A Call to Record Stormwater Control Functions and to Share Network Data

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Table S1. Terms appearing in cities' SCM inventories categorized into our coarse and fine classification systems, which were adapted from WEF and ASCE's manual of practice (WEF and ASCE-EWRI 2012). *Coarse SCMs*: SCMs from the coarse classification. *Fine* SCMs: SCMs from the fine classification. *Reported Terms*: Terms appearing in Cities' SCM inventories.

Coarse SCMs	Fine SCMs	Reported Terms
Basins	Wet Basin	"Detention Pond-Wet", "Water Quality Pond", "Pocket Pond", "Extended Detention Structure-Wet", "Wet Detention Basin", "Wet Pond", "Ponds", "Extended Detention Wet Pond", "Retention Pond (Wet Pond)"
	Wetland	"Constructed Wetland", "Constructed Wetland Pond", "Wetland", "Stormwater Wetland", "Constructed Wetland Basin", "Wetland Pond"
	Dry Basin	"Detention", "Detention Basin", "Underground", "Detention Pond", "Detention Pond-Dry", "Underground Detention", "Detention Structure (Dry Pond)", "Extended Detention Structure-Dry", "Micropool Extended Detention Pond", "Extended Dry Detention Basin", "Flood Control Basin", "Blue Roof", "Detention System", "Dry Pond", "Subsurface Detention Basin", "Surface Detention Basin", "Flood Detention", "Parking Lot Detention", "Extended Detention Basin", "Detention Cells", "Detention Structure", "Extended Detention Dry Pond", "Landscape Detention Structure", "Regional Extended Detention Basin", "ED", "Underground Storm Detention", "Underground Detention Structure", "Underground Deten Pipes-HDPE", "swsDetention Pond", "Detention Tank"
	Vaults Swirl Concentrator	"Storm Vault", "Underground Chambers", "Detention Vault", "Aqua-Swirl", "Aqua-Shield-Swirl", "Swirl Separator", "Sedimentation Box", "Sedimentation Manhole", "Hydrodynamic Separation Systems", "HYDSEP", "BMP Vault", "Separator Unit", "Separator-Bay Saver", "CDS", "Hydrodynamic-CDS Structure", "CDS Units", "Downstream Defender", "Silt Basin", "Sedimentation Chamber", "Water Quality Dynamic Separator", "Hydrodynamic Separator", "Vortsentry HS", "W Quality Dynamic Separator-Vortex", "Interceptor", "Baffle Box", "Water Quality Vault", "Underground Vault", "Water Quality Manhole", "AquaShield_hydrodynamic"
	Oil Water Separator	"O-W Separator", "Oil Separating Incerts", "Oil-Grit Separator", "Stormceptor Multiple", "Vortechs", "Stormceptor", "AquaShield_OWSeparation"
	Forebay	"Plunge Pool", "Sedimentation Only", "Forebay", "Sediment", "Sedimentation"
	Cistern	"Rainwater Harvesting", "Rain Harvesting", "Rain Barrel", "Cistern", "Cisterns for Recycling", "Roof Top Detention", "SW-Reuse", "Cistern-Rain Barrel", "Rain Tank", "Rainstore", "Rainstore Water Harvest", "RainStore System", "RainTank System", "Rainwater Harvesting-Cistern", "Rooftop Storage"
	Basin Unknown	"Basin", "Storage", "Subsurface Storage System"
Swales & Strips	Swale	"Curbcut Bioswale", "Swale", "Grass Swale", "Bio-Swale", "Bioswale", "Dry Swale", "Grass Channel", "Vegetated Ditch", "Biofiltration Swale", "Conveyance Swale", "Dry Grass Swale", "Open Channel BMPs", "Vegetated Swale", "Water Quality Swale", "Wet Swale", "ROW-Bioswale"

