# Welcome

### Aloha and thank you for attending today!

City and County of Honolulu Storm Water of O'ahu Stakeholder Hui Virtual Meeting Tuesday, March 5, 2024; 4:00-6:30 PM

## Today's Agenda





## Today's Agenda

	Торіс
4:00 – 4:10 PM	Welcome, Agenda Overview
4:10 - 4:15	Public Comment
4:15 – 4:25	Roundtable Aloha
1.25 _ 1.15	Mālama Maunalua: Hawai'i Community Foundation Grant for
4.23 - 4.45	Green Storm Water Infrastructure Pilots
4:45 – 5:25	Progress Updates Towards Budget & Goals
5:25 - 5:40	Storm Water Utility: Possible Re-Naming
5:40 - 6:05	One Water Presentation
6:05 – 6:15	Additional Stakeholder Opportunity
6:15 – 6:20	Additional News and Updates
6:20 - 6:30	Wrap Up

## **Tips for Productive Discussions**

Keep input focused and concise Commit to everyone participating equally

Listen for understanding – avoid quick opinions Help identify solutions

## **Participating Online**





## **Public Comment**





## **Please Share Your Perspectives!**

The public was invited and encouraged to submit comments before this meeting and to observe the meeting. The public may make comments at this time in the meeting and is also invited to submit written comments by email or US Mail, preferably by **Tuesday, March 12, 2024**. All comments from the public will be distributed to the Stakeholder Advisory Group members and project team.

#### Email

stormwater@honolulu.gov

#### US Mail

City and County of Honolulu Department of Facility Maintenance Storm Water Quality Division 1000 Ulu'ōhi'a Street, Suite 215 Kapolei, HI 96707



## Roundtable Aloha





## Roundtable Aloha

# What have you been doing differently in the cooler winter weather ?

## Malama Maunalua Green Infrastructure Implementation Grant



### **Follow the Drop Incentivizing Green Infrastructure**





REDUCE | REUSE | RECHARGE

### **Pilot Program – Maunalua Bay Region**

1. Follow the Drop GSI Assessment 2. Outreach, Survey & Property Evaluations

3. Stream & Flow Assessments (NFWF) Priority Areas

FtD estimated baseline runoff and GSI/ rainwater harvesting capacity in priority watersheds



Neighborhood outreach, free property assessments, and survey Flow path mapping & stream restoration assessments

### FREE RAIN BARREL

When you sign up for a rainwater assessment





## Using SWMM, GIS & Flow Path Priority Areas Identified

#### Niu Valley



#### Aina Haina



#### Kouli'ou'ou





Did you find the Follow the Drop App easy to use? VERY HELPFUL 56% Helpful 38% Unhelpful 4% Very Unhelpful 8%

Post- Assessment
 Survey

• 32 Participants

How well did the App educate you on your stormwater footprint and [potential to capture rainwater? VERY HELPFUL 50% Helpful 38% Very Unhelpful 12%

How likely are you to install the proposed stormwater capture practice?

VERY LIKELY 66% Likely 34%

How likely are you to install a stormwater capture practice if it is installed for free? VERY LIKELY 96% Likely 4%



### What are the barriers to your installing a stormwater capture practice?

### COST

### Don't know how to install or who to call

## Space Time to Install/ Disruption Period

None

#### Other

## **Incentive Program**

### **Funding:**

- Hawai'i Community Foundation
- For MM, 3RWater, and Community
- 2-years

### **Program Activities:**

- Create project team
- ID regional partners to guide
- ID potential properties and projects
- Target under-served communities
- Design GSI incentive program
- FtD part of application
- Score submissions
- Support implementation, using incentive
  \$
- Collect metrics (FtD)
- Lessons Learned document

### Immediate Next Steps:

- Create project team
- ID regional partners
- Determine long and short-term goals
- Develop incentive program

### **Call for Assistance:**

- Examples of successful programs
- Identifying partners
- Join the project team
- Provide strategic guidance



### Questions?

## **Doug Harper** <u>dharper@malamamaunalua.org</u>

## Progress Updates Towards Budget & Goals





## Objectives this afternoon:

- Refresher on Storm Water Program budgets
  - what has happened since this process started in 2019?
- Overall direction for storm water program investments
- What's new services vs. increased costs
- Progress on staffing and information management



