Revive the Greenbelt!

Front Range Urban Forestry Council

September 19, 2013

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Institute for Environmental Solutions

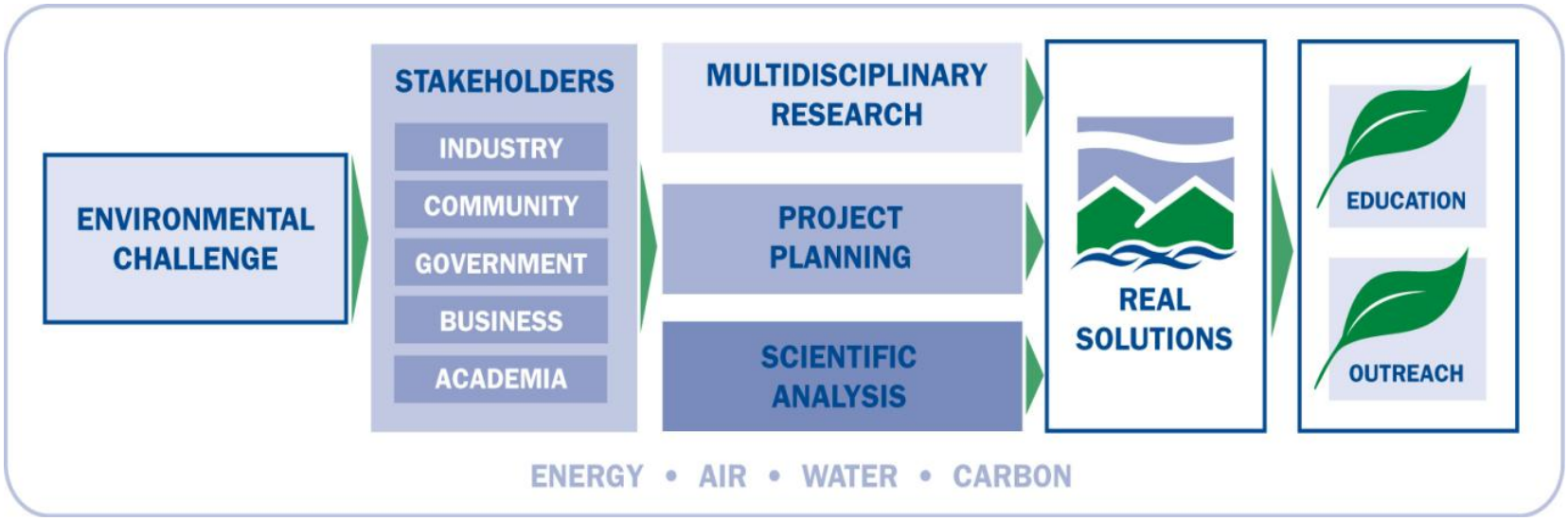
Agenda

- About IES
- Project goals and objectives
- Planning and research
- Implementation and maintenance
- Conclusion and recommendations

Mission

The Institute for Environmental Solutions is an independent non-profit organization that engages stakeholders to deliver technically sound solutions to complex environmental and health problems – without unwanted side effects.

Approach



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IES Tree Project

We improve environmental quality of Colorado cities using tree science

Through strategic tree selection and maintenance we also improve community health and local economies

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Past Projects

Strategic Plan for Environmental Improvement – Tree Planting, Management, and Sustainable Planning, Golden, 2008