	Strip	"Vegetated Filter Strip", "Swales-Vegetated Filter Strips", "Vegetative Grass-Turf Cover", "Vegetated Biofilter-Swale-Strip", "Vegetative Filter Strip", "Filter Strip", "Buffer Strips", "ROW-Greenstrips", "Vegetative Buffer Strip"
Filters	Sand Filter	"Sand Filter Extended Detention Basin", "Perimeter (Sand) Filter", "Sand Filter", "Aboveground Sandfilter", "Delover Sandfilter", "Surface Sandfilter", "Open Sand Filter", "Sandfilter", "Manhole Sandfilter", "Single Chamber Sandfilter", "Sand Box", "Surface Sand Filter", "Sand Filtration", "SandSeparator", "Bisected CMP Sandfilter", "Underground Sandfilter"
	Bioretention	"Non-infiltrating Bioretention", "Bioretention Basin", "Bio-Retention", "Bioretention", "Micro-Bioretention", "Biofiltration", "Biofiltration-Bioretention", "Bioretention-Lined", "Bioretention-Unlined", "Vegetated Filter", "Porous Landscape Detention", "Bio-Infiltration Trench", "Planter", "Downspout Planter", "Contained Planter Box", "Flow Through Planter Box", "Stormwater Planter", "Engineered Soil Tree Pit", "Filtera-Tree Box", "Tree Trench", "Tree Pit", "Stormwater Tree Pit", "Tree Filter", "Engineered Treepits", "Rain Garden", "Rain Gardens", "ROW Rain Garden", "Bayscaping", "Rain Garden-Bioretention", "Residential Rain Gardens"
	Landscaped Roof	"Green Roof", "Combined Blue-Green Roof", "Rooftop Farm", "Green Roof & tree Box", "Vegetated Roof", "Ecoroof", "Intensive Green Roof", "Extensive Green Roof"
	Drain Inlet Insert	"Hydro-Kleen Filter System", "Water Quality Inlet Insert", "Drainage Insert", "Fossil Filter", "Catch Basin-StormFilter", "Inlet with Insert", "Storm-Pure Filtration System"
	Manufactured Filter	"StormFilter System", "StormFilter", "BayFilter", "JellyFish", "Downspout Filter", "Downspout Filtration", "Storm Filter-Canister", "AquaShield_Filter"
	Filter Unknown	"Filtration Only", "Filtering System", "Filtration", "Media Filter", "Underground Filter"
	Gravel Wetland	Submerged Gravel Wetlands
Infiltrators	Infiltration Basin	"Bumpout", "Retention Basin", "Infiltration Basin", "Retention Pond", "Infiltration Berms", "Subsurface Detention System", "ROW Subsurface Pipe-Broken Stone", "Synthetic Turf Field Storage Layer", "Sythetic Field", "Surface Infiltration Basin", "Gravel Storage", "Subsurface Infiltration Basin", "Infiltration-Basin", "Infiltration Planter Box", "ROW Infiltration Basin", "ROW Stormwater Seepage Basin", "Stormtech Infiltration Basin", "Infiltrating Bioretention", "Storm Bio Infiltration", "Bioinfiltration", "U-G Detention", "U-G Retention"
	Infiltration Vault	"Leaching Tank", "Storm Chamber System"
	Trench	"French Drain", "Infiltration Trench", "Infiltration Storage Trench", "Ex-Filtration Trench", "Infiltration-Storage Trench", "Trickle", "Soakage Trench", "Storm Infiltration Trench", "Trench"
	Dry Well	"Dry Well", "Infiltration-Dry Well", "Drywell", "Perforated Pipe Infiltration", "Underground Infiltration", "Underground Injection Cell", "Drywell-Aggregate Filled"
	Permeable Pavement	"Permeable Pavement", "Porous Pavement Detention", "Pervious Pavement", "Permeable Pavers", "Porous Asphalt", "Porous Concrete", "Pavers", "ROW Porous Concrete", "Porous Pavement", "Permeable Pavement System", "Permeable Pavements", "Grass Pavers", "Permeable Friction Course", "Permeable Paver Friction Course", "Permeable Pavement-Standard", "Permeable Paver", "Permeable Surface", "Pervious Asphalt", "Pervious Concrete", "Porous Pavers", "ROW Permeable Pavers", "Brickpavers"

