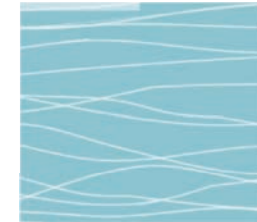
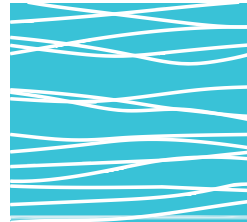
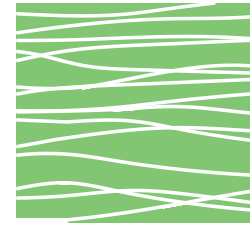


Coping with Change - Integrated Water Resources Planning in Portland Maine



MEWEA FALL Conference
September 16, 2021

AGENDA



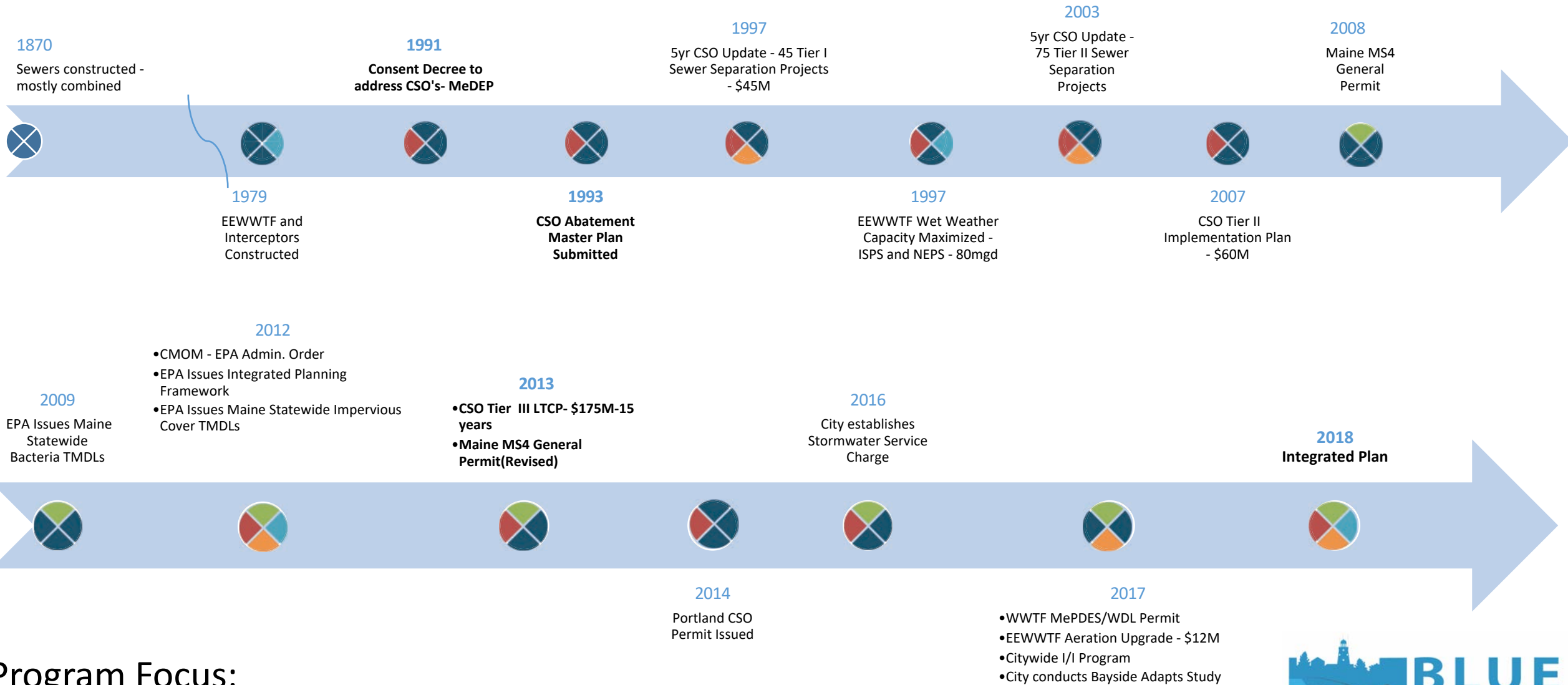
1. Portland Background
2. Portland's Integrated Plan
3. Where we are Today