- i-Tree Analysis
- Model Municipal Environmental Tree Guidelines

Colorado Urban Forestry Climate Coalition workshops, 2010

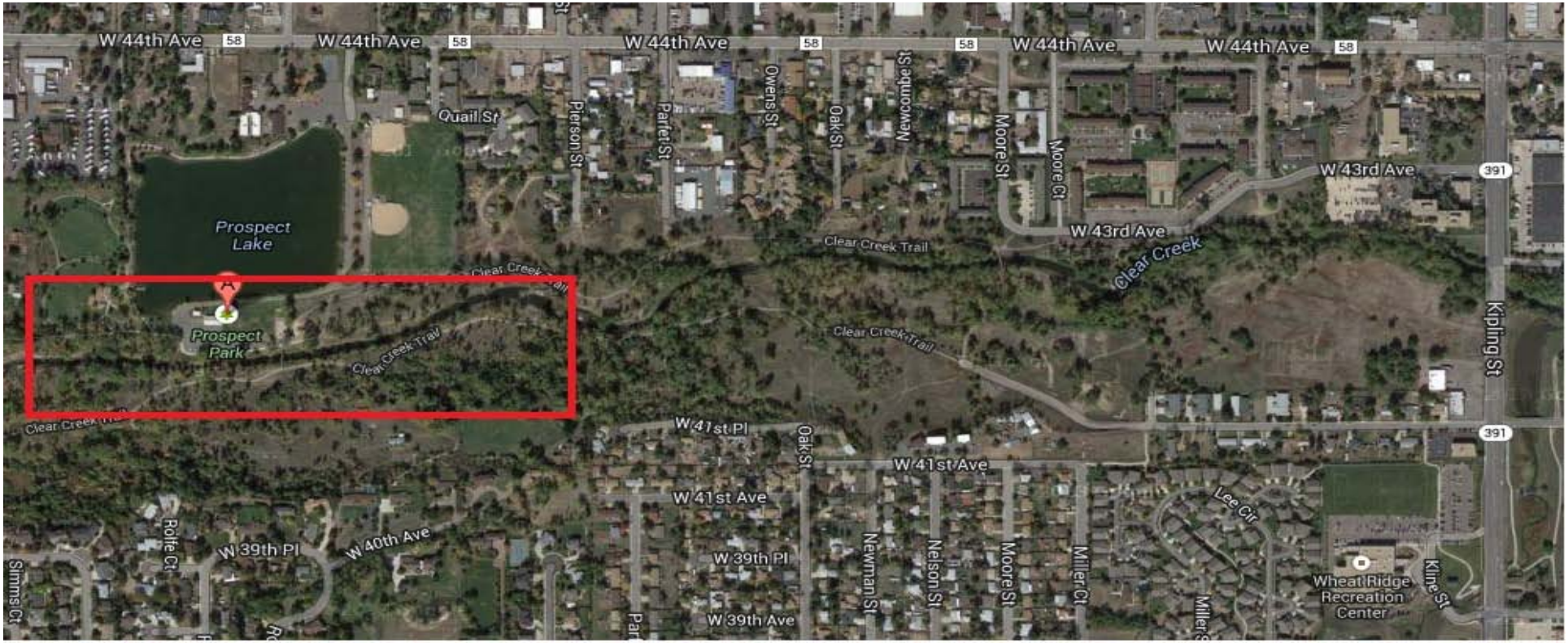
Trees for Healthy Kids and Community, Mitchell Elementary, Golden, 2011

Trees for a Healthy Community and Economy, Broomfield, 2012

Project Goal

IES Wheat Ridge Revive the Greenbelt!

Restore and revitalize the Clear Creek waterway south of Prospect Park in Wheat Ridge.



Project Objectives

- Multi-phase project plan to restore and revitalize Clear Creek waterway as it passes through the Wheat Ridge Greenbelt

- Ensure environmental health benefits and survival of the trees by identifying strategies that will improve long-term health of urban tree canopy and developing a comprehensive three-year maintenance plan.

- Plan volunteer tree-planting event and educate volunteers about the benefits of urban forestry

- Use community volunteers to maintain trees

- Increase awareness of the benefits of strategic urban forestry through education

- Evaluate the project

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Stakeholder Involvement

- Project Advisory Committee
  - Community stakeholders
  - Industry professionals
  - Project partners
- Enlist PAC participants
- Listening to stakeholder priorities and concerns
- Build partnerships

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Riparian Condition Assessment (RCA)

Based on Natural Resources Conservation Service guidelines

Measures:

- Incisement
- Lateral cutting (erosion)
- Sediment flow
- Vegetation (variety and quantity)
- Invasives
- Evidence of browsing

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Findings of the RCA

- Incised stream
- Active erosion
- Even-aged trees
- Good species diversity and very few invasives
- Little evidence of browsing

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Rock Drop Structure

Installed by Urban Drainage and Flood Control District in 2012

Effects:

- Raised water table
- Slowed water flow
- Decreased erosion and incision potential of Clear Creek in the area

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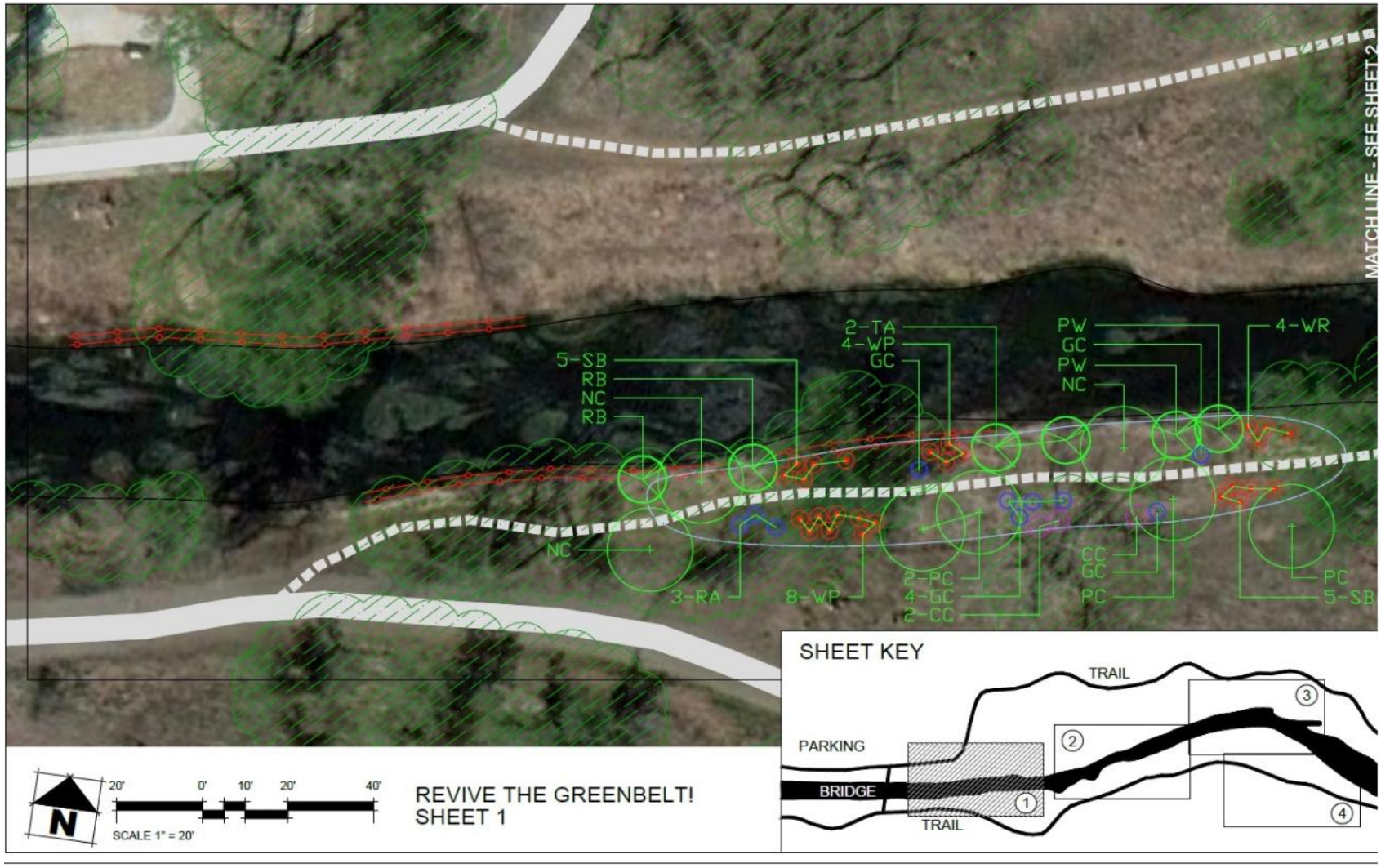
Planting Design



