WEST SACRAMENTO LEVEE IMPROVEMENT PROGRAM

FMA Conference
Panel: Flood Protection Projects
September 8, 2016
WEST SACRAMENTO AREA FLOOD CONTROL AGENCY

• Greg Fabun, Flood Protection Manager

• West Sacramento Area Flood Control Agency
  – City of West Sacramento
  – RD 900
  – RD 537
West Sacramento
Surrounded by Water Channels

- Sacramento River
- Sacramento Bypass
- Yolo Bypass
- Deep Water Ship Channel
Commitment to Public Safety

Post Hurricane Katrina standards changed level of protection for West Sacramento

Since 2006, West Sacramento City Council has made flood protection a top priority for annual policy agenda

WSAFCA embarked on the West Sacramento Levee Improvement Program

Flooding threatens over 50,000 residents, 25,000 jobs and $5.3 billion in infrastructure
West Sacramento
Levee Improvement Program

• Achieve minimum 200-year level of flood protection
• Prioritize and select levee reaches for improvement to reduce risk as quickly as possible
• Raise revenue for local cost of improvements
• Identify opportunities to work with local and regional partners to complete work efficiently and economically
• Seek Federal Interest for WSLIP
Proactive Progress
200-Year Flood Protection

2007: Flood Assessment Passed
      Levee evaluations conducted – PIR and AAR
2008: I Street Levee Improvement Project completed
2009: West Sacramento GRR started
2011: CHP Academy EIP completed
      The Rivers EIP completed
2013: Southport EIP in design
2015: Southport EIP – Phase I begins
2016: West Sacramento GRR completed
      Southport EIP – Phase I completed
      Southport EIP – Phase II award construction
      Updated PIR, AAR, Scope & Cost
West Sacramento GRR

- Partnership w/ USACE, CVFPB
- Alternative fully supported by community
- Includes setback levee solution for Southport
- Chief’s Report 2016
- House & Senate WRDA
- WSAFCA implementing first increment of federal project through EIP
- Federal appropriations, USACE leads remainder
Early Implementation Projects

- **I Street Bridge** – *Completed 2008*
  - Site Length: 475-feet

- **Rivers** – *Completed 2011*
  - Site Length: 3,400-feet

- **CHP Academy** – *Completed 2011*
  - Site Length: 6,500-feet

- **Southport** – *Construction 2016*
  - Site Length: 5.6-miles
  - Section 221 Credit established
Riverwalk Park
California Highway Patrol Academy
Levee Improvement
River’s Levee Improvement Project
Bryte Park
Nature Trail
Southport EIP

- Existing levee with history of poor performance
- Reach Length = 6 miles
- 200-year level of protection
- Design to be consistent with GRR
- Multi-benefit objectives
Alternatives Considered
Selected Alternative

• Provides min 200-year level of protection
• Total Project Length = 5.6 miles
  – 3.8 miles of new setback levee
  – 1.8 miles of in-place improvements
• Setback levee creates 200 acres of offset area including 125 acres of new floodplain
• On-site mitigation for project impacts and opportunity for advanced mitigation for future federal project
• 408 Approval - Collaborative coordination with USACE
Cross-Section Offset Area

Elevations
- Mixed Riparian Woodland = 14’+
- Riparian Cottonwood Forest = 12-14’
- Riparian Willow Scrub = 10-12’
- Emergent Marsh = 8-10’

West SAC flood protect
It’s up to us
Cross-Section Inlet/Outlet

**LANDSIDE**
- Type C Turf on Bench and Waterside Berm
- FInished Grade
- Offset Floodplain

**100° APRON ZONE**
- Vegetated jute netting 100° landward of existing levee centerline
- Recycle any existing clean riprap down to elev. 7' by scraping it down the bank slope to below elev. 7' at inlet outlet
- 12° of 6" D. riprap and X" of RSP bedding
- 12" x 12" joint anchor trench for jute netting and coir fabric
- ELEV = 10"
- Jute netting with local native species seed mix
- 30° graded stone "C"
- Col fabric planted with local native species seed mix
- 1" amended topsoil and native seed mix
- ELEV = 7"
- Existing riprap retain into/outlet end treatment
- Place toe rock where shown

**RIVERBANK ZONE**
- Vegetated coir fabric
- Existing riprap below elev. 7’ to remain

**WATERSIDE**
- Schwertner Drainage
- Existing levee

**APRON ZONE**
- Install jute netting from existing levee centerline to 100° landward. Incorporate vegetation plantings - see notes.

**RIVERBANK ZONE**
- Install coir fabric with local native species seed mix from upslope extent of rock to existing levee centerline.

**Notes: Apron Zone Vegetation**
1. Apron zone would be planted with a mixture of emergent, herbaceous, and woody riparian species of native California.

**WEST SAC Flood Protect**
It's up to us
Offset Area Configuration – North
Offset Area Configuration – South
Multi-Benefit Objectives

• Maximize level of protection to residents and businesses
• Preserve or enhance habitat along the Sacramento River
• Maximize resource conservation, ecosystem restoration
• Provide for recreational opportunities
• Reconnect public space along the Sacramento River
Questions?

WEST SAC flood protect
It’s up to us