

# **Inventory Snapshot Of the Discovery Bay Water System**

**Table 1- Wells and Pump Stations**

**Table 2 - Filter Units**

**Table 3 - Reservoirs**

**Table 4 - Booster Pumps**

**Table 5 - Pipeline Length by Diameter**

**Figure 1 - Map of Pipeline Length (Focus Area)**

**Figure 2 - Map of Pipeline Material (Entire System)**

**\*Not listed is:**

- **Station Pipe Valves/Instrumentation**
- **Chlorination Systems,**
- **Electrical MCC, PLC, Switchgear**
- **Water Meters, Service Lines, Valves, Hydrants**

**Table 1: Wells and Pumps (oldest to newest, by WTP)**

	Well 2	Well 1B	Well 6	Well 5A	Well 4A	Well 7
<b>WELL CONSTRUCTION</b>						
Well Control	Willow	Willow	Willow	Newport	Newport	Newport
Drilling Date	1971	1995	2009	1991	1996	2014
Well Diameter (inch)	12"	16"	18"	16"	16"	18"
Well Depth (ft)	348'	350'	360'	357'	357'	346'
Top Screen Interval	245'/335'	271'/289'	270'/295'	261'/291'	307'/347'	282'/292'
<b>PUMP AND MOTOR</b>						
Design Flow (gpm)	850	1,600	1,700	2,000	1,800	1,800
Design Head (ft)	190	280	230	180	190	345
Pump Type	Oil Lube	Submersible	Submersible	Water Lube	Submersible	Submersible
Installation Date	2003	2012	2010	2004	2001	2015
Pump Setting Depth (ft)	220'	260'	250'	240'	180'	290'
Column Diameter (inch)	8"	12"	12"	10"	12"	12"
Bowl Manufacturer	Goulds	BJ/Flowserve	BJ/Flowserve	Floway	BJ/Flowserve	BJ/Flowserve
Impeller Model	11CHC	13MQH	14EMM	14DKH	13MQH	15EMM
Number of Stages	4	3	3	3	3	4
Motor Horsepower	100 HP	150 HP	150 HP	200 HP	150 HP	200 HP

**Table 2: Filter Units**

Location	Name	Year Installed	Diameter (feet)	Length (feet)	Surface Area (sq. ft.)	Surface Loading Rate (gpm/sq.ft.)	Nominal Capacity (gpm)
Willow WTP	Filter A	2002	8	14	120	7.1	850
Willow WTP	Filter B	2002	8	14	120	7.1	850
Willow WTP	Filter C	2006	8	14	120	7.1	850
Newport WTP	Filter A	2001	8	32	264	7.6	2,000
Newport WTP	Filter B	2004	8	32	264	7.6	2,000

