Advisory Committee Meeting

November 19, 2009

Protecting public safety, the regional economy and critical infrastructure.
Presentation Overview

- **Capital Program**
  - 24 projects completed
    - 6 emergency repairs - January 2009
    - 18 construction projects – Summer/Fall 2009

- **Programmatic Efforts**
  - Flood Warning and Preparation
  - Flood Studies
  - Grants and External Funding
  - Planning
  - Outreach
Right Bank Setback Project Concept

Phase 1: Acquisition

Phase 2: Acquisition and design

Phase 3: Permitting and construction
White River – Acquisition Progress

- White River Corridor / Right Bank Set Back
  - Phase One – Acquisition: Leveraged $262K toward an estimated $460K acquisition
  - In negotiations with 4 property owners in White River Estates / Pacific

- Countyline to A-Street Floodplain Reconnection
  - Acquisitions: In negotiations with 5 of 7 property owners
White River – Advance Flood Protection Measures

- Installed HESCO Barriers, SuperSaks, and sandbags to form a 3500’ flood wall
- Wall will provide temporary flood protection to residential areas of Pacific
- Total cost = ~$300K; ~$162K in materials supplied by Corps
Green River Flood Damage Repairs

42nd Ave S revetment

- Damaged during January ’09 flood
- Protects water main serving all of Southcenter and much of Tukwila, as well as an arterial roadway
- Repair length = 95 lineal feet
Green River Flood Damage Repairs

- Stoneway – design and permitting complete; will construct with FEMA public assistance funds
- Horseshoe Bend Levee – repaired 5 sites, 2,760 lf

- Partnership with Corps of Engineers – 100% funded by Corps (~$4 million)
- Protects commercial and residential areas of Kent

Horseshoe Bend Levee
Green River HHD Emergency Planning

- Installing 27,500 lf of Hescos & 66,000 SuperSaks
- Coordination with KC ECC on regional flood preparedness
- Hydraulic modeling potential impacts of high flows; impact of enhanced containment
- Coordination of lower Green R. cities thru BTC to design and implement advance flood protection measures
Vegetation Management

- Vegetation greater than 4” in diameter removed per Corps eligibility requirements for damage repair funding
- Mitigation sites necessary, to be determined
- Corps and NMFS discussions regarding ESA impacts

Horseshoe Bend
Photos Courtesy USACE
Cedar River Basin – 2009
Construction

- Facility repairs
  - Cedar River Trail #1
    - 215 lf
  - Cedar River Trail #3
    - 100 lf
  - Petorak-Wadhams – 75 lf
Cedar River Trail Site 1
(Protects SR 169, regional fiber optic line, & Cedar River Trail – similar work at CRT # 3)

Before – January 09

After – August 09
Belmondo Emergency Repair

- Permanent repair scheduled for 2010
- Mitigation for emergency repair scheduled for 2010

Scour threatens trail, regional fiber optic line, and SR-169.
Snoqualmie Basin Structural Projects

- **Tolt River Road Shoulder Protection**
  - Constructed and in-ground setback revetment about 250’ long; removed ~140’ of rock along riverbank
  - Protects public roadway, buried water line, phone and power lines
  - Cost = $150,000; project complete

- **Bridge to Bridge Right Levee – Raging River**
  - Repaired 40’ of damaged levee to protect Preston-Fall City Road, water line, and fiber optic cable
  - Cost = $40,000; project complete
Tolt River Road Shoulder Protection, RM 3
Bridge to Bridge Right Levee
Raging River near Fall City, RM 1
Lower Tolt Levee Setback (Near Mouth)
Lower Tolt Levee Setback (Near Mouth)

- Reconnects the river to approximately 40 acres of floodplain
- Total cost = ~$6 million
  - FCD share = $700K
  - Remainder funded by King County, City of Seattle, SRFB, ALEA, and KCD
- Phase II of the project largely completed in summer ‘09 – “ribbon cutting” to occur Spring 2010
Snoqualmie Basin Non-Structural Projects

- **Completed this year:**
  - Buyouts: Timberlane Village, Aldair, Nichols and Jelstrup
  - Elevations: 11 homes, 1 barn
  - Farm Pads: 11 pads

- **In Progress:**
  - Buyouts: Tolt 1.1 breach; SR 202 overtopping location
  - Shamrock Park Elevations and Buyout
  - Farm pads and technical assistance
Sub-Regional Opportunity Fund

- 2008/2009 Combined Allocation = $6,835,299
- $6.3M applied
- $0.5M accrued
- To date, 6 cities have requested reimbursement

- Capital projects = $5.9M
- Acquisitions and programmatic activities = $0.4M

2010 Projects included in Adopted 2010 budget
Programmatic Floodplain Management Efforts
Efforts for Enhanced, Countywide Flood Warning and Preparation

- Implemented new automated call-out system
  - Provides flood warning notifications via voice mail, e-mail, text message
  - > 2,000 subscribers so far
- Partnering with cities for sandbag distribution
  - FCD is providing materials or cash equivalent
  - Supports cities’ efforts and makes supplies available to unincorporated residents
  - Signed agreements in place with Auburn, Carnation, Duvall, Kent, North Bend, Pacific
  - Six additional agreements in development
Green River Flooding Information

USGS gage data, map, and alert phases, and recent high flows

- 2009-2010 Green River Valley preparation information
- River Conditions for Mobile Devices

<table>
<thead>
<tr>
<th>USGS Gage Name</th>
<th>Time, Date</th>
<th>Stage (foot)</th>
<th>Flow (c.f.s.)</th>
<th>Flow Change (c.f.s/hr)</th>
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</thead>
<tbody>
<tr>
<td>Green River near Palmer</td>
<td>7:00 AM, 11/2/2009</td>
<td>7.73</td>
<td>1570</td>
<td>0</td>
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<tr>
<td>Green River near Auburn</td>
<td>6:45 AM, 11/2/2009</td>
<td>55.60</td>
<td>1790</td>
<td>-10</td>
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</tbody>
</table>

Notes:

This data was requested from USGS at 11/2/2009 7:42:36 AM.

