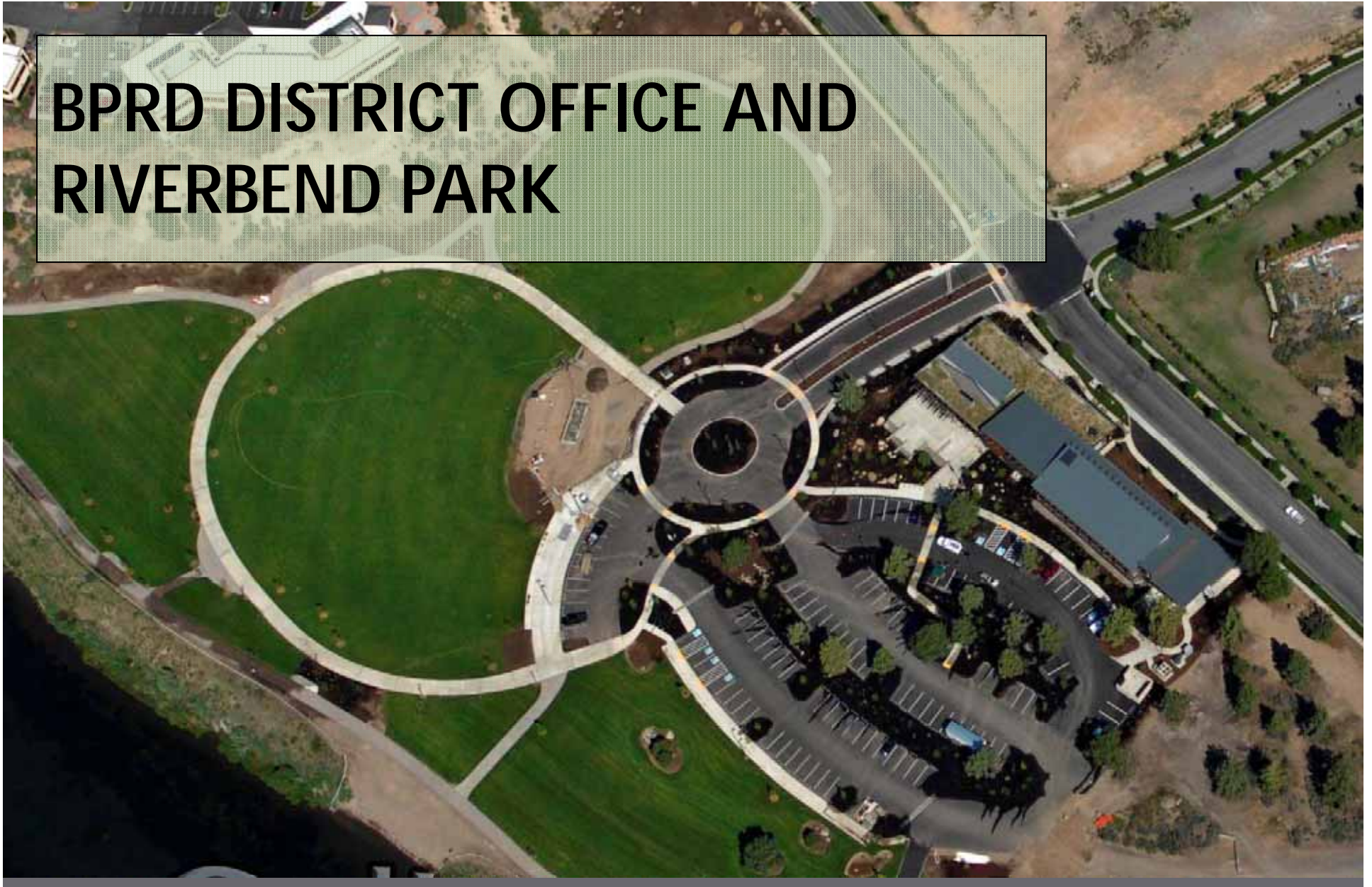


BPRD DISTRICT OFFICE AND RIVERBEND PARK



Robin Laughlin, ALSA, RLA

BPRD District Office and Riverbend Park



- Overview of the project
- Design process
- Construction highlights
- Lessons learned



BPRD District Office and Riverbend Park



Architect: Opsis Architecture, Jason Miller

Civil Engineering: MGH Associates, Maria Cahill

Park Design: BPRD, Robin Laughlin

Building Landscape: JT Atkins

GCCM: Skanska USA

Completed in July 2009

LEED Gold

Disclaimer!

