

# Lock and Dam 2 & 3 Fish Passage Update



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# Since we last spoke

- Commenced project in August 2016.
- Surveys for L&D 2 completed in September 2016. Survey for L&D 2 and 3 initiated after Hurricane Matthew. Completed in November 2016.
- Meeting with USACE to discuss data sharing and Section 408 Review Process in November 2016.
- Draft Basis of Design and Alternative Development/Analysis initiated in Spring 2017.
- Signed NDA with USACE in May 2017. Access to field data and surveys for use in development of alternatives.

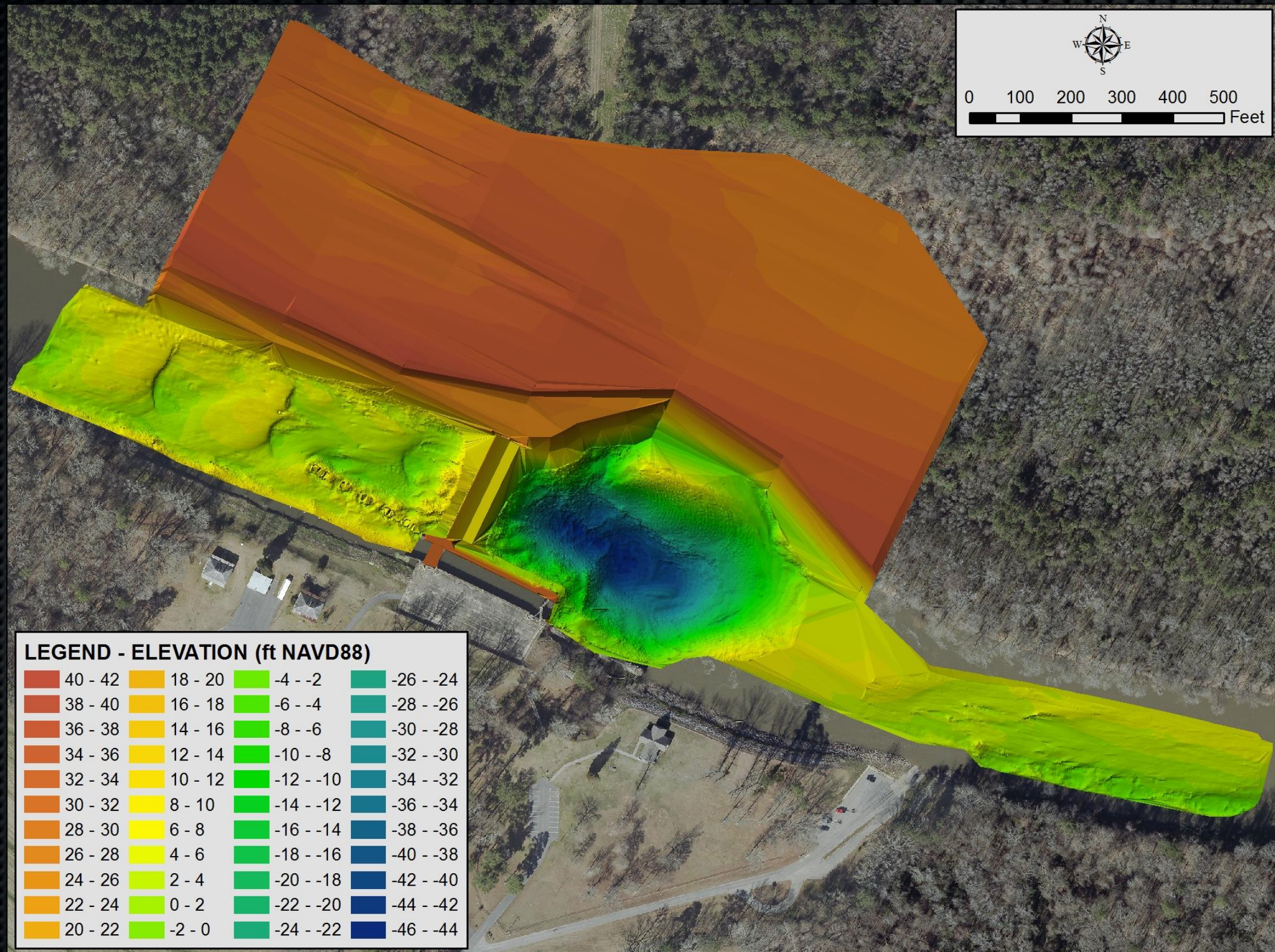


# USACE/Federal Coordination

- Field visit to L&D 2 and 3 with representatives of NOAA, Southeast Region Restoration Center
- Meeting with USACE in November 2016 to discuss Section 408 process
- Scope of Work and NDA request sent to USACE in December 2016.
- Coordination with USACE for real estate approval for access to L &D 2 and 3 for geotechnical field investigation/ underwater inspection (May 2017)

