

**BRIARWOOD ESTATES
WATER STORAGE ANALYSIS SUMMARY
OCTOBER 2023**

Connection to Desoto	\$1,920,203
75,000 Gallon Elevated Tank	\$1,624,207
50,000 Gallon Elevated Tank	\$1,561,551
75,000 Gallon Welded Ground Tank w/Booster Pumps	\$1,172,558
50,000 Gallon Welded Ground Tank w/Booster Pumps	\$1,121,353
75,000 Gallon Fusion Coated Bolted Tank w/Booster Pumps	\$790,314
50,000 Gallon Fusion Coated Bolted Tank w/Booster Pumps	\$710,786
75,000 Gallon Glass Lined Bolted Tank w/Booster Pumps	
50,000 Gallon Glass Lined Bolted Tank w/Booster Pumps	

**BRIARWOOD ESTATES
OPINION OF PROBABLE COST - CONNECTION TO DESOTO
OCTOBER 2023**

ITEM	QUANTITY	UNIT	UNIT COST	COST
Mobilization	1	Lump	\$35,000.00	\$35,000.00
Bonds & Insurance	1	Lump	\$15,000.00	\$15,000.00
Clearing & Grubbing	1	Lump	\$15,000.00	\$15,000.00
6" Tapping Sleeve & Valve - Briarwood Connection	1	EA	\$10,000.00	\$10,000.00
10" Tapping Sleeve and Valve - Desoto Connection	1	EA	\$15,000.00	\$15,000.00
6" - Class 200 PVC	1,800	LF	\$50.00	\$90,000.00
12" Bore & Casing - HWY 21	175	LF	\$350.00	\$61,250.00
Install Piping & Spacers in New 12" Casing	175	LF	\$75.00	\$13,125.00
Concrete Encasement for Creek Crossing	50	LF	\$75.00	\$3,750.00
Furnish & Install 6" Fire Hydrant & Valve	1	EA	\$7,500.00	\$7,500.00
Furnish & Install Below Grade Flush Hydrants	2	EA	\$7,500.00	\$15,000.00
Furnish & Install 6" Valves	4	EA	\$1,500.00	\$6,000.00
Master Metering & Valving Vault	1	EA	\$75,000.00	\$75,000.00
Furnish & Install New Meters	150	EA	\$375.00	\$56,250.00
Furnish & Install New Meter Sets	150	EA	\$1,000.00	\$150,000.00
Rock Excavation	250	CY	\$250.00	\$62,500.00
Erosion Control, Seeding & Strawing	1	Lump	\$15,000.00	\$15,000.00
TOTAL OPINION OF CONSTRUCTION COST				\$645,375.00
ESTIMATED ADMINISTRATIVE COSTS				
10% Contingency				\$64,537.50
Electric Modifications				\$10,000.00
Topographic Survey				\$8,000.00
Easement Surveys & Acquisition				\$15,000.00
Engineering Design & Permitting				\$66,280.01
Bidding Services				\$5,000.00
Construction Management, Inspection & Testing				\$49,710.01
TOTAL OPINION OF ADMINISTRATIVE COST				\$218,527.52
TOTAL OPINION OF PROJECT COST				\$863,902.52
ESTIMATED PRESENT WORTH OF COST OF WATER				
Estimated Monthly Cost of Water Per Connection			\$46.55	
Current Number of Connections			127	
Monthly Cost of Water			\$5,911.85	
Yearly Cost of Water			\$70,942.20	
20 YEAR PRESENT WORTH AT 3% INFLATION				\$1,056,300.00
TOTAL OPINION OF PROJECT COST W/PRESENT WORTH VALUE				\$1,920,202.52

