



2023 Surface Water Utility Annual Progress Report

Informe anual de la empresa de servicios públicos de
aguas pluviales y superficiales 2023

Relatório anual de serviços públicos de águas pluviais e
superficiais de 2023

Годовой отчет предприятия по ливневой и
поверхностной воде за 2023 год

2023 年风暴和地表水公用事业年度报告



City of Kirkland Public Works
Storm & Surface Water Division





Wetlands at Yarrow Bay

Our Year In Review

Kirkland’s Surface Water Utility is located within the Public Works Department. The utility has five primary goals, shown below, carried out by Utility staff.

Our **Operations and Maintenance Division** works to maintain our extensive drainage infrastructure and keep water flowing through the stormwater system, creeks, and wetlands. The **Surface Water Engineering and Planning Division** works to provide strategic planning and engineering expertise, education and outreach, regulatory compliance, environmental monitoring and assessment, and pollution prevention assistance. Our **Capital Improvement Program Division** works to provide strategic and timely development of funding, design, property acquisition, and construction of projects.

Our Goals



Reduce flooding in our streets and neighborhoods.



Build and maintain drainage infrastructure.



Improve water quality in our creeks, wetlands, and lakes.



Improve aquatic habitat.



Educate and engage our community.

This report is organized by outcomes related to these goals and includes a status update on the 2023 Surface Water Strategic Plan, which lays out the actions the utility would like to take in the next seven years.

We’re proud to report a productive year for the Surface Water Utility.

We launched an interactive stream health dashboard, celebrated the opening of 132nd Square Park and the massive stormwater treatment upgrades that came with it, and Council adopted our long-term Surface Water Strategic Plan.

Of the 267 miles of stormwater pipe within the City, our Storm Crews cleaned an astounding 41 miles of stormwater pipe and video inspected another 32 miles. We also responded to 76 flooding calls and cleaned 196 spills from the stormwater system.

The year ahead presents its own opportunities and challenges as we tackle our aging infrastructure and adapt to a new NPDES permit.

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Surface Water Strategic Plan



Council Adopts 2023 Surface Water Strategic Plan

The Surface Water Strategic Plan assesses our current programs, identifies ongoing commitments, and identifies priorities for the next 6-10 years. Staff will bring new or enhanced programs and projects back to Council for funding consideration during biennium budget discussions.

Thanks to Council for supporting a plan that will help protect the environment, meet the needs of the community, and support the Utility to be in compliance with local, state, and federal regulations!

Programmatic Actions



The CCTV camera rover ready to inspect a pipe.

Staff identified 33 programmatic actions for consideration and advancement through the Strategic Plan.

Programmatic actions are recommended program strategies to address Utility goals through means other than capital construction projects. Actions were categorized into High, Medium, and Low priority.

All High priority projects are funded through the current budget. Most Medium and Low priority actions will need additional funding to be completed.

Capital Projects



Construction of the 132nd Square Park Vault.

During the development of the Strategic Plan, staff identified 22 high priority projects to advance through capital construction.

These projects achieve multiple Utility goals, with the majority of projects primarily focused on maintaining existing infrastructure. Of these projects, 10 are slated to be constructed through the 23-28 Capital Projects List.