Sources: Bureau of Labor Statistics; New York Fed's Global Supply Chain Pressure Index 🔹 By The New York Times

## When We Began Our Storm Water Journey



### Instagram > TikTok





Taylor Swift had **not** released:

- Lover
- Folklore
- Evermore
- Midnights



"Social Distancing" was *not* in our collective vocabulary

## **Storm Water Cost Projections Timeline**



### 2019 – 2020: Developing a Prospective Storm Water Program Budget

 January 2020 (!) Stakeholder Advisory Group Meeting Slides

Using the
 2018 Cost of
 Service Study,
 three budget
 options were
 established to
 determine fee
 impacts

### Recap: Program Levels

#1: BASIC	Meets current & expected permit requirements				
COMPLIANCE	Fills staffing vacancies				
-	Completes capital projects for permit compliance				
#2: BETTER	Above PLUS:				
PROGRAM	Water quality enhancement (more likely to comply with TMDLs)				
	Better customer service & resident engagement				
	Proactive maintenance, some asset renewal				
	Additional watershed/stream restoration, green infrastructure				
	Expanded partnerships, community investments				
HS. IDEAL	Best likelihood of TMDL compliance				
PROGRAIN	Effective maintenance and customer service				

### 2019 – 2020: Developing a Prospective Storm Water Program Budget

### Recap: Average Annual Program Cost Summary



### 2020 & 2021 Discussions.

- 2019 Cost of Service: \$91.6 million
- Balancing program desires with customer impact
- Identified a "Plan C" or "Recommended Program Budget" - an enhanced version of #2
- Recommended steady state budget of \$65m operating, \$40m capital

## The Plan was



### • Assumed fee adopted for FY23

- Key investments:
  - $\circ$  Improve asset management
  - Fill staffing vacancies
  - Add grants management, stream cleaning, green infrastructure staff & projects
  - Expand stream cleaning
  - Leverage grants
  - Increase customer-facing inspections & presence
  - $\circ$  Expand monitoring
  - Develop debt-funded asset renewal program

### Where are we today vs. where we wanted to go if a fee had been adopted in FY23?



- - Improve asset management • Fill staffing vacancies
  - Add grants management, stream cleaning, green infrastructure
  - Expand stream cleaning
  - Leverage grants
  - Increase customer-facing inspections & presence
- Expand monitoring
- **Develop debt-funded asset** renewal program



Storm Water Operating Expenses

- FY25: \$64.6m
- FY20: \$49m
- Projection forFY25: \$59.6m



### Financial Reporting: PowerBI System (AECOM Superfriends)

Department	Division	💌 Branch or Section 💌	Budget Group 💌	Category	Exist Funding Source (code)	💌 Exist Funding Source (groups) 🛛 💌	Exist Fund
BFS	BFS Storm Water	BFS Storm Water	Salaries	Capital Improvement Program	SWU	Exist Funding Source (code)	0
BFS	<b>BFS Storm Water</b>	BFS Storm Water	Salaries	Capital Improvement Program	SWU	Sort	Ň
BFS	BFS Storm Water	BFS Storm Water	Salaries	Capital Improvement Program	SWU	A L Asconding	ling
BFS	<b>BFS Storm Water</b>	<b>BFS Storm Water</b>	Salaries	Fee Implementation	SWU	Z* Ascending	ing N
BFS	BFS Storm Water	BFS Storm Water	Salaries	Fee Implementation	SWU	By color: None	0
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### • KEY CHANGES:

- STREAM MAINTENANCE increase
- ADMINISTRATION increase, including new Grants Management positions
- DRAINAGE SYSTEM increase
- STREET SWEEPING increase
- Accounting for roadway vegetation management crews as "green infrastructure" - ultimately, plan is to create one GI-specific crew

### • NEW INVESTMENTS:

- Green infrastructure, ~\$1.78m for:
  - New Green Infrastructure Manager position
  - Urban forestry support through DPR
  - Green Infrastructure plan

