

Planning to Performance: New Stormwater Management Manual

Presented by: Sarah Ferguson, EIT; and Nicholas McMurtrey, PE



murraysmith



Sarah Ferguson, EIT

Roadway Designer

- Bachelor of Science in Industrial and Systems Engineering from Ohio University
- Worked as a consultant for 3 years
- Supports a variety of design and construction roles on transportation projects for ODOT and local agencies
- Early-stages of career focused in road design, ADA compliance and construction support



Nick McMurtrey, PE, LEED AP, ENV SP

Engineering Project Manager

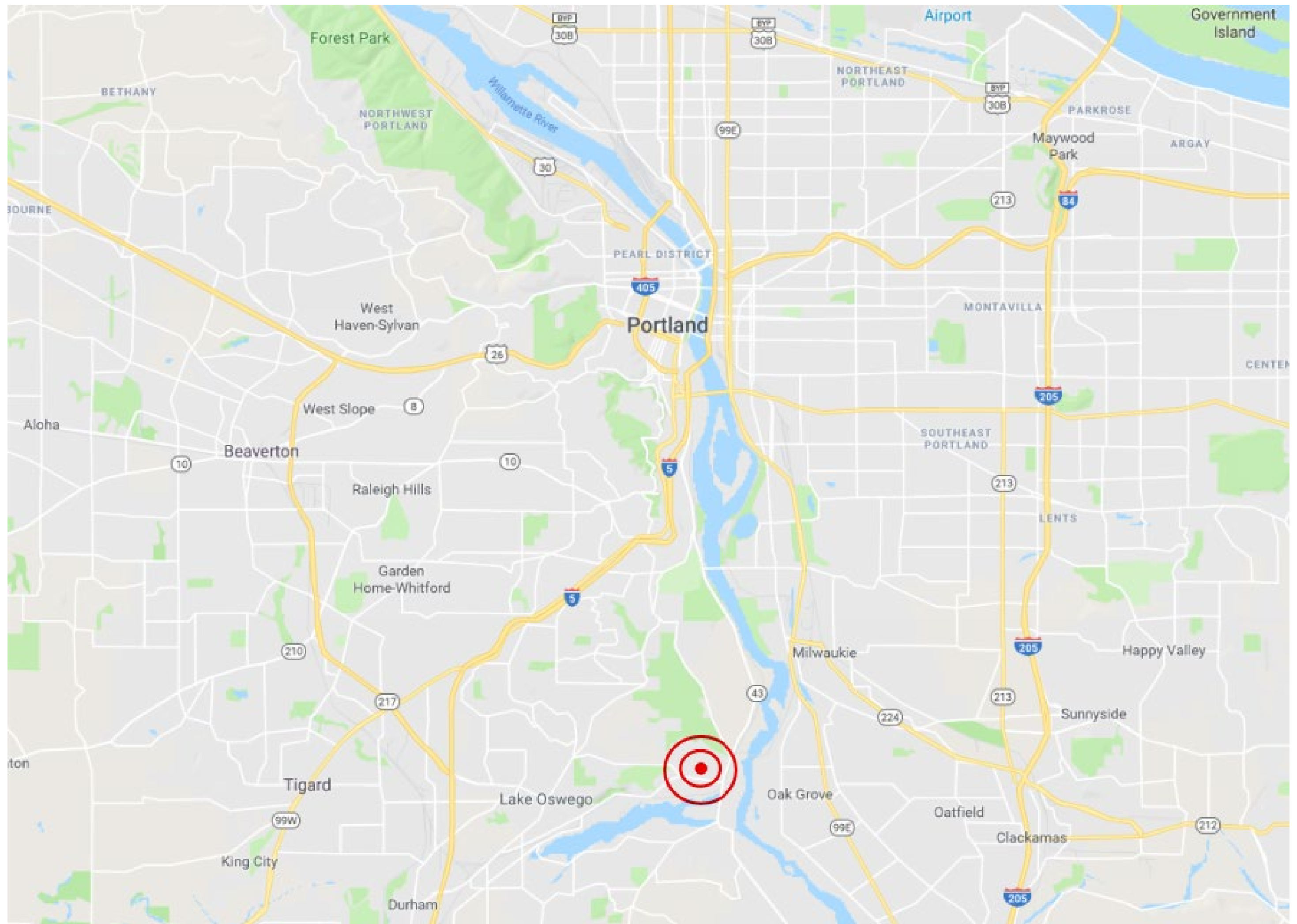
- Bachelor of Science in Civil Engineering from Oregon State University
- Worked as a consultant for 16 years
- Serves a variety of planning, design, and construction roles on transportation and water projects for municipal clients.
- Experienced in project management and stormwater modeling & management



Presentation Goals

1. Provide background and context for the D Avenue Improvement Project
2. Highlight key challenges and how we countered them during design & construction
3. Recount the benefits, outcome and key project takeaways from project elements
4. Encourage audience participation (Q&A)