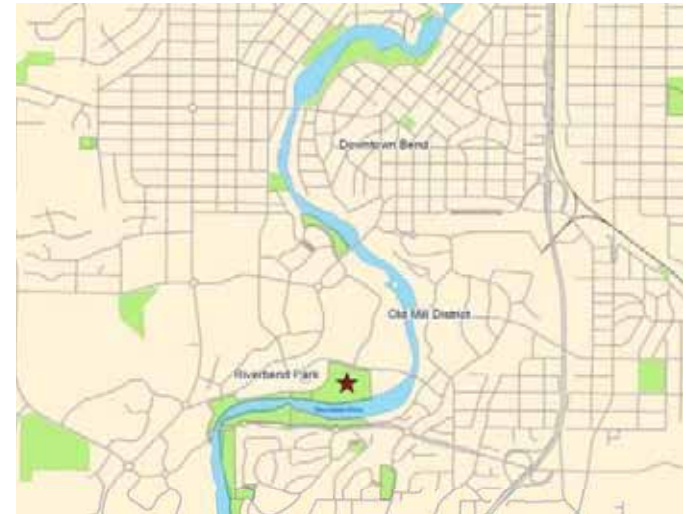
I am not a civil engineer!



BPRD District Office and Riverbend Park



- ❑ Project included a new district office with public meeting space, a new community/special events park, parking and support facilities on a 13 acre site
- ❑ Located south of downtown, in the Old Mill District
- ❑ Prior use of site included decking logs for local mills
- ❑ More recently, a construction waste disposal site.



BPRD District Office and Riverbend Park



- Why the new building?
 - Located in old building for 41 years
 - Planning and Development staff worked in a construction trailer
 - Five year savings plan, no debt, no bonding



Planning Efforts

- Key to Success: Early design coordination between architects, engineers, and landscape architects
 - ▣ Early parking lot design adjustments to save trees
 - ▣ Building layout pushed to top of drainage basin to maximize infiltration and treatment opportunities
 - ▣ Stormwater approach keeps the park areas open for use
- LEED process helped drive some of these successes, particularly with trees and stormwater design



Design Program



- Design Parameters – Building and Park
 - Building should fit well within the park site and surrounding Old Mill District
 - Minimum LEED Silver
 - 20 year staffing plan
 - Park to accommodate special events
 - Preserve native vegetation



Design Program



- Design Parameters – Stormwater
 - Minimize storm water facility impact on usable park space
 - Minimize or eliminate pipes
 - Allow for use of native vegetation
 - Meet City of Bend infiltration volume requirements for a 25 year storm
 - City of Portland's SIM form used to size swales, infiltration basins, filter strips
 - 123,898 SF impervious area (2.8 acres)



Stormwater Features



Design Details

- Top of the watershed
 - ▣ Starts at the green roof
 - ▣ Reflect natural systems
 - ▣ Infiltration throughout site
- Green Roof
 - ▣ 4" soil over waterproof membrane
 - ▣ Sedums and wildflowers
 - ▣ Need to consider
 - Access for maintenance
 - Drainage to ground level



Stormwater Features



Stormwater Features

- ❑ Water continues around the corner and into the first swale
- ❑ A typical storm water treatment for Portland area, but fairly new to Bend.
- ❑ “New” approach facilitated by:
 - LEED certification process
 - Early team coordination



Stormwater Features



Stormwater Features

- Infiltration continues
 - Shallow slopes allow for maximum infiltration
 - Open grate trenches capture road run off
 - Picks up additional area