### \*Numbers not adjusted for inflation

Year-over-year percentage change in the Consumer Price Index



Sources: Bureau of Labor Statistics; New York Fed's Global Supply Chain Pressure Index • By The New York Times

# The impact of inflation

## New Costs vs. New Services

### • Updated Costs Reflect:

- Labor cost impact of collective bargaining agreements; fully represented in the new cost database system moving forward
- Inflation impacts, especially on parts, equipment, materials
- Allied departments' costs, incorporated directly into database
- Large placeholder for fee implementation in FY26



## **Questions & Discussion**



## Increasing Costs of Service



## **Increasing Costs of Service**



### Automotive, Equipment Costs

- Prices haven't stabilized yet because of global inventory and supply chain issues
- Estimated that prices for vehicles in 2024 will increase 7-10% from 2023 and as high as 20% for certain types of vehicles
- Construction equipment projected to be between 5-7% (2023) range
- Depends on features and capacity



- Collective Bargaining Agreements resulted in salary increases across the board (HGEA and UPW) between 2020-2023
- Increases on average of 10% over 3-year period



• Wide range of cost increases between 25-50%

## City Pilot Program: Kawa Watershed



## Kawa Watershed Total Maximum Daily Load (TMDL)

Downspout Redirection Pilot Project



#### Figure 1.1: Location Map of the Kawa Stream Watershed

## The Problem

- Public Education and Outreach Wasteload Allocation crediting is based on a single study\*
- Anticipate discontinuation of this crediting
- Street sweeping and stream cleaning\*\* cannot make up the difference
- Need to find other ways to leverage Public Education and Outreach for credits\*\*

\*<u>Note</u>: WSP has conducted more comprehensive studies and is proposing new Waste Load Allocation to DOH of 17 lb/yr TP (152 current) and 48 lb/yr TN (791 current).

**\*\***Stream cleaning is effective for TN removal, reinstating volunteer stream restoration should be explored.



**TP** = Total Phosphorus; **TN** = Total Nitrogen WLA = Waste Load Allocation
# The solution

## **Downspout Redirections**

• 8 lbs. TP with 30% participation from 727 properties identified

#### • GOAL: 218 Kawa residents

- Reduce Fertilizer Usage: 4\* lbs. TP with 50%
  participation from fertilizer users (~25% residents)
- Soil Augmentation: 5\* lbs. TP with 10%
  participation, using 10% of available lawn/yard

\*WLA calculations based on credit plan from Vermont.

## The Milestones

• January 2024 Send Mailer & Conduct Preliminary Assessments			• March Follow-u Consulta	March 2024 Follow-up & Consultations		June 2024 Follow-up & Feedback		
Jan	Feb	Mar	· Ap	or May	y J	Jun J	ul <i>i</i>	Aug
~300 Packets ~100 Attendees	F	<b>ebruary 20</b> Distribute Pack Conduct Works	24 ets & shops	April 2024 Finalize Consu & Confirm Inst	ltations tallations		July 202 Finalize & Report	24

# Hawai'i Green Growth: National Fish and Wildlife Foundation (NFWF) Grant



## **3RWater & Hawai'i** Green Growth Partnership

# FOLLOW the **DROP** PĀLOLO WATERSHED

Utilizing 3RWater's locally developed Follow the Drop app, Hawai'i Green Growth and partners will conduct free rainwater assessments throughout the community to identify and size green stormwater solutions for residential, commercial, and public properties. This project is made possible through funding from the National Fish and Wildlife Foundation and Hawai'i **Community Foundation's Fresh** Water Initiative.



LOCAL2030 HUB

Bioswales, rain barrels, and rain gardens full of native plants are great ways to manage rain!

For more information, please email cyrus@hawaiigreengrowth.org







The Palolo Subwatershed makes up approximately half of the Ala Wai Watershed - home to over 200,000 O'ahu residents. Flooding and water quality concerns pose significant risks to people's lives, property, and communities. Join us to build a stronger, healthier, and more resilient watershed.

