Community Workshop #2
Opening and Introductions

Mike Chaves, City Project Manager
Wilson Team Introductions

Vance Fossinger, Consultant Project Manager
Primary Meeting Goals

• Provide an update on project activities

• Introduce design concepts

• Ask for your input on design concepts
Project Review
The Camp Creek Watershed
Garden of the Gods Park
Rock Ledge Ranch Historic Site

Pleasant Valley
31st Street Channel
Planning Phase Purpose

Thoughtfully plan solutions that:

- Protect the corridor from flooding and erosion
- Improve public safety
- Are technically sound
- Are responsive to community needs and values
- Are sensitive to special characteristics of Garden of the Gods Park and Rock Ledge Ranch Historic Site
Project Givens

- Proposed solutions must conform to all relevant public property deed restrictions and to all applicable federal and state laws and regulations.
- Solutions must recognize existing agreements and master plans.
- Drainage, bridge and road improvements in the corridor must be addressed as part of an integrated solution.
- Solutions will strive to honor values expressed by the community regarding impacted neighborhoods, Garden of the Gods, and Rock Ledge Ranch Historic Site.
- The City of Colorado Springs will do its best to leverage federal, state and local funding for this project.
- The City encourages everyone interested in this serious problem to participate in the public involvement process for developing solutions.
- The City of Colorado Springs will make the final decision regarding short- and long-term solutions and phased implementation.
Meeting Agenda

- Presentation of information
- Presentation of concepts
- Small group work
- Next steps
- Report out of small group results

Go Broncos!
Meeting Ground Rules
Adopted October 22, 2013

We will:

• Say what we think
• Listen with respect to the opinions and beliefs of others
• Be open to compromise. We will advocate for what’s most important to us and accept what we can live with, even though it may not be our first choice
• Defer our questions until after the project team members have completed their presentations
PRESENTATION OF INFORMATION
Planned Sediment Removal In North End of Garden of the Gods

- Will restore Camp Creek channel section
- Winter 2013-2014 City maintenance activity
Hydrology Challenges

Flowrate (cfs)

USGS
GAGE
HMS
MODEL

9/11/13 0:00
9/11/13 12:00
9/12/13 0:00
9/12/13 12:00
9/13/13 0:00
9/13/13 12:00
9/14/13 0:00
9/14/13 12:00
9/15/13 0:00
9/15/13 12:00
9/16/13 0:00
9/16/13 12:00
Hydrology Status

- Working to calibrate hydrologic model
- FEMA 100-year pre-fire flow rate = 4,600 cubic feet per second
- Current modeling indicates 100-year post-fire flow rate of slightly less than 4,600 cubic feet per second
- Current 100-year flow rates used to develop and analyze design concepts = 4,600 cubic feet per second
- Calibrated flow rates will be used to develop and analyze design alternatives presented in January
PRESENTATION OF CONCEPTS
Camp Creek
Design Concepts

• Purpose of presentation

• Special challenges for Camp Creek

• Overview of alternative concepts
Camp Creek
Design Concepts

Based on:
✓ community issues from interviews
✓ responses at Oct. 22 community meeting
✓ professional analysis and development

Explored suggestions but not able to include all

Concepts are options to consider, not recommendations
Purpose of Presentation

- Describe multiple conceptual ideas for meeting the challenges of Camp Creek
- Present facts about each concept
- Create community discussion
- Obtain community response
- Guide us in developing the solution
Camp Creek Special Challenges

Waldo Canyon fire has produced new challenges:

- Heavier sediment loads from Queen’s Canyon
- Heavier erosion of Camp Creek channel in Garden of the Gods
- Safe passage of 100-year flood in a changing environment
Camp Creek Special Challenges

Heavier Sediment Loads

Heavier sediment loads from Queen’s Canyon are now being deposited in Garden of the Gods and then carried downstream to cause more damage.
Managing Heavier Sediment Loads

- Manage sediment where it deposits naturally
- Add low-lying structures (up to 4 feet high) to further encourage sediment deposition in northern part of Garden of the Gods
- Regular maintenance to remove sediment
Camp Creek Special Challenges
Channel Erosion in Garden of Gods

Heavier erosion of Camp Creek Channel in Garden of the Gods
Managing Creek Bed Erosion in Garden of the Gods

Natural channel stabilization methods

- Use 2 to 3-foot channel drop structures to prevent further erosion
- Carefully select up to 32 stream bottom locations to mitigate high rates of erosion

Before

After
Camp Creek Special Challenges
Safe Passage of 100-year Flood
## Summary of Camp Creek Concepts

<table>
<thead>
<tr>
<th>CONCEPT</th>
<th>CAMP CREEK CONCEPTS GRAPHIC SUMMARY</th>
<th>GARDEN OF THE GODS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><img src="image1" alt="Channel Reconstruction Creek Stabilization" /></td>
<td><img src="image2" alt="Garden of The Gods" /></td>
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<tr>
<td><strong>B</strong></td>
<td><img src="image3" alt="Channel Reconstruction Creek Stabilization Detention" /></td>
<td><img src="image4" alt="Garden of The Gods" /></td>
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<tr>
<td><strong>C</strong></td>
<td><img src="image5" alt="Grass-Lined Channel Creek Stabilization Detention" /></td>
<td><img src="image6" alt="Garden of The Gods" /></td>
</tr>
<tr>
<td><strong>D</strong></td>
<td><img src="image7" alt="Box Culvert Creek Stabilization" /></td>
<td><img src="image8" alt="Garden of The Gods" /></td>
</tr>
<tr>
<td><strong>E</strong></td>
<td><img src="image9" alt="Box Culvert Creek Stabilization Detention" /></td>
<td><img src="image10" alt="Garden of The Gods" /></td>
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</tbody>
</table>
Facing the Flood Flow Challenge in Camp Creek