Background



Background and Regulatory Context



Program Focus:



WWTF



CSO



CMOM



MS4



Integrated Plan: People

STAKEHOLDER STEERING COMMITTEE

SOCIAL



PORTLAND HEALTH
AND HUMAN SERVICES
DEPARTMENT

PORTLAND DEPARTMENT
OF PLANNING AND URBAN
DEVELOPMENT

PORTLAND PARKS,
RECREATION AND
FACILITIES



PORTLAND TRAILS



SAILMAINE

ECONOMIC



MAINE REAL ESTATE
AND DEVELOPMENT
ASSOCIATION



PORTLAND CITY
MANAGER'S OFFICE

PORTLAND ECONOMIC
DEVELOPMENT DEPARTMENT/
WATERFRONT ECONOMIC
DEVELOPMENT



PORTLAND REGIONAL
CHAMBER OF COMMERCE



NEW ENGLAND
ENVIRONMENTAL FINANCE
CENTER



PORTLAND OFFICE OF
ECONOMIC OPPORTUNITY



THE WATERFRONT
ALLIANCE

ENVIRONMENTAL



CASCO BAY ESTUARY
PARTNERSHIP



FRIENDS OF CASCO BAY/
CASCO BAYKEEPER



PORTLAND LAND BANK
COMMISSION

PORTLAND DEPARTMENT
OF PUBLIC WORKS/WATER
RESOURCES DIVISION



CONSERVATION LAW
FOUNDATION



MAINE DEPARTMENT
OF ENVIRONMENTAL
PROTECTION



PORTLAND WATER
DISTRICT



CUMBERLAND COUNTY
SOIL AND WATER
CONSERVATION DISTRICT

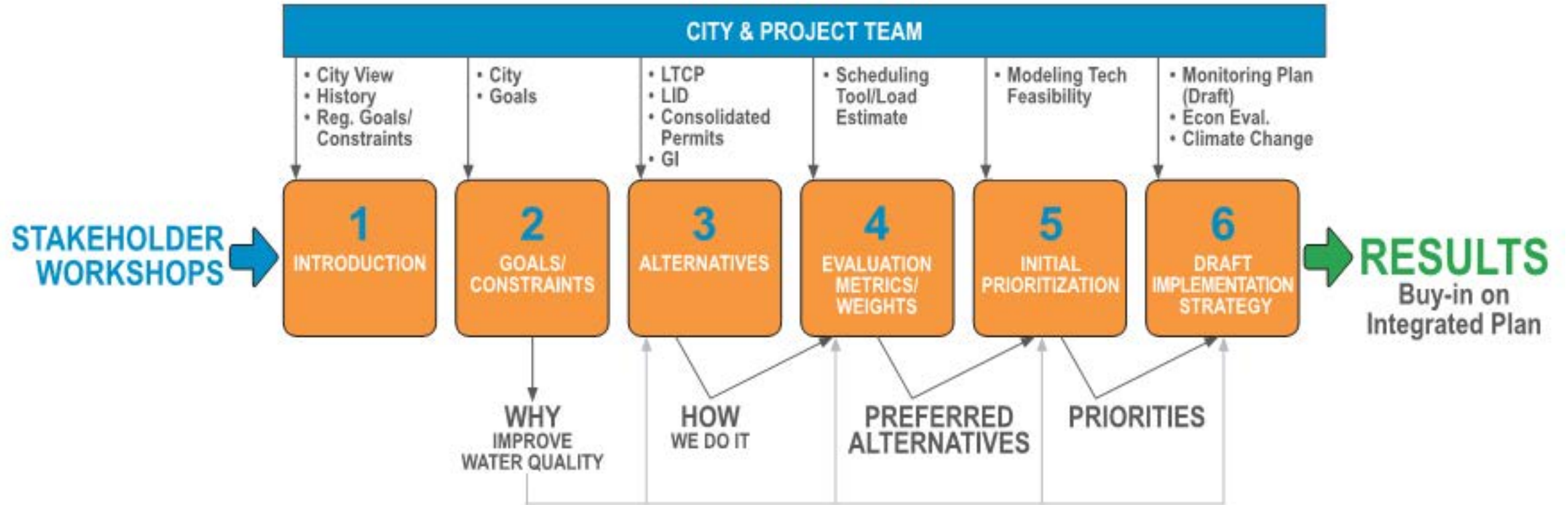


MAINE DEPARTMENT OF
MARINE RESOURCES



UNITED STATES
ENVIRONMENTAL
PROTECTION AGENCY

PROCESS: *STAKEHOLDER WORKSHOPS*



Stakeholder Engagement



Advisory Group

- Josh Schimmel
Executive Director, Springfield Water and Sewer Commission
- Tom Balestero
University of New Hampshire
- Roger Janzen
EPA (Retired)
- Megan Moir
Director of Water Resources, Burlington Vermont





Integrated Plan: Process

EPA 2012 MEMO

- **Element 1:** A **description of the water quality**, human health and regulatory issues to be addressed in the plan, including:
- **Element 2:** A description of **existing wastewater and stormwater** systems under consideration and summary information describing the systems' current performance,
