West Sacramento Area Flood Control Agency
June 14, 2012

Southport Sacramento River Levee Early Implementation Project

Segment B Value Engineering Study In-Progress Briefing
Southport EIP
Segment B – Value Engineering

• Background
• In-Progress Briefing
• Alternative Alignments
• Investment Analysis
• Potential Impacts to Homes
• Summary of Results
• Next Steps
Background

• January 2012 – Presented 15% Design Cost Opinion

• February 2012 – Approved HDR TO#4 for 65% Design
  ✓ Excluding Segments F and B

• March 2012 – Identified EIS-EIR Preferred Alternative

• May 2012 – Identify Segment F Alignment for 65% Design

• June 2012 – Segment B Value Engineering Briefing

• July/Aug 2012 – Present Segment B Value Engineering Study
In-Progress Briefing

• Value Engineering Study Approach

• Value Engineering Study Sequence

• Evaluations Completed to Date
  - Alternative Alignment Footprints with Berm versus Deep Wall
  - Alternative Alignment Footprints with Minimum O&M Corridors
  - Project Delivery Costs and Cost-Share Implications
  - Impacts to Property Owners
Alternative 1 (Berm)
Alternative 1 (Wall)
Alternative 2 (Berm)
Alternative 2 (Wall)
### Underseepage Mitigation Scenario

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Total Cost ($ MM)</th>
<th>State Share %</th>
<th>WSAFCA Share %</th>
<th>State Funding ($ MM)</th>
<th>WSAFCA Funding ($ MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1 (Berm)</td>
<td>$38.8</td>
<td>58%</td>
<td>42%</td>
<td>$22.5</td>
<td>$16.3</td>
</tr>
<tr>
<td>Alternative 1 (Deep Wall)</td>
<td>$61.9</td>
<td>37%</td>
<td>63%</td>
<td>$22.5</td>
<td>$39.4</td>
</tr>
<tr>
<td>Alternative 2 (Berm)</td>
<td>$39.4</td>
<td>65%</td>
<td>35%</td>
<td>$25.6</td>
<td>$13.8</td>
</tr>
<tr>
<td>Alternative 2 (Deep Wall)</td>
<td>$63.0</td>
<td>41%</td>
<td>59%</td>
<td>$25.6</td>
<td>$37.4</td>
</tr>
</tbody>
</table>
### Impacts to Homes & WSAFCA Investment

<table>
<thead>
<tr>
<th>Underseepage Mitigation Scenario</th>
<th>Max. Est. Displaced Homes</th>
<th>Min. Est. Displaced Homes</th>
<th>Maximum Homes Saved</th>
<th>WSAFCA Additional Investment ($MM)</th>
<th>Potential Southport EIP Funding Gap ($MM)</th>
<th>Potential WSLIP Funding Gap ($MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative 1 (Berm)</td>
<td>13</td>
<td>12</td>
<td>13 - 12 = 1</td>
<td>$2.5</td>
<td>$8.9</td>
<td>$23.8</td>
</tr>
<tr>
<td>Alternative 1 (Deep Wall)</td>
<td>8</td>
<td>5</td>
<td>13 - 5 = 8</td>
<td>$23.1</td>
<td>$82.5</td>
<td>$220.0</td>
</tr>
<tr>
<td>Alternative 2 (Berm)</td>
<td>13</td>
<td>12</td>
<td>13 - 12 = 1</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$0.0</td>
</tr>
<tr>
<td>Alternative 2 (Deep Wall)</td>
<td>10</td>
<td>9</td>
<td>13 - 9 = 4</td>
<td>$23.6</td>
<td>$84.3</td>
<td>$224.8</td>
</tr>
</tbody>
</table>
Summary of Results - Berms

- Selecting Alternative 2 (Berm) over Alternative 1 (Berm)
  - Reduces WSAFCA Investment by approximately $2.5 MM
    - $2.5 MM of WSAFCA Funding
    - $8.9 MM Project with State and WSAFCA Funding for Southport
    - $23.8 MM Project with Federal, State, and WSAFCA Funding
  - Maximizes Reach B State Cost Share Potential (65%-67%)
  - Increased Flood Risk Reduction for Entire Southport Region
  - Maximizes Leverage for Limited Local Funding
  - Both Berm Alternatives Displace an Equal Number of Homes
Summary of Results – Deep Wall

• Selecting Alternative 1 with a Deep Wall in Segment B
  – Increases WSAFCA Investment by approximately $23.1 MM
  – Potential Southport EIP Funding Gap of $82.5 MM
  – Potential WSLIP funding Gap of $220.0 MM
  – Require Identification of Additional Local Funding Sources
  – Potential to Reduce Displacement of 8 homes
Segment B – Next Steps

• Complete evaluation of seepage remediation measures
  o Technical feasibility of relief wells in combination with partially penetrating, conventional cutoff wall
  o Technical feasibility of reducing seepage berm widths in combination with partially penetrating, conventional cutoff wall
  o Regulatory acceptability of placing South River Road upon landside seepage berm
  o Determination of required levee footprint of technically feasible and regulatory compliant project alternatives
  o Evaluate property owner impacts, project costs and cost-share consequences of technically feasible and approvable project alternatives
• Q & A

• Discussion