BRIARWOOD ESTATES
OPINION OF PROBABLE COST - 75,000 GALLON ELEVATED TANK
OCTOBER 2023

ITEM	QUANTITY	UNIT	UNIT COST	COST
Mobilization	1	LS	\$35,000.00	\$35,000.00
Bonds & Insurance	1	LS	\$7,500.00	\$7,500.00
Clearing & Grubbing	1	LS	\$5,000.00	\$5,000.00
Furnish and Install 75,000 Gallon Elevated Tank	1	EA	\$1,150,000.00	\$1,150,000.00
6" Ductile Iron Pipe	25	LF	\$175.00	\$4,375.00
6" PVC Class 200 Pipe	100	LF	\$150.00	\$15,000.00
Furnish & Install Mixing System	1	LS	\$10,000.00	\$10,000.00
Disinfection	1	LS	\$5,000.00	\$5,000.00
Dispose of Waste from Blasting	1	LS	\$75.00	\$75.00
Furnish & Install 6" Fire Hydrant & Valve	1	EA	\$7,500.00	\$7,500.00
Install Gravel Access Road	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Valves	2	EA	\$1,500.00	\$3,000.00
Furnish & Install Fencing	200	LF	\$50.00	\$10,000.00
Rock Excavation	15	CY	\$250.00	\$3,750.00
Erosion Control, Seeding & Strawing	1	LS	\$5,000.00	\$5,000.00
TOTAL OPINION OF CONSTRUCTION COST				\$1,266,200.00
10% Contingency				\$126,620.00
Electric Modifications				\$10,000.00
Topographic Survey				\$2,500.00
Geotechnical Engineering				\$10,000.00
NACE Certified Inspections				\$10,000.00
Easement Surveys & Acquisition				\$0.00
Engineering Design & Permitting				\$110,792.50
Bidding Services				\$5,000.00
Construction Management, Inspection & Testing				\$83,094.38
TOTAL OPINION OF ADMINISTRATIVE COST				\$358,006.88
TOTAL OPINION OF PROJECT COST				\$1,624,206.88

BRIARWOOD ESTATES
OPINION OF PROBABLE COST - 50,000 GALLON ELEVATED TANK
OCTOBER 2023

ITEM	QUANTITY	UNIT	UNIT COST	COST
Mobilization	1	LS	\$35,000.00	\$35,000.00
Bonds & Insurance	1	LS	\$7,500.00	\$7,500.00
Clearing & Grubbing	1	LS	\$5,000.00	\$5,000.00
Furnish and Install 75,000 Gallon Elevated Tank	1	EA	\$1,100,000.00	\$1,100,000.00
6" Ductile Iron Pipe	25	LF	\$175.00	\$4,375.00
6" PVC Class 200 Pipe	100	LF	\$150.00	\$15,000.00
Furnish & Install Mixing System	1	LS	\$10,000.00	\$10,000.00
Disinfection	1	LS	\$5,000.00	\$5,000.00
Dispose of Waste from Blasting	1	LS	\$75.00	\$75.00
Furnish & Install 6" Fire Hydrant & Valve	1	EA	\$7,500.00	\$7,500.00
Install Gravel Access Road	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Valves	2	EA	\$1,500.00	\$3,000.00
Furnish & Install Fencing	200	LF	\$50.00	\$10,000.00
Rock Excavation	15	CY	\$250.00	\$3,750.00
Erosion Control, Seeding & Strawing	1	LS	\$5,000.00	\$5,000.00
TOTAL OPINION OF CONSTRUCTION COST				\$1,216,200.00
10% Contingency				\$121,620.00
Electric Modifications				\$10,000.00
Topographic Survey				\$2,500.00
Geotechnical Engineering				\$10,000.00
NACE Certified Inspections				\$10,000.00
Easement Surveys & Acquisition				\$0.00
Engineering Design & Permitting				\$106,417.50
Bidding Services				\$5,000.00
Construction Management, Inspection & Testing				\$79,813.13
TOTAL OPINION OF ADMINISTRATIVE COST				\$345,350.63
TOTAL OPINION OF PROJECT COST				\$1,561,550.63