	Infiltration Unknown	"Infiltration", "Infiltration BMPs", "Infiltration Basin or Trench"
Gross Pollutant Traps	Screens Nets Baskets Racks	"Trench Drain", "Catch Basin Drain", "Curb Inlet w-Grate", "Grated Inlet", "Bar Screen-Outlet Screen", "MH Inlet: Grated Cover", "Netting", "Trash Rack", "Drain Box"
	Hood	"Mechanical Separation", "Snout", "Modified Manhole with Snout"
	Gross Pollutant Trap Other	"Debris Basin"
	Gross Pollutant Trap Unknown	"Water Quality Inlet", "Single Water Quality Inlet", "Double Water Quality Inlet", "Triple Water Quality Inlet", "Curb Inlet", "Drop Inlet", "Catch Basin", "Inlet"
Disconnection	Disconnection	"Impervious Surface Removal", "Disconnection of Non-Rooftop Runoff", "Disconnection of Rooftop Runoff", "Impervious Surface Elimination", "Depaving", "Grass", "Simple Disconnection to a Conservation Area", "Simple Disconnection to a Pervious Area", "Simple Disconnection to Amended Soils"
Other	Other	"Other", "Sheetflow to Conservation Areas", "Misc Structures", "Envirochamber", "Modified Catchment Manhole", "Green Wall", "Naturalized Meadow", "Riparian Buffer-Stream Restoration", "Lakes and Ponds", "Lawn Reseeding", "Soil Quality", "Storage Practices", "Naturalized Landscape", "Daylight Ditch", "LID-Other Surface Flow Inlet Point", "Water Quality Pretreament Facility", "Tree Planning And Preservation", "Green Alley", "Greenstreets", "Planting Area", "Pond", "Regenerative Stormwater Conveyance Technique", "Regenerative Stormwater Conveyance", "Rip Rap", "Shade Tree", , "Storm Energy Dissipator", "Stormwater Regenerative Conveyance", "Stream Restoration", "Tree Planting", "Tree Preservation", "Irrigation", "Irrigation System", "Riparian Buffer", "ROW Structural Soil", "Vegetated Landscape"
Stormwater Conveyance	Stormwater Conveyance	"Culvert", "Level Spreader", "Scour Hole", "Cleanout", "Culvert Inflow", "Culvert Outflow", "Junction Box", "Maintenance Hole", "Area Drain", "Flow Control MH", "Riser", "Riserpipe", "Separator-Low Flow Diversion", "Storm Water Inlet Drain", "LID-Other Surface Flow Outlet Point", "Step Pool", "Junction Box with Sump", "Caltrans Drain", "Track Drain"
Unknown	Unknown	"Unknown", "Unregulated", "WQ Treatment Device", "Proprietary Practice", "Proprietary", "Proprietary Devices", "Storm Structures", "ROWEB-Unknown", "BaySaver", "BaySaver WQ Structure", "Stormwater Treatment System", "Vortechnics", "Filtration System", "Retention-HDPE", "Water Quality Structure", "Retention", "Retention Structure"
Not an SCM	None	"None", "Proposed", "CDA to a Shared BMP", "Rexus D-400 Square, Hinged CB Cover", "Wave House", "Hunters Point Shipyard Artists Parcel; Commercial Kitchen", "Potrero Ave Condos", "Psuedo Drain for Model ONLY"
Multiple	Multiple	"Multiple GI Components", "Filtration-Detention", "Infiltration-Detention", "Retention-Infiltration", "Retention-Irrigation", "Sediment-Detention", "Sediment-Filtration-Infiltration", "Sediment-Filtration-Irrigation", "Wet Pond-Irrigation", "Detention Tank-Irrigation System", "Sediment-Biofiltration-Infiltration", "Sedimentation-Sand Filtration", "Bioretention-Bioswale", "Bioretention-Infiltration", "Dual System", "Sand Filter-Infiltration", "Sediment-Infiltration", "Permeable Paver-Infiltration", "Aqua-Shield-Filter", "Aqua-Filter"