Project Introduction



Project Introduction



Project Introduction



Project Introduction



Historical Structures

Project Introduction



Mature Trees

Project Introduction



Public Library

Project Introduction



Adult Community Center

Project Introduction



In transition from redevelopment

Project Introduction



Curbless streets with poor pavement

Project Introduction



Lacks pedestrian connectivity

Project Introduction



Non-ADA compliant sidewalks/ramps



Storm conveyance and flooding deficiencies

Project Introduction



Storm conveyance and flooding deficiencies

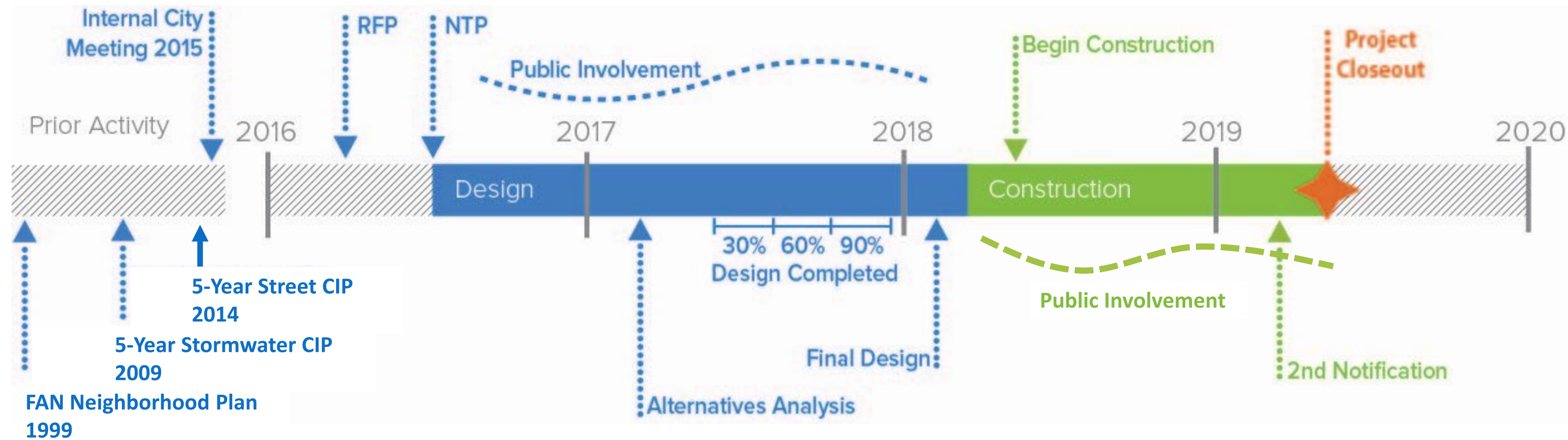
Project Introduction



Project Introduction



Project Timeline



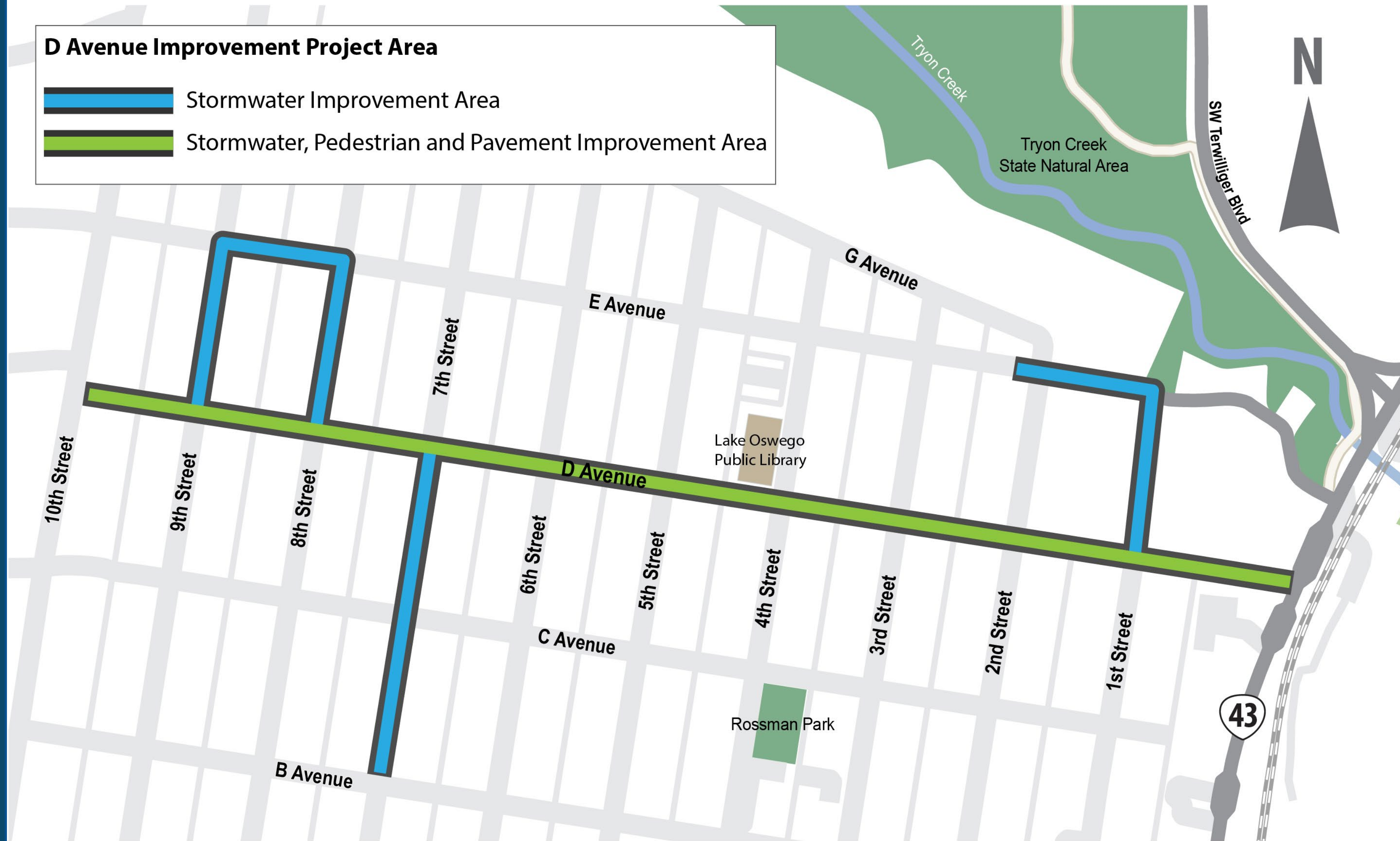
New Design Criteria + New CIP Project

Lake Oswego Stormwater Management Manual

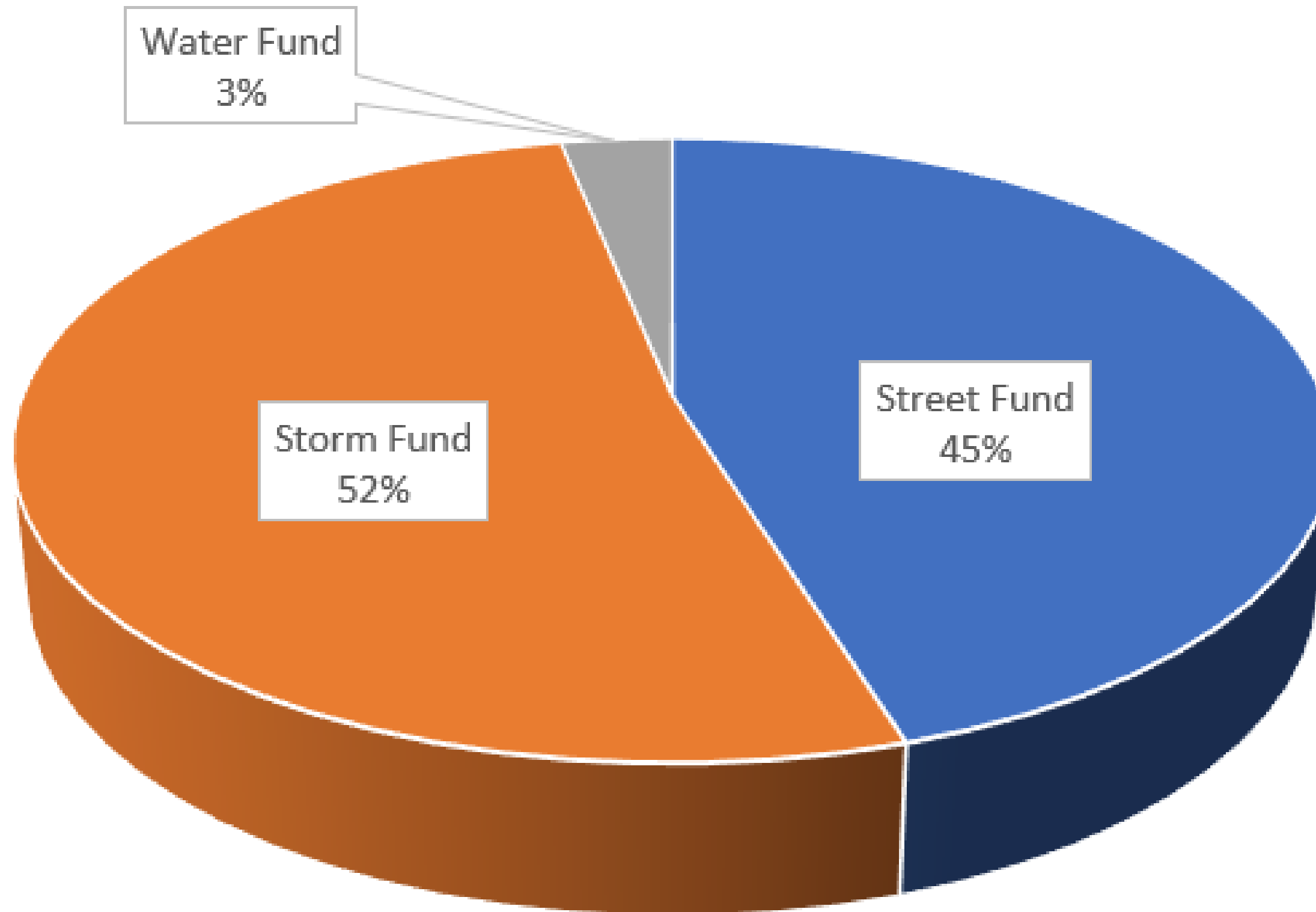


March 2016

Project Introduction



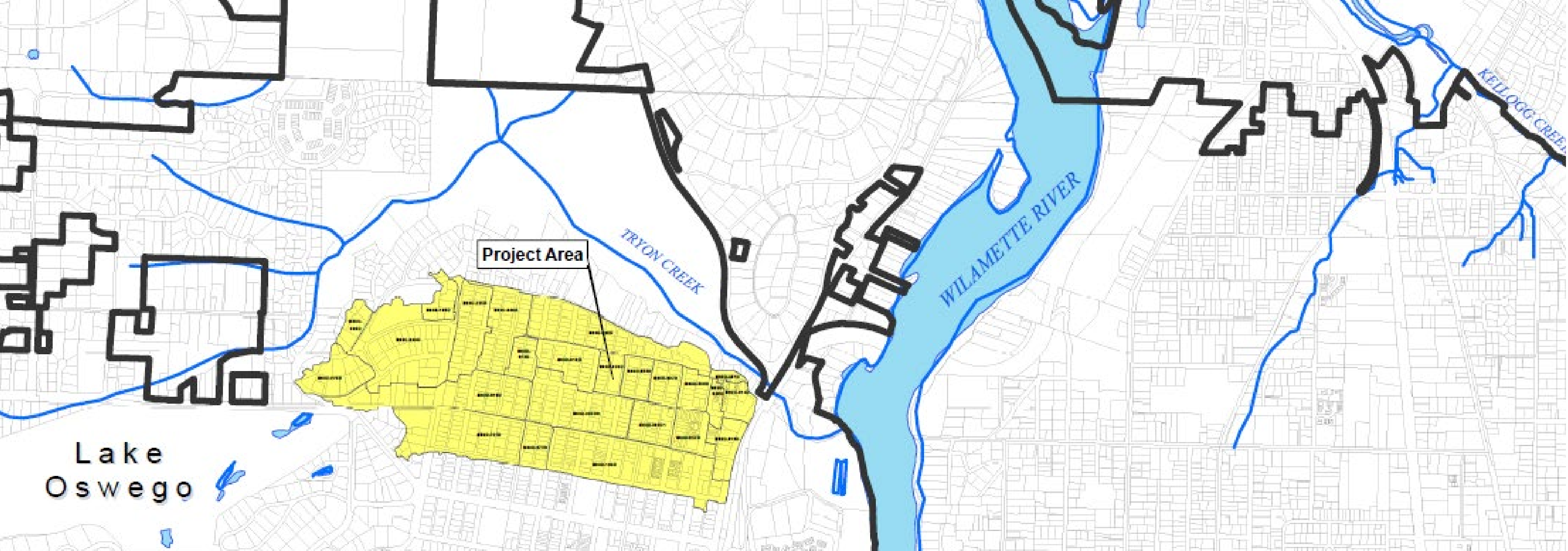
\$6.2 million project cost