BRIARWOOD ESTATES
OPINION OF PROBABLE COST - 75,000 GALLON WELDED GST W/BOOSTER PUMPS
OCTOBER 2023

ITEM	QUANTITY	UNIT	UNIT COST	COST
Mobilization	1	LS	\$35,000.00	\$35,000.00
Bonds & Insurance	1	LS	\$7,500.00	\$7,500.00
Clearing & Grubbing	1	LS	\$5,000.00	\$5,000.00
Furnish and Install 75,000 Gallon Ground Storage Tank	1	EA	\$525,000.00	\$525,000.00
6" Ductile Iron Pipe	25	LF	\$175.00	\$4,375.00
6" PVC Class 200 Pipe	100	LF	\$150.00	\$15,000.00
Furnish & Install Mixing System	1	LS	\$7,500.00	\$7,500.00
Disinfection	1	LS	\$5,000.00	\$5,000.00
Dispose of Waste from Blasting	1	LS	\$10,000.00	\$10,000.00
Furnish & Install 6" Fire Hydrant & Valve	1	EA	\$7,500.00	\$7,500.00
Install Gravel Access Road	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Valves	2	EA	\$1,500.00	\$3,000.00
Furnish & Install Booster Pumps	1	EA	\$91,500.00	\$91,500.00
Furnish & Construct Booster Pump House	1	EA	\$50,000.00	\$50,000.00
Furnish & Install Emergency Generator	1	LS	\$85,000.00	\$85,000.00
Furnish & Install Electrical Controls	1	EA	\$25,000.00	\$25,000.00
Furnish & Install Fencing	200	LF	\$50.00	\$10,000.00
Rock Excavation	15	CY	\$250.00	\$3,750.00
Erosion Control, Seeding & Strawing	1	LS	\$5,000.00	\$5,000.00
TOTAL OPINION OF CONSTRUCTION COST				\$900,125.00
10% Contingency				\$90,012.50
Electric Modifications				\$10,000.00
Topographic Survey				\$2,500.00
Easement Surveys & Acquisition				\$0.00
Geotechnical Engineering				\$10,000.00
NACE Certified Inspections				\$10,000.00
Engineering Design & Permitting				\$82,811.50
Bidding Services				\$5,000.00
Construction Management, Inspection & Testing				\$62,108.63
TOTAL OPINION OF ADMINISTRATIVE COST				\$272,432.63
TOTAL OPINION OF PROJECT COST				\$1,172,557.63

BRIARWOOD ESTATES
OPINION OF PROBABLE COST - 50,000 GALLON WELDED GST W/BOOSTER PUMPS
OCTOBER 2023

ITEM	QUANTITY	UNIT	UNIT COST	COST
Mobilization	1	LS	\$35,000.00	\$35,000.00
Bonds & Insurance	1	LS	\$7,500.00	\$7,500.00
Clearing & Grubbing	1	LS	\$5,000.00	\$5,000.00
Furnish and Install 75,000 Gallon Ground Storage Tank	1	EA	\$475,000.00	\$475,000.00
6" Ductile Iron Pipe	25	LF	\$175.00	\$4,375.00
6" PVC Class 200 Pipe	100	LF	\$150.00	\$15,000.00
Furnish & Install Mixing System	1	LS	\$7,500.00	\$7,500.00
Disinfection	1	LS	\$5,000.00	\$5,000.00
Dispose of Waste from Blasting	1	LS	\$10,000.00	\$10,000.00
Furnish & Install 6" Fire Hydrant & Valve	1	EA	\$7,500.00	\$7,500.00
Install Gravel Access Road	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Valves	2	EA	\$1,500.00	\$3,000.00
Furnish & Install Booster Pumps	1	EA	\$100,000.00	\$100,000.00
Furnish & Construct Booster Pump House	1	EA	\$50,000.00	\$50,000.00
Emergency Generator	1	LS	\$85,000.00	\$85,000.00
Furnish & Install Electrical Controls	1	EA	\$25,000.00	\$25,000.00
Furnish & Install Fencing	200	LF	\$50.00	\$10,000.00
Rock Excavation	15	CY	\$250.00	\$3,750.00
Erosion Control, Seeding & Strawing	1	LS	\$5,000.00	\$5,000.00
TOTAL OPINION OF CONSTRUCTION COST				\$858,625.00
10% Contingency				\$85,862.50
Electric Modifications				\$10,000.00
Topographic Survey				\$2,500.00
Easement Surveys & Acquisition				\$0.00
Geotechnical Engineering				\$10,000.00
NACE Certified Inspections				\$10,000.00
Engineering Design & Permitting				\$79,637.47
Bidding Services				\$5,000.00
Construction Management, Inspection & Testing				\$59,728.10
TOTAL OPINION OF ADMINISTRATIVE COST				\$262,728.07
TOTAL OPINION OF PROJECT COST				\$1,121,353.07