- **Element 3:** A **process** which opens and maintains channels of **communication** with relevant **community stakeholders** in order to give full consideration of the views of others in the planning process and during implementation of the plan.

- **Element 4:** A process for **identifying, evaluating, and selecting alternatives** and proposing implementation schedules which addresses:
- **Element 5: Measuring success** - As the projects identified in the plan are being implemented, a process for evaluating the performance of projects identified in a plan, which may include evaluation of monitoring data, information developed by pilot studies and other studies and other relevant information, including:
- **Element 6: Improvements to the Plan**

Performance Metrics: 10 Year Vision

- Set Measurable Goals and Milestones
 - Themes for the Performance Metrics
- Alignment with the 10 Objectives
- Work Performed and Results Achieved



Project Milestones: Completed or show progress toward prioritized projects.

Geographic Reach: Program benefits reach majority of citizens and all watersheds.

Water Quality: Receiving water quality trends show improvements.

CSO Reductions: Downward trend in rain-normalized CSO volume and activations through Integrated Plan Implementation.

Maintenance / System Performance: Reduction in CSOs and SSOs, reduction in material removed per L.F of sewer & drain structure.

Community Livability: Projects have improved quality of life in many neighborhoods. Equal access to green space and fewer water-related public health concerns.

Economic Health: Balanced approach to spending to keep sewer and stormwater rates within the affordable range. Demonstrate business case for strategies, actions, and capital projects.

Ranking Results - “Heat Map”