**Table 3: Reservoirs**

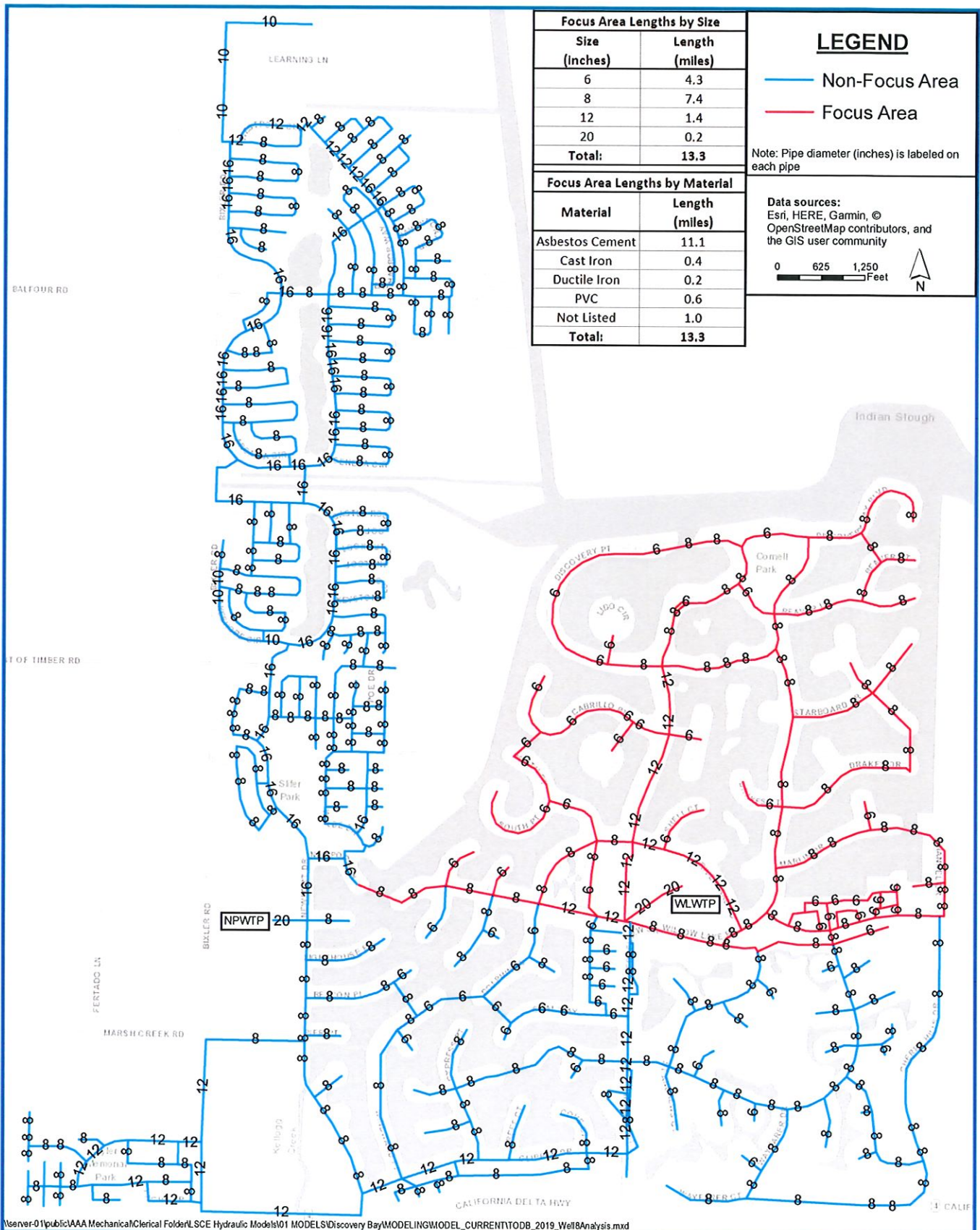
Location	Name	Year Installed	Construction	Service	Nominal Capacity
Willow WTP	North	2002	Glass-fused bolted steel	Storage / treated water	750,000 gal.
Willow WTP	South	2002	Glass-fused bolted steel	Storage / treated water	750,000 gal.
Willow WTP	Backwash	2002	Glass-fused bolted steel	Filter Backwash	84,000 gal.
Newport WTP	North	2002	Glass-fused bolted steel	Storage / treated water	275,000 gal.
Newport WTP	South	2002	Glass-fused bolted steel	Storage / treated water	275,000 gal.
Newport WTP	Backwash	2002	Glass-fused bolted steel	Filter Backwash	100,000 gal.