# Monitoring Projects & Process



#### **Palolo Watershed Characteristics**:

- Total Size: 2,639 Acres
  - 59% Conservation
  - $\,\circ\,$  37% Urban
  - $\circ$  4% Agriculture
- Rainfall
  - $\,\circ\,$  30 Inches (Lower)
  - >100 Inches (Upper)
  - Avg. Annual 47.3 Inches
- Schools: Palolo Elementary School, Kula Kaiapuni O Anuenue K-12 School, Aliiolani Elementary School, Jarret Middle School, Saint Louis High School and Chaminade University



Figure 25: Overview of Palolo Stream Watershed

## **Community Data**

Community(ies)*	Race/Ethnicity*	Poverty Rate*	Low Income %*	Annualized Unemployment Rate*
Palolo (Census Tract data aggregated to reflect all neighborhoods)	Native Hawaiian/Pacific Islander: 14.74% Asian: 47.5% Black/African American: 0.72% White: 13.33% 2+ races: 22.73%	9.873%	\$35,308.88 per capita \$67,500 is <u>HUD-</u> <u>designated</u> low- income metric	3.5768%
Palolo Elementary (Data specific to Census Tract 11.01, representing the more disadvantaged populations within the subwatershed)	Native Hawaiian/Pacific Islander: 39.93 Asian: 32.28 Black/African American: 0.41 White: 7.14 2+ races: 19.63	34.8%	\$30,695 per capita	0%

Courtesy of Hawaii Green Growth's Ala Wai NFWF Grant Proposal (2023)

- □ 11 Baseflow Grab Sampling Locations
- Bi-Annual Sampling Schedule (Dry/Wet Season)

#### □ Water Quality Parameters:

- $\circ\,$  Total Suspended Solids (TSS)
- $\circ~$  Total Dissolved Solids (TDS),
- Total Kjeldahl Nitrogen (TKN)
- Nitrate+Nitrite as Nitrogen (NO3+NO2)
- Total Nitrogen (TN)
- Total Phosphorus (TP)
- Specific Conductivity
- $\circ$  Turbidity
- Dissolved Oxygen
- $\circ pH$
- Water Temperature



Figure 26: Baseflow Sampling Locations in Palolo Stream

- Event Mean Concentration (EMC) Fixed Stream Station
- Flow Weighted Composite Samples
- ISCO Refrigerated Automatic Sampler, Rain Gauge, Flow Sensor
- Operate samplers at least through FY2030 (June 30, 2030)



#### 12 Palolo Stream Stormwater Monitoring Station at Kalua Road

- Event Mean Concentration (EMC) Fixed Stream Station
- Turbidity Sensor
- Flow Weighted Composite Samples
- ISCO Refrigerated Automatic Sampler, Rain Gauge, Flow Sensor
- Operate samplers at least through FY2030 (June 30, 2030)



'a lolo Stream Stormwater Monitoring Station at Saint Louis School

## Partnerships

- Joint Funding Agreement (JFA) with U.S. Geological Survey – Two (2) Long Term Monitoring Stations
  - Pukele Stream and Manoa-Palolo Drainage Canal @ Moili'ili
  - Streamflow, Nutrients and TSS (Manoa-Palolo), Turbidity, Suspended Sediment
  - Contract ends on Sept. 30, 2024. Currently in negotiations for future JFA
- Hawaii Green Growth Ala Wai Grant



# City Hiring



# **City Hiring Goals**

- Department of Facility Maintenance
  ✓ Hiring goals for FY2024
  - 100 permanent positions filled
  - ✓ Currently at 74 new hires (as of March 1, 2024)
    - □ 3 new Storm Drain Cleaners
    - 22 new Laborer II and 7 Laborer I
    - 2 new Civil Engineer I
    - 5 new Environmental Technicians
    - **1** new GIS Analyst
    - 1 new Administrative Specialist
    - Working with Hawaii Community Foundation, UH Manoa and Urban Sustainability Director's Network to establish a workforce development partnership



# **Stream Cleaning Progress**



# **Stream Cleaning Progress**

- January 2024
  - Honolulu District: Kalihi Stream, Nihi Ditch, Pauoa Stream, Nuuanu Stream, Moanalua Stream
  - Kaneohe District: Keahala Stream
  - North Shore District: Kahawainui Flood Control, Kawaipapa Ditch, Hanainoa Ditch, Pupukea Ditch
  - Central District: Whitmore Open Ditches, Lanikuhana Lined Ditch
  - Ewa District: Hoomaemae Ditch
  - Waianae District: Ulehawa U-1, U-3, U-3 Channel