The next request for USGS data is expected in approximately 6 minutes from when this page was loaded.

King County provides funding to the United States Geological Survey (USGS) to support the operation and maintenance of river and stream gages and related systems. The term “gage” is defined as an instrument for measuring or testing. USGS uses the term “streamgage” to describe their equipment that obtains estimates of the amount of water flowing in streams and rivers. More information about USGS streamgages.

Flood Phase Information

<table>
<thead>
<tr>
<th>Phase</th>
<th>Green River gage at Auburn (measured or expected flow)*</th>
<th>Description</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5,000 c.f.s.</td>
<td>Informal Alert</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7,000 c.f.s.</td>
<td>Minor Flooding</td>
<td>Lowland flooding in valley upstream of Auburn</td>
</tr>
<tr>
<td>3</td>
<td>9,000 c.f.s.</td>
<td>Moderate Flooding</td>
<td>Flooding of varied depths occurs in valley upstream of Auburn and lower Mill Creek basin. SE Green Valley Rd and West Valley Rd may overlap.</td>
</tr>
<tr>
<td>4</td>
<td>12,000 c.f.s.</td>
<td>Extreme Flooding</td>
<td>Levees may exhibit seepage and/or weaken from saturation.</td>
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</tbody>
</table>

* Phase is determined by current Auburn gage reading or the expected flow based on Howard Hanson dam operations information from the U.S. Army Corps of Engineers.
Sign up to receive Flood Alerts!

King County is offering free Flood Alerts to help keep you informed of flood conditions.

- Get Alerts by e-mail and/or phone (voice or text messages)
- Select the rivers that affect you
- Select the flood phase levels of interest to you.

Special note: Make sure you get alerted in an emergency!

Register...

for a free account
to begin receiving alerts

Sign me up

Read the Terms of Service

...or Sign In

if you already have an account
to update your alerting preferences

e-mail: 
password: 
login
forgot your password?

http://green.kingcounty.gov/FloodAlertSystem/
Leveraged Funding and Grants

- Corps’ Partnerships
  - $4M for Horseshoe Bend, over $3M for levee raising materials
- Conservation Futures: $260K for White River project
- FEMA flood studies: $270K for Coastal Hazard Study
- FEMA flood mitigation: Two grants awarded and underway; five grants pending

Grant Cost Share by Agency and Status

<table>
<thead>
<tr>
<th></th>
<th>Awarded in ’09; Work in Progress</th>
<th>Awarded in ’09; Contract Pending</th>
<th>Submitted in ’09; Not Yet Awarded</th>
<th>Funding Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEMA</td>
<td>$1,791,909</td>
<td>$1,530,281</td>
<td>$2,242,856</td>
<td>$5,565,046</td>
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<tr>
<td>State</td>
<td>$298,651</td>
<td>$205,513</td>
<td>$373,809</td>
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<tr>
<td>FCD</td>
<td>$298,651</td>
<td>$304,579</td>
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<tr>
<td>($400K from homeowners)</td>
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<td></td>
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<tr>
<td>Totals</td>
<td>$2,389,211</td>
<td>$2,040,373</td>
<td>$2,990,474</td>
<td>$7,420,058</td>
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KCFCD Planning Activities

- Flood District Hazard Mitigation Plan
  - Will allow the FCD to submit grant applications to FEMA
  - Required under the federal Disaster Mitigation Act of 2000 to receive FEMA grant funds
  - Will assess flood, channel migration, and seismic risks to District facilities
  - Identifies vulnerabilities and actions to reduce them
  - 2006 Flood Plan serves as foundation
Technical Studies

- **Sammamish River Flood Study**
  - Completed data collection and draft H&H analyses
  - Early 2010 – Draft flood boundary maps provided to cities

- **Coastal Flood Hazard Analysis**
  - Phase I – Vashon-Maury draft maps expected in summer 2010
  - Phase II - $270K grant from FEMA extends work to incorporated shorelines; to commence in Jan. 2010

- **Sediment Monitoring**
  - Collected channel data for Tolt, Raging, SF Snoqualmie, lower mainstem Snoqualmie, and White Rivers
  - Provided White R. data to USGS and Corps to support their sediment and channel investigations
2010 Budget Adjustments
2010 Budget Overview

- Flood District Audit Findings
- 2010 Budget Adopted November 16, 2009
  - Advisory Committee Recommendations
  - Board reallocated $300,000 from Upper Snoqualmie Residential Flood Mitigation project to Lower Snoqualmie Flood Mitigation project to fund elevation of homes and farm structures
  - Green River $8.4M reallocation – impacts for 2010 need to be determined via BTCs, Advisory Committee, and Board of Supervisors
Guidance for Reallocating Funds

**Funds Available:**
- Fund balance for completed projects
- Existing 2010 Fund Balance ($3.557M)
- Adopted projects that will not be moving forward in 2010 due to implementation constraints
  - Partnerships and Coordination
  - Land Owner Willingness
  - Grants and Leveraging

**Funds Not Available:**
- Flood Risk Score > 75%
- Significant investment to date
- Partnership or leveraging in place
- Contractual obligations
Next Steps

- Establish clear, accountable, and transparent baseline for reallocation
  - Final expenditures for construction season
  - Post-construction season budget clean-up
  - Consistent budget authority between FCD and County
- BTC meetings in January to review options
- Advisory Committee in February for 2010 adjustments
- Feb-April for 2011 recommendations