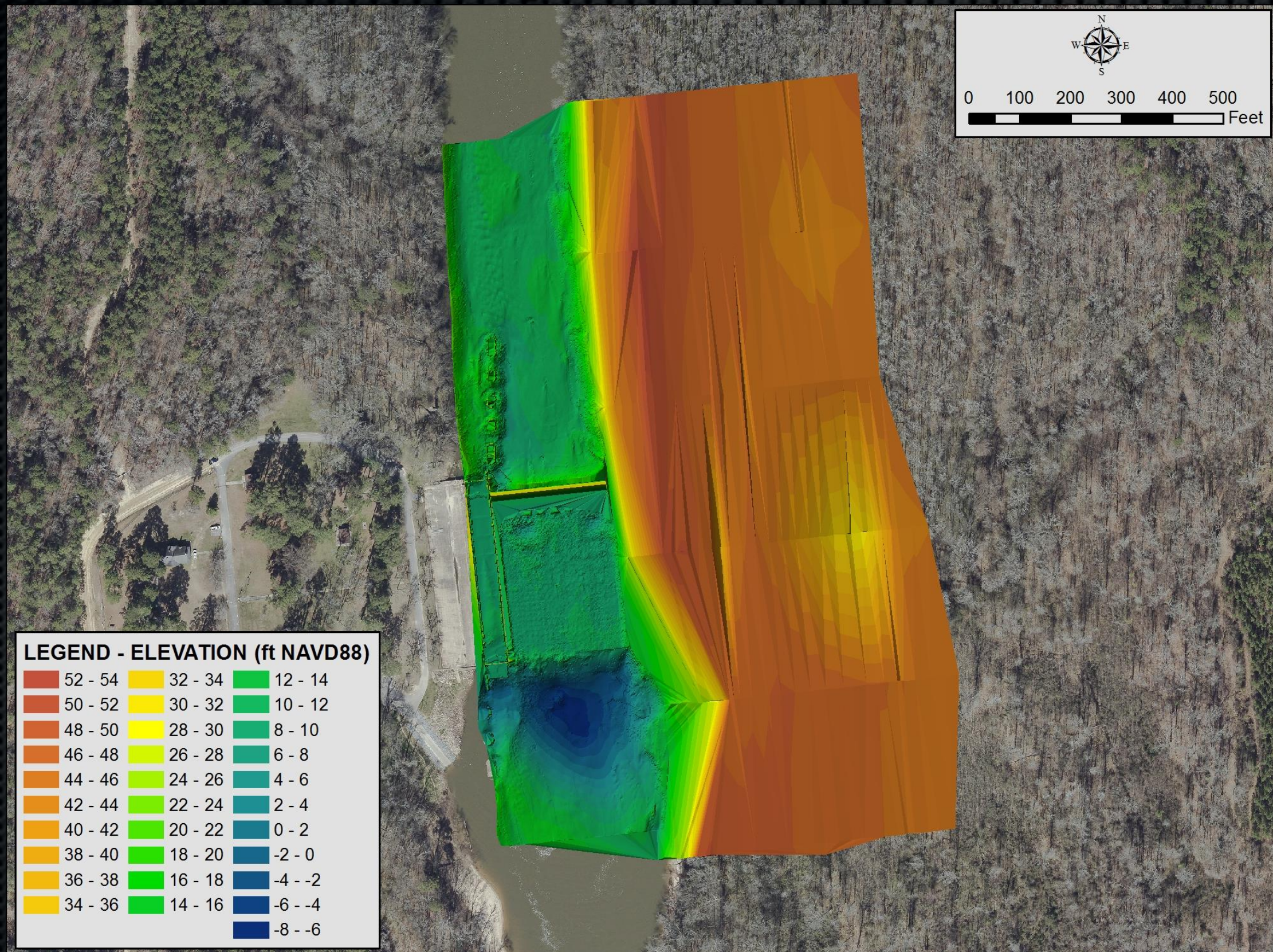


# Field Survey – L&D 2





# Field Survey – L&D 3





# Basis of Design

- Apply knowledge gained from L&D 1 and US/ International nature-like fishways. Integrate current NOAA/USFWS planning/ design guidelines.
- Fishway slopes of 3% or less to reduce velocities and allow reduced head loss over boulder weirs.
- Average head-loss per weir of 0.7 ft or less.
- Arched boulder weirs.
- An elliptical or terraced weir cross-section
- Variable gap widths in boulder weirs.



