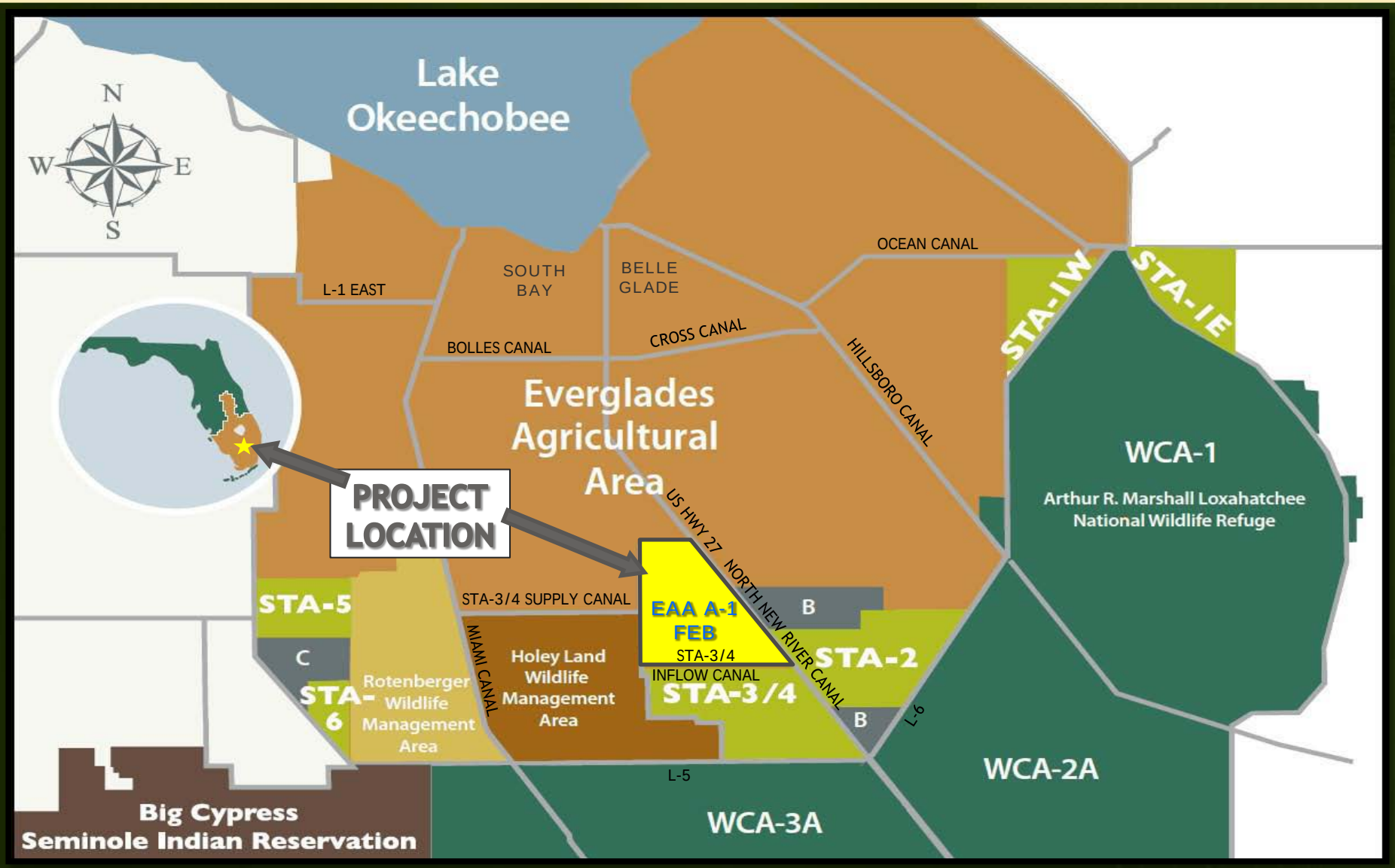
Quarterly Communications Meeting on the Long-Term Plan for Achieving Water Quality Goals for the Everglades Protection Area Tributary Basins

A-1 Flow Equalization Basin (FEB)