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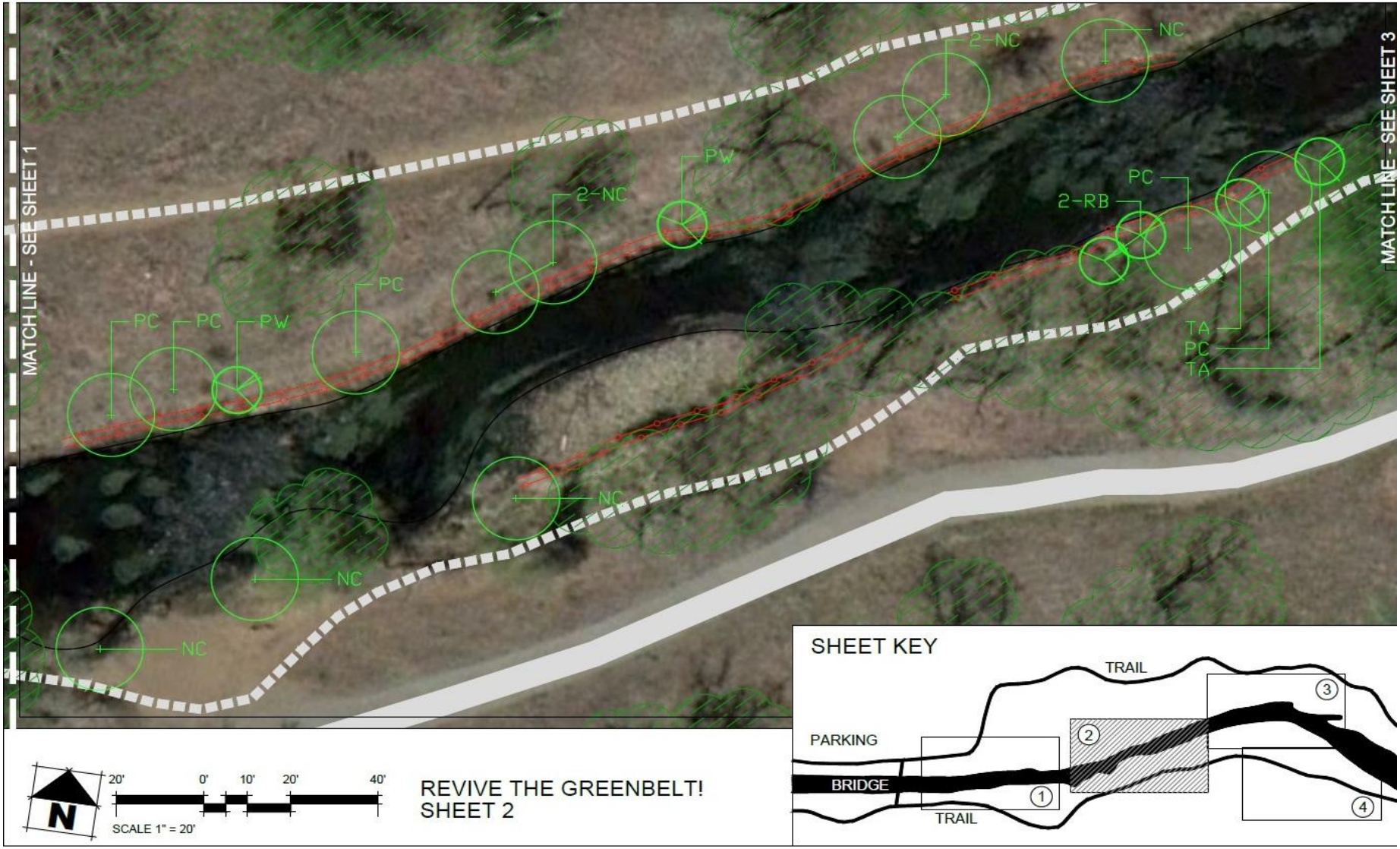