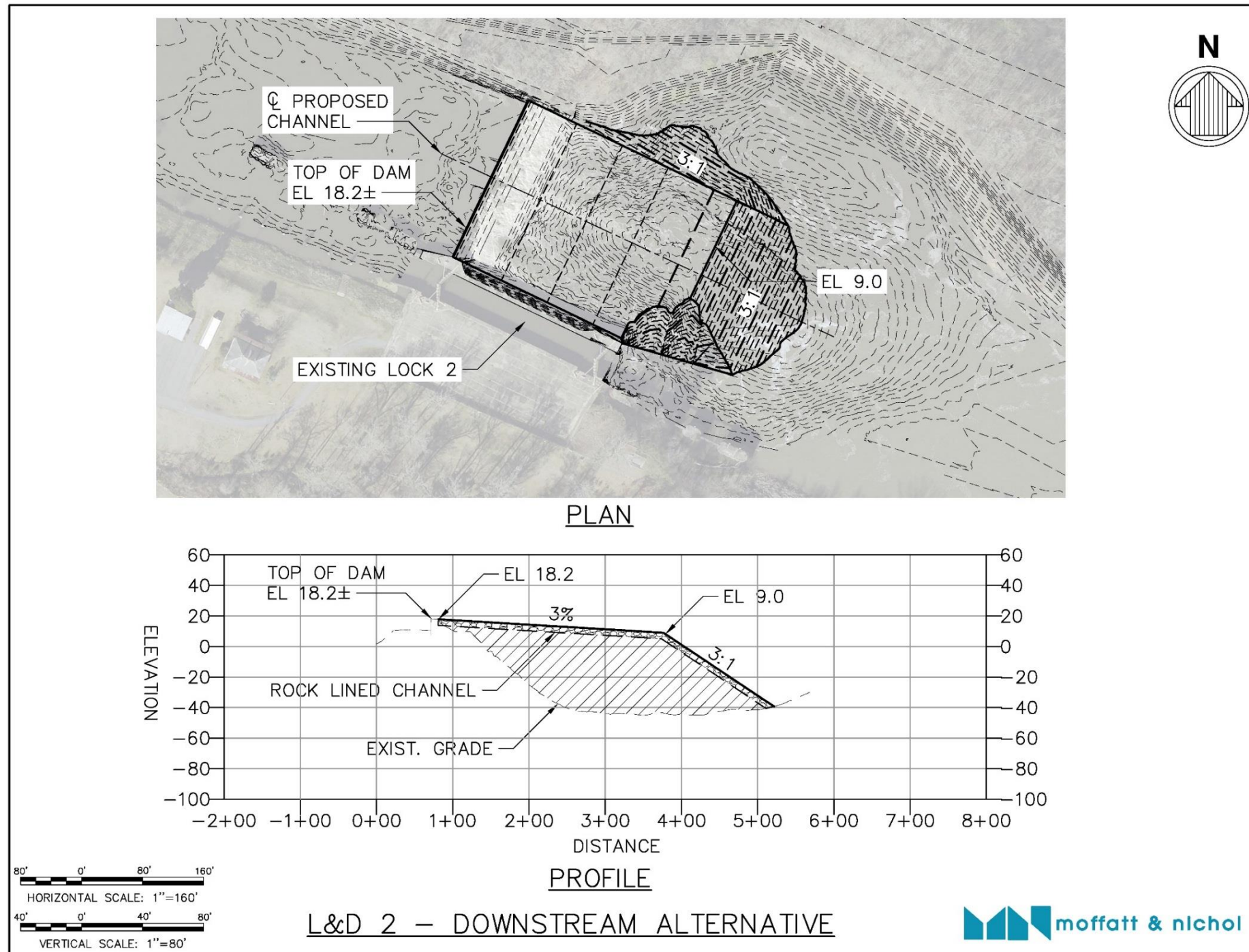
# Alternative Development

- Alternatives in Consideration – L&D 2
  - Downstream – Integrate with USACE scour repair project
  - Upstream – Dam removal
  - Bypass Channel
  - Dam and Lock Removal (DS/US option)
  - No Action – continued locking operation
