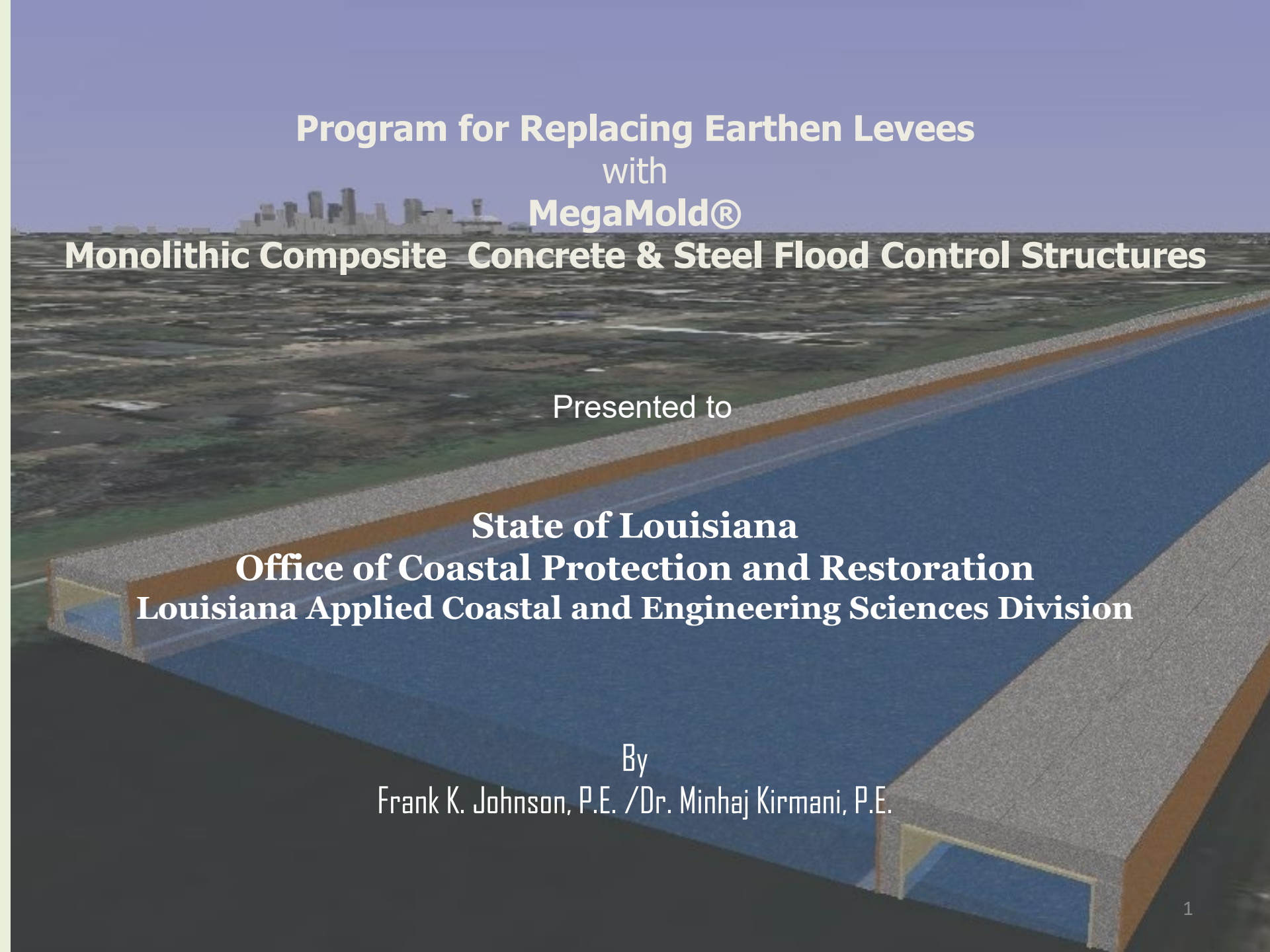


Program for Replacing Earthen Levees
with
MegaMold®
Monolithic Composite Concrete & Steel Flood Control Structures

Presented to

State of Louisiana
Office of Coastal Protection and Restoration
Louisiana Applied Coastal and Engineering Sciences Division

By
Frank K. Johnson, P.E. /Dr. Minhaj Kirmani, P.E.