Key Challenges

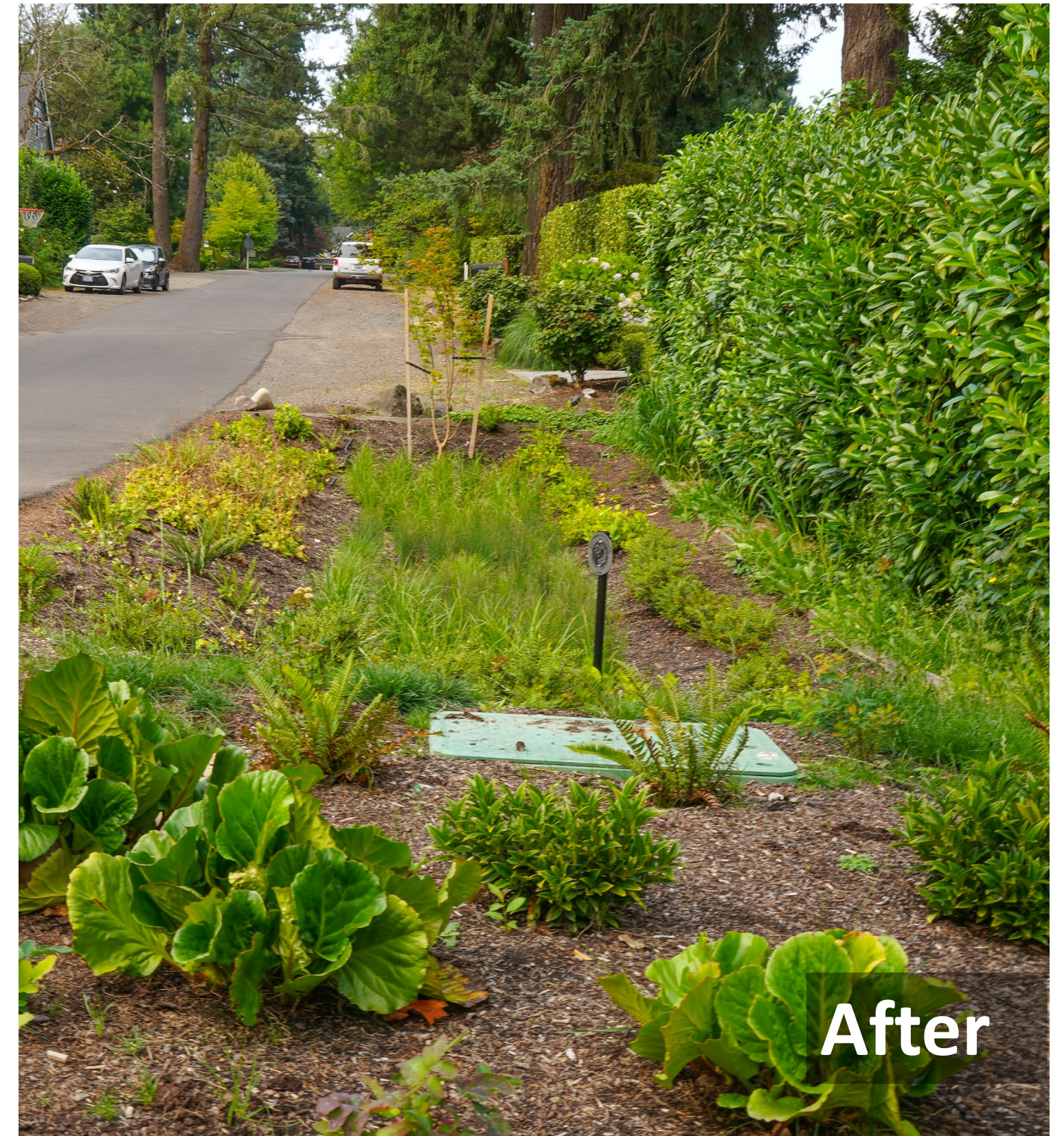
- 1 Stormwater Management
- 2 Safety
- 3 Active and Engaged Citizens
- 4 ROW Preservation

- 5 Construction
- 6 Summary



Stormwater Design

Needs: Comprehensive conveyance, address flooding, NPDES/SWMM permit compliance, and curbless street



Needs:

- End of Life Cycle ($12 < \text{PCI} < 21$) due to deferred maintenance and construction traffic
- Inconsistent Roadway Widths
- Public complaints of high speeds