- Alternatives in Consideration – L&D 3
  - Downstream
  - Upstream – Dam removal
  - Dam and Lock Removal (DS/US option)
  - No Action – continued locking operation



# Lock and Dam No. 2

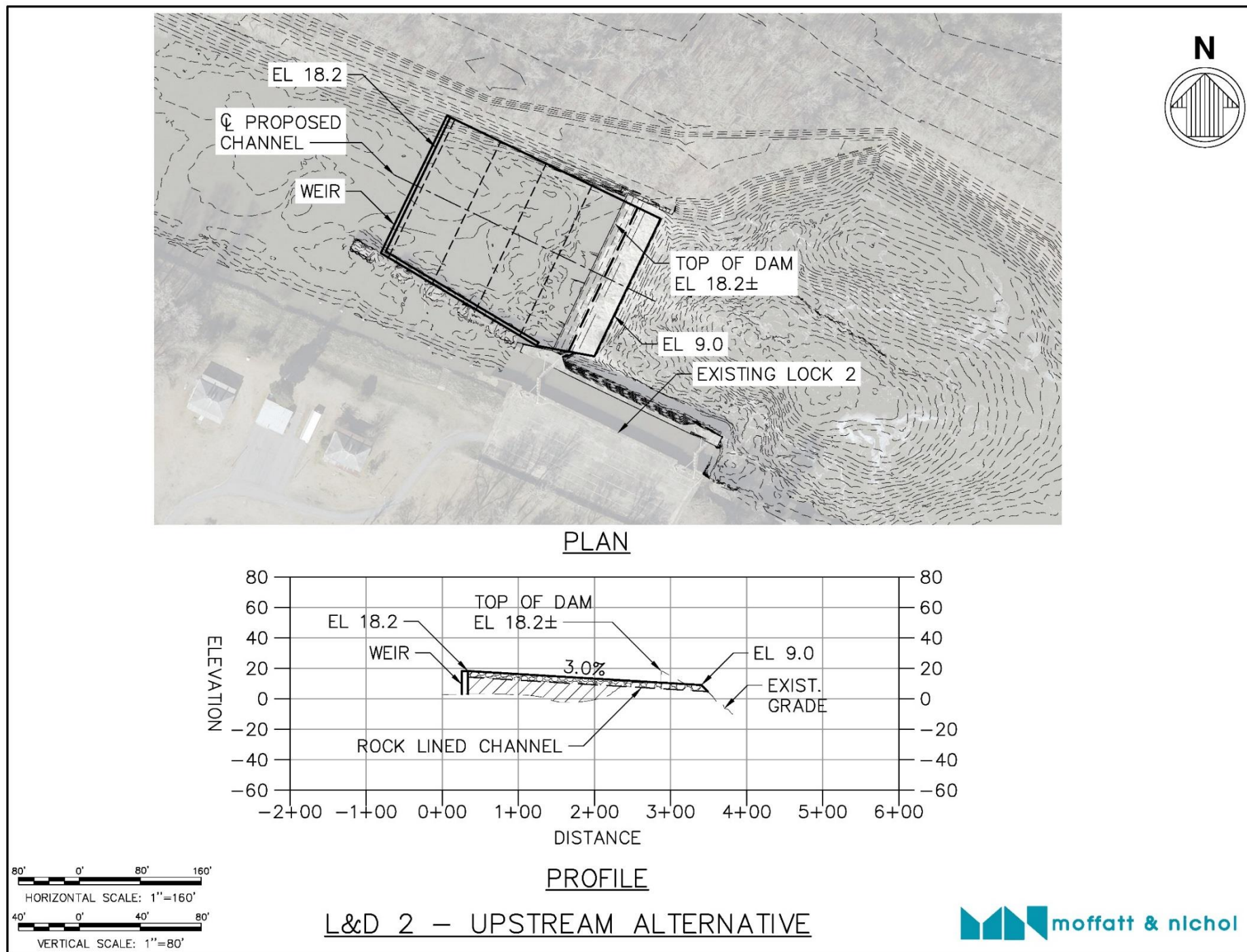
- Downstream Alternative @3% slope
- Integration of USACE Scour Hole Protection