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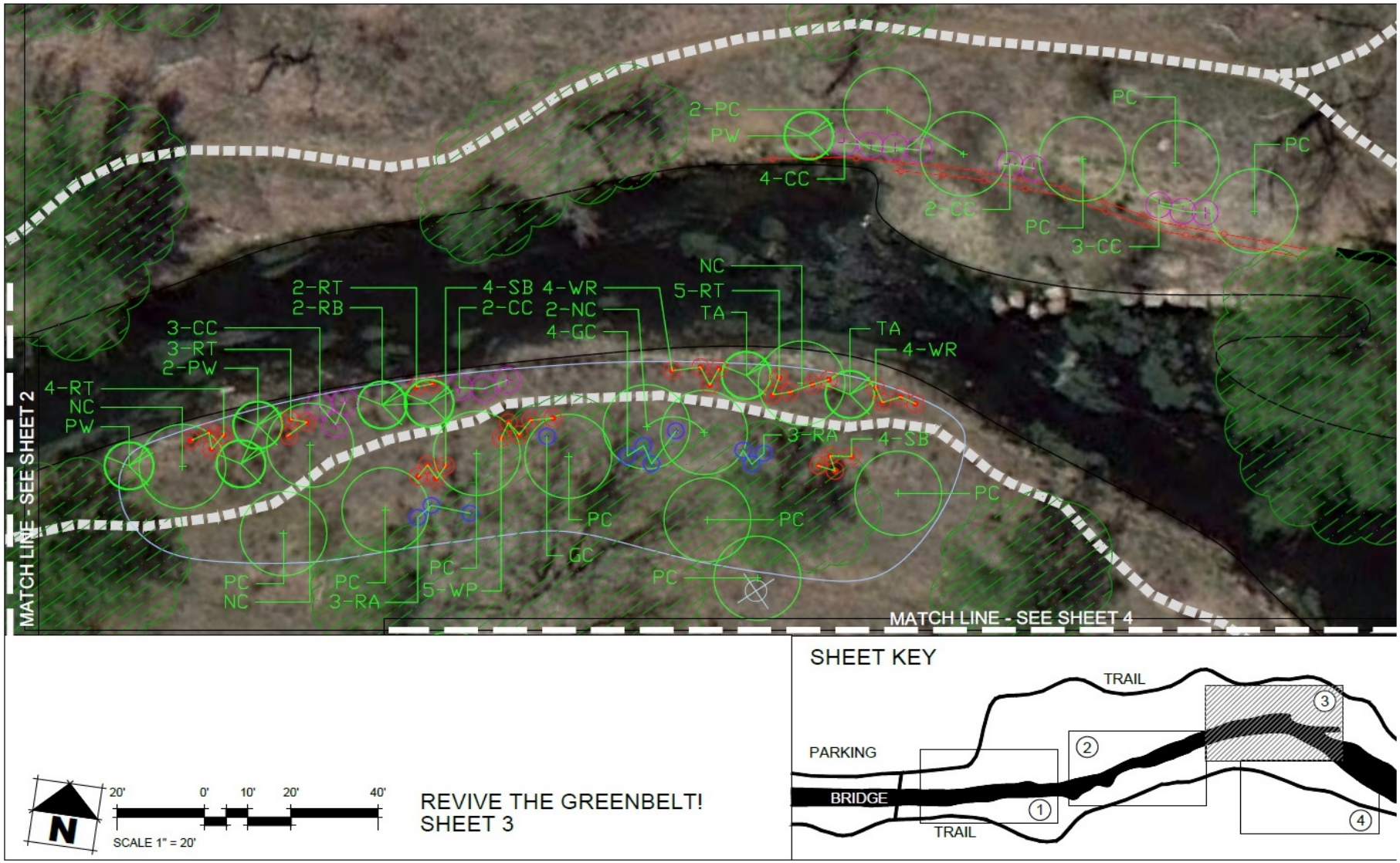