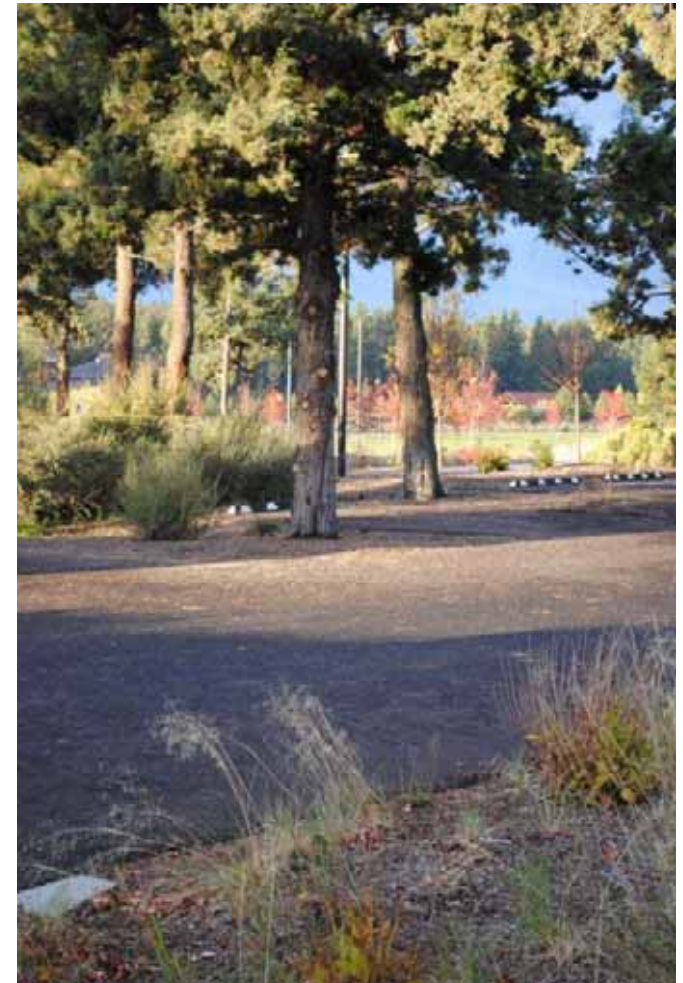


Stormwater Features



Design Details

- Stormwater System
 - Curb-less parking lot allows infiltration throughout site
 - Provides educational component
 - Visible impact of impervious surfaces
 - Interpretive signs planned



Successes - Design

- Early civil/site coordination
 - Stormwater design was a part of early design process
 - Conserved park space
 - Brings educational component to the surface
 - Helped to retain existing trees in parking area design
- Permeable pavement
 - Late addition to the design program
 - Low in watershed



Successes - Construction



- Construction Runoff
 - Riparian area planted prior to site grading
 - Straw wattles in place throughout construction and after plant establishment
 - Rain on snow event during site grading was handled well by the design – prior to planting!



Construction – Lessons Learned

- Construction Challenges:
 - A lot of trees saved are juniper, common contractor opinion is that these are weeds
 - Full tree protection is somewhat new to Bend
- Two district staff with construction oversight helped emphasize importance of tree protection



Construction – Lessons Learned



- Construction Challenges:
 - Communication styles
 - Emails were more effective than talking about tree protection



Construction - Successes



- Construction Coordination
 - Trees that could not be saved were chipped and added to the district's composting system
 - A large juniper that could not be saved was locally milled and kiln dried to create a fireplace mantle in the office lobby
 - Over 150 rings in the mantle piece!

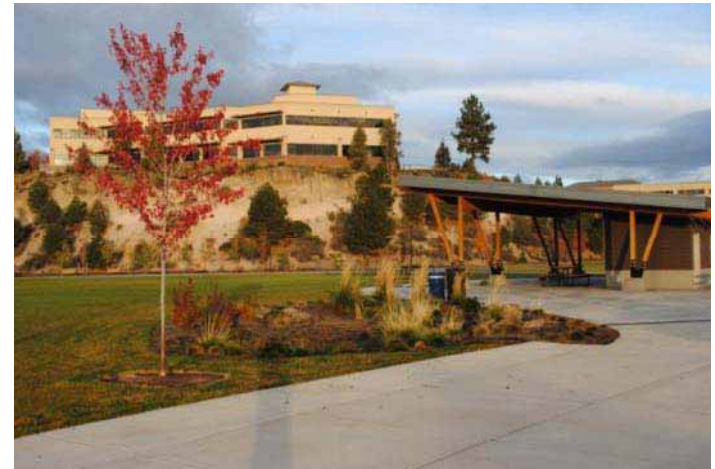


Site Specific Tree Benefits



- Trees grow slowly in our area
 - Short growing season
 - Average 9 to 11 inches of precipitation per year, majority as snow

- Protecting existing trees provides:
 - Parking lot shade on hot days
 - Some snow protection



Site Specific Tree Benefits

- Protecting existing trees provides:
 - View screening
 - Storm water attenuation, helping to slow the storm peaks
 - Bird habitat



Lessons Learned

- Early coordination with entire design team is valuable
- Curb-less parking area allows cars to enter the landscape
 - Consider adding boulders to prevent off-pavement parking
 - Keep irrigation heads away from travel lanes
- Stormwater Maintenance plan – ask for one!
- Positive learning opportunity for staff
- Valuable demonstration project for the region



Questions?