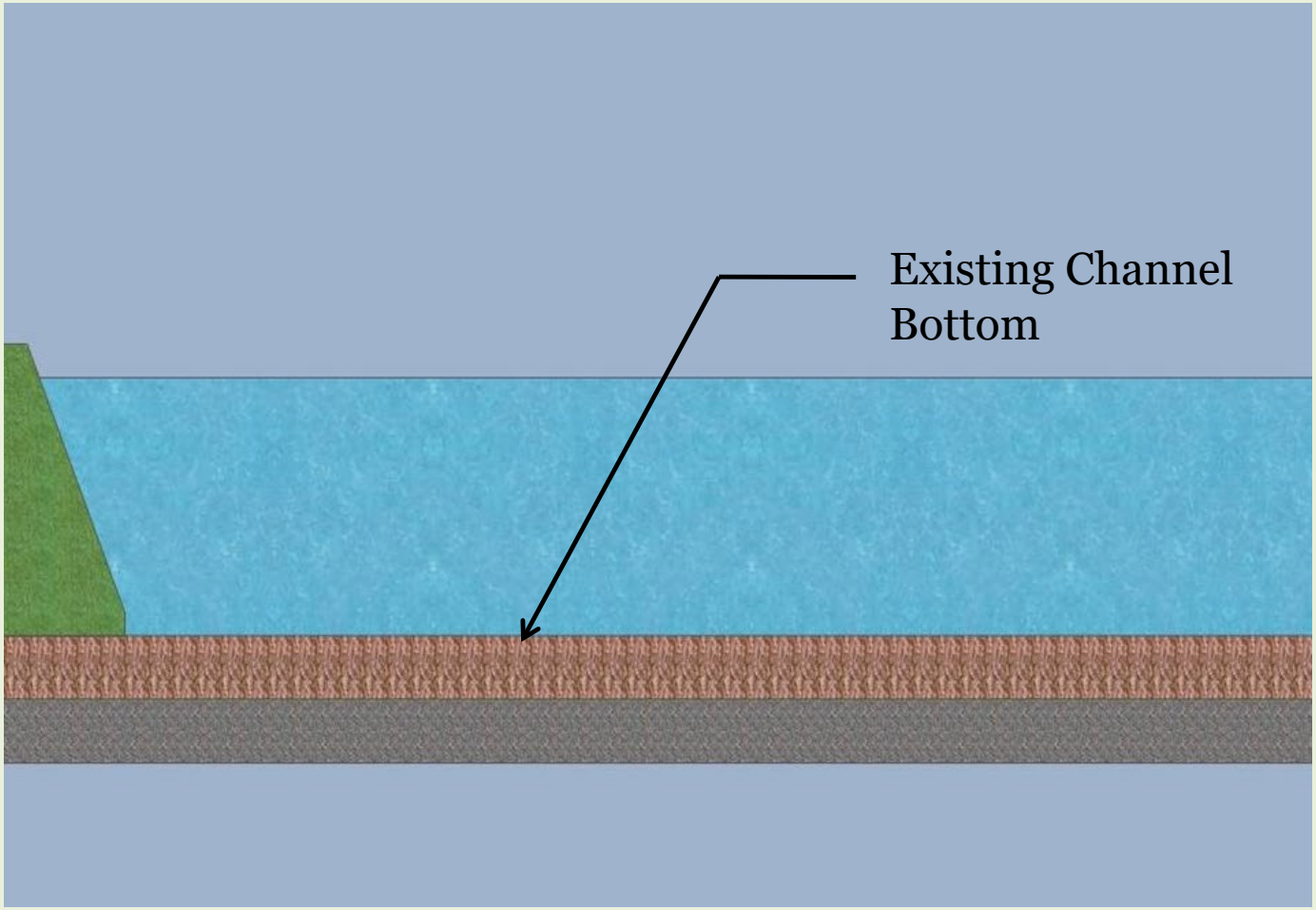
MegaMold®
Levee Replacement Program

- Louisiana Coastal Master Plan Objectives
  - Reduce economic and community losses due to storm based flooding
    - Protect concentrated assets
    - Protect distributed assets
    - Protect strategic assets