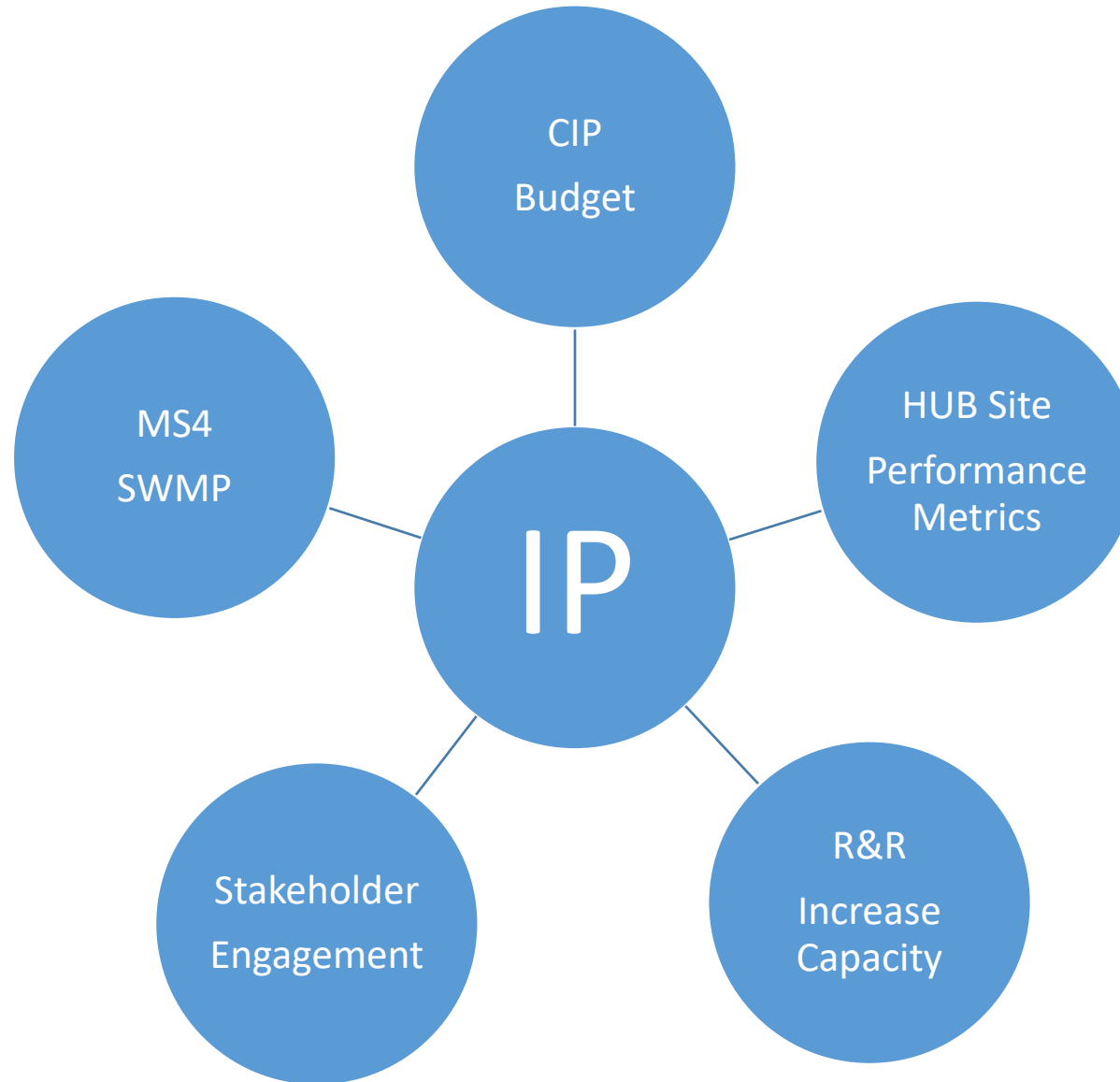
Alternative Number	Alternative Name	Average Weights	Equal Weights by Metric	Ranks by Stakeholder Weights												
				A	B	C	D	E	F	G	H	I	J	K	L	
F04	Green Infrastructure Program (F04)	1	1	1	1	1	7	1	3	1	1	1	2	1	1	
B09*	3.5 MG Storage - Back Cove South (B09)	2	2	2	2	4	3	4	2	2	6	2	3	2	2	
A20	Sewer Separation Strategy (A20)	3	3	5	12	14	8	8	4	4	3	11	1	3	5	
C02	Street and Sidewalk Sweeping (C02)	4	7	3	11	2	2	2	9	3	8	10	7	6	6	
A03*	Inflow and Infiltration Program (A03)	5	6	6	19	16	11	3	10	7	4	20	4	7	3	7
B10*	2.25 MG Storage - Back Cove West (B10)	6	10	7	6	6	12	10	6	8	7	4	9	13	11	10
F01	Public Education and Involvement Program (F01)	7	4	9	3	12	25	21	15	5	17	3	22	5	4	3
A06	CSO Outfall Treatment Facilities (A06)	8	9	29	27	13	6	12	1	15	14	26	5	29	13	20
C06	Pet Waste Management (C06)	9	5	27	4	9	22	24	11	10	19	5	33	15	7	6
D11	Wetland Protection Ordinance (D11)	10	8	4	10	29	19	5	30	6	29	19	15	17	8	8
D05	More Stringent Stormwater Management Requirements for Redevelopment Projects (D05)	11	13	8	9	22	20	22	20	9	15	7	13	16	18	11
B16	Commercial Street CSO Storage Conduit (B16)	12	31	17	25	3	10	13	5	26	13	17	12	27	23	19
B14	Fore River CSO Storage Tank (B14)	13	24	22	22	5	14	16	7	24	16	12	17	25	22	16
A13	Prevent Erosion Around Back Cove (A13)	14	11	18	5	19	16	17	26	11	35	6	26	11	12	9
E18	Open Space Study (E18)	15	12	16	7	21	25	15	27	12	42	8	27	19	20	12
C05	Winter Roadway Maintenance (C05)	16	18	11	26	15	5	6	21	16	30	28	16	20	9	18
A19*	Illicit Discharge Detection and Elimination - Targeted Program (A19)	17	20	13	31	27	34	26	12	21	2	27	6	9	15	25
C14	Enhanced Pipeline Cleaning and Inspection Program (C14)	18	17	15	28	18	15	9	19	19	9	31	20	14	17	22
C04	Catch Basin Cleaning (C04)	19	28	12	32	11	1	7	23	17	23	32	8	18	25	28
D06	Develop City-Wide Fertilizer Policy (D06)	20	16	31	8	10	30	34	29	22	44	13	43	24	10	14
C11	Yard Waste Collection (C11)	21	23	14	14	31	23	33	32	14	24	9	10	8	31	15
E17	Stream Restoration Study (E17)	22	21	24	16	23	25	11	34	25	40	16	32	28	19	23
D09	Update and Optimize Stormwater Utility for More Water Quality Treatment (D09)	23	22	10	21	30	21	23	28	13	20	29	11	12	28	26