Design Feature

Full Depth Reconstruction →

Benefit

Create Custom Alignment



Before



After

Design Feature

Concrete Banding for ACP →



Benefit

Supports edge of ACP, guides traffic, grade control during paving operations



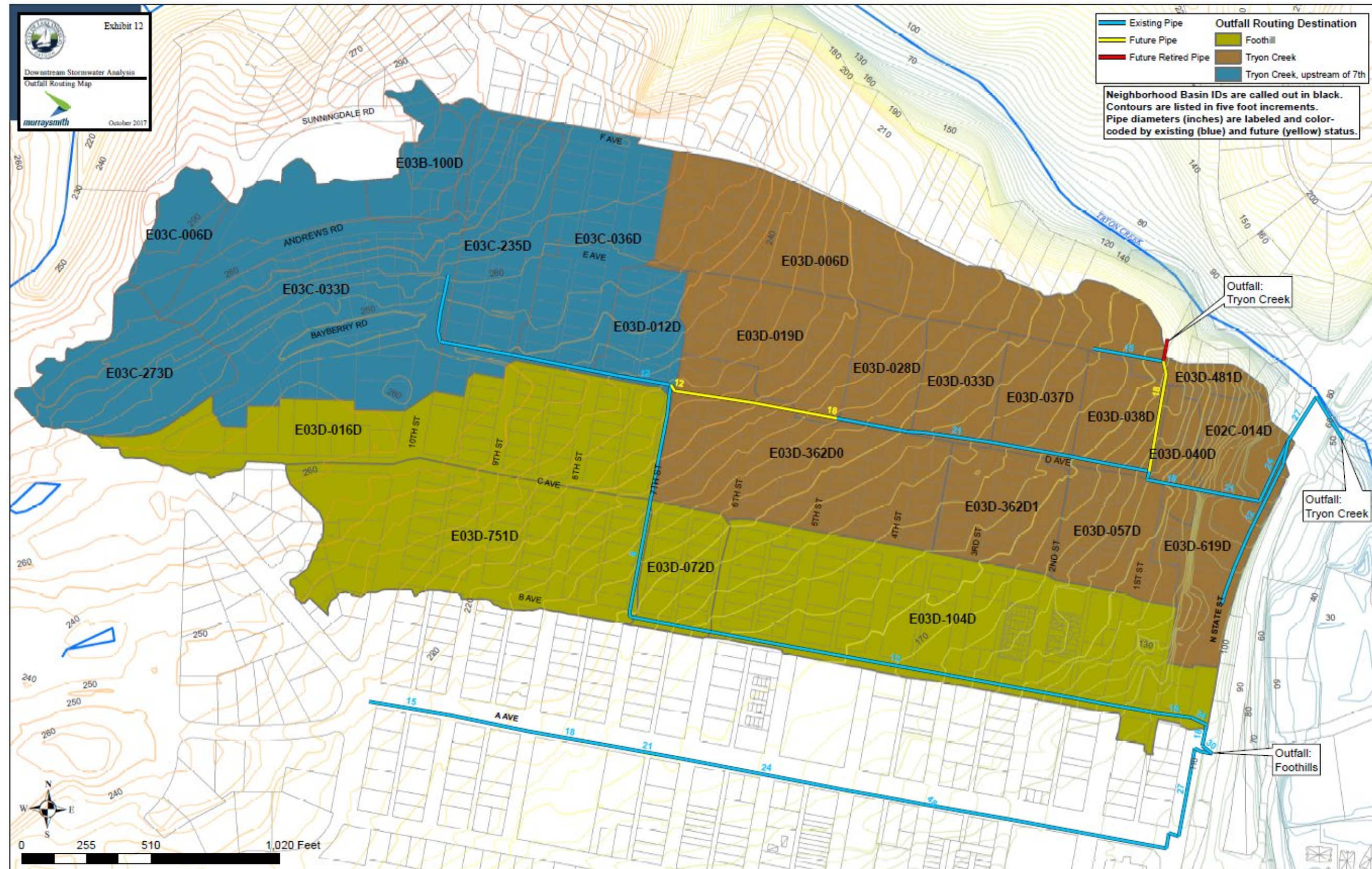
Design Feature

Benefit

Conveyance upgrades



Provide drainage 'backbone'



Stormwater Design



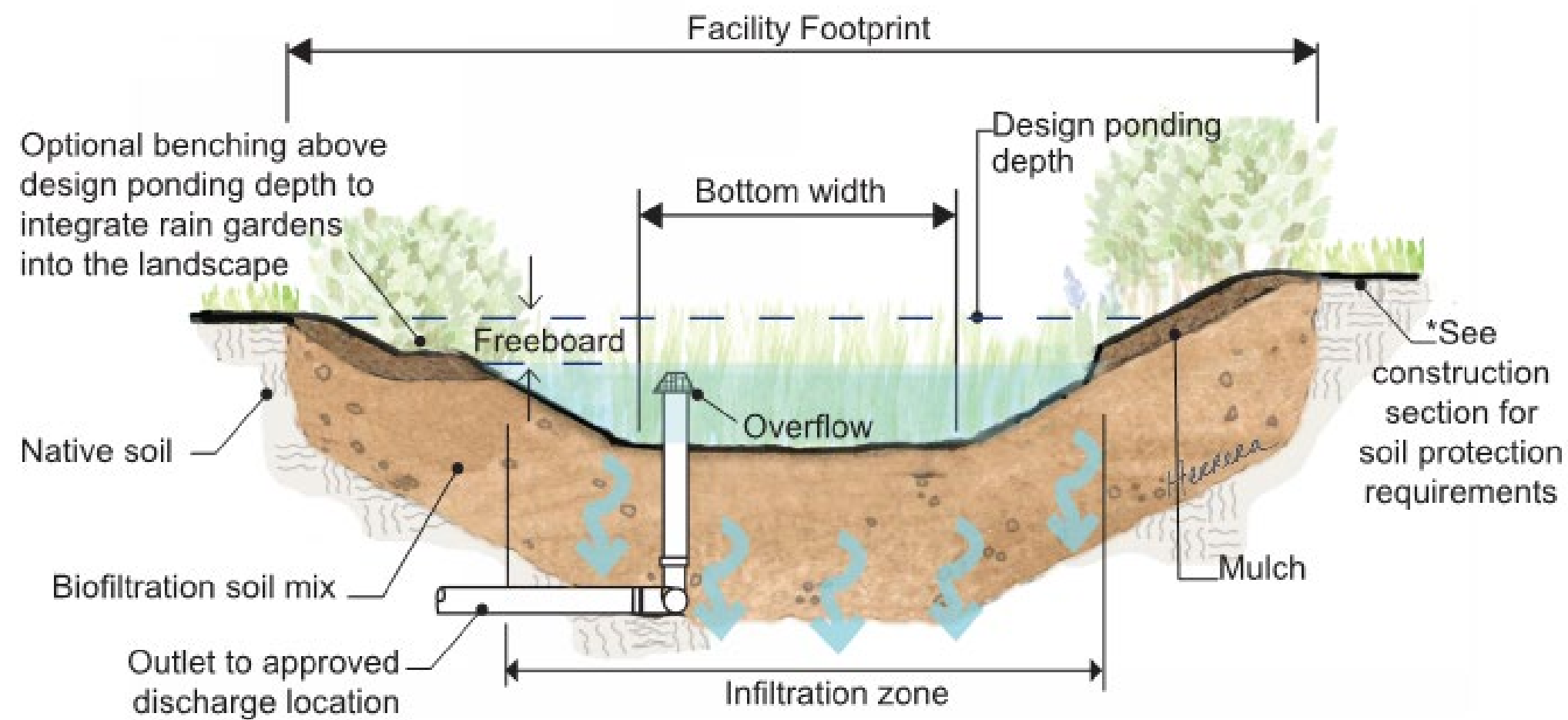
Design Feature

LIDA



Benefit

Removes pollutants and maximized infiltration to maximum extent feasible



Stormwater Design



Key Takeaways

Planning = Open
Graded for SWMM



Performance = 3/4"-0 for
public involvement



Key Takeaways

Planning = Curbless streets



Performance = Wet weather erosion and rogue parking



Key Takeaways

Planning = 43 new LIDA

Performance = Increased maintenance



Key Takeaways

Planning = Off-site mitigation

Performance = Alley sediment and siltation



Key Takeaways



Before



After



Safety

Needs:

- Unmanaged On-Street Parking
- Collector Street Bypass Route
- Public Resource on Residential Street
- Non-ADA Compliant Sidewalks & Ramps
- Irregular Lighting Along Corridor

Design Feature

Formalize On-Street Parking &
Continuous access to sidewalks



Benefit

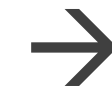
Organized/Sight-Distance Mindful
Safe pedestrian access OR43-10th



Design Feature

Benefit

Standardized Lane Widths



Consistent and Appropriate



Design Feature

Meandering Alignment
Narrow lanes



Benefit

Slower Traffic & Non-Urban Feel



Design Feature

Standard Curb at Intersections →

Benefit

Safety is the top priority



Design Feature

Clearing and Grubbing &
Sensibly Positioned New Landscaping



Benefit

→ Obtain Clearance Standards



74 Intersection Sight Distance
Triangles Evaluated

Design Feature

Add Pedestrian Lighting & Add/Relocate Exist. Overhead Lights →



Benefit

Provide Consistent Lighting for Pedestrian and Vehicle Use





Key Takeaways

Incremental improvements
are okay



Active and Engaged Citizens

Needs:

- Citizens are aware and heavily involved in local projects
- FAN Neighborhood Unique Character
- Many residents retired or working remotely
- Represented by local Board
- Stormwater and right-of-way education



Design Feature

Multiple Site Walks with Residents



Introduce Team, Project Goals,
and Vet Alternatives



Design Feature

Regular Open Houses



Benefit

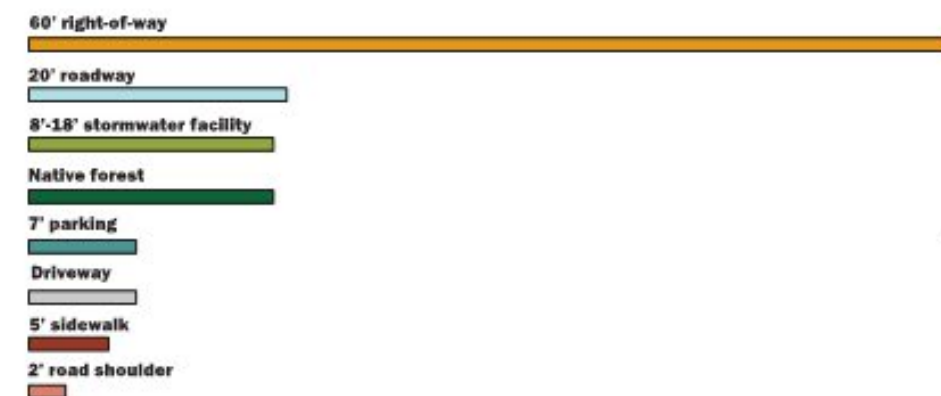
Highly Transparent Updates



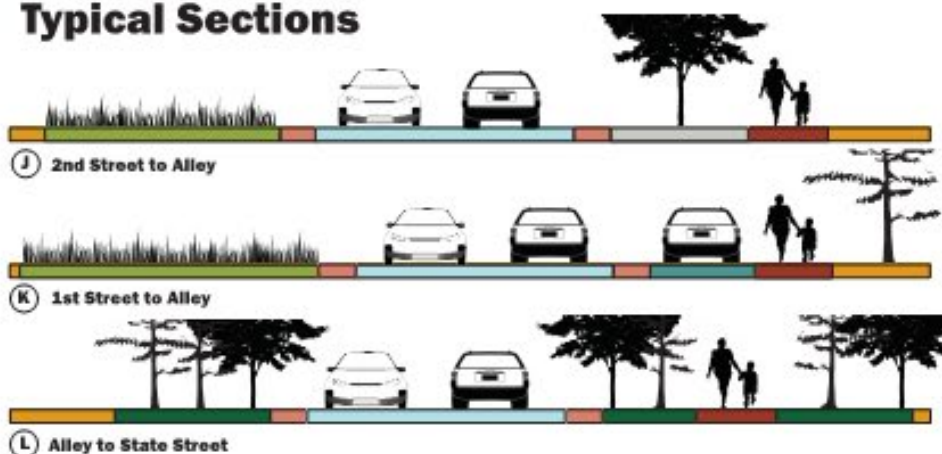
D Avenue Improvement Project — Alley between 3rd and 2nd Streets to State Street



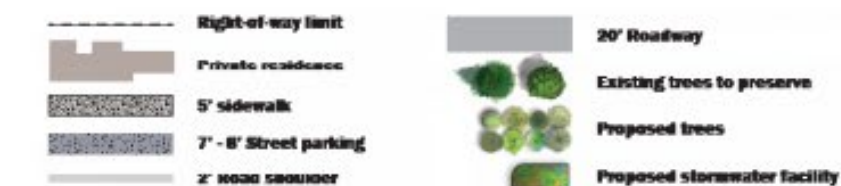
Key



Typical Sections



Legend



Design Feature

One-on-One Meetings
with Residents

Benefit

→ Opportunity to voice individual
wants/needs/concerns



Design Feature

Benefit

Full Time Citizen Liaison → Consistent Resource/Timely Responses



Design Feature

Regular Communications via
website, email and newsletters →



and storms.

There are a few outstanding items that remain, some of these are a result of longer than expected lead times for materials.

Crews are expected to return for one more substantial activity – installing additional trench grate drains along the south side of the sidewalk on D Avenue between 4th and 5th streets. This is to make some adjustments and additional improvements to the drainage in this area. This work will likely require a block closure during work hours, for about week. We will send an update out to neighbors prior to the closure.