August 23, 2013

John Mitnik, P.E.
Bureau Chief
Engineering and Construction

PROJECT LOCATION



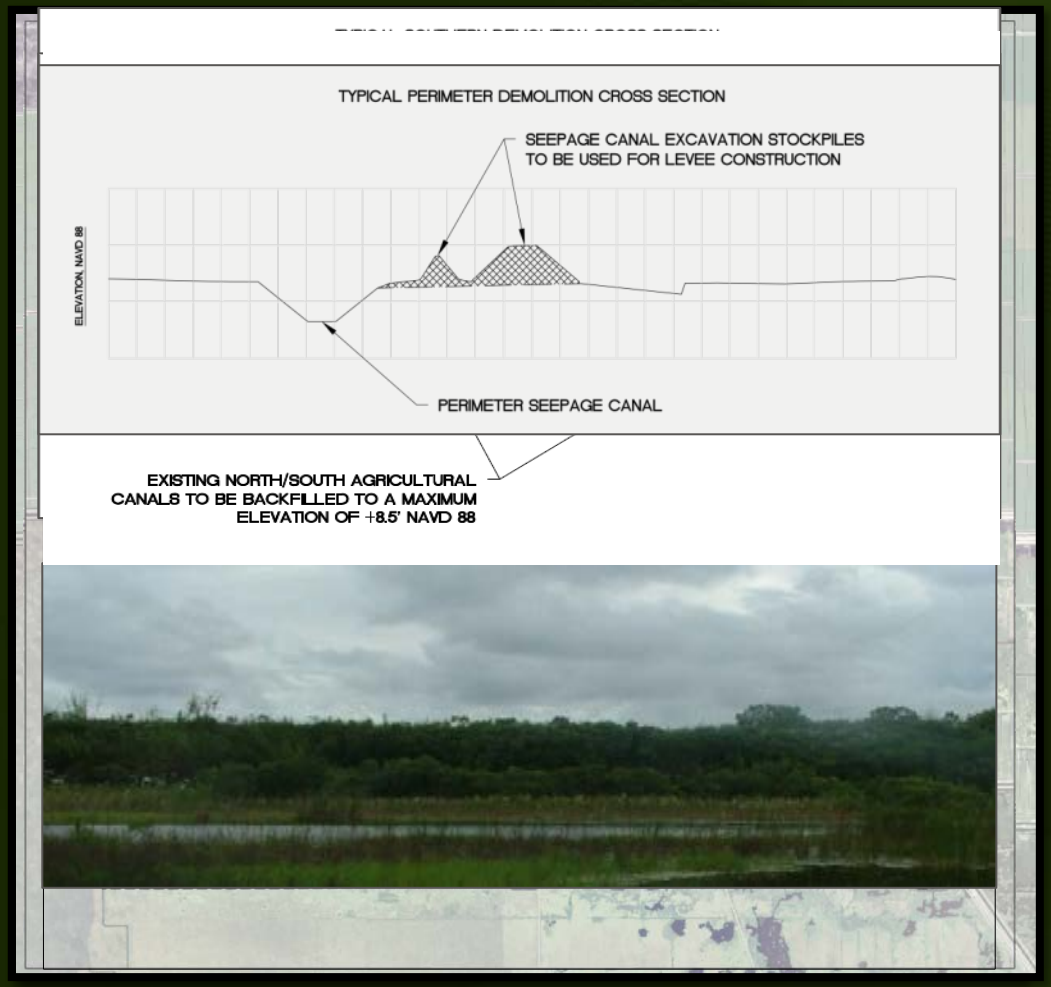
FLOW EQUILIZATION BASIN DESIGN

- Features
  - 15,000 acres
  - 4 feet in depth
  - 60,000 acre-ft temporary storage
  - Utilize internal east – west Agricultural Canals as spreader canals
  - Uniform north-south flow
- Inflows
  - Canal Inflows
    - NNRC Canal (S-2 & S-7 Water Basin)
    - Miami Canal (S-8 Water Basin)
- Outflows
  - Evapotranspiration
  - Seepage
  - STA Releases

EXISTING SITE CONDITIONS

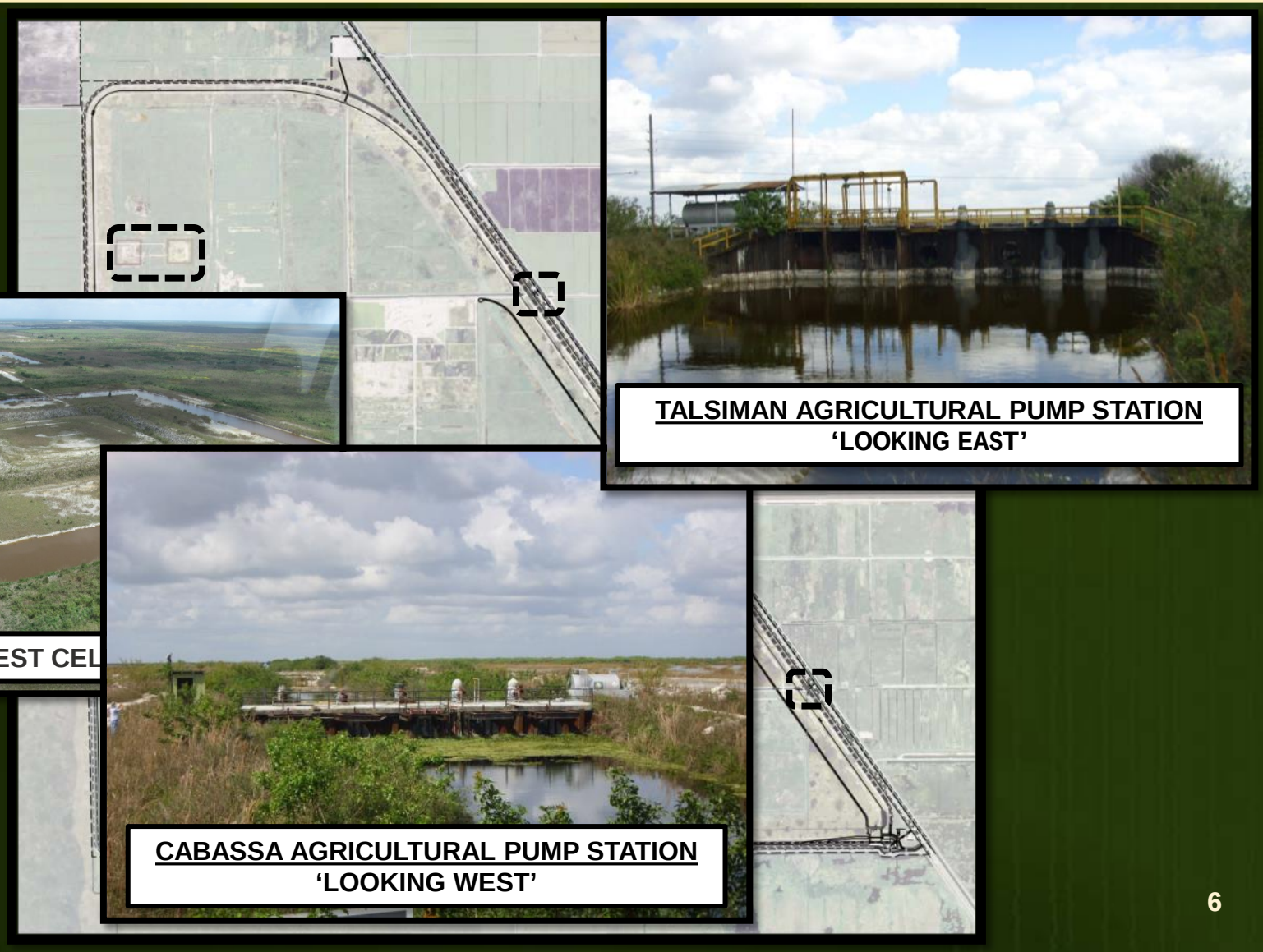
- STA-3/4 Supply / Inflow Canal
- East - West Agricultural Roads, Canals and Levees
- North – South Agricultural Canals / Berms and Typical East – West Swales
- Sorted Stockpiles
- Test Cells
- Perimeter Scraped Area

DEMOLITION



- Typical Perimeter Stockpile Demolition
  - **Existing Seepage Canal**
  - **Excavation Spoils Piles**
  - **Existing Scraped Area**
- Typical Major Haul Road Demolition
  - **Existing East - West Roads and Canals**
  - **Existing North - South Haul Roads**
  - **Existing Perimeter Haul Road**
- Typical North - South Road / Berm Demolition
- Typical East – West Swale
- Typical Perimeter Muck Berm and Dewatering Cells Demolition
  - **Existing Perimeter Muck Berms**
  - **Existing Dewatering Cell Muck Berms**
  - **Existing Scraped Area**

DEMOLITION (con't)