Table S2: k-means clusters based on unit processes provided. SCMs are ordered by groupings based on all listed unit processes (i.e., 'All, k = 6'). Groups of the same shading in the first column clustered together despite the unit processes considered. Groups of the same number-letter (e.g., 1Q) grouped together when considering the relevant unit processes (e.g., quantity for 1Q, 2Q, etc.). SCMs in cells without shading were not consistently grouped with each other or other SCMs. The five groups of unit processes are listed across the top of the table. Original MOP-coarse groups are presented as: (I) = Infiltrators, (S) = Swales and Strips, (B) = Basins, and (F) = Filters.

		Cluster Groups					Quantity.control						Pollutant.control								Biological				Other			
MOP23-Fine (Original MOP23-coarse class)	# Processes Provided	All, k = 6	Quantity, k = 4	Pollutant, k = 4	Biological, k = 4	Other, k = 3	Peak flow attenuation	Runoff volume reduction	Infiltration	Dispersion	ET	Runoff collection usage	Sedimentation	Flotation	Laminar separation	Swirl concentration	Sorption	Precipitation	Coagulation	Filtration	Plant metabolism	Nitrification denitrification	Sulfate reduction	Organic compound degradation	Pathogen dieoff	Temperature reduction	Disinfection	Screening
Infiltration Basins (I)	13	1A	1Q	1P	1B	1O	x	x	x				x	x			x	x	x			x		x	x	x	x	
Infiltration Vaults (I)	13	1A	1Q	1P	1B	1O	x	x	x				x				x	x	x			x		x	x	x	x	x
Trenches (I)	12	1A	1Q	1P	1B	1O	x	x	x				x				x	x	x			x		x	x	x	x	
Dry Wells (I)	12	1A	1Q	1P	1B	1O	x	x	x				x				x	x	x			x		x	x	x	x	
Permeable pavement (I)	10	1A	1Q	1P	1B	1O	x	x	x								x	x	x					x	x	x	x	
Swales (S)	4	2A	2Q	2P	2B	2O		x	x												x							x	
Strips (S)	5	2A	2Q	2P	2B	2O		x	x				x								x							x	
Landscaped roofs (F)	6	2A	2Q	2P	2B	2O	x			x	x						x				x							x	
Wet basins (B)	14	3A	3Q	3P	3B	1O	x	x			x	x	x	x			x				x	x	x	x	x		x	x
Wetlands (B)	13	3A	3Q	3P	3B	1O	x	x			x	x	x	x			x				x	x	x	x	x		x	
Sand filters (F)	6	4A	4Q	4P	1B	3O	x						x	x						x		x					x	
Vaults and swirl concentrators (B)	4	4A	4Q	3P	4B	3O	x						x	x		x												
Oil Water Separators (B)	3	4A	4Q	3P	4B	3O							x	x	x													
Forebays (B)	2	4A	4Q	3P	4B	3O							x	x														
Dry basins (B)	4	5A	1Q	2P	4B	3O	x	x	x				x															
Cisterns (B)	2	5A	4Q	2P	4B	3O		x					x															
Drain inlet inserts (F)	2	5A	4Q	4P	4B	3O							x							x								
Manufactured filters (F)	2	5A	4Q	4P	4B	3O							x							x								
Bioretention (F)	16	6A	3Q	1P	3B	2O	x	x	x		x	x	x	x			x	x	x	x	x	x		x		x	x	

Reference

WEF and ASCE-EWRI. (2012). *Design of urban stormwater controls*. WEF Press, Alexandria, Virginia; Reston Virginia.