Alternative Delivery Opportunities

Benefits of Confidential Owner-proponent Meetings



RFP Presentations of Concepts through BIM



Alternative Designs from Indicative



Alternative Submission Approach



Definition of Project Objectives and Opportunities





# Thank you



**J.L. Richards**

ENGINEERS · ARCHITECTS · PLANNERS

# Questions?



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