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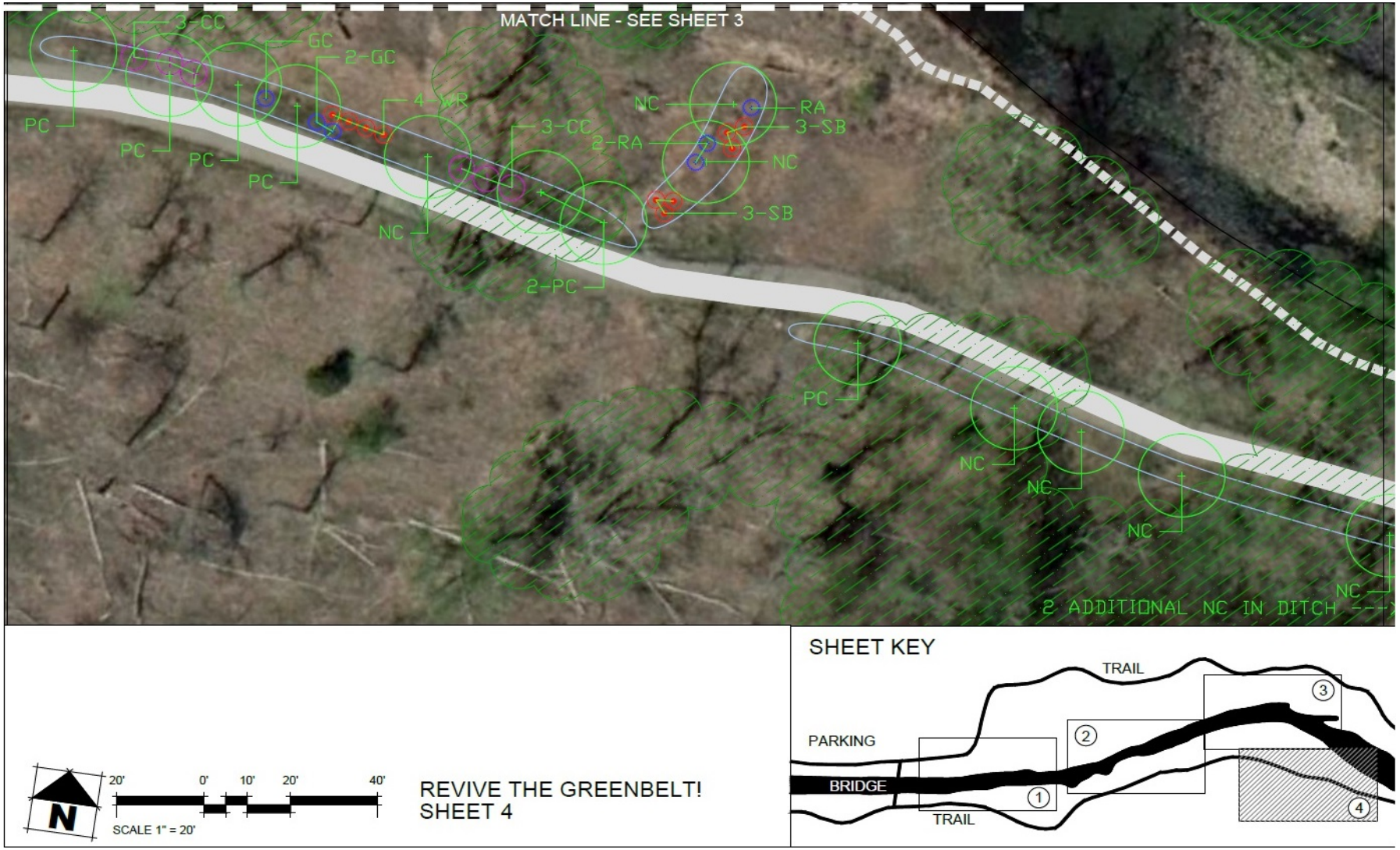

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Tree Species

- Narrowleaf Cottonwood
- Plains Cottonwood
- Thinleaf Alder
- River Birch
- Peachleaf Willow

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Shrub Species

- Rubber Rabbitbrush
- Wild Plum
- Black Chokecherry
- Golden Currant
- Wood's Rose
- Western Snowberry
- Redtwig Dogwood

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Willow Staking

- Prevent bank erosion
- Reinforced rock drop structure
- 960 stakes installed
- Planted in early spring

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Volunteer Recruitment

- Posters
- Newspapers
- Fliers
- Word of mouth
- Outreach to local schools
- Project partners (Xcel Energy)

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Wheat Ridge High School Class

- Provided assistance with staging the supplies
- Educate about the Greenbelt
- Educate about forestry, science and non-profit Careers

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City of Wheat Ridge

Wheat Ridge Revive the Greenbelt!