- CPRA Plan

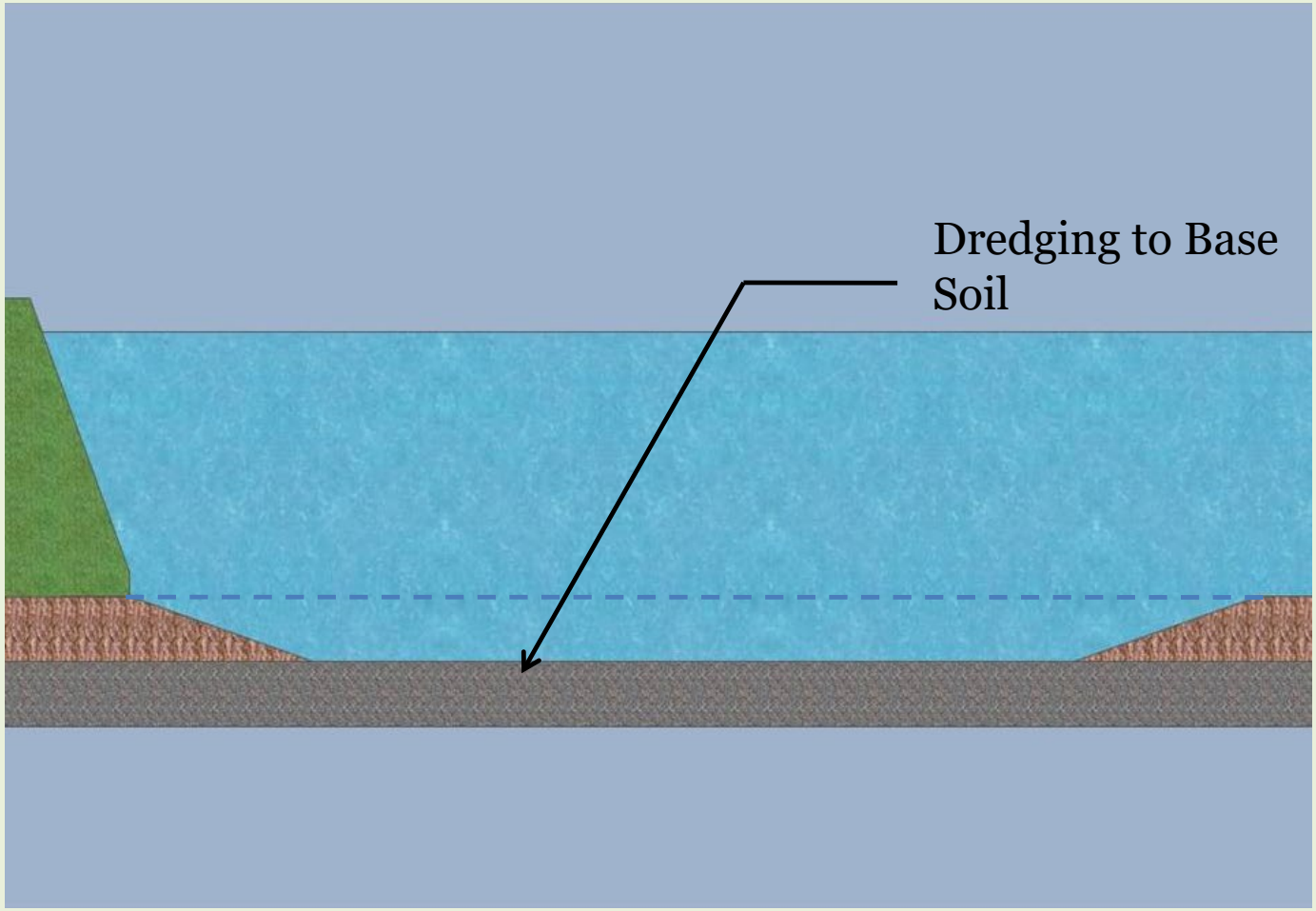
  - Seeking comprehensive solutions that achieve the **dual objectives of**
    - Coastal restoration
    - Hurricane protection