**Table 4: Booster Pumps**

<b>Location</b>	<b>Name</b>	<b>Year Installed</b>	<b>Type</b>	<b>Service</b>	<b>Horsepower</b>	<b>Head</b>	<b>Flow</b>
Willow WTP	JB-1	2002	Vertical Turbine Can Pump	Jockey	25 hp	162 ft	500 gpm
Willow WTP	JB-2	2002	Vertical Turbine Can Pump	Jockey	25 hp	162 ft	500 gpm
Willow WTP	BP-1	2002	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,300 gpm
Willow WTP	BP-2	2002	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,300 gpm
Willow WTP	BP-3	2002	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,300 gpm
Willow WTP	BP-4	2002	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,300 gpm
Willow WTP	RP-1	2002	Centrifugal Single Stage	Reclaim	5 hp	70 ft	190 gpm
Willow WTP	RP-2	2002	Centrifugal Single Stage	Reclaim	5 hp	70 ft	190 gpm
Newport WTP	JB-1	2001	Vertical Turbine Can Pump	Jockey	25 hp	162 ft	500 gpm
Newport WTP	JB-2	2001	Vertical Turbine Can Pump	Jockey	25 hp	162 ft	500 gpm
Newport WTP	BP-1	2001	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,250 gpm
Newport WTP	BP-2	2001	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,250 gpm
Newport WTP	BP-3	2001	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,250 gpm
Newport WTP	BP-4	2001	Vertical Turbine Can Pump	Booster	75 hp	162 ft	1,250 gpm
Newport WTP	BW-1	2001	Vertical Turbine Can Pump	Backwash Supply	75 hp	70 ft	3,200 gpm
Newport WTP	BW-2	2001	Vertical Turbine Can Pump	Backwash Supply	75 hp	70 ft	3,200 gpm
Newport WTP	RP-1 <sup>1</sup>	2001 <sup>1</sup>	Centrifugal Multi-Stage	Reclaim	7.5 hp	70 ft	200 gpm
Newport WTP	RP-2	2001	Centrifugal Multi-Stage	Reclaim	7.5 hp	70 ft	200 gpm

**Table 5: Pipeline Lengths by Diameter**

	6"	8"	10"	12"	16"	20"	Total (feet)	Total (miles)
<b>Existing System</b>								
Discovery Bay Central, Centex	34,183	94,859		26,463	889	1,087	157,481	29.8
Village 1, Village 2, Village 3, Village 4		51,767	1,801	1,197	17,991		72,756	13.8
Ravenswood		9,824			2,122		11,946	2.3
Old River Elementary			2,850				2,850	0.5
<b>Subtotal (miles)</b>	<b>6.5</b>	<b>29.6</b>	<b>0.9</b>	<b>5.2</b>	<b>4.0</b>	<b>0.2</b>		<b>46.4</b>
<b>Future System (theoretical piping)</b>								
Village 5		22,362		150			22,512	4.3
Pantages		2,207	1,519	3,204	4,826		11,756	2.2
<b>Subtotal (miles)</b>	<b>0</b>	<b>4.7</b>	<b>0.3</b>	<b>0.6</b>	<b>0.9</b>	<b>0</b>		<b>6.5</b>
<b>TOTAL (miles)</b>	<b>6.5</b>	<b>34.3</b>	<b>1.2</b>	<b>5.8</b>	<b>4.9</b>	<b>0.2</b>		<b>52.9</b>



Focus Area Lengths by Size	
Size (inches)	Length (miles)
6	4.3
8	7.4
12	1.4
20	0.2
<b>Total:</b>	<b>13.3</b>

Focus Area Lengths by Material	
Material	Length (miles)
Asbestos Cement	11.1
Cast Iron	0.4
Ductile Iron	0.2
PVC	0.6
Not Listed	1.0
<b>Total:</b>	<b>13.3</b>

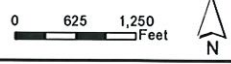
**LEGEND**

— Non-Focus Area

— Focus Area

Note: Pipe diameter (inches) is labeled on each pipe

Data sources:  
Esri, HERE, Garmin, ©  
OpenStreetMap contributors, and  
the GIS user community