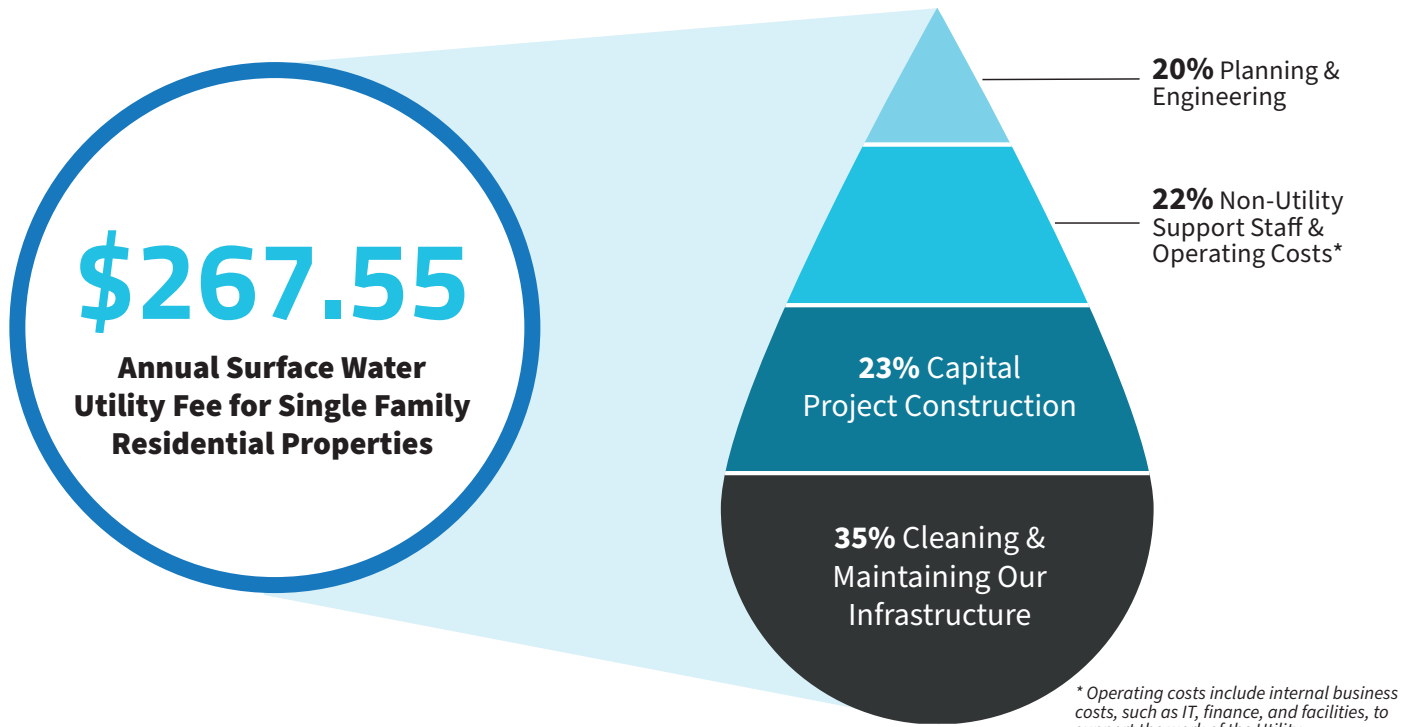
One project is scheduled for construction and one project is in design.

On-going planning efforts for aging infrastructure may impact the construction of these projects in outer years.

Your Dollars at Work

The Surface Water Utility is funded by the Surface Water Management (SWM) fee charged to all property owners. The annual SWM fee for 2023 for a single family residential property was \$267.55. Commercial properties are charged at a rate of \$20.74 per month for every 2,600 square feet of impervious surface on the property.

This fee supports our work to advance City Council and Surface Water Utility goals, with 2023 highlights outlined in this report. The graphic below depicts how the average homeowner's SWM fee is spent.



An aerial view of Forbes Lake.



In Memoriam

Barry Walsh

In 2023 we mourned the loss of Barry Walsh. As a Senior Maintenance Worker, Barry had been part of the Storm Crew for seven years.

His professionalism and warmth left a lasting impression on all who had the pleasure of working with him. Barry's legacy of kindness and commitment will forever inspire us as we continue his important work in his memory.





Reduce Flooding in Our Streets and Neighborhoods



Weather patterns are changing in our region and we expect an increased frequency of intense rainstorms in Kirkland in future years – which may result in increased occurrences of flooding.

2023 brought some intense rainstorms to Kirkland. Staff worked to prevent and reduce flooding through pro-active planning and management, and response during emergent concerns. Public Works staff responded to 76 calls for flooding concerns. Storm crews inspected and removed blockages at 137 creek locations regularly throughout the rainy season.