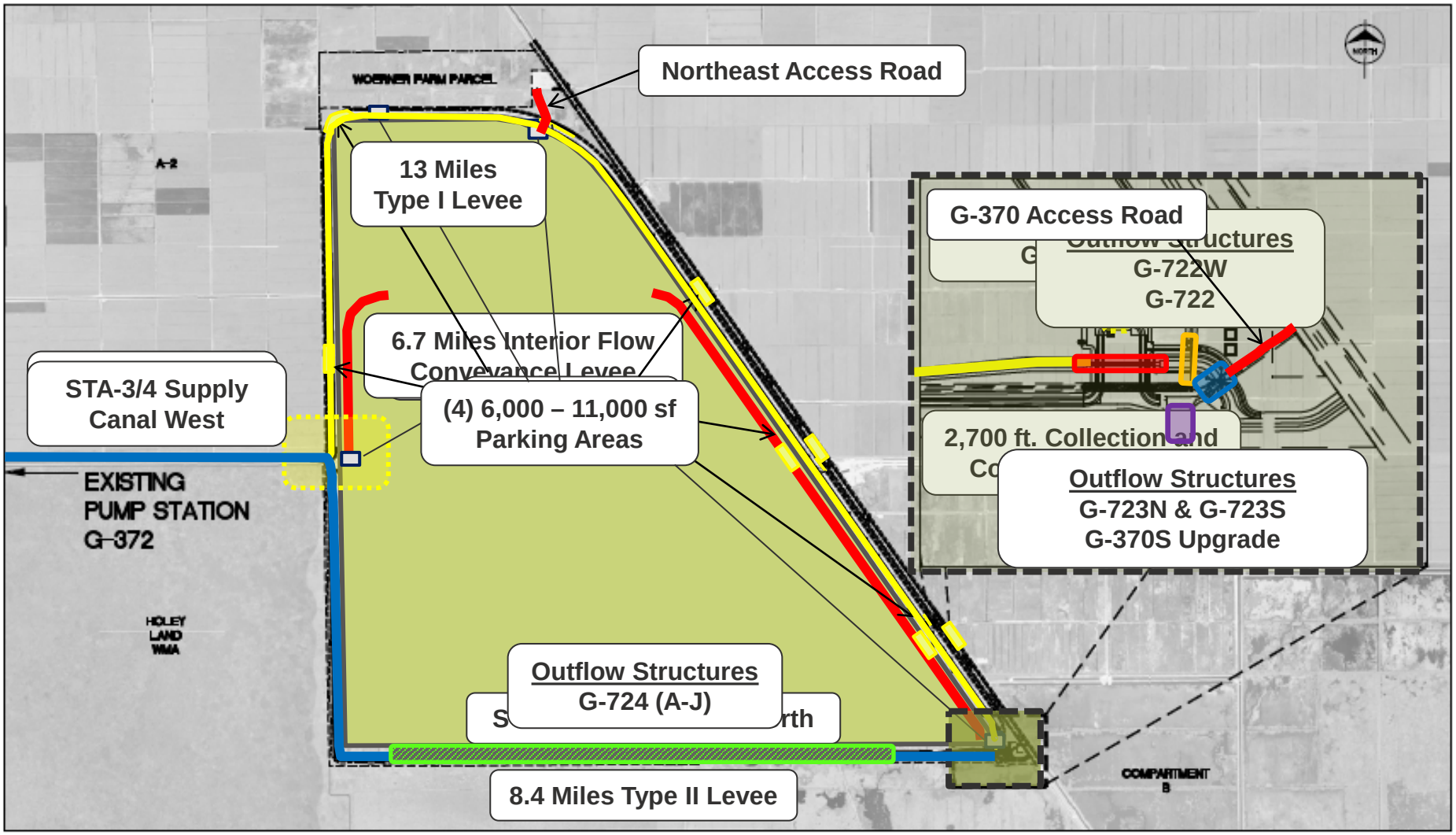


TALSIMAN AGRICULTURAL PUMP STATION
'LOOKING EAST'

TEST CEL

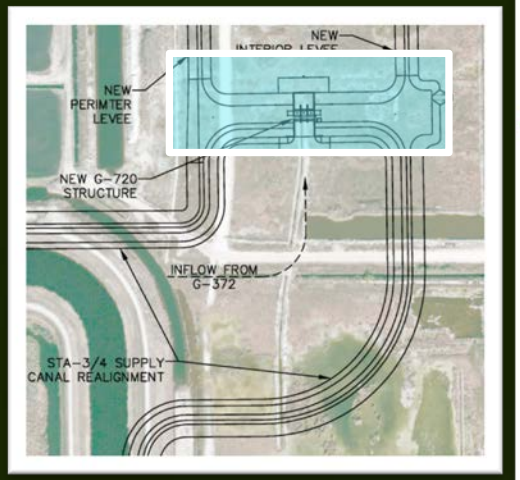
CABASSA AGRICULTURAL PUMP STATION
'LOOKING WEST'

CIVIL DESIGN

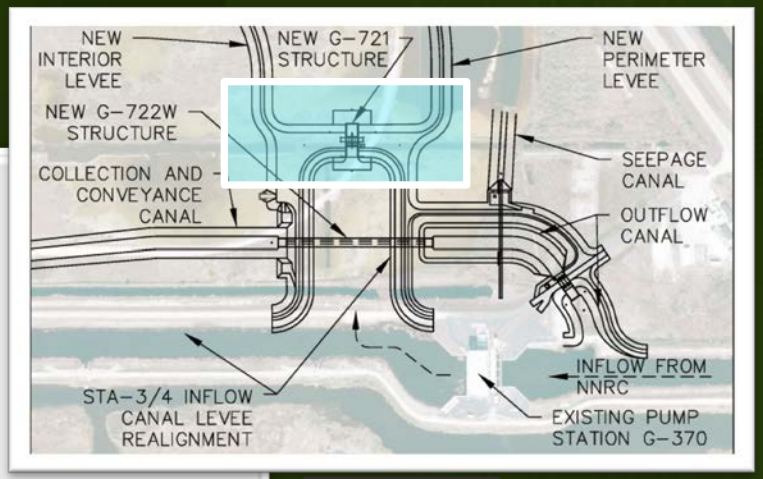


EAA A-1 FEB (INFLOW OPERATIONS)

- Inflow from G-372
  - **G-720 Open**
  - **2,775 cfs to FEB**
  - **925 cfs to STA-3/4 Inflow Canal**
  - **Inflow Canal Design Stage**
    - **+13.6’ NAVD 88**