MegaMold®
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



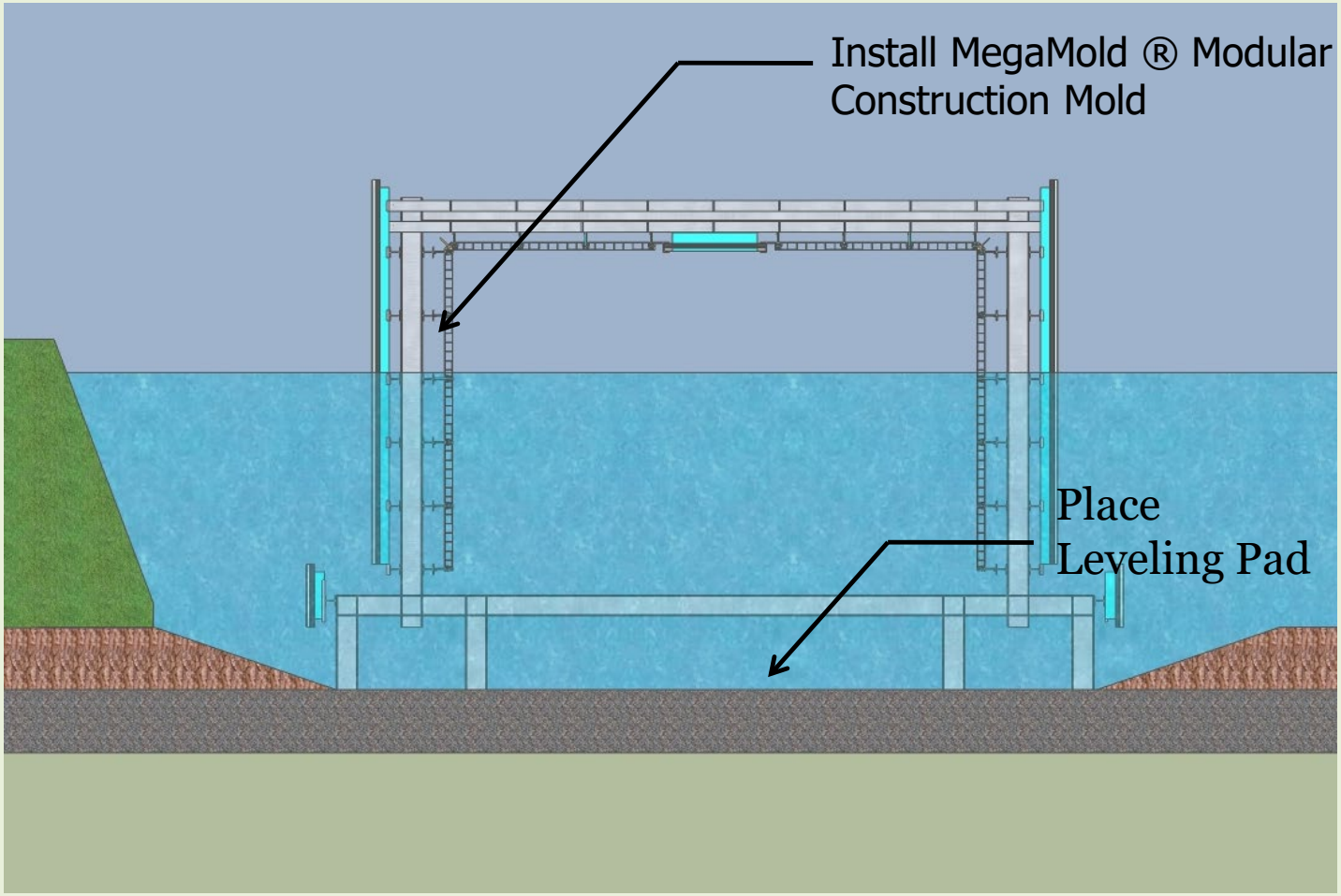
Existing Condition

MegaMold ®
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