Concepts as presented will be refined based on feedback from community
Concept A
31st Street Segment

Before
Concept A
31st Street Segment

After
Concept A
Concept A
31st Street Segment
Echo Lane to Chambers
Concept A
Garden of the Gods
Concept A

- Reconstruction of 31st Street channel and bridges from Chambers Way to Echo Lane
  - Stays within current 40-foot top width
  - Requires more depth and steeper interior side slopes
  - Includes street level walls to fully contain a 4,600 cubic feet per second 100-year flood
  - Improves channel safety
  - Retains existing bike lanes
  - Provides full emergency access to Pleasant Valley neighborhood in 100-year flood

- Reconstruction of 31st Street buried culvert from Fountain Creek to Echo Lane

- No detention in Garden of the Gods

- Removes houses and businesses from 100-year flood plain
Concept B
31st Street Segment
Concept B
Concept B
31st Street Segment
Echo Lane to Chambers Way
Concept B
Garden of the Gods
Concept B
Parking Lot Detention

Before
Concept B
Parking Lot Detention

After
Concept B
Gateway Road Detention

Before
Concept B
Gateway Road Detention

After
Concept B

Gateway Road Detention

Before
Concept B
Gateway Road Detention

After
Concept B
Major Flood Management Features

• Reconstruction of 31st Street channel and bridges from Chambers Way to Echo Lane
  – Open channel stays within current 40-foot top width
  – Requires more depth and steeper interior side slopes
  – Includes street level walls on west side to contain smaller 2,500 cubic feet per second 100-year flood
  – Open channel on east side retains current open channel character, may require reduction in landscape area next to sidewalk
  – Improves channel safety
  – Retains existing bike lanes
  – Emergency access more difficult on east side of 31st Street due to street flooding
  – Provides full emergency access to balance of Pleasant Valley neighborhood in 100-year flood

• Reconstruction of 31st Street buried culvert from Fountain Creek to Echo Lane

• Detention in Garden of the Gods in Rock Ledge Ranch parking area and at Gateway Road

• Removes houses and businesses from 100-year flood plain
Concept C
31st Street Segment

Before
Concept C
31\textsuperscript{st} Street Segment

After
Concept C
Concept C
31st Street Segment
Echo Lane to Chambers
Concept C
Garden of the Gods
Concept C
Major Flood Management Features

- Reconstruction of 31st Street channel and bridges from Chambers Way to Echo Lane
  - Widen top width of open channel by 12 feet to a new top width of 52 feet
  - Moves bike lanes into channel, street crossings could be safety risk
  - Grass-lined channel is deeper and requires walls to make room for flood flows and bike path
  - Includes street level walls on both sides to contain smaller 2,500 cubic feet per second 100-year flood
  - Improves channel safety for pedestrians and vehicular traffic
  - Provides full emergency access to balance of Pleasant Valley neighborhood in 100-year flood

- Reconstruction of 31st Street buried culvert from Fountain Creek to Echo Lane

- Detention in Garden of the Gods in Rock Ledge Ranch parking area and at Gateway Road

- Removes houses and businesses from 100-year flood plain
Concept D
31st Street Segment

Before
Concept D
31st Street Segment

After
Concept D
31st Street Segment Road Intersections
Concept D
Garden of the Gods
Concept D
Major Flood Management Features

- Replaces open channel in 31st Street with buried culvert and surface parkway from Chambers Way to Echo Lane
  - Buried culvert carries full 4,600 cubic feet per second 100-year flood flow
  - Moves bike lanes into center parkway, street crossings could be safety risk
  - Provides full emergency access to Pleasant Valley neighborhood in 100-year flood

- Reconstruction of 31st Street buried culvert from Fountain Creek to Echo Lane

- No detention in Garden of the Gods

- Removes houses and businesses from 100-year flood plain
Concept E
31st Street Segment

Before
Concept E
31st Street Segment

After
Concept E
Garden of Gods Segment
Concept E
31st Street Segment
Fountain Creek to Chambers
Concept E
Garden of the Gods
Concept E
Northern Garden of the Gods Detention Area

Before
Concept E
Northern Garden of the Gods Detention Area

After
Concept E
Major Flood Management Features

• Replaces open channel in 31st Street with buried culvert and surface parkway from Chambers Way to Echo Lane
  – Detention allows for sizing of new buried culvert to convey 2,500 cubic feet per second
  – Moves bike lanes into center parkway, street crossings could be safety risk
  – Provides full emergency access to Pleasant Valley neighborhood in 100-year flood

• Reconstruction or repair of 31st Street buried culvert from Fountain Creek to Echo Lane

• Detention in Garden of the Gods at Gateway Road and near northern boundary

• Removes houses and businesses from 100-year flood plain
Small Group Instructions

Task #1: Review and discuss the 5 concepts in your group

Task #2: For each concept, let us know what you like about each concept and why and let us know what you don’t like and why

Put all the information on your group response form

Task #3: On back of form, list any elements your group would like to see in any solution and any elements you would NOT like to see in any solution

Task #4: Choose a member of your group to report out
Design Criteria

• Based on community priorities, environmental needs and technical requirements
• Applied as alternative designs are developed
• Alternatives reviewed at January community meeting
Next Steps

- All results from tonight compiled
- Meeting summary e-mailed / mailed to all
- All meeting results posted on website
- Alternative designs guided by tonight’s response

Next community meeting:
6 p.m. Tuesday, January 28th
Coronado High School Cafeteria
Thanks for coming tonight!