#### • February 2024

- Honolulu District: Pauoa Stream, Waialae Major Drain
- Kaneohe District: Kamooalii Stream, Ahuimanu Stream
- North Shore District: Kahawainui Flood Control, Paumalu Ditch, Hoalua Ditch
- Central District: Meheula Lined Ditch
- Ewa District: Noelani Ditch, Paaina Ditch, Hoomaemae Ditch
- Waianae District: Maili M-1, M-3 and M-5 Channel



# Storm Water Utility: Possible Re-Naming?





## Storm Water Utility: Possible Name Change?

During Community Meetings and Neighborhood Board updates:

- Confusion that new entity was being created
- $\circ$   $\,$  Lack of clarity about what is being provided



## Name Change Ideas

• Storm Water Utility • Delete Utility

• Keep: Storm Water

Possible Additions: ✓ Services ✓ Management ✓ Improvements ✓ Fund ✓ Fee ✓ Credits / Rebates

## Possible (New) Names

- Storm Water Services Fund
- Storm Water Management Fund
- Storm Water Management Services Fund
- Storm Water Services and Improvements Fund
- Storm Water Services Fee and Rebates
- Storm Water Services Fee and Credits



## **One Water Presentation**





# ONE U WATER Honolulu

## SWOOSH March 5, 2024

## What is One Water?

One Water is an **integrated planning and implementation** approach to managing finite water resources for long-term resilience and reliability, meeting both community and ecosystem needs.

(Water Research Foundation, 2017)



Ahupua'a: a section of mountain, valley, and sea. Image courtesy of Matt Foster published by Maui Nō Ka 'Oi (mauimagazine.net/about-us/)

## Why do we need One Water?

- To maximize efficiencies, minimize waste, and integrate management of water resources across freshwater, stormwater, and wastewater
- To build climate resilience into City services
- To adapt critical coastal infrastructure to rising sea level



Office of Climate Change, Sustainability and Resiliency

## Infrastructure Impacted



**Recreation/Community Facilities** 

Private Residences/Public Resources

Businesses/Redevelopment





Office of Climate Change, Sustainability and Resiliency



## O'ahu's Top Climate Hazards & Impacts

STRESSES



Coastal Erosion



Increasing Temperatures and Extreme Heat



**Drought and Wildfire** 



Flash Flooding



Hurricanes





Office of Climate Change, Sustainability and Resiliency

## **Climate Costs**



## Why now?

- City agencies are suffering impacts now
- One Water infrastructure improvements are very complex, costly and must be coordinated, prioritized, and funded incrementally over time in order to adapt to climate change
- "Do nothing" alternative leaves investments "underwater" and City services inaccessible
- Coordinated multi-agency project design takes time and needs to start now (e.g., drinking water, wastewater, stormwater, roads, parks, etc.)





## How: One Water Honolulu Panel, ROH 2-10.13(b)



Office of Climate Change, Sustainability and Resiliency



**Department of Design and Construction** 



Honolulu Board of Water Supply



**Department of Planning and Permitting** 



**Department of Environmental Services** 



**Department of Parks and Recreation** 



**Department of Facility Maintenance** 



**Department of Transportation Services** 

**Budget & Fiscal Services** Department of Budget and Fiscal Services

#### Climate Adaptation One Water Policy, ROH 2-10.13(b)



CITY COUNCIL CITY AND COUNTY OF HONOLULU HONOLULU, HAWAII 20-47 ORDINANCE\_\_\_\_\_\_ BILL <u>65 (2020), CD2</u>

A BILL FOR AN ORDINANCE

A BILL FOR AN ORDINANCE TO AMEND CHAPTER 2 OF THE REVISED ORDINANCES OF HONOLULU 1990, AS AMENDED, RELATING TO THE OFFICE OF CLIMATE CHANGE, SUSTAINABILITY AND RESILIENCY.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION 1. Purpose and Findings. The purpose of this ordinance is to describe the duties and responsibilities of the Office of Climate Change, Sustainability and Resiliency.