C03	Fertilizer Management on City Properties(C03)	24	19	21	18	24	18	28	24	18	26	30	21	10	21	21
C07	Waterfowl Waste Management (C07)	25	15	25	13	32	43	29	33	20	33	15	39	33	35	17
C13	Fats, Oils, and Grease Program (C13)	26	14	38	15	20	31	37	31	27	10	21	35	4	14	13
A04	Sewer System Renewal/Improvements (A04)	27	25	43	41	17	4	14	16	33	12	42	14	21	24	36
B17	Regulator Modifications and Tide Flex Valve Installations (B17)	28	29	26	39	25	23	18	18	30	21	33	34	45	26	29
D12	Enforce Proper Discharge of Wastewater from Boats (D12)	29	30	44	24	8	17	41	17	34	32	18	37	31	16	24
B18	Deep Tunnel Conveyance and Storage (B18)	30	40	46	42	7	9	27	8	39	37	25	36	39	45	40
B25	Franklin Street Storm Drain (B25)	31	33	30	38	37	33	19	13	37	18	36	25	44	29	33
E16	Watershed Management Plans (E16)	32	27	19	17	39	44	36	47	23	38	14	29	26	33	27
D14	Enhance Stream Corridor and Shoreland Protection Zoning Requirements (D14)	33	32	28	23	28	32	31	40	29	27	22	28	23	30	30
E20	Estuary Restoration Study (E20)	34	35	34	29	26	25	20	34	35	43	24	29	32	32	31
A15	Stormwater Infrastructure Improvements (A15)	35	26	39	35	40	50	46	25	38	11	38	31	34	27	34
E14	Evaluate Regional Roles for Water Quality Improvements (E14)	36	34	36	20	34	45	49	37	32	50	23	47	36	38	32
B37	Repair Storm Drains and Remove Cross Connections on Peaks Island (B37)	37	36	37	33	35	41	44	22	36	36	34	45	47	36	35
D07	Improve City Inter-Departmental Collaboration to Optimize Stormwater Treatment (D07)	38	38	23	34	41	37	30	41	31	25	37	23	22	34	37
D13	Optimize Operations of Water Resource Management (D13)	39	39	20	36	43	37	38	38	28	34	35	24	30	42	38
B32	Wet Weather Treatment (B32)	40	41	59	54	42	13	51	14	47	31	54	19	37	47	53
C12*	East End Wastewater Treatment Facility (EEWWTF) Rehabilitation and Replacement (R&R) (C12)	41	44	32	48	47	49	42	43	41	5	43	18	35	40	42
D01	Enhance Water Quality Projects Through Public - Private Partnerships (D01)	42	37	42	30	48	52	47	49	40	48	39	52	38	39	39
A12	Detention Basin Retrofits (A12)	43	42	40	45	44	36	32	46	44	22	45	38	40	41	43
E19	Technical Support for On-Going Coordination Efforts between the City and PWD (E19)	44	43	41	40	46	45	49	39	42	47	41	44	41	43	41