Construction Update 3/5/19

Major construction is complete, and most punch-list activities are finished on the project!

Over the last two months, the project team has been monitoring and watching the new stormwater facilities, roadway, sidewalk and utilities. Small tweaks and adjustments have been made throughout the project area, particularly following the winter rains

Benefit

Highly Transparent Updates



EMERGENCY PREPAREDNESS FAIR

WEDNESDAY, APRIL 25, 5-8PM PARKS & REC - PALISADES, 1500 GREENTREE ROAD



Learn how to care for yourself and your family in the event of an earthquake, flood, winter storm, or other disaster at the Emergency Preparedness Fair. Brought to you by the city of Lake Oswego, this free family-friendly event will feature approximately 20 informational booths plus programs and activities. Stop by any time between 5 and 8 p.m. and learn about water filtration and storage, emergency food options, emergency supply kits, pet preparedness, portable sanitation, seismic retrofitting your home, non-structural recommendations, solar power options, and much more!

SPECIAL EVENTS AND ACTIVITIES

- Bike Rodeo. Bring your bike and have fun at our Bike Rodeo course. Kids 14 and under will learn and practice the rules of the road. Kids will travel

through several stations to learn basic bike safety and ride an obstacle course to test your bike-handling skills. Plus, we'll check your bike for safety and make sure your helmet is adjusted correctly.

- Sand bag demonstration. Learn how to properly and efficiently fill a sand bag and how to stack them to get the most protection against flood waters.
- Learn how to save a life! Join the Lake Oswego Fire and Police Departments for special hands-only CPR training. Public Safety officials will teach the core skills of CPR and participants will have the opportunity to practice with mannequin Mini Anne.
- Interested in seismic or energy upgrades to your home? Learn about resources to help you navigate options, get bids from qualified contractors, find the best financing and rebates, and ensure the job's done right.

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COMMUNITY SHRED DAY

SATURDAY, APRIL 21, 9 A.M. TO 12 P.M. (OR UNTIL FULL)

Community Shred Day is back! Thanks to Yakima Products, the City will be hosting Shred Day at the Yakima headquarters (formerly the West End Building) at 4101 Kruse Way, from 9 a.m. to 12 p.m. (or until truck is full) on Saturday, April 21. Residents of Lake Oswego (and those within the Urban Services Boundary) may bring 2 paper shopping bags of

confidential documents including bank, credit card, health care, tax forms and other sensitive information for shredding. Staples, paper clips, hanging folders, and rubber bands do not need to be removed.

Shred Day is a very popular event and wait times can be significant - we can only move as fast as the trucks

Continued on page 4

DRUG TAKE-BACK

SATURDAY, APRIL 28, 10 A.M. TO 2 P.M., AT THE ACC

To help citizens properly dispose of unwanted or expired prescription medicines, the City is holding a one-day-only drug take-back event. This collection event will take place at the Lake Oswego Adult Community Center, 505 G Avenue. Unwanted prescription medicines will be collected from individual households only. Unknown medicines and veterinary medications will also be accepted. Medications cannot be accepted from businesses such as nursing homes, doctor's offices or any other institution or business. If you have any questions, please contact Bonnie Hirschberger at 503-675-3992 or bhirschberger@lakeoswego.city.

No sharps/syringes/Epipens, over-the-counter medicines or supplements such as vitamins, will be collected. For information on how you can safely dispose of these items, call Metro Recycling at 503-234-3000.

Please put all pill/tablet medications into a zip-seal bag. We do not want the plastic prescription containers. If you bring in a liquid medication, please put the bottle in a sealable plastic bag to prevent leaks.

For more disposal options, visit www.lakeoswego.city/police/drug-medicine-disposal.



D AVENUE PROJECT CONSTRUCTION STARTING SOON

Design is complete for the D Avenue Improvement Project. The design incorporates a much safer way for pedestrians to connect to schools, downtown businesses, the library and other services in the First Addition Neighborhood. It also helps address significant stormwater issues and rebuilds old, deteriorated underground utilities in this area of the neighborhood. The project will reconstruct the entire ten blocks of D Avenue from State to 10th Street. Additional improvements will also take place on portions of 1st Street, 7th Street, 8th Street, 9th Street and E Avenue.



When construction is complete, the road and corridor along D Avenue will look different – the lanes for vehicles will be about the same width, but will have been shifted. Portions of the road alignment will meander with slight curves to allow for the new sidewalk, 40 rain garden areas necessary to manage and treat stormwater. Parking areas will also be more clearly delineated within the public right-of-way.

Major construction is expected to begin in the next month or so and continue through 2018. A "Meet the Contractor" meeting to introduce the contractor and share information about construction will be scheduled in the next month or so, before work begins. Visit www.d-ave.org for more information, to view the final plans or to sign-up for the regular e-newsletter.

2017 GOALS – HOW DID WE DO?

A SUMMARY BY MAYOR STUDEBAKER

This article summarizes some of the major activities that occurred in Lake Oswego during 2017. It is not detailed, but it does give you an idea of the areas in which we have made progress.

- We have continued to budget money for road maintenance and repair. The result is that our PCI (pavement condition index) for streets raised to 67 from 64.
- The D Street project (from State Street to 10th) design approached completion. This project will reconstruct the entire ten blocks of D Avenue from State Street to 10th Street, all within the existing public right-of-way. It will also address stormwater drainage issues and pedestrian access and safety.
- The annual transportation SDC increase was reduced to try to encourage more business development.