BRIARWOOD ESTATES
OPINION OF PROBABLE COST - 75,000 GALLON BOLTED GST W/BOOSTER PUMPS
OCTOBER 2023

ITEM	QUANTITY	UNIT	UNIT COST	COST
Mobilization	1	LS	\$25,000.00	\$25,000.00
Bonds & Insurance	1	LS	\$7,500.00	\$7,500.00
Clearing & Grubbing	1	LS	\$5,000.00	\$5,000.00
Furnish and Install 75K Gallon GST - Glass Lined Bolted	1	LS	\$200,000.00	\$200,000.00
Furnish & Install Concrete Foundation	1	LS	\$35,000.00	\$35,000.00
6" Ductile Iron Pipe	25	LF	\$175.00	\$4,375.00
6" PVC Class 200 Pipe	100	LF	\$150.00	\$15,000.00
Furnish & Install Mixing System	1	LS	\$7,500.00	\$7,500.00
Disinfection	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Fire Hydrant & Valve	1	EA	\$7,500.00	\$7,500.00
Install Gravel Access Road	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Valves	2	EA	\$1,500.00	\$3,000.00
Furnish & Install Booster Pumps Station w/Building	1	EA	\$100,000.00	\$100,000.00
	1	EA	\$50,000.00	\$50,000.00
Furnish & Install Emergency Generator	1	LS	\$85,000.00	\$85,000.00
Furnish & Install Electrical Controls	1	EA	\$25,000.00	\$25,000.00
Furnish & Install Fencing	200	LF	\$50.00	\$10,000.00
Rock Excavation	15	CY	\$250.00	\$3,750.00
Erosion Control, Seeding & Strawing	1	LS	\$5,000.00	\$5,000.00
TOTAL OPINION OF CONSTRUCTION COST				\$598,625.00
10% Contingency				\$59,862.50
Electric Modifications				\$10,000.00
Topographic Survey				\$2,500.00
Easement Surveys & Acquisition				\$0.00
Geotechnical Engineering				\$10,000.00
NACE Certified Inspections				\$2,500.00
Engineering Design & Permitting				\$58,186.35
Bidding Services				\$5,000.00
Construction Management, Inspection & Testing				\$43,639.76
TOTAL OPINION OF ADMINISTRATIVE COST				\$191,688.61
TOTAL OPINION OF PROJECT COST				\$790,313.61

BRIARWOOD ESTATES
OPINION OF PROBABLE COST - 50,000 GALLON BOLTED GST W/BOOSTER PUMPS
OCTOBER 2023

ITEM	QUANTITY	UNIT	UNIT COST	COST
Mobilization	1	LS	\$25,000.00	\$25,000.00
Bonds & Insurance	1	LS	\$7,500.00	\$7,500.00
Clearing & Grubbing	1	LS	\$5,000.00	\$5,000.00
Furnish and Install 75K Gallon GST - Bolted	1	LS	\$150,000.00	\$150,000.00
Furnish & Install Concrete Foundation	1	LS	\$30,000.00	\$30,000.00
6" Ductile Iron Pipe	25	LF	\$175.00	\$4,375.00
6" PVC Class 200 Pipe	100	LF	\$150.00	\$15,000.00
Furnish & Install Mixing System	1	LS	\$7,500.00	\$7,500.00
Disinfection	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Fire Hydrant & Valve	1	EA	\$7,500.00	\$7,500.00
Install Gravel Access Road	1	LS	\$5,000.00	\$5,000.00
Furnish & Install 6" Valves	2	EA	\$1,500.00	\$3,000.00
Furnish & Install Booster Pumps	1	EA	\$91,500.00	\$91,500.00
Furnish & Construct Booster Pump House	1	EA	\$50,000.00	\$50,000.00
Furnish & Install Emergency Generator	1	LS	\$85,000.00	\$85,000.00
Furnish & Install Electrical Controls	1	EA	\$25,000.00	\$25,000.00
Furnish & Install Fencing	200	LF	\$50.00	\$10,000.00
Rock Excavation	15	CY	\$250.00	\$3,750.00
Erosion Control, Seeding & Strawing	1	LS	\$5,000.00	\$5,000.00
TOTAL OPINION OF CONSTRUCTION COST				\$535,125.00
10% Contingency				\$53,512.50
Electric Modifications				\$10,000.00
Topographic Survey				\$2,500.00
Easement Surveys & Acquisition				\$0.00
Geotechnical Engineering				\$10,000.00
NACE Certified Inspections				\$2,500.00
Engineering Design & Permitting				\$52,656.30
Bidding Services				\$5,000.00
Construction Management, Inspection & Testing				\$39,492.23
TOTAL OPINION OF ADMINISTRATIVE COST				\$175,661.03
TOTAL OPINION OF PROJECT COST				\$710,786.03