Staff develop capital projects to work on improving flooding in problematic areas. Two projects were completed in 2023 that support flooding reduction.



76

Flood Call Responses

11,180

Creek Inspections at 137 Locations to Identify and Prevent Flooding

14,472

Cubic feet of sediment cleaned out of the public storm system

Photos:

Storm crew members Lee Winston and Josh Johnson (top).

A Storm crew member works to clear debris from a storm drain (middle).

A storm drain cleared of blockages during a rain event (bottom).



Build and Maintain Drainage Infrastructure



Storm crews clean and replace stormwater filters.

- 

218,133
feet of stormwater
pipe cleaned
- 

2,506
catch basins
cleaned
- 

575
private drainage
system sites inspected

The Storm Crew was hard at work in 2023 inspecting and cleaning the catch basins, maintenance holes, pipes, and facilities that make up the stormwater system.

We completed our two year inspection cycle of catch basins, resulting in the inspection of 16,668 stormwater structures. Cleaning of the public system removed 536 cubic yards of potentially polluted sediment, which helps improve the health of our streams and lakes. That's enough sediment to fill 53 dump trucks!

The stormwater system gets more complex every year. 2023 saw 271 public catch basins and 40 public stormwater facilities newly added from construction projects.

We also began strategic planning efforts to replace aging pipes and facilities.




Improve Water Quality in Our Creeks, Lakes, and Wetlands

2023 welcomed the launch of Kirkland's interactive stream health dashboard to share and highlight important creek monitoring data. Kirkland's creeks showed a promising increase in water quality scores last year and we're hoping to see the trend continue in the right direction.

Staff promptly responded to more than 300 spill events in 2023; keeping a substantial amount of pollution from reaching our creeks and lakes.




204
businesses
provided with
Pollution Prevention
Assistance



16
stream sites
monitored for
water quality



337
spill response
events

Improve Aquatic Habitat

With help from dedicated volunteers, our team completed habitat assessments of Juanita Creek and its tributaries in 2023. All stream habitat data collected to date will be added to our interactive stream health dashboard in 2024.

Staff also completed twice annual monitoring of six wetland/stream mitigation sites, eight stream bug sites, and regularly monitored flow and water levels at 15 different data logger locations.



Staff conduct habitat monitoring in a Kirkland creek.

7.7 miles
of stream habitat assessed

6 wetland/stream mitigation sites
monitored 2x/year

15 data loggers
monitored for flow and water level

Educate and Engage Our Community



Outreach staff at the 132nd Square Park grand opening.

Our Education & Outreach team continued their work to engage and empower Kirkland residents to protect our creeks, wetlands, and lakes.

We hosted Natural Yard Care Classes and wetland field trips, supported Water Watcher and storm drain marking volunteers, attended diverse community events, and supported public involvement for our Surface Water Strategic Plan and stormwater retrofit studies.

We also launched the City's first Diversity, Equity, Inclusion, and Belonging plan specifically for stormwater outreach.

23K people reached at community booths, presentations, and classes/activities.

277 trees planted by 62 tree rebate program participants.

2,253 unique visitors to interactive water quality dashboard.

63 hands-on site visits conducted through Yard Smart Rain Rewards.

364 clean water pledges signed by local residents.

355 storm drains marked by volunteers.