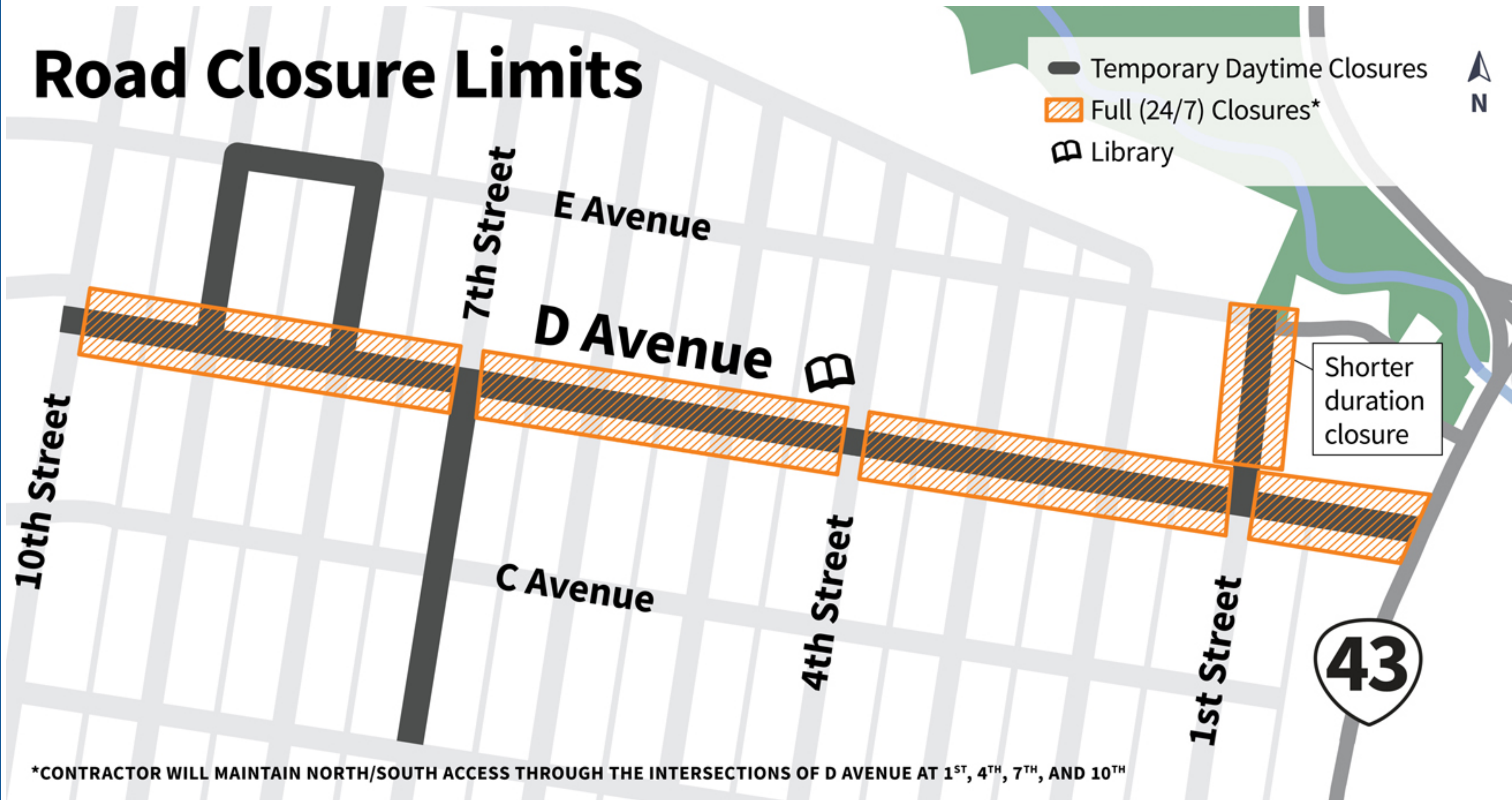
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Design Feature

3-Block Rolling Closure → Decreased duration of full road closure

Benefit

Road Closure Limits



Design Feature

Full-time Construction Inspector



- Consistent, knowledgeable on-site resource
- Educate residents through interaction

Benefit



Key Takeaways

- Know your audience
- Education is key
- Right-size your public involvement for your community
- Communicate 'dig-once' philosophy





Right-of-Way Preservation

Needs:

- Residents unaware of property limits
- Extensive private improvements in ROW
- Newer owners expectations due to previous owner's features in the ROW
- Protect Mature Trees
- Strategic Placement of design features



Design Feature

One-on-One Meetings with Residents

Benefit

→ Opportunity for individual & detailed exchange



Design Feature

Tree protection fencing
Excavation specifications
On-call arborist

Benefit

- Isolate critical root zone
- Triggers construction oversight
- Address conflicts in real time



Design Feature

Meandering Alignment &
Creative LIDA Placement

Benefit

→ Flexibility to Avoid Key Features





Construction

Needs:

- Antiquated water main
- Stormwater conveyance and treatment
- Area wide construction surge stressing franchise utilities
- Dig once
- Minimize impacts to the community



Design Feature

Benefit

Water main replacement at night → Maintain peak demand supply



Design Feature

Utility Coordination



Benefit

Coordinate improvements and schedule ahead of construction



Design Feature

On-site full support inspector
with dedicated office support



Benefit

Manage conflicts in real time



Key Takeaways

Remain flexible – Franchise utility relocations



Key Takeaways

Remain flexible – Beehive inlets



Key Takeaways

Planning = Maintain access

Performance = Gravel ramps



Key Takeaways

Remain flexible – Natural Gas disruption



Safety Performance

Safety Program Coordination

Continuous work at points during construction:

- Excavation
- Concrete flatwork
- Stormwater
- Electrical
- Traffic control



Over 19,000 hours worked on the project with no time lost due to injury and no injuries of note during construction.

Key Project Takeaways

- Right-size public involvement
- Education and safety are key
- Incremental upgrades are okay
- Stay flexible
- Communicate



Neighborhood Feedback

“The crew has been exceptionally courteous in making sure I was able to get in and out of my driveway for which I am very thankful. Their hard work just amazes me.”

“We really appreciate your and the team's responsiveness and the finished quality, too. Everything looks great!”

“Fantastic job with the capital project on 'D' Street. The bioswales, plantings, sidewalk (detectable warnings), sidewalk, parking areas is a fantastic accomplishment!”

“As people walk by our house we hear numerous compliments...the City Of Lake Oswego has done a wonderful job!”

“Your attention to detail and customer service is outstanding. Thank you to you and your team for a job well done.”



Q&A



murraysmith



Thank you!