**BRIARWOOD ESTATES
WATER SYSTEM DETAILS
OCTOBER 2023**

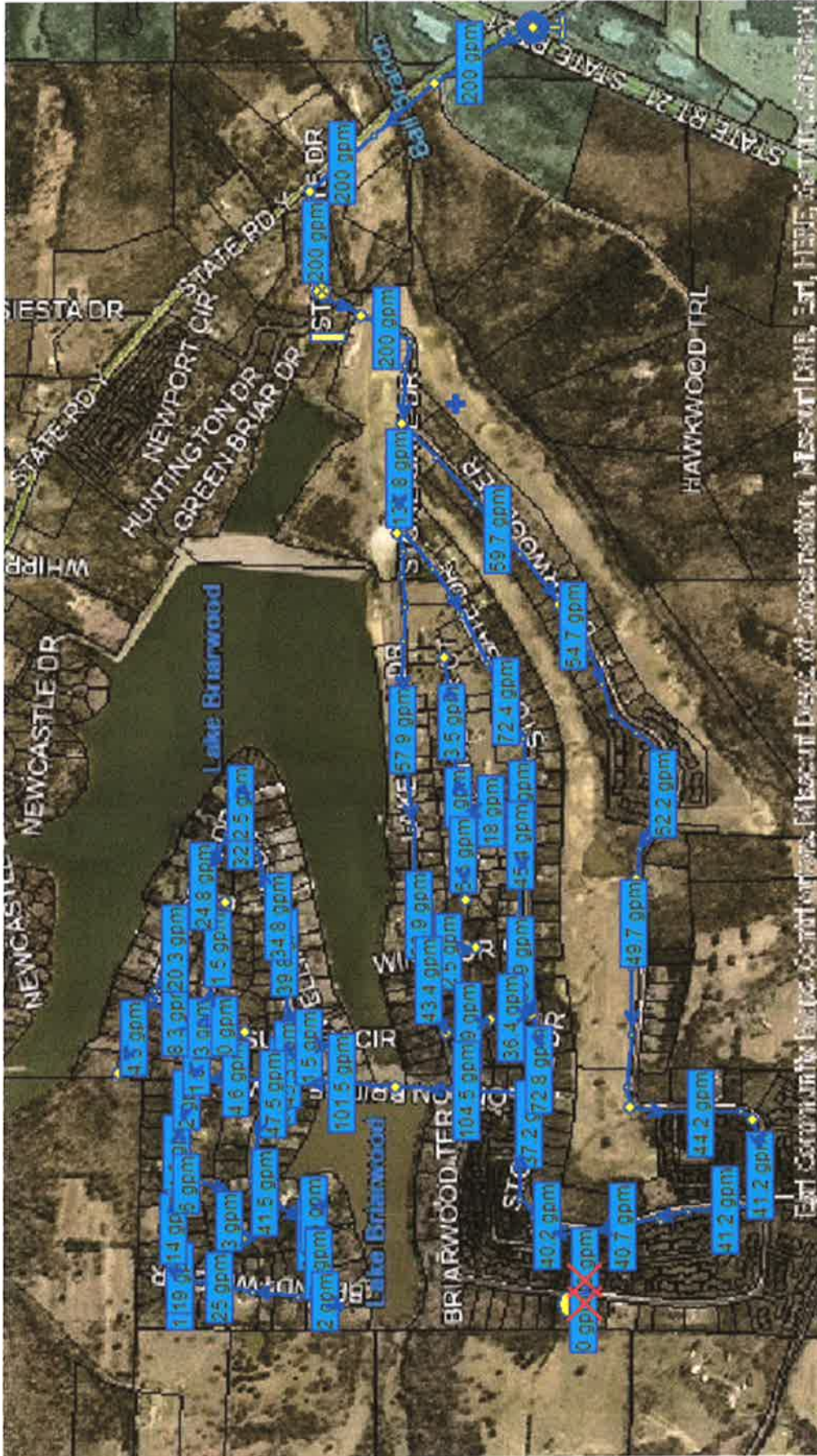
WATER USAGE SUMMARY & PROJECTIONS

Month	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Monthly Average
January	14,847	14,681	22,508	23,564	22,532	23,505												20,273
February	13,773	16,094	18,337	22,221	22,749	22,396												19,262
March	13,912	15,478	18,568	24,145	21,699	20,519												19,054
April	14,941	15,906	20,401	20,823		22,358												18,886
May	19,096	19,260	19,701	23,711	27,280	27,952												22,833
June	25,276	16,242	29,268	31,458	32,423													26,933
July	26,007	18,635	27,186	28,121	37,447													27,479
August	20,935	20,275	22,855	28,255	26,503													23,765
September	23,194	16,641	26,254	25,768	27,313													23,834
October	21,872	16,998	21,323	20,523	24,502													21,044
November	14,660	16,097	19,284	19,626	25,709													19,075
December	14,624	18,390	23,185	20,852	24,145													20,239
Actual Yearly Average	18,595	17,058	22,406	24,089	26,573	28,169	29,764	31,360	32,955	34,551	36,147	37,742	39,338	40,934	42,529	44,125	45,720	
Calculated Usage	27,528	29,304	31,376	33,448	35,520	37,592	39,664	41,736	43,808	45,880	47,952	50,024	52,096	54,168	56,240	58,312	60,384	
Actual Average Day (GPM)	13	12	16	17	18													