The City and County of Honolulu ("City") Office of Climate Change, Sustainability and Resiliency ("Resilience Office") was established by a Charter amendment approved by the voters in the 2016 general election (now codified as Section 6-107 of the Revised Charter of Honolulu 1973 (2017 Edition)) and is charged with, among other things: (1) tracking climate change science and potential impacts of climate change on City facilities; (2) coordinating actions and policies of departments within the City to protect economic activity from climate impacts and develop resilient infrastructure in response to the effects from climate changes; (3) developing or coordinating City policies and programs to improve the environmental performance of City operations and advance environmental priorities; and (4) promoting the resiliency of Oahu's communities and coastal areas.

Since its establishment in 2016, the Resilience Office has actively engaged the Oahu community and developed an overarching policy document entitled *Ola: Oahu Resilience Strategy*. To develop and implement policies that advance climate change and sustainability goals, as well as the 44 specific resilience-building actions defined by the Resilience Strategy, which was adopted by the Honolulu City Council in Resolution 19-233 as a guiding policy document for the City, the Resilience Office works to ensure equitable engagement with community members, stakeholders from the business and non-governmental sector, and other relevant agencies to create practical policies that take multiple considerations, impacts, and costs into account.

In addition to the implementation of the Resilience Strategy, the Resilience Office continues to track, make progress on, and meet the City's established climate change and sustainability goals and commitments, such as establishing a carbon neutral economy and implementing the 2018 Global Climate Action Summit policies, which were outlined in Resolution 18-221, CD1, FD1.

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- (2) One water procedures will guide city departments and agencies to:
  - (A) Establish a one water panel of affected city departments and agencies to consult on city projects and programs, private development infrastructure master plans, and updating building codes and design standards;
  - (B) Develop an interagency memorandum of understanding detailing collaboration procedures for research and monitoring, policies and procedures, plans and programs, regulations and design standards, capital improvements, and shared and supplemental funding opportunities;
  - (C) Incorporate one water climate resilience in the city's development and sustainable communities plans, watershed management plans, infrastructure plans, and developer coordination for climate change adaptation;
  - (D) Develop a checklist of strategic and tactical actions for one water climate resilience and collaboration including but not limited to research and monitoring, policies and regulations, coordinating resources, planning and engineering, public outreach, and design and construction for climate change and sea level rise adaptation, with both a 2050 and 2100 time outlook;
  - (E) Prioritize and sequence one water climate resilience initiatives to address critical infrastructure serving economic and transportation centers, and other critical facilities;
  - (F) Identify one water projects to promote innovative and scalable concepts; and
  - (G) Develop an alternative coordinating mechanism for private developments interested in participating in such a mechanism to more simply navigate the permitting systems among the various city agencies and align investments with city plans, regulations, and infrastructure capacity for climate resilience.
- (3) The city's policy is to employ a one water collaboration framework for climate change and sea level rise adaptation in the planning, design,

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Panel established

MOU signed

One Water Integration in plans

20-47

ORDINANCE

BILL 65 (2020), CD2

Strategic actions for one water climate resilience, addressing critical infrastructure and identifying projects will be covered under this planning effort

## **One Water Plan Scope**

This scope will include the development of an **interagency** planning framework and **priority projects** list and financing strategy.

- 1. Identify priority projects and/or geographically in specific planning areas
- 2. Develop scopes and conceptual project designs in targeted geographic regions
- 3. Develop cost estimates for identified projects
- 4. Funding / financing plan for identified projects



## **One Water Panel & Stormwater**

- Drainage continues to be a centerpiece of how we adapt to climate change
- DFM is a key member of the One Water Panel
  - Stormwater progress last year with the Stormwater Strategic Plan
  - O'ahu Green Infrastructure Implementation Plan is up and coming



## One Water Panel / City Climate Adaptation Projects, e.g.,

- Mapunapuna-Kalihi Kai Area Drainage Assessment andActions Alternatives (fed grant)
- Adapt Waikīkī 2050
- Heat Mortality Assessment and Mitigation
- Koʻolaupoko Resilience Review (fed grant)
- City Street and Park Tree Inventory; Strategic Tree Plan (fed grant)
- Climate Fiscal Risk and Funding Strategy