A05	Pump Stations Rehabilitation (A05)	45	45	45	47	36	42	25	45	51	39	52	46	43	37	45
E15	Develop Hydrodynamic Model for Casco Bay (E15)	46	54	33	56	33	29	35	36	43	52	49	42	51	53	49
E12	Stroudwater River Dam Removal Study (E12)	47	53	35	50	50	37	40	44	48	51	51	40	53	50	51
E01	Improve and Expand Stormwater Management Model (SWMM) (E01)	48	50	47	49	38	37	43	48	49	49	48	54	48	48	47
D08	Optimize Stormwater Compensation Utilization Fund (D08)	49	47	50	43	54	51	54	50	46	45	50	41	42	46	44
E13	Critical Asset Inventory (E13)	50	46	48	46	53	52	47	55	50	46	46	53	46	44	46
B02	Manhole Rehabilitation Along Presumpscot North Interceptor (B02)	51	49	53	44	49	56	45	42	54	41	56	51	52	51	52
B48*	Improve Odor Control at East End Wastewater Treatment Facility (EEWWTF) (B48)	52	48	49	37	56	48	52	53	45	56	47	58	56	54	48
A02	Improve Access to Interceptors (A02)	53	52	55	52	45	35	39	52	52	59	53	59	55	49	50
C01	Smart Covers, Rain Gauges, and Groundwater Gauges Deployment Program (C01)	54	51	54	55	57	55	56	54	53	28	55	49	49	55	54
B03*	Baxter Blvd. Pump Station Construction (B03)	55	55	51	53	52	45	53	51	55	53	57	48	50	52	55
B39	Install Anaerobic Digesters at the East End Wastewater Treatment Facility (EEWWTF) (B39)	56	58	58	51	51	61	57	57	58	61	40	60	57	57	56
B04*	Complete Stroudwater Pump Station Upgrades (B04)	57	59	52	58	58	54	55	56	57	54	60	50	59	56	57
E09	Study Hydrobrakes (E09)	58	56	56	59	60	58	58	59	56	57	58	57	60	59	58
E10	Develop Hydraulic Model for Fall Brook (E10)	59	57	56	57	61	58	58	58	59	58	59	56	58	58	59
D10	Develop and Charge Stormwater Impact Fee for Waterbody Abutters (D10)	60	60	60	60	55	58	61	60	60	55	44	55	54	60	60
B33	Canco Road Storm Drain (B33)	61	61	61	61	59	56	60	61	61	60	61	61	61	61	61





Integrated Plan: Performance

Integrated Plan in Action



Challenges

- COVID 19 Global Pandemic
- The Integrated Planning CWA Amendment
- Climate Change
- Regulatory Change
- Public Pressure/Advocacy Opposition - EJ
- CSO Over-Commitment
- Aging Infrastructure
- Financing & Financial Capability
- Changing Workforce/Loss of Institutional Knowledge
- Staff Changes at Regulatory Agencies