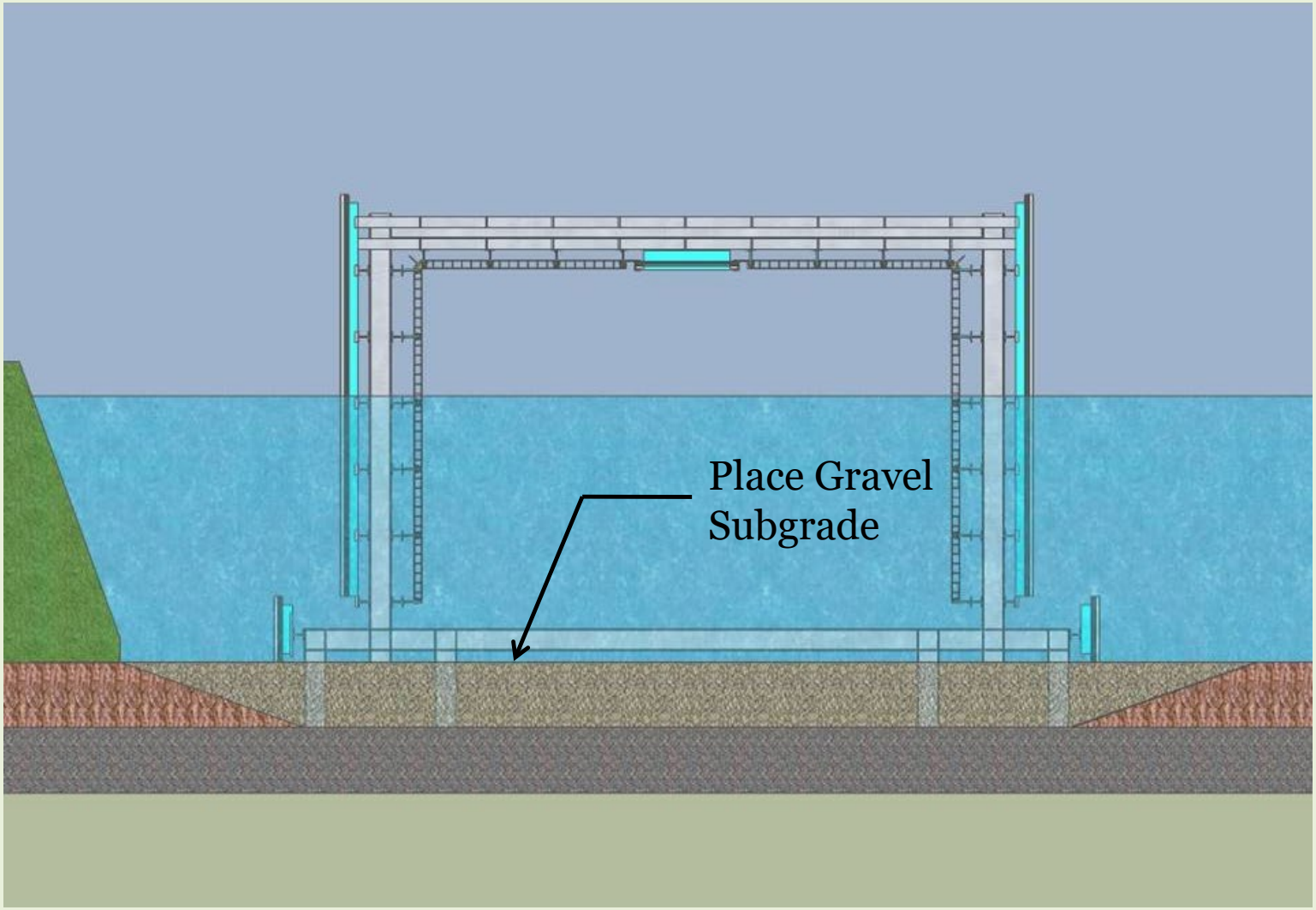
Dredging

MegaMold ®
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



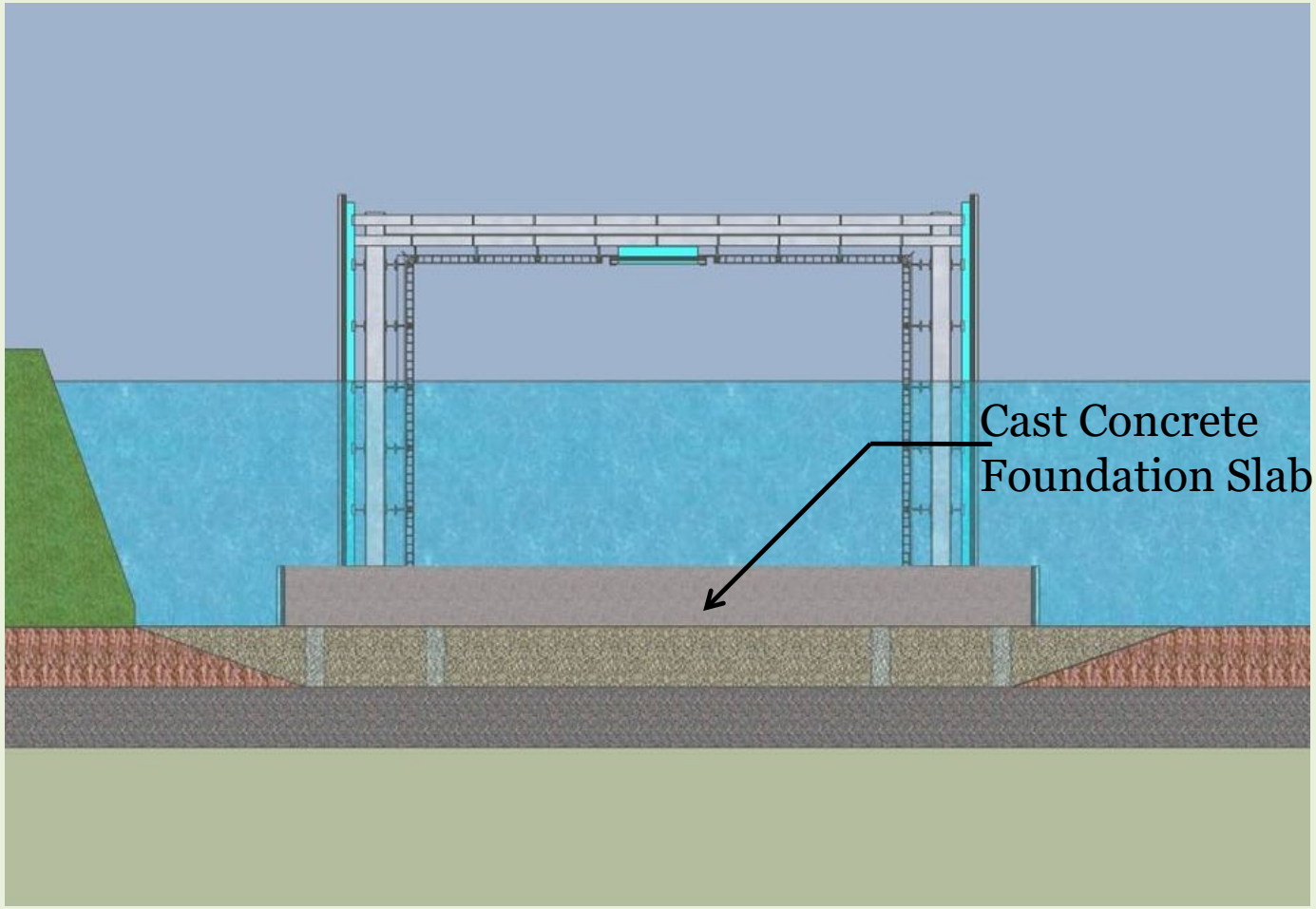
Module Installation