#### From T. Sprague, Brown & Caldwell

#### **Trajectory of Climate Adaptation Planning**

#### Mitigation Planning

 Climate action planning (mitigation focused)

## We're here-ish

#### Risk & Vulnerability Assessments

- Single-hazard-specific assessments
- Mention climate-driven events (qualitative)
- Preventative multi-hazard assessment (nonclimate)
- Scenario development

#### Adaptation Planning

- Robust scenario development
- Build adaptive capacity understanding
- Engage in adaptation planning (concepts & initial design)

#### Adaptation Implementation

- Utilization of climateresilient CIP
- Final design, project construction/activation

#### **Trajectory of Climate Adaptation Planning**

We'll get here

#### Mitigation Planning

 Climate action planning (mitigation focused)

#### Risk & Vulnerability Assessments

- Single-hazard-specific assessments
- Mention climate-driven events (qualitative)
- Preventative multi-hazard assessment (nonclimate)
- Scenario development

#### Adaptation Planning

- Robust scenario development
- Build adaptive capacity understanding
- Engage in adaptation planning (concepts & initial design)

#### Adaptation Implementation

- Utilization of climateresilient CIP
- Final design, project construction/activation

\*Note: Community engagement & partnerships

# ONE U WATER HONOLULU

# Mahalo
## Additional Stakeholder Opportunity





## Joint Storm Water & Wastewater Stakeholder Advisory Group

### Wastewater Rates

• Will need advisory group input

### **Joint Meetings**

- Storm Water and Wastewater discussions
  - Possible future One Water topics
- Frequency: Quarterly  $\rightarrow$  Bimonthly
- All meetings on Tuesdays 4-6:30
- Wastewater kick-off meeting in-person

### Let Randall know if you are NOT interested



### Additional News and Updates







**Department of Facility Maintenance** 

### **STORM WATER QUALITY DIVISION**

'Oihana Ana Holo Kele Wai



The Storm Water Quality Division works with other departments, residents and businesses to manage O'ahu's storm water for the health of our waters and island communities as part of the City's Storm Water Program.

#### **Quick Links**

Here are links to commonly searched information.



### New StormWater Honolulu.org Website

### You Are The Solution Program

#### **Target Audience:**

O'ahu residential area inhabitants

#### **Impact Goal:**

Measurable non-point source pollution prevention

#### **Phase 1 Behaviors:**

- Litter removal
- Installing rain catchment

#### **Social Diffusion Strategy:** Publicly visible pledging



## You Are The Solution Program Update

#### **Phase 2 Behaviors**

Preventing nutrient and sediment runoff

- Assess soils & amend accordingly
- Properly dispose of yard waste
- Sustainable landscape design

#### **Program Further Informed by**

- Surveys
- Focus Groups

#### **Communication & Convenience Strategy**

- Guidebook & convenient reference cards
- Soil testing materials
- Hands-on interaction with materials & direct instruction

# Healthy Yard Care TO PROTECT THE QUALITY OF HAWAIIAN WATERS









### **Demonstration Fairs**

- Series of hands-on informational tables highlighting soil testing.
- **GOAL**: Provide residents with guidance for appropriate fertilizer selection / usage.



## Library Displays

- Coordinate a two-week display schedule.
- Placement of vertical banner / stand with free guidebooks located at State libraries across O'ahu.







#### We are the solution!

- 6 Steps to Healthy, Easy-Care Yards:
- Promptly remove & properly dispose of all yard waste.
- Cover all bare soil with plants, preventing erosion.
  Store fertilizers in sealed containers.
- Store fertilizers in sealed containers.
  Test soils for putrient levels to determine if fertilizers
- Test soils for nutrient levels to determine if fertilizers are needed.
   Use only the types and amounts of fertilizers needed.
- Use only the types and amounts of rentilizers needed.
  Redirect downspout discharge to areas where excess rain con sock in.





For more information visit: bit.ly/YardCareOahu





### Next Meeting

Proposed Next Meeting – Tuesday, June 25, 2024



Possible Future Site Visit/Field Trip