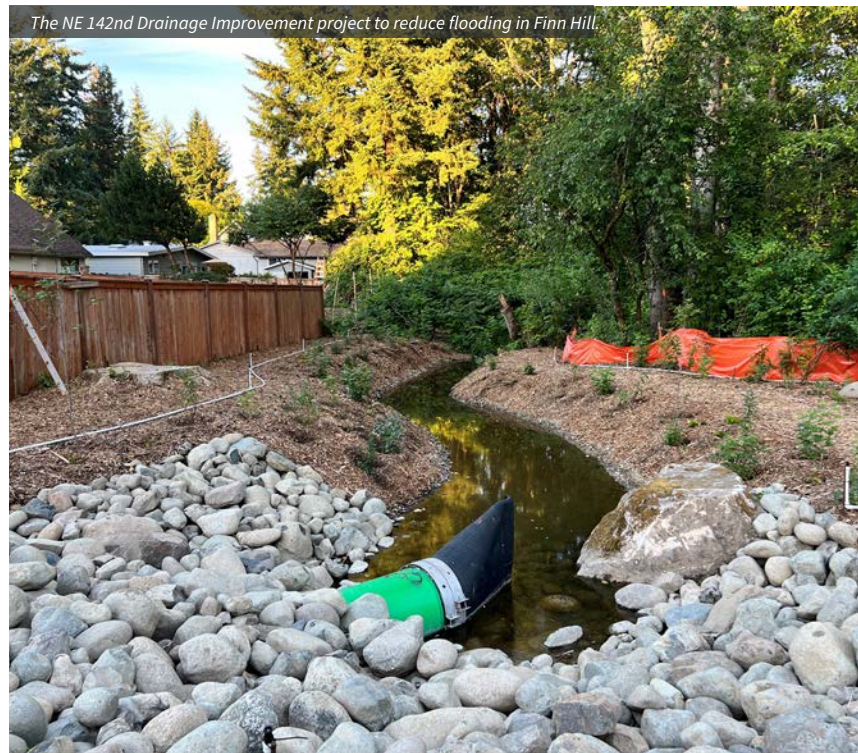
Capital Project Highlights

2023 was a busy year for surface water projects within the Public Works Capital Improvement Projects (CIP) Division. The CIP Division is responsible for the timely development, funding, and implementation of infrastructure needs.

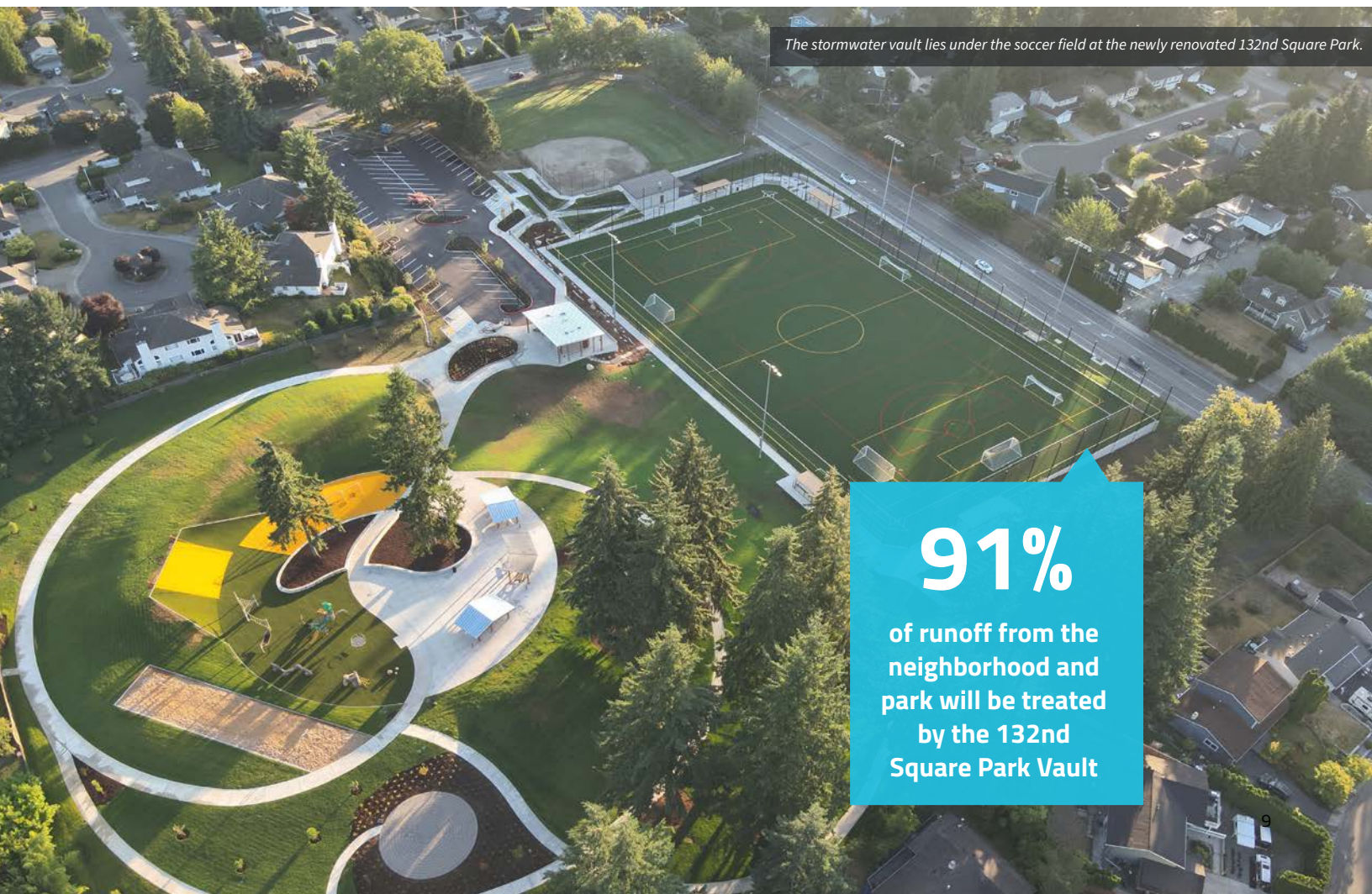
Three CIP projects were completed, including:

- The unique 132nd Square Park Stormwater Vault, which provides water quality treatment for the newly renovated park and 48 acres of upstream neighborhoods.
- The NE 142nd Drainage Improvement Project which will help reduce flooding in the Finn Hill neighborhood.
- The 126th Ave NE Water Quality Treatment Project which helps improve water quality in Forbes Creek.

Seven more projects are in the design phase and will be ready for construction soon.



The NE 142nd Drainage Improvement project to reduce flooding in Finn Hill.



The stormwater vault lies under the soccer field at the newly renovated 132nd Square Park.

91%

of runoff from the neighborhood and park will be treated by the 132nd Square Park Vault

MEET OUR TEAM

Engineering & Planning



Kelli Jones, Surface Water Manager

Rachel Konrady, Surface Water Planning Supervisor

Aaron Hussmann, Environmental Education & Outreach Coordinator

Aayush Piya, Surface Water Engineer

Angela Peterson, Surface Water Planner

Chin Jewell, Surface Water Engineer

Eve Henrichsen, Environmental Analyst

Jenny Gaus, Surface Water Advisor

Jordan Stansberry, Water Quality Specialist

Kate Schmielt, Environmental Education & Outreach Specialist

Rob O'Brien, Sr Surface Water Engineer

Ryeann-Marie Tuomisto, Water Quality Program Coordinator

Wes Ayers, Surface Water Engineering Analyst

Operations & Maintenance



Chris Gavigan - Deputy Director of Operations (Acting Utility Manager)

Jason Osborn, Stormwater Supervisor

Lee Winston, Stormwater Lead

Morgan Johnson, Stormwater Lead

Craig Merrill, Senior Maintenance

Dave Woods, Utilityperson

Hunter Hanson, Utilityperson

Jonathan Danielson, Senior Maintenance

Jorge Silva, Senior Maintenance

Josh Johnson, Senior Maintenance

Josh Moen, Utilityperson

Neil Castillo, Utilityperson

Robert Richards, Senior Maintenance

Skyler Possert, Utilityperson

Stan Hansen, Utility Person

Trent Zucati, Senior Maintenance



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