MegaMold ®
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



Backfill Base Material

MegaMold ®
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



Tremie Concrete Construction

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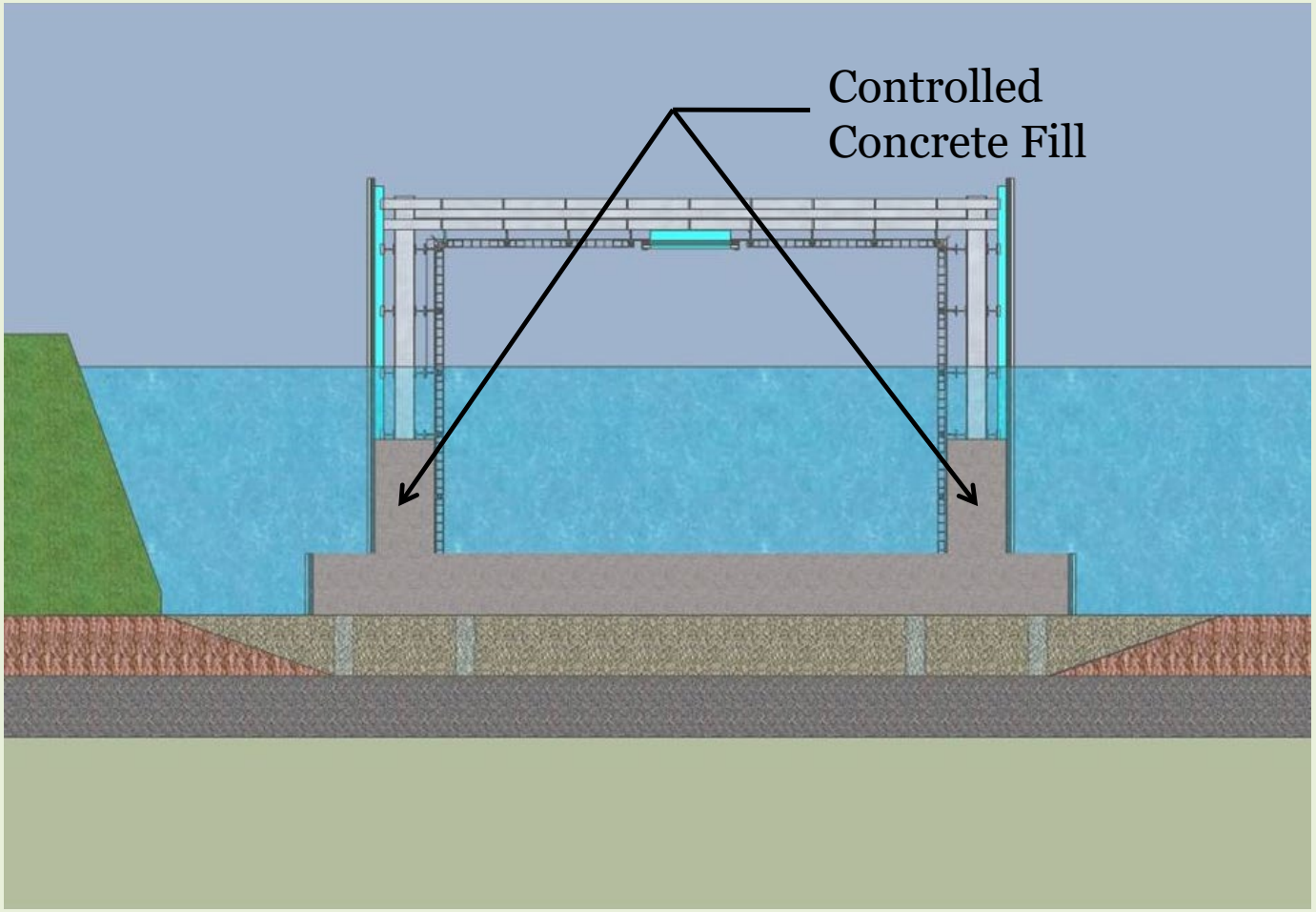
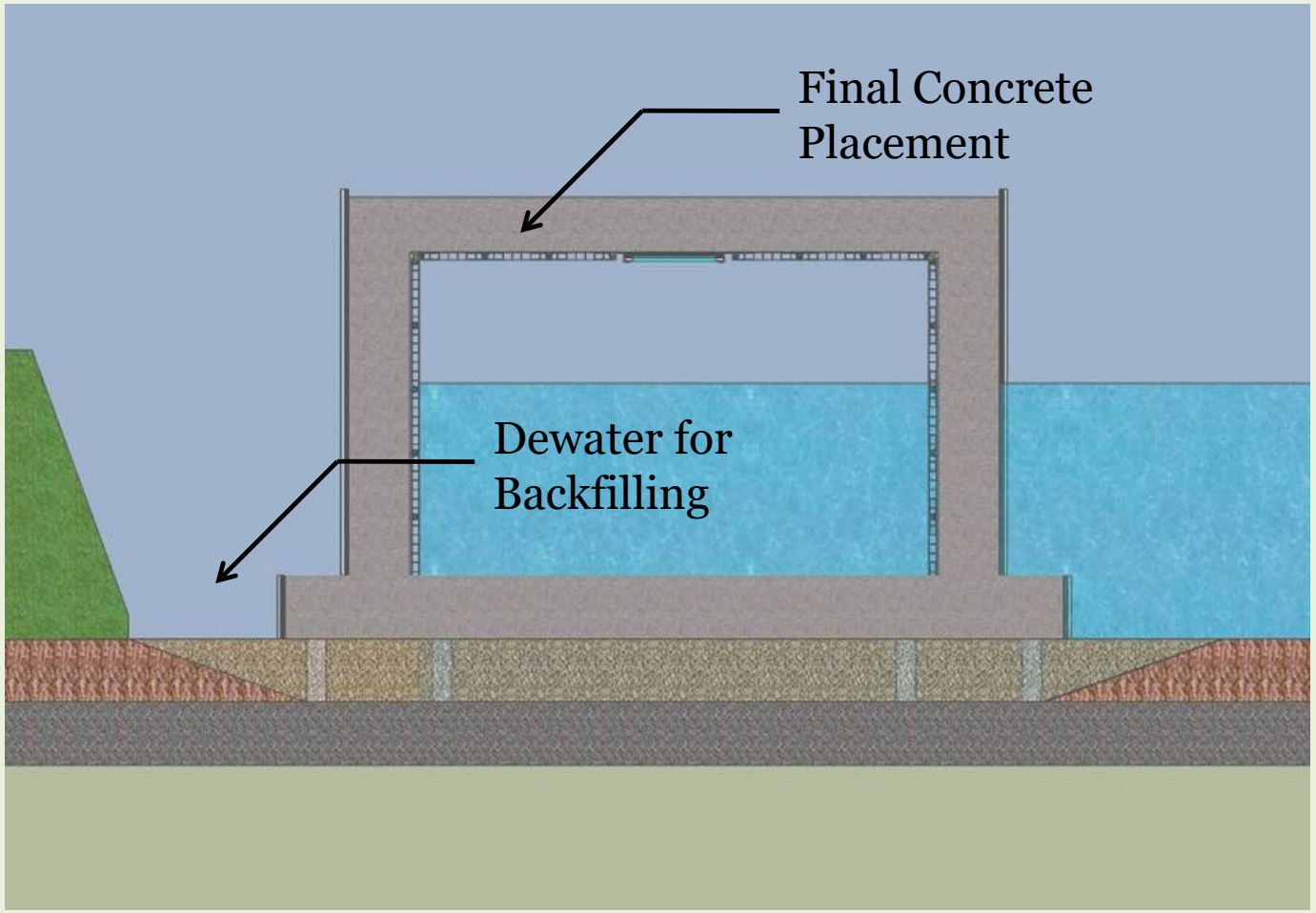
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