PLANTING DAY AGENDA

Saturday, April 27, 2013, 9:00 a.m. – 1:00 p.m.

Volunteer sign-in	8:30 – 9:15 a.m.
Breakfast *(provided by: Einstein Bros Bagels)*	8:30 a.m.
Opening Ceremony	9:00 – 9:10 a.m.
Group Orientation	9:10 – 9:20 a.m.
Small Group Volunteer Training Session	9:25 – 9:35 a.m.
Plant Trees!	9:35 – 12:30 p.m.
Lunch (*provided by: MyPIE*)	12:30 – 1:00 p.m.

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Planting Day Opening Ceremony

Education Booths

On planting day IES and our project partners set up education booths for the volunteers

- IES
- Colorado Tree Coalition
- Wheat Ridge Parks and Recreation Department
- Wheat Ridge Stormwater Management Department

Maintenance

Causes of the high tree mortality rate:

- Invasives
- Poor soil quality
- Insects
- Disease (bacteria, fungus)
- Main cause: lack of access to water

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Watering Options

IES explored a variety of watering options for the new plants:

- Fully automatic watering system
- Semi-automatic watering system
- Manual watering system

Water Access and Accessibility

Secured permission to draw water from Clear Creek

Installed water totes to provide easy and safe access to water for Tree Stewards

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Tree Stewards Workshops

IES conducted training workshops with the Tree Stewards.

- Watering
- Signs of distress
- Proper maintenance
- Reporting

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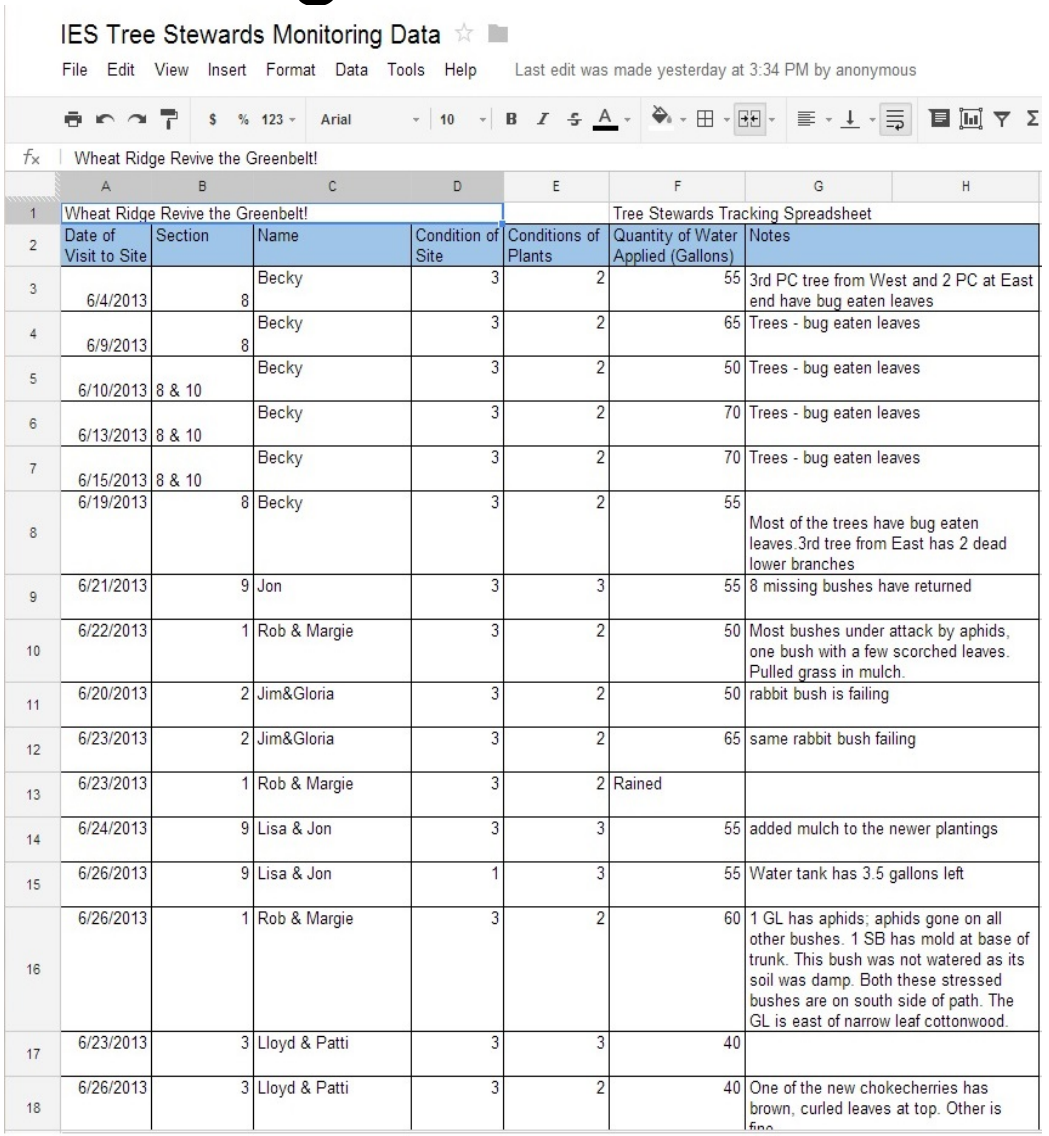
Tree Stewards Monitoring