G-720

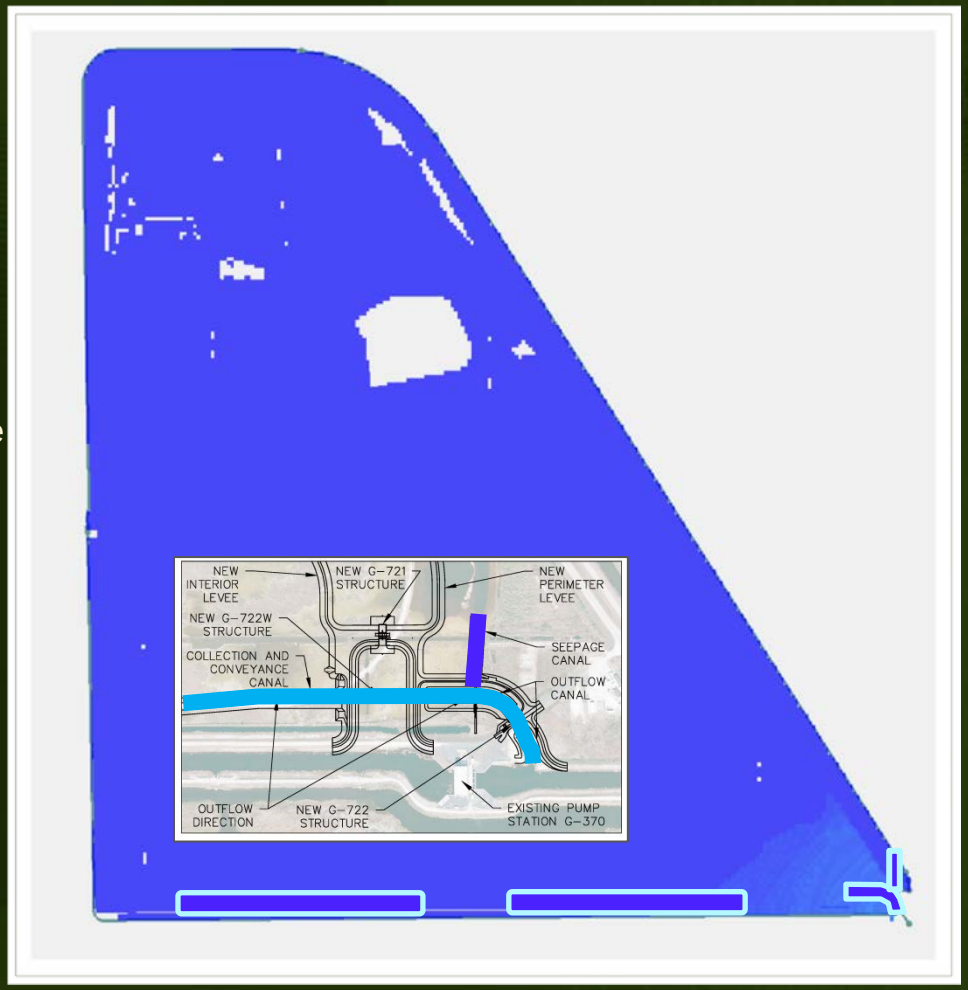


G-721

- Inflow from G-370
  - **G-721 Open**
  - **1,850 cfs to FEB**
  - **925 cfs to STA-3/4 Inflow Canal**
  - **Inflow Canal Design Stage**
    - **+13.6’ NAVD 88**

EAA A-1 FEB (OUTFLOW OPERATIONS)

- Outflow Structures G-722W and G-722 in southeastern corner of site
  - Water from FEB transported east, through G-722W, and discharged to NNRC.
  - Q_{max} = 2,000 cfs
- Outflow Structures G-724 (A-J) along south perimeter levee
  - **Gravity flow discharge**
  - Available during times that the FEB WSE is above the operating stage of the STA-3/4 Inflow canal.
  - Q_{max} = 2,000 cfs at 3 foot head differential.

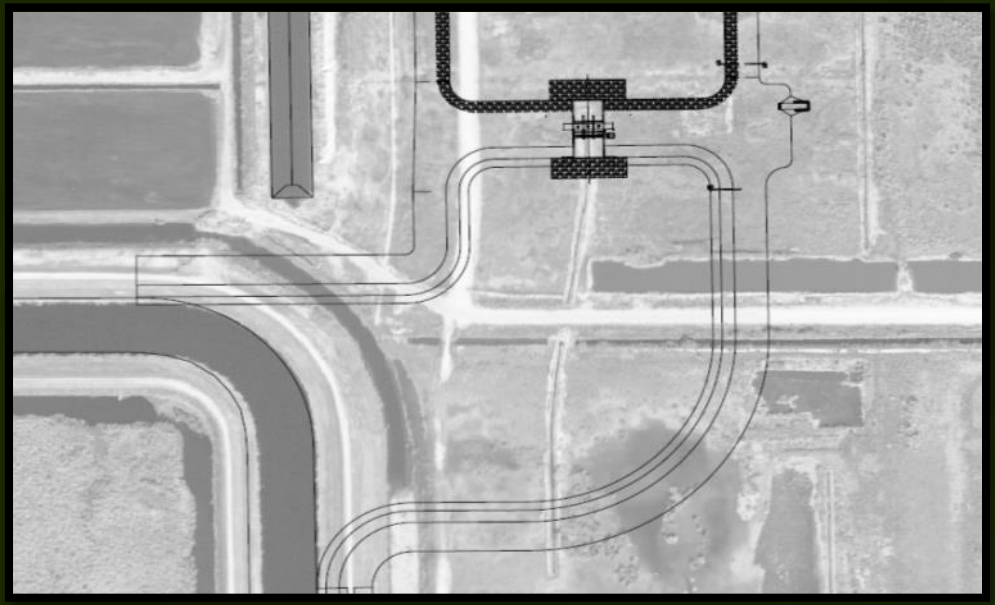


EAA A-1 FEB

WATER CONTROL STRUCTURE – G-720

- Location: Along west levee of EAA A-1 FEB; 7.4 Miles east of G-372
- Purpose: Divert flows from STA-3/4 Supply Canal into the FEB West inflow canal
- 3 - Bay Reinforced Concrete Gated Spillway
  - 11.25 feet tall by 20 feet wide per bay
  - Vertical lift roller gates