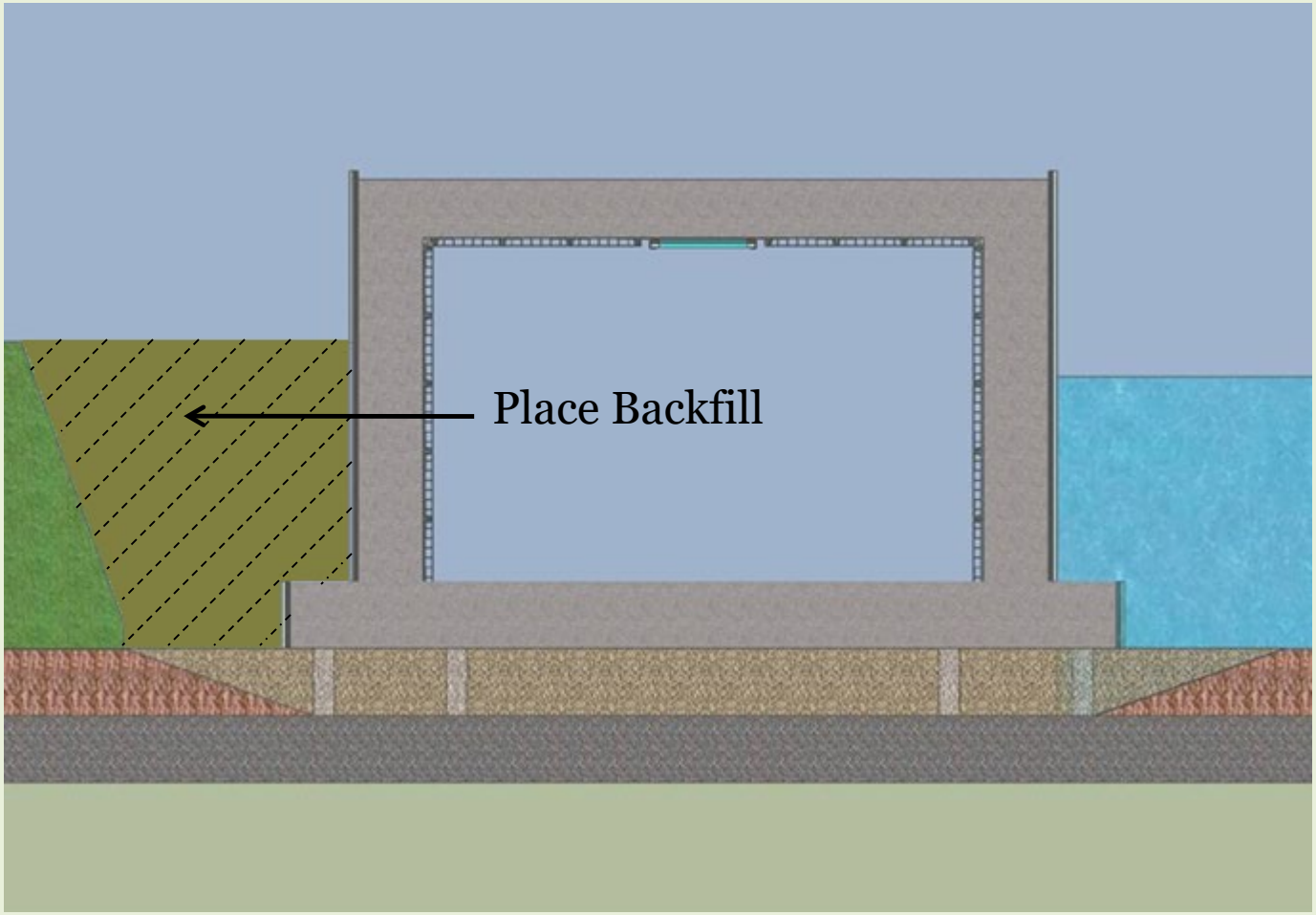
Continue Casting Concrete Walls

MegaMold ®
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



Continue Casting Concrete Roof Slab

MegaMold ®
Monolithic Cast-in-Place Concrete Flood Control Structure
Typical Construction Sequence



Final Condition

MegaMold ®

Monolithic Cast-in-Place Concrete & Steel Composite Flood Control Structures

Combine the Advantages of Earthen Berms and T-Walls

- Monolithic concrete construction
- Lightweight
- Stable configuration
- Compatible with sheet pile cutoff

<u>Additional Benefits</u>

- Rapid construction
- Versatile configuration
- Construction in the wet
- Multi-functional

MegaMold ®
Monolithic Cast-in-Place Concrete & Steel Composite
Flood Control Structures

- Permanently eliminate the threat of catastrophic flooding from 500-year storms or greater;
- Are more durable and reliable than earth, sand and rock structures;
- Are not subject to overtopping, breaching or undermining;
- Are more economical to construct than repairing and upgrading existing earthen levees;
- Are custom-engineered to serve as all-weather roadways, protected utility corridors, and/or foundation structures for commercial and residential buildings.
- Are constructed quickly without stressing the environment or local community

The MegaMold® Solution

Prevent Catastrophic Flooding