

A.	Introduction	7
	1. Purpose	7
	2. Authority	7
	3. Contact	8
	4. Plan Submittal Process	8
B.	Design Standards	11
	1. General	11
	a. Future Extensions	11
	b. Design Calculations	11
	c. Easements and Property	12
	d. Separation of Utilities	14
	e. Plan Sheet Preparation & Drafting Standards	14
	1) General	14
	2) Safety	15
	3) Specific Plan Sheet Requirements	15
	4) Minimum Size	18
	f. Record Plans	19
	g. Casing Pipe	19
	2. Water	20
	a. Capacity	20
	1) Design Calculations	20
	b. Design Flow and Model Development	20
	1) Fire Flow	22
	2) Level of Service Standards	22
	3) Domestic Demand	22
	4) Future Demand	23
	c. Pressure	23
	d. Effective Storage	23
	e. Pipe	23
	1) Minimum Size	24
	2) Surface Water Crossings	24
	f. Appurtenances	24
	1) Dead Ends	24
	2) Valves	25
	3) Hydrants	25
	4) Service Laterals	26
	5) Water Meters	27
	6) Backflow Preventers	27
	g. Booster Stations & Hydro-pneumatic Tanks	27
	1) General Requirements	28
	2) Capacity	28
	3) Hydraulic Analysis	28
	4) Pump Selection & Equipment	29
	5) Power Requirements	29
	6) Gauges and Meters	30
	7) Controls & SCADA	30
	8) Electrical	31
	9) Lighting	31

10)	Ventilation	31
11)	Heating	32
12)	Moisture Control	32
13)	Building Design	32
14)	Site Grading	32
15)	Fencing	32
16)	Access	32
17)	Vandalism	32
h.	Cross-Connection Control	33
3.	Sewer	34
a.	Gravity Sewers	34
1)	General	34
2)	Capacity	34
3)	Alignment & Slope	35
4)	Depth	37
5)	Size	37
6)	Sewer Connections	37
7)	River or Stream Crossings and Pipe Installation in Marshy Areas	38
b.	Manholes	39
1)	General	39
2)	Layout	39
3)	Size	39
4)	Frame and Cover	39
5)	Inverts and Slope	40
6)	Force Main Receiving Manholes	40
7)	Drop Manholes	40
8)	Doghouse Manhole	41
c.	Force Mains & Pump Stations	41
1)	General Requirements	41
2)	System Design	41
3)	Pump Stations	43
4)	Force Mains	49
d.	Rules and Regulations for Waste Water Discharge	51

C. Construction Specifications

Section 01110 - General Requirements

Section 01450 - Testing and Inspection Requirements

Section 01610 - Delivery, Storage and Handling

Section 02080 - Utility Pipe and Materials

Section 02085 - Valves and Cocks

Section 02200 - Site Construction for Pump Stations

Section 02317 - Excavation, Trenching, & Backfilling for Utilities

Section 02510 - Water Distribution

Section 02515 - Hydrants

Section 02530 - Sanitary Sewerage Systems

Section 02821 - Chain Link Fences and Gates

Section 03310 - Insulated Concrete Forms

Section 03400 - Precast Concrete Structures

Section 04100 - Generic Block Building Construction (CMU)

Section 06110 - Wood Framing and Construction

Section 07210 - Building Insulation

Section 07310 - Roofing Singles

Section 07410 - Metal Roofing and Wall Panels

Section 07415 - Metal Siding and Trim

Section 07461 - Fiber Cement Siding and Trim

Section 07600 - Gutter, Flashing, and Sheet Metal

Section 08100 - Steel Doors and Frames

Section 08700 - Finish Hardware

Section 09910 - Exterior Painting

Section 09920 - Interior Painting

Section 11315 - Wastewater Pump Station

Section 13200 - Ground Storage Tank Potable Water

Section 16010 - Electrical Requirements for Pump Stations

Section 16210 - Electric Generator

Section 16400 - Low Voltage Distribution

Section 16500 - Lighting

D. Standard Details

1. General

- G-1 - Typical Sleeve Under Roadway
- G-2 - Typical Sleeve Under Railway
- G-3A - Typical Thrust Block Detail for Horizontal and Sag Vertical Details
- G-3B - Typical Thrust Block Detail for Horizontal and Sag Vertical Details (T values)
- G-4A - Typical Thrust Block Detail Vertical Crest Anchors
- G-4B - Typical Thrust Block Detail Vertical Crest Anchors (b values)
- G-5 - Typical Restraint Detail For Slopes Over 20%
- G-6 - Typical Concrete Encasement
- G-7 - Typical Pavement Patch For Private Paved Roads

2. Sewer

- S-1 - Typical Sewer Pipe Installation In Trench
- S-2 - Typical Residential Sewer Service Connection
- S-3 - Typical Sanitary Sewer Manhole
- S-4 - Typical Manhole Step
- S-5 - Typical Manhole With Drop Connection
- S-6 - Typical Manhole Plan View Showing Branch Tie-In & Invert Channeling
- S-7 - Typical Manhole Frame & Cover
- S-7A - Typical Water-Tight Manhole Frame & Cover
- S-8 - Manhole Ventilation

3. Water

- W-1 - Typical Ductile Iron Pipe Installation and Bedding Requirements
- W-2 - Typical Fire Hydrant Installation
- W-3 - Typical Blow-Off or Blow Down Assemble
- W-4 - Typical Air Release Valve Installation
- W-4A - Air Release Valve for Deep Installation
- W-5 - Typical Gate Valve Installation
- W-6 - Typical Water Service Lateral Installation (5/8" - 1" Meters)
- W-7 - Typical Water Service Connection (5/8", 3/4" & 1" Meters)
- W-7A - Double Residential Meter Detail (5/8" Only)
- W-8 - Typical Water Service Connection (1-1/2" & 2" Meters)
- W-9 - Typical Meter Vault for Connection 3" and Larger or DDCA
- W-10 - Typical Restraining Device

APPENDICES

1. Standard Forms

See: <http://www.acsawater.com/standards>

- a. Augusta County Submittal Checklist
- b. ACSA Application for Plan Review
- c. ACSA Fire Hydrant Flow Test Form
- d. ACSA Water Meter Sizing Form
- e. ACSA Preconstruction Meeting
- f. ACSA Reservation of Treatment Capacity Agreement – Payment in Full
- g. ACSA Reservation of Treatment Capacity Agreement – Partial Payment

2. Augusta County Fire Flow & Hydrant Standards

3. Rules and Regulations for Waste Water Discharge