Online spreadsheet to track the maintenance activities of the Tree Stewards

- Condition of site
- Conditions of plants
- Water quantity
- Notes



IES Tree Stewards Monitoring Data

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Wheat Ridge Revive the Greenbelt!

	A	B	C	D	E	F	G	H
1	Wheat Ridge Revive the Greenbelt!					Tree Stewards Tracking Spreadsheet		
2	Date of Visit to Site	Section	Name	Condition of Site	Conditions of Plants	Quantity of Water Applied (Gallons)	Notes	
3	6/4/2013	8	Becky	3	2	55	3rd PC tree from West and 2 PC at East end have bug eaten leaves	
4	6/9/2013	8	Becky	3	2	65	Trees - bug eaten leaves	
5	6/10/2013	8 & 10	Becky	3	2	50	Trees - bug eaten leaves	
6	6/13/2013	8 & 10	Becky	3	2	70	Trees - bug eaten leaves	
7	6/15/2013	8 & 10	Becky	3	2	70	Trees - bug eaten leaves	
8	6/19/2013	8	Becky	3	2	55	Most of the trees have bug eaten leaves.3rd tree from East has 2 dead lower branches	
9	6/21/2013	9	Jon	3	3	55	8 missing bushes have returned	
10	6/22/2013	1	Rob & Margie	3	2	50	Most bushes under attack by aphids, one bush with a few scorched leaves. Pulled grass in mulch.	
11	6/20/2013	2	Jim&Gloria	3	2	50	rabbit bush is failing	
12	6/23/2013	2	Jim&Gloria	3	2	65	same rabbit bush failing	
13	6/23/2013	1	Rob & Margie	3	2	Rained		
14	6/24/2013	9	Lisa & Jon	3	3	55	added mulch to the newer plantings	
15	6/26/2013	9	Lisa & Jon	1	3	55	Water tank has 3.5 gallons left	
16	6/26/2013	1	Rob & Margie	3	2	60	1 GL has aphids; aphids gone on all other bushes. 1 SB has mold at base of trunk. This bush was not watered as its soil was damp. Both these stressed bushes are on south side of path. The GL is east of narrow leaf cottonwood.	
17	6/23/2013	3	Lloyd & Patti	3	3	40		
18	6/26/2013	3	Lloyd & Patti	3	2	40	One of the new chokecherries has brown, curled leaves at top. Other is fine	

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Project Outcomes

Research the Wheat Ridge Greenbelt and determine the most likely causes of tree mortality

Create a project plan emphasizing the restoration and environmental benefits of an area in the Wheat Ridge Greenbelt

Create an effective tree and shrub watering and maintenance program using volunteer Tree Stewards to combat the leading cause of tree mortality in the Greenbelt

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Recommendations

More work to be done to ensure the health of the Greenbelt

Expand the Tree Stewards program

Address stream incisement

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Thank You Sponsors!

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