Estimated No. of Houses (GPD)	93	99	106	113	120	127	134	141	148	155	162	169	176	183	190	197	204	
Actual Usage Per House (GPD)	200	172	211	213	221	222												
Actual Usage Per Person (GPD)	54	47	57	58	60	60												
Calculated Usage/House (GPD)	296																	
Actual Average Increase Per Year (GPD)	1,596																	
Calculated Peak Flow (GPM)	124	128	132	137	141	145	149	153	157	161	165	168	172	176	179	182	186	
Actual Max Day Per Year (GPD)	31,000	30,000	41,000	38,000	32,000	38,107												
Calculated Max Day (GPD)	27,892	25,587	33,609	36,133	39,859	42,253	44,646	47,040	49,433	51,827	54,220	56,613	59,007	61,400	63,794	66,187	68,581	
Yearly Cost for Water From Desoto Based on Est # of Houses @ 5,000 GPD Average	\$51,950	\$55,301	\$59,212	\$63,122	\$67,032	\$70,942	\$74,852	\$78,763	\$82,673	\$86,583	\$90,493	\$94,403	\$98,314	\$102,224	\$106,134	\$110,044	\$113,954	

MISCELLANEOUS DETAILS

Population/House	3.7	Persons
Calculated Flow	80	GPD/Person
Green Numbers		Actual Numbers
Red Numbers		Estimated Numbers
Calculated Max Day		150% of Average Daily
Cost for 5,000 Gallon of Usage from Desoto	\$46.55	
Pump Capacity Per Minute	100	GPM
Pump Capacity Per Day	144,000	GPD

**PIPE FLOW
DESOTO CONNECTION
PEAK FLOW (1 GPM/CONNECTION)**



SYSTEM PRESSURES
GROUND TANK WITH BOOSTER PUMPS OR ELEVATED TANK
PEAK FLOW (1 GPM/CONNECTION)

