

**COATINGS MANUAL
HAMPTON ROADS SANITATION DISTRICT**

6.0 EQUIPMENT AND PIPING COLOR IDENTIFICATION CODE

The objective of this Equipment and Piping Color Identification Code is to provide easy and rapid identification of the various unit process equipment and piping in a treatment plant. The large amount of equipment and piping in the treatment plant requires that a simple system be used to identify and distinguish the equipment and piping.

- A. The Color Shade Code should be used to provide a uniform shade of color when using various manufacturers and types of coatings (see Color Shade Code). The color should be based on the U.S. Government Federal Register 595 Paint Color Number.
- B. The Color Selection Code should be used to select the color for all equipment and piping in the treatment plant. The selected color for individual equipment and piping would be based on the type of flow involved.
- C. The Equipment and Piping Color Identification Code should be used to identify all equipment in the treatment plant (see Equipment & Piping Color Identification Code). The identification for all equipment should include both the proper coating color and the proper stenciled markings.
 - 1.) Stenciled marking should be placed on multiple units of equipment to indicate the unit number, i.e., No. 1, No. 2, etc.
 - 2.) Stenciled markings should be black or white in color to contrast with the equipment background color as appropriate.
 - 3.) Stenciled markings should be 2 ½ inches in size.
- D. The Equipment and Piping Color Identification Code should be used to identify all piping in the treatment plant. The identification for all piping should include both the proper coating color and the proper stenciled markings.
 - 1.) Stenciled markings should include both the proper unit process flow abbreviations and a directional arrow indicating the proper flow direction as appropriate.
 - 2.) Stenciled markings should be placed wherever pipes pass thru walls, at the influent and effluent of pumps or valves, at intersections, and at regular intervals along pipe runs as appropriate.
 - 3.) Stenciled markings should be black or white in color to contrast with the pipe background color as appropriate.

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4.) Stenciled markings for pipes should be all capital letters sized as follows:

<u>Pipe Size</u>	<u>Letter Size</u>
Up to 1 ½ inch	½ inch
2 to 6 inches	1 ¼ inch
8 inches and up	2 ½ inch

E. Color Shade Code

Color Shade	U.S. Government Federal Register 595 Paint Color Number
Aluminum	17178
Black	17038
Blue	15050
Brown	10091
Gray	16473
Green, Dark	14062
Green, Light	14533
Orange	12246
Red	11105
White	17875
Yellow	13655

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F. EQUIPMENT AND PIPING COLOR IDENTIFICATION CODE

Equipment and Piping Color Identification Code			
Unit Process	Flow	Color	Abbreviation
	Non Potable Water	Lt. Green	NPW
	Non Potable Well Water	Lt. Green	NPWW
	Potable Water	Dk. Green	PW
	Drain	Gray	DRAIN
	Drainage Pump Station Discharge	Gray	DPDSD
	Electrical Conduit	Red	
	Fire Protection	Red	FIRE
	Floor Drain	Gray	FD
	Fuel Oil	Black	FO
	Fuel Oil Supply	Black	FOS
	Fuel Oil Return	Black	FOR
	Hot Water Supply	Lt. Green	HWS
	Hot Water Return	Lt. Green	HWR
	Hot Water Reverse Return	Lt. Green	HW REV RET
	HVAC	Gray	HVAC
	Hydraulic Oil	Black	HDO
	Hot Potable Water	Dk. Green	HPW
	Lube Oil	Black	LO
	Natural Gas	Yellow	NAT GAS
	Polymer Dry Air	Blue	DA
	Process Drain	Gray	DRAIN
	Propane	Yellow	LP
	Roof Drain	Gray	RD
	Seal Water	Lt. Green	SW
	Service Air (Low Pressure)	Blue	LPSA
	Service Air (High Pressure)	Blue	HPSA
	Sanitary Drain	Gray	DRAIN
	Sanitary Sewer Force Main	Gray	SSFM
	Spray Water	Lt. Green	SPRAY
	Steam	Aluminum	STEAM
	Storm Drain	Gray	STORM
	Sump Pump Discharge	Gray	SPD
	Tank Drain	Gray	DRAIN
	Vacuum	Blue	VAC
	Vent	Gray	V
Odor Control	Odorous Air	Gray	OA
	Scrubber Blowdown	Orange	SBD
	Scrubber Chemical Feed	Orange	SCF

