There’s a Reason it’s Called Sand Creek
Overview

- Background
- September Flood Impacts
- CLOMR
- FEMA public assistance funding
- Take Aways
Background
Background

• September 9th through 16th, 2013
  – 6 to 15 inches of precipitation fell in the Sand Creek basin
  – Approx. peak flow on Sand Creek
    • 10,000 and 17,000 cfs (~10 yr flood)
    • 100-yr flood = 30,500 cfs

• Significant flooding along Sand Creek in Aurora and Commerce City

• Flooding eroded portions of the west bank of Sand Creek
  – Along the boundary of the Metro District’s RWHTF
    • Jeopardized disinfection building
    • Increased risk of undermining siphon structure
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Permanent Improvements

- The permanent improvements include:
  - A combination of bank stabilization methods for each reach:
    - Reach A: Reinforced concrete bank with secant pile wall,
    - Reach B: Vegetated/soil riprap with toe protection, and
    - Reach C: Vegetated/soil riprap with toe protection.
  - Two grade control structures
  - Selection of improvements
    - MWRD is land locked – maintain as much property as possible
    - Must protect critical facility and future facilities
• Permanent Improvements cause a rise in regulatory WSE
  – Change in bed slope from pre-flood to post-flood
  – Required a CLOMR

• UDFCD (CTP) performed CLOMR Review
  – Pre-submittal consultation – January 23, 2014
  – Submitted – February 5, 2014
  – Resubmitted with additional data – February 14, 2014
  – Forward to FEMA by UDFCD – February 18, 2014
  – Approved by FEMA – March 11, 2014
Unique modeling scenario
  - Short reach – no model upstream of siphon structure
  - No comparison to pre-project conditions
FEMA Public Assistance Funding

• Other property owners are not restoring their property
  – MWRD cannot repair their property without restoring west bank

• MWRD undertaking the repair to property owned by others

• MWRD was provided public assistance from FEMA
  – Public facility & critical facility
  – FEMA has reimbursed MWRD
    • Damages on their property
    • Portion required to restore their property
Project Costs

• Cost opinion to return to pre-flood conditions
  – $3,200,000

• Restore damage solely on MWRD property
  – $900,000

• MWRD is improving beyond the pre-flood conditions
  – $4,500,000

• Construction started April 2014
  – Construction finished in November 2014
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Take Aways

• Design Build can be done with a CLOMR
• Identify all project stakeholders early
• Communicate early and often
  – Pre-submittal meetings can help “grease the wheels”
• Accurate cost estimates can expedite the public assistance process
Thank You!

- Questions

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