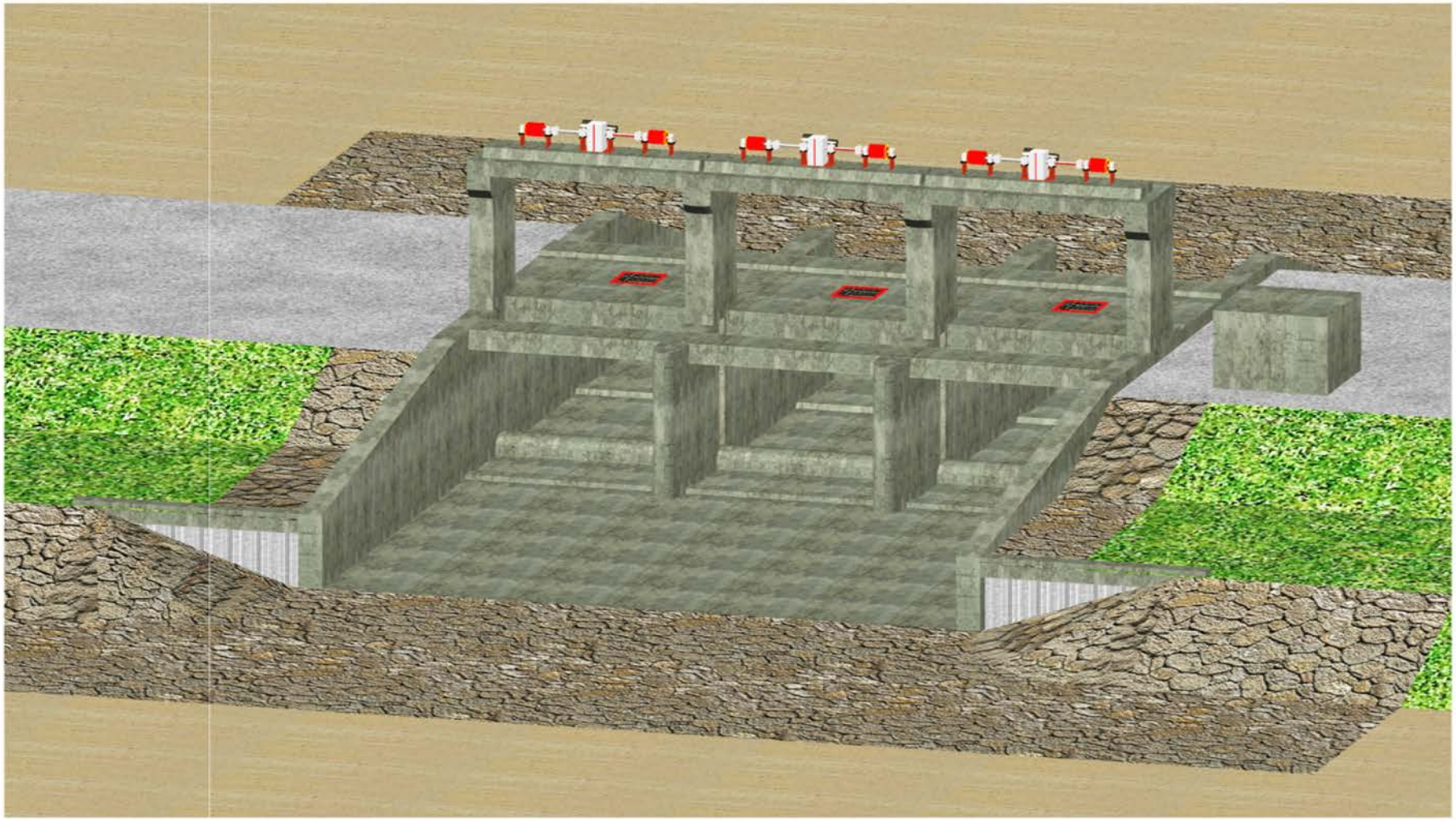
Typical 3 Bay Gated Spillway



G-720 Design Layout

- Type Hoist: Electric Motor drum and Cable hoist; or portable power-drive for manual operations
- Control by remote telemetry through SFWMD SCADA system
- Normal Power Source: Commercial Electricity
- Emergency Power Source: Portable Backup generator

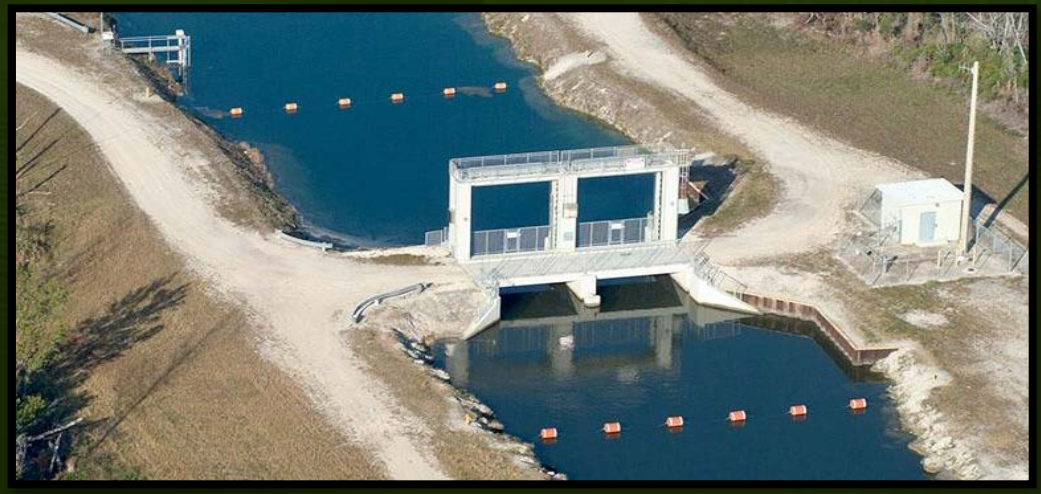
WATER CONTROL STRUCTURE - G-720



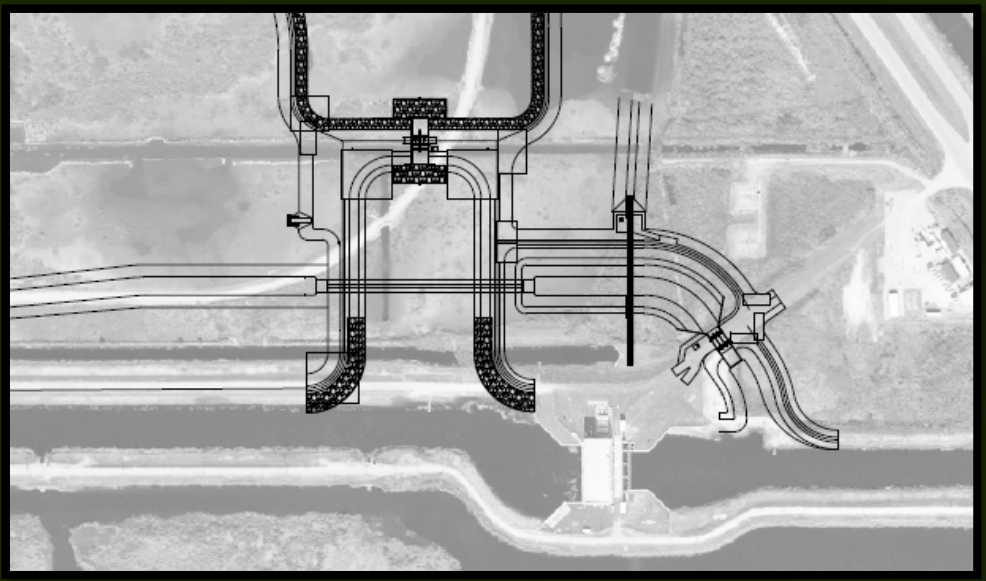
G-720 3-D Model Looking North

WATER CONTROL STRUCTURE - G-721

- Location: Along southeastern perimeter levee of EAA A-1 FEB; northwest of G-370
- Purpose: Divert flows from STA-3/4 Inflow Canal into the FEB East inflow canal
- 2 - Bay Reinforced Concrete Gate Spillway
  - 9.75 feet tall by 20 feet wide per bay
  - Vertical lift roller gate