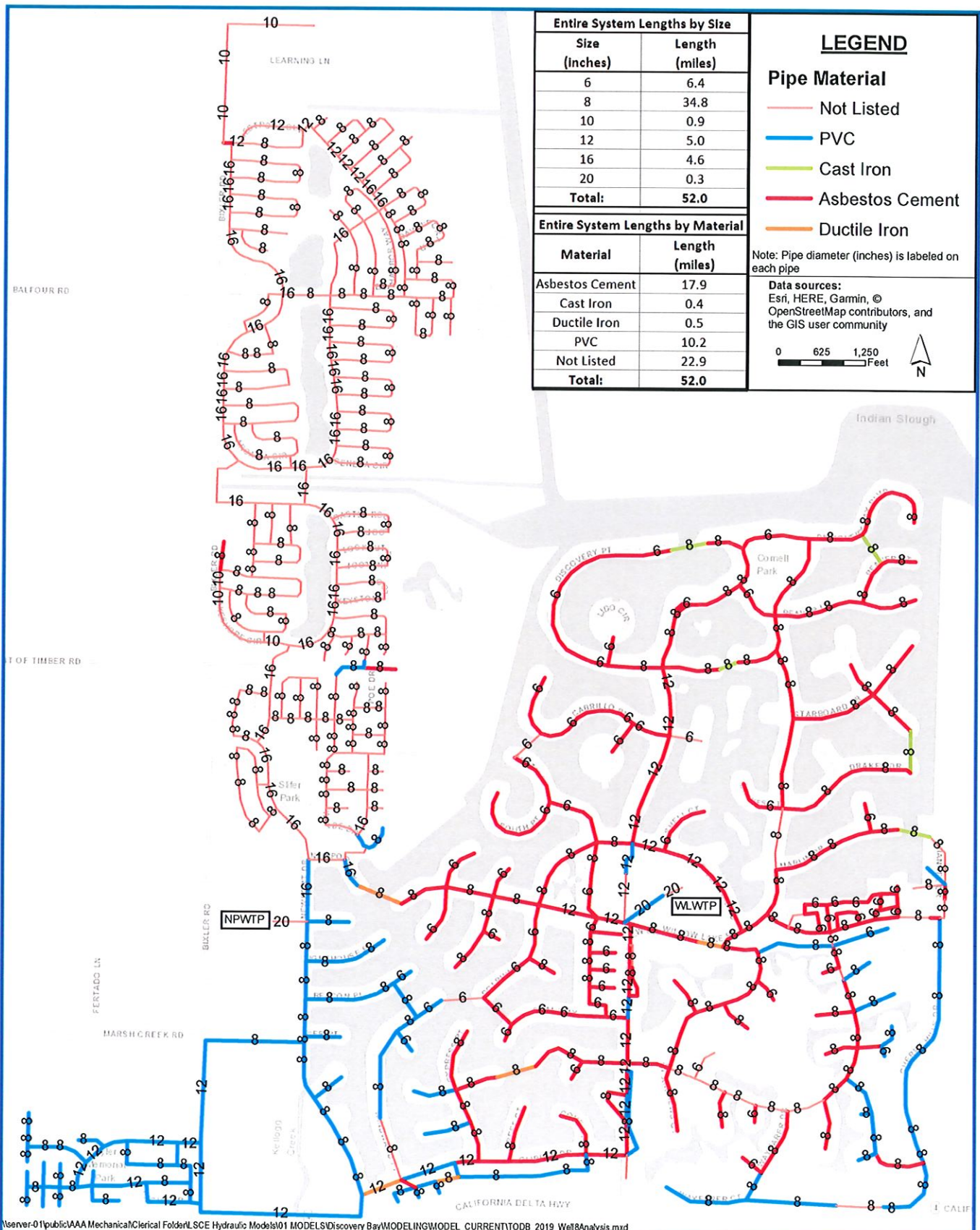


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**Preliminary Pipe Focus Area (Per Veolia)**  
Discovery Bay Community Services District  
Source: Water Model Dataset

Figure 1



Entire System Lengths by Size	
Size (inches)	Length (miles)
6	6.4
8	34.8
10	0.9
12	5.0
16	4.6
20	0.3
<b>Total:</b>	<b>52.0</b>

Entire System Lengths by Material	
Material	Length (miles)
Asbestos Cement	17.9
Cast Iron	0.4
Ductile Iron	0.5
PVC	10.2
Not Listed	22.9
<b>Total:</b>	<b>52.0</b>

**LEGEND**

**Pipe Material**

- Not Listed
- PVC
- Cast Iron
- Asbestos Cement
- Ductile Iron

Note: Pipe diameter (inches) is labeled on each pipe

Data sources:  
Esri, HERE, Garmin, ©  
OpenStreetMap contributors, and  
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0 625 1,250 Feet

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**System Pipe Material**

Discovery Bay Community Services District  
Source: Water Model Dataset

Figure 2