# Lock and Dam No. 2

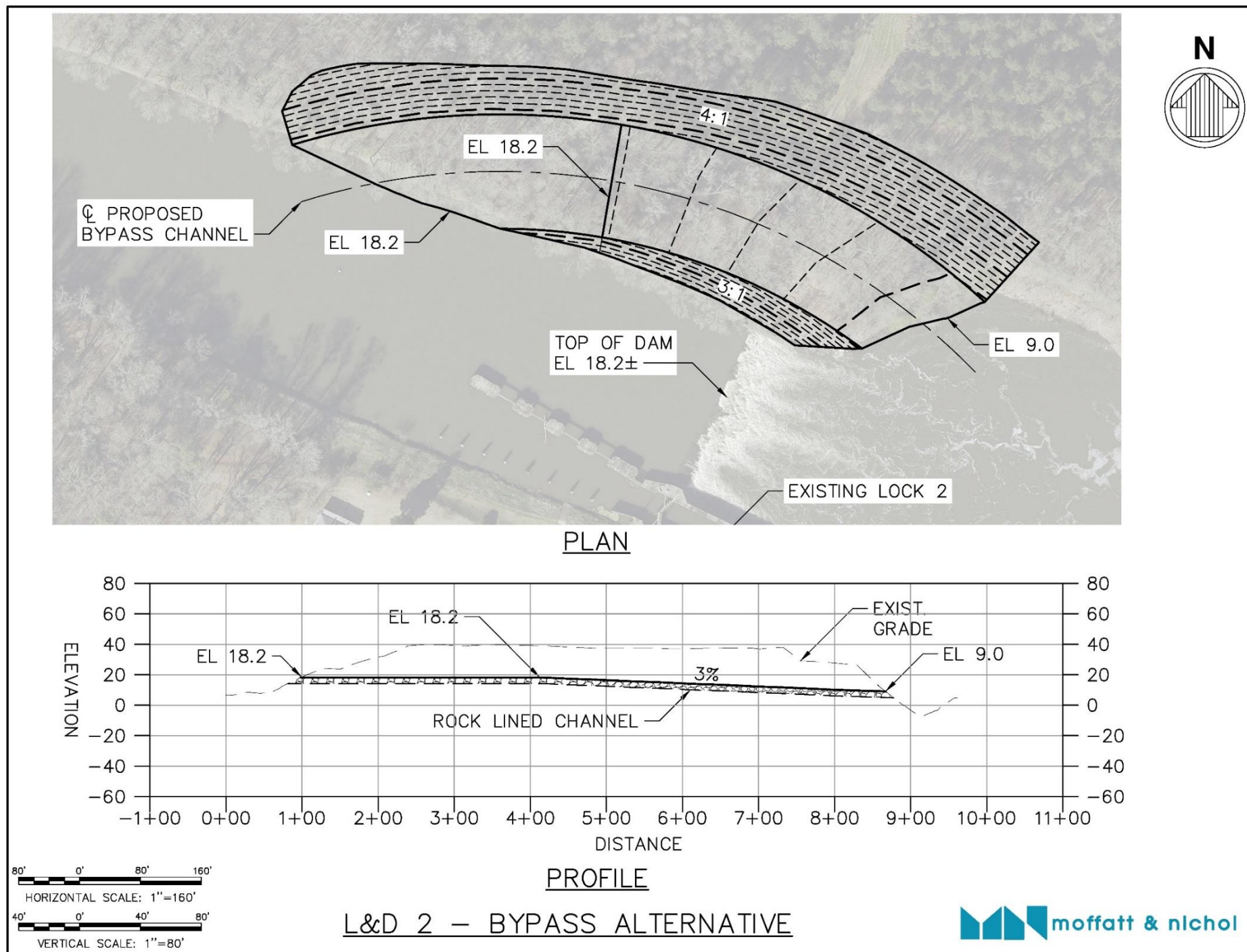
- Upstream Alternative @3% slope





# Lock and Dam No. 2

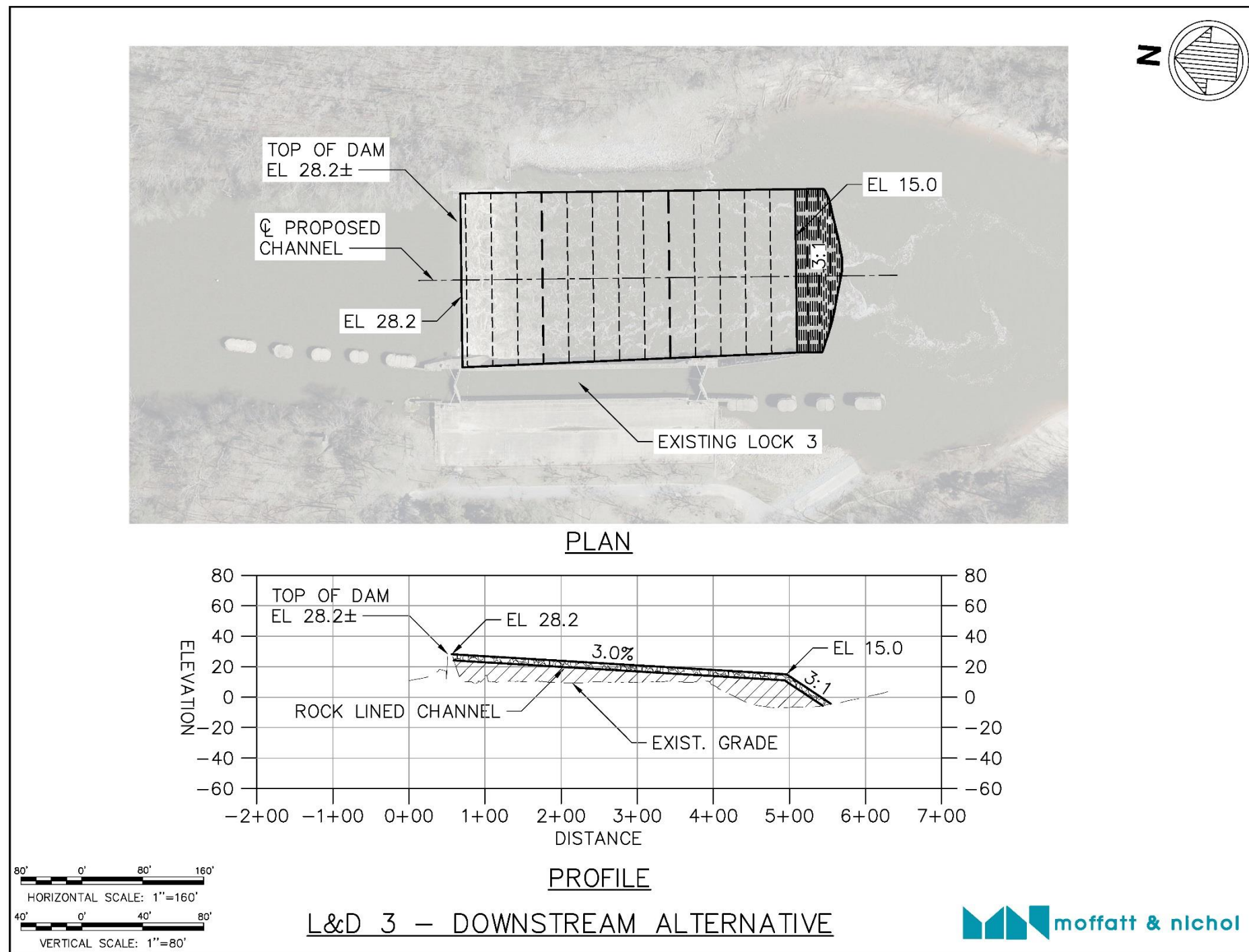
- Bypass Alternative @3% slope





# Lock and Dam No. 3

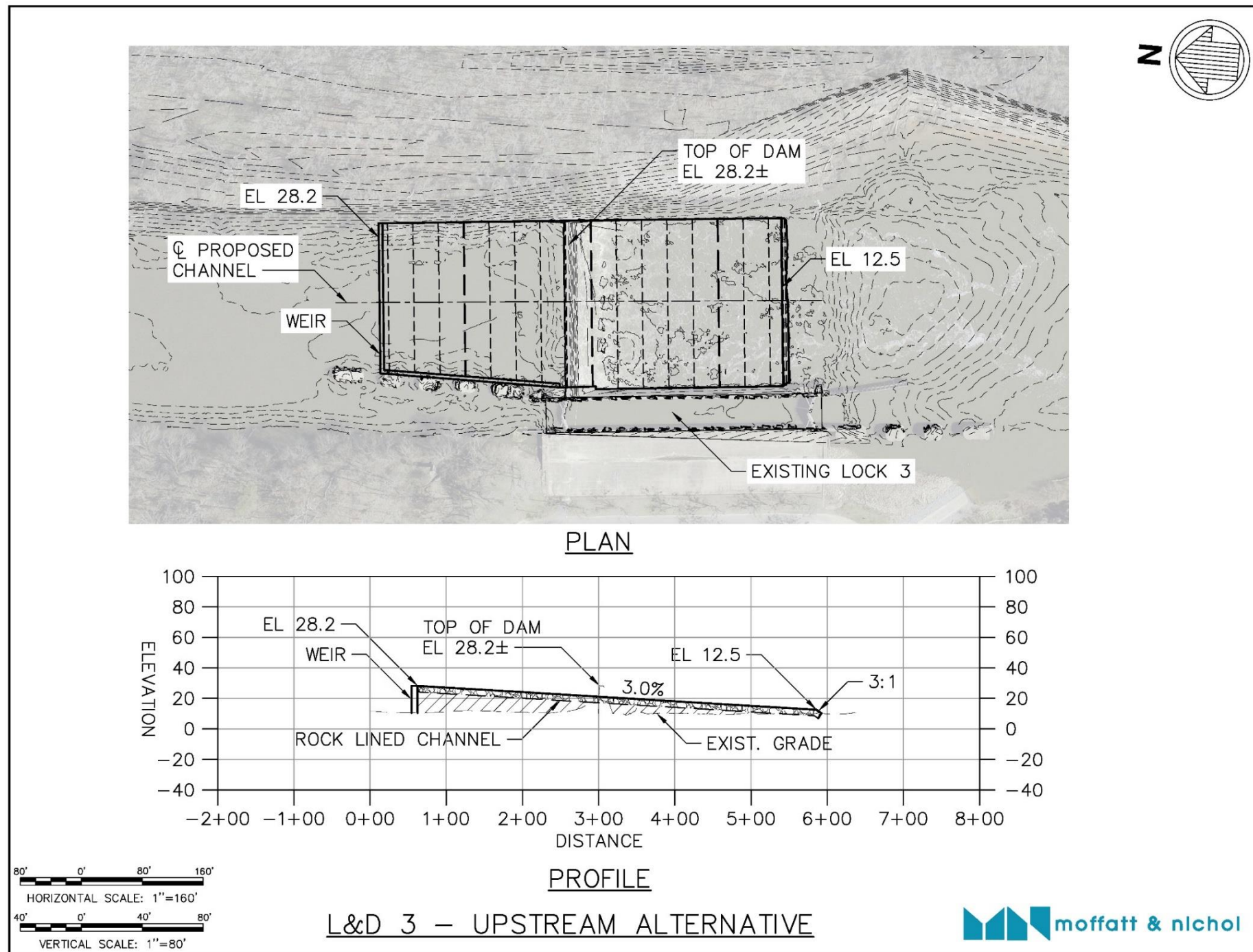
- Downstream Alternative @3.0% slope





# Lock and Dam No. 3

- Upstream Alternative @3% slope





# Next Steps and Schedule

- Field Investigations – coordinate with USACE Real Estate
  - Geotechnical Investigations
  - Underwater Inspections
  - Hydraulic Measurements
  - Completed August/September 2017
- Basis of Design (living document)
  - Revised draft to be reviewed by Independent Review Panel
  - Final BOD in July 2017
- Alternatives Analysis
  - Continued refinement -preliminary hydraulic analysis
  - Input form Independent Review Panel
  - Completion of draft alternative analysis (late Fall 2017)
- Initiation of Section 408 Review and Preliminary Engineering



# Feedback and Comment