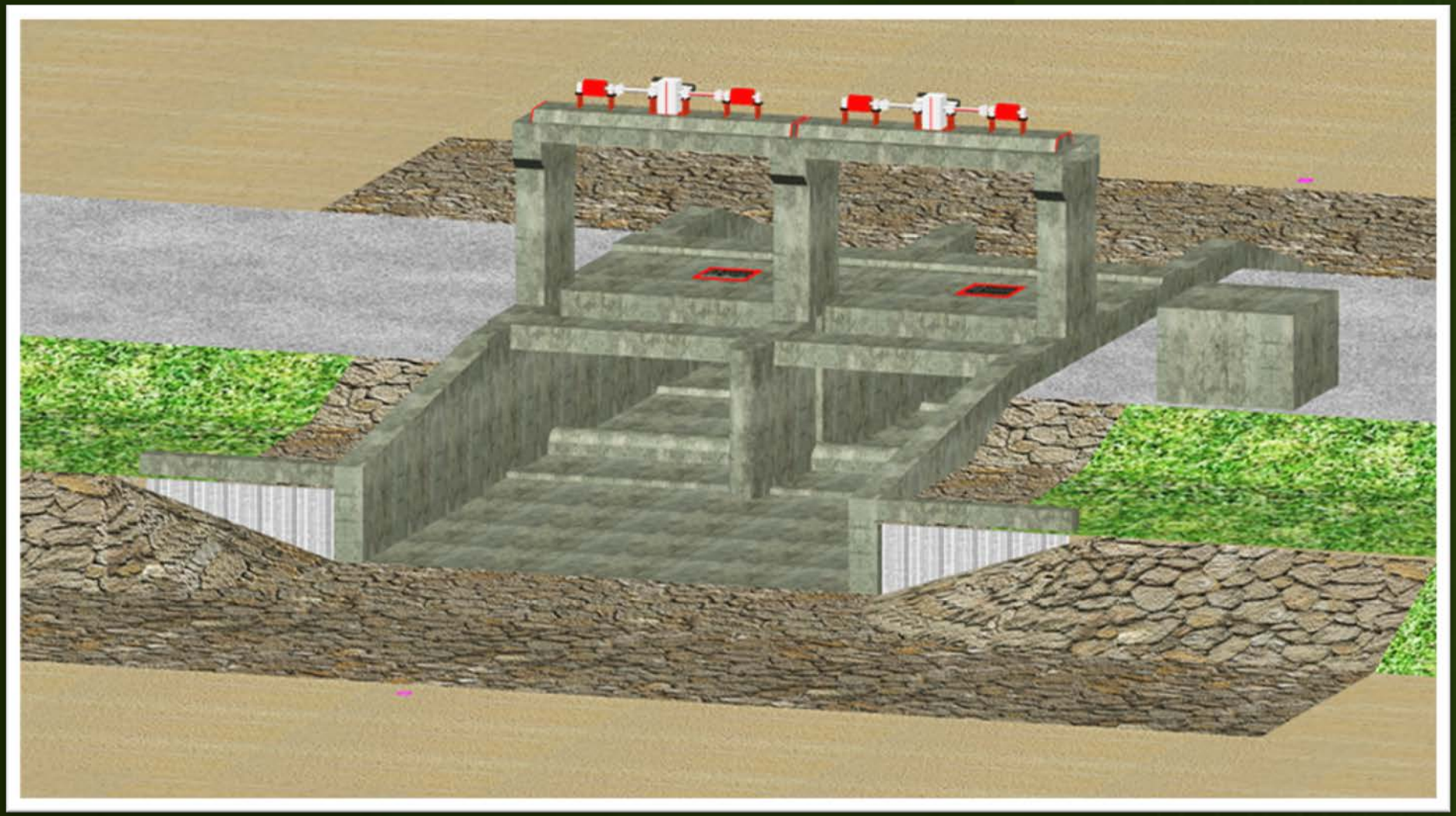
Typical 2 Bay Gated Spillway



G-721 Design Layout

- Type Hoist: Electric Motor drum and Cable hoist; or portable power-drive for manual operations
- Control by remote telemetry through SFWMD SCADA system
- Normal Power Source: Commercial Electricity
- Emergency Power Source: Emergency power supplied from G-370

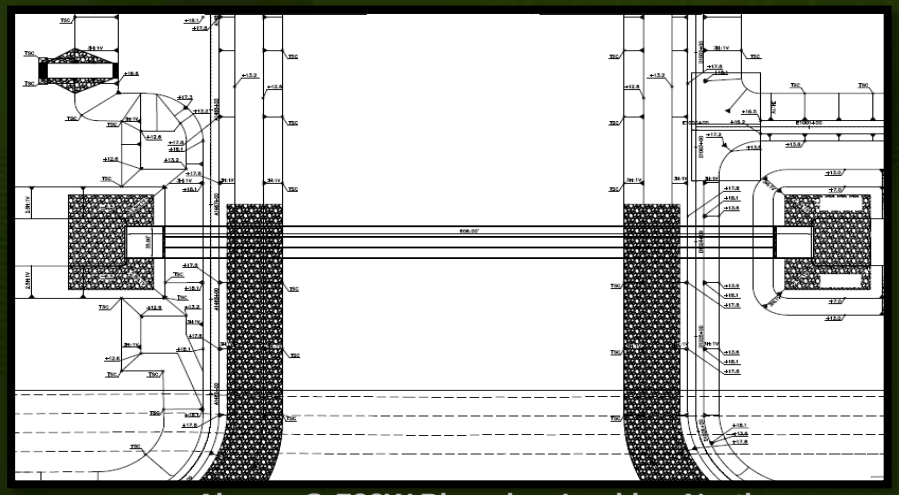
WATER CONTROL STRUCTURE - G-721



G-721 3-D Model Looking North

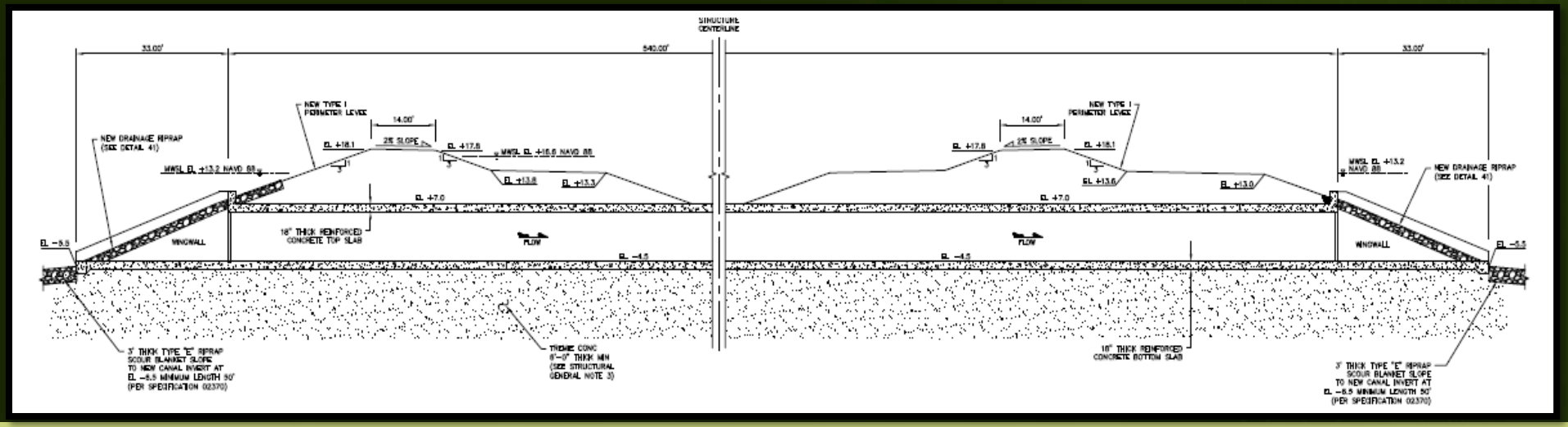
WATER CONTROL STRUCTURE – G-722W

- Location: Underneath G-721 Inflow canal; Southeastern corner FEB Collection and Conveyance Canal west of G-722
- Purpose: Deliver water from interior of FEB to G-722 outflow canal
- 3 - Barrel Reinforced Concrete Box Culvert
  - 10 feet tall; 10 feet wide; 606 feet length
  - Non-gated culvert structure