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Unit Process	Flow	Color	Abbreviation
	Scrubber Recirculation Cleaning	Orange	SRC
	Scrubber Recirculation Discharge	Orange	SRD
	Scrubber Recirculation Suction	Orange	SRS
	Scrubber Drain	Gray	DRAIN
	Scrubber Exhaust	Gray	SCRUB EXH
	Scrubber Intake	Gray	SCRUB INTK
	Scrubber (vessel)	Gray	---
Preliminary Treatment	Cyclone Influent	Gray	CYCL INF
	Cyclone Recycle	Gray	CYCL RCY
	Grit	Gray	GRIT
	Raw Wastewater Influent	Gray	RWI
	Screened Effluent	Gray	SE
	Septic Tank Unloading	Gray	SEPTIC UNLDG
Primary Treatment	Primary Clarifier Influent	Gray	PCI
	Primary Clarifier Effluent	Gray	PCE
	Primary Clarifier Solids	Brown	PCS
	Primary Scum	Gray	SCUM
Intermediate Treatment	Oxidation Tower Influent	Gray	OTI
	Oxidation Tower Effluent	Gray	OTE
	Intermediate Clarifier Influent	Gray	ICI
	Intermediate Clarifier Effluent	Gray	ICE
	Intermediate Biosolids	Brown	INS
	Intermediate Scum	Gray	SCUM
Biological Treatment	Aerated Supernatant Return		ASR
	Anaerobic Influent	Gray	ANI
	Anaerobic Effluent	Gray	ANE
	Anoxic Influent	Gray	AXI
	Anoxic Effluent	Gray	AXE
	Anoxic Recycle	Gray	ARCY
	Aeration Influent	Gray	ARI
	Aeration Effluent	Gray	ARE
	Mixed Liquor	Brown	MLSS
	Nitrified Recycle	Gray	NRCY
	Secondary Clarifier Influent	Gray	SCI
	Secondary Clarifier Effluent	Gray	SCE
	Secondary Scum	Gray	SCUM
	Return Activated Solids	Brown	RAS
Waste Activated Solids	Brown	WAS	

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Unit Process	Flow	Color	Abbreviation
Disinfection	Contact Tank Effluent	Gray	CTE
	Contact Tank Scum	Gray	SCUM
Effluent Pumping	Final Effluent	Gray	FNE
	Holding Pond Drain	Gray	DRAIN
Scum Disposal	Feed Scum	Gray	FD SCUM
	Concentrated Scum	Gray	CN SCUM
	Scum Concentrator Subnatant	Gray	SCB
	Scum	Gray	SCUM
Solids Thickening	Decant Supernatant Return	Gray	DSR
	Decant Tank Drain	Gray	DRAIN
	Flotation Thickener Feed Solids	Brown	FTFS
	Flotation Thickener Recycle	Gray	FTRCY
	Flotation Thickened Solids	Brown	FTS
	Flotation Thickener Subnatant	Gray	FSB
	Gravity Belt Thickener Feed Solids	Brown	GBFS
	Gravity Belt Thickener Filtrate	Gray	GBFL
	Gravity Belt Thickened Solids	Brown	GBTS
	Gravity Thickener Feed Solids	Brown	GTFS
	Gravity Thickened Solids	Brown	GTS
	Gravity Thickener Overflow/Supernatant	Gray	GSP
	Digestion	Primary Digester Feed Solids	Brown
Primary Digested Solids		Brown	PDS
Digester Recirculation Solids		Brown	DRS
Primary Digester Supernatant		Gray	PDSP
Primary Digester Transfer Solids		Brown	PDXS
Secondary Digested Solids		Brown	SDS
Secondary Digester Supernatant		Gray	SDSP
Digester Gas		Yellow	DGAS
Solids Holding Tank	Holding Tank Feed Solids	Brown	HTFS
Solids Conditioning	Conditioning Tank Feed Solids	Brown	CNFS

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Unit Process	Flow	Color	Abbreviation
Solids Dewatering	Centrifuge Feed Solids	Brown	CFS
	Centrifuge Biosolids Cake	Brown	CCK
	Centrifuge Centrate	Gray	CCT
	Centrifuge Thickened Biosolids	Brown	CTS
	Centrifuge Thickening Centrate	Gray	CTCT
	Foreign Biosolids Loading	Brown	FLS
	Foreign Biosolids Unloading	Brown	FUS
Solids Incineration	Incinerator Feed Cake	Brown	IFC
	Incinerator Ash	Brown	ASH
	Incinerator Scrubber Water Effluent	Gray	ISE
	Scrubber Intake	Gray	SI
	Scrubber Exhaust	Gray	SE
Nitrification Enhancement Facility	Nitrification Enhancement Facility Influent	Gray	NEFINF
	Nitrification Enhancement Facility Aeration Effluent	Brown	NEFARE
	Nitrification Enhancement Facility Secondary Effluent	Brown	NEFSCE
	Nitrification Enhancement Facility Solids	Brown	NEFS
Chemicals	Acid Wash Supply	Orange	AWS
	Acid Wash Return	Orange	AWR
	Alum	Orange	ALUM
	Ammonia	Orange	AMMONIA
	Caustic	Orange	CAUSTIC
	Caustic Solution	Orange	CAUSTIC SOL
	Dry Polymer	Orange	DPOLY
	Ferric/Ferrous	Orange	FERRIC/FERROUS
	Hydrogen Peroxide	Orange	PEROXIDE
	Liquid Polymer	Orange	LPOLY
	Muriatic	Orange	MURIATIC
	Polymer Solution	Orange	POLY SOL
	Sodium Bisulfite	Purple	BISULFITE
	Sodium Bisulfite Solution	Orange	BISULFITE SOL
	Sodium Hypochlorite	Orange	HYPHO
Sodium Hypochlorite Solution	Orange	HYPHO SOL	
Chemical Storage Tanks	Chemical Tanks	Gray OR White	(Name of Chemical)
Bollards		Yellow	---

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Unit Process	Flow	Color	Abbreviation
Water Reclamation	Reclaimed Water Main	Purple	RWM
Misc	Abandoned		ABAND
	Sample	Unit Process Color	(Unit Process Name)/SAMP