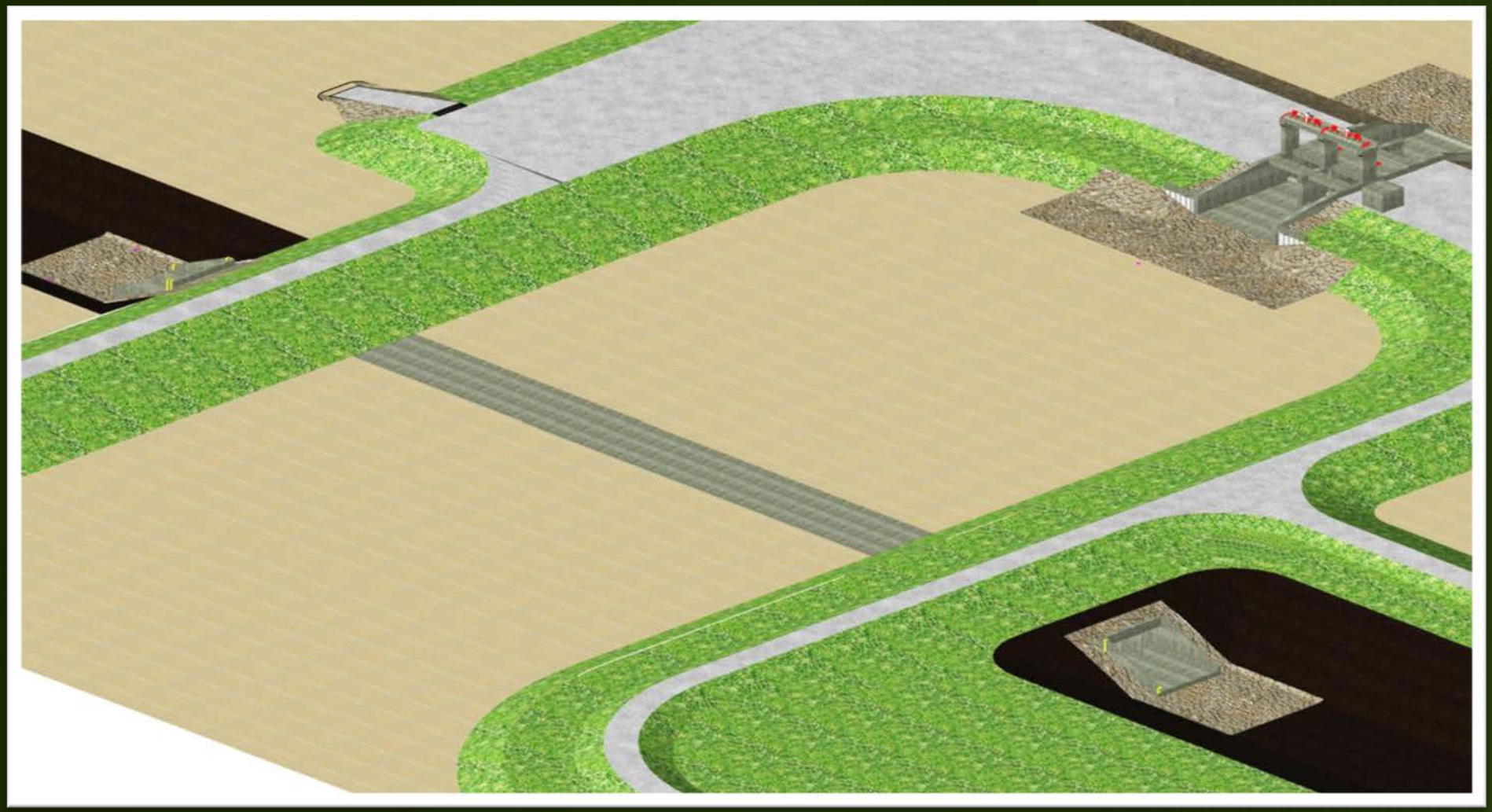


Above: G-722W Plan view Looking North

Below: G-722W Profile



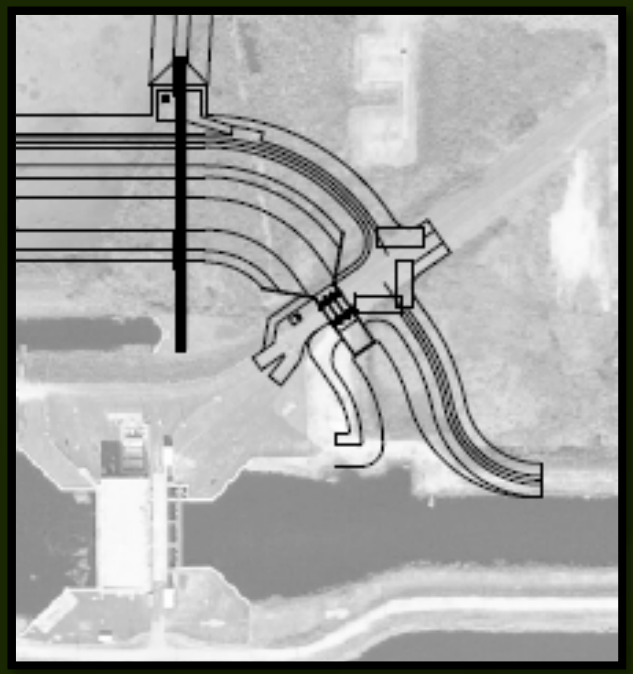
WATER CONTROL STRUCTURE – G-722W



G-722W 3-D Model Looking Northwest

WATER CONTROL STRUCTURE – G-722

- Location: Underneath access roadway serving G-370; Southeastern corner FEB Collection and Conveyance Canal
- Purpose: Deliver flows from FEB interior to the headwater side of G-370
- 3 - Barrel Reinforced Concrete Gate Culvert
  - 10 feet tall; 10 feet wide; 31 feet length
  - Stem operated vertical lift slide gates

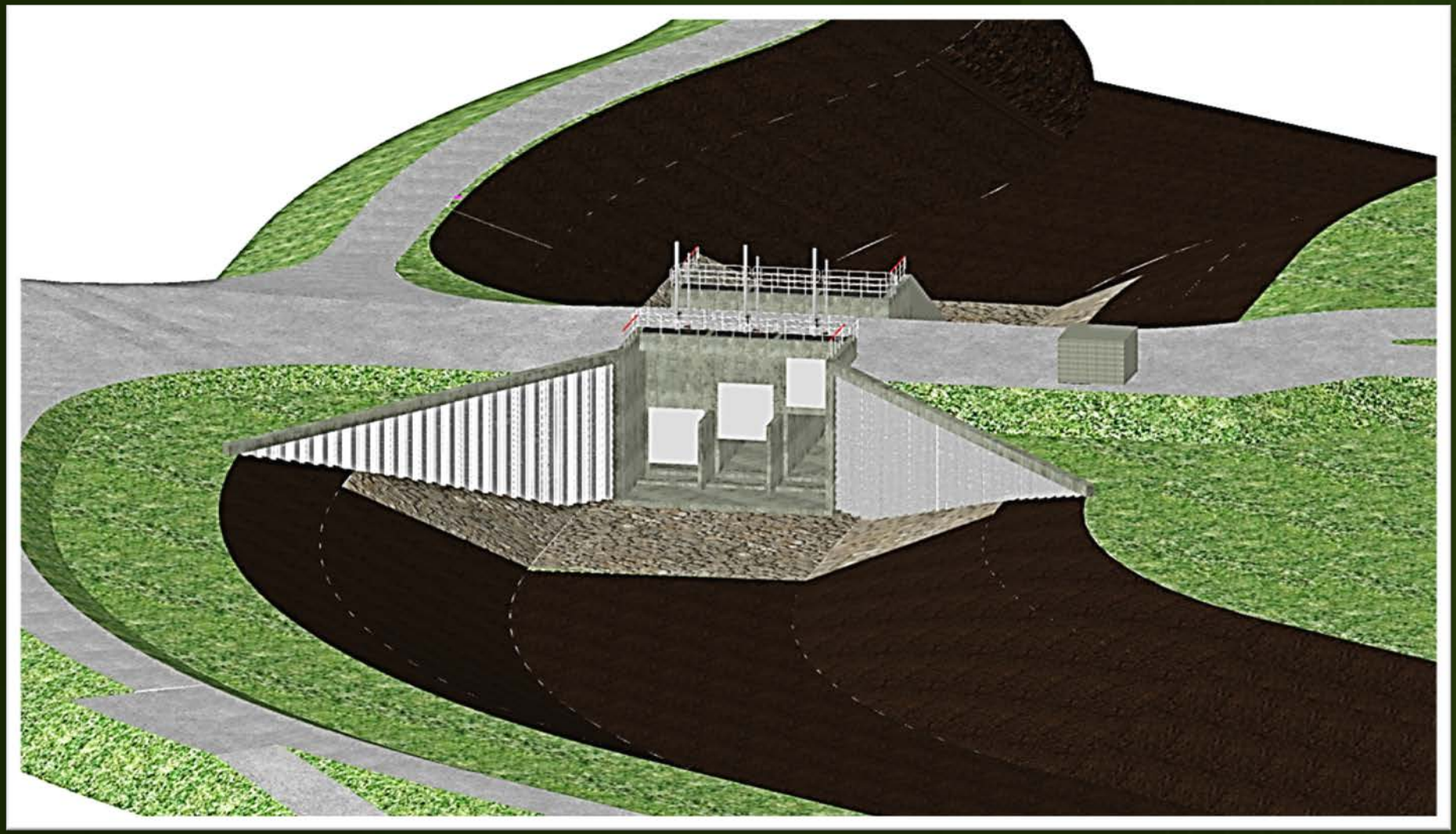


G-722 Design Layout

Typical Stem Operated Slide Gate

- Type Hoist: Pedestal mounted, single stem hoist with electric motor; Hand wheel for manual operations
- Control by remote telemetry through SFWMD SCADA system
- Normal Power Source: Commercial Electricity
- Emergency Power Source: Manual or emergency power from G-370

WATER CONTROL STRUCTURE – G-722

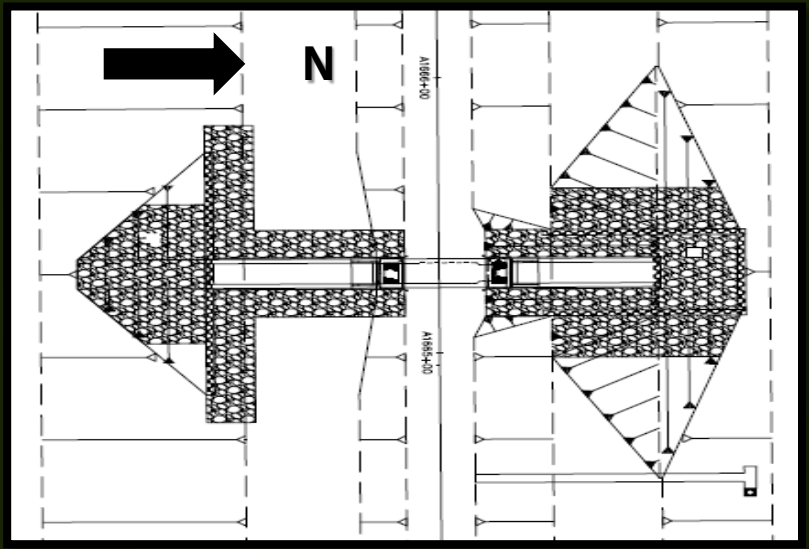


G-722 3-D Model Looking Southeast

WATER CONTROL STRUCTURE – 724 (A-J)

- Location: Along south perimeter
- Purpose: Deliver flows from EAA A-1 FEB to STA-3/4 Inflow Canal; Function as outflow structures directly to STA-3/4 Inflow Canal by gravity flow.
- 1 - Barrel Reinforced Concrete Gate Culvert
  - 7.5 feet tall; 7.5 feet wide; 23 feet length

Typical Stem Operated Slide Gate



G-724 Typical Design Layout

- Type Hoist: Pedestal mounted, screw type hoist with electric motor; Hand wheel for manual operations
- Control by remote telemetry through SFWMD SCADA system
- Normal Power Source: Solar Electricity
- Emergency Power Source: Manual or temporary portable generator

A-1 FEB

- Design and Construction Schedule:
  - Preliminary Design — Completed
  - Intermediate Design Submittal — Completed
  - Final Design Submittal — Completed
  - Final Design TRB — Completed
  - Corrected Final/RTA Design Submittal — Completed
  - Governing Board — October 2013
  - NTP — November 1, 2013
  - Substantial Completion — December 31, 2014
  - Final Completion — March 31, 2015

Milestones

Milestone	Compliance date	Status
Initiate design	4/1/2012	Complete
Submit state and federal permits	12/1/2012	Complete
Design status report	3/1/2013	Complete
Complete design	8/1/2013	**Complete**
Initiate construction	6/30/2014	Pending
Construction status report	3/1/2015	Pending
Construction status report	3/1/2016	Pending
Completion of construction	7/30/2016	Pending
Initial flooding and optimization complete	7/29/2018	Pending

QUESTIONS...

EAA A-1 FEB looking east from southwest corner