## Appendix B QUANTITIES OF WASTEWATER FLOW FOR VARIOUS TYPES OF ESTABLISHMENTS

## ESTABLISHMENT TYPE

## **GALLONS PER DAY**

Per passenger Add per employee per 8-hour shift Barber & Beauty Shops (per chair) Bowling Alleys Toilet wastes per lane For food service, add Food Service usage below Camps Camps Campground with central comfort stations per camper Day camps (no meals served) per camper W food service, add Food Service usage below Churches Per seat/no food service For food service, add Food Service usage below For daycares, add school usage below Grocery Stores Per 100 square feet of floor space Add per 100 square feet of floor space Add per 100 square feet of bakery floor space Add per 100 square feet of meat market floor space Add per 100 square feet of meat market floor space Der resident member (see Food Service usage below)  En resident member Dentists Offices Per practitioner Add per employee per 8-hour shift Doctors Office Per practitioner Add per employee per 8-hour shift No showers provided Showers provided Showers provided 15 Showers provided 15 Showers provided 15 Showers provided 15 Regular per room Resort hotels & Motels Regular per room Resort hotels & Cottages	Airports, Bus Terminals, Train Stations	
Barber & Beauty Shops (per chair) 100  Bowling Alleys Toilet wastes per lane For food service, add Food Service usage below  Camps Campground with central comfort stations per camper 35 Day camps (no meals served) per camper 15 W/ food service, add Food Service usage below  Churches Per seat/no food service For food service, add Food Service usage below  Churches Per seat/no food service usage below For daycares, add school usage below  Grocery Stores Per 100 square feet of floor space 50 Add per 100 square feet of delifloor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100  Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift 15  Showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Per passenger	5
Bowling Alleys Toilet wastes per lane For food service, add Food Service usage below Camps Camps Camps Camps Camps Camps Day camps (no meals served) per camper 15 W food service, add Food Service usage below Churches Per seat/no food service For food service, add Food Service usage below Churches For daycares, add school usage below Grocery Stores Per 100 square feet of floor space Add per 100 square feet of deli floor space Add per 100 square feet of bakery floor space Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10 Dentists Offices Per practitioner Add per employee per 8-hour shift 15 Doctors Office Per practitioner Add per employee per 8-hour shift 15 Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 35 Hospitals Per bed space Per proom 150	Add per employee per 8-hour shift	15
Toilet wastes per lane For food service, add Food Service usage below  Camps Camps Camps Camps(no meals served) per camper 35 Day camps (no meals served) per camper 15 W food service, add Food Service usage below  Churches Per seat/no food service For food service, add Food Service usage below  For daycares, add school usage below  Grocery Stores Per 100 square feet of floor space 50 Add per 100 square feet of deli floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 50 Add per resident member (see Food Service usage below) 25 Per resident member (see Food Service usage below) 25 Per practitioner 200 Add per employee per 8-hour shift 15 Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15 Factories (exclusive of industrial waste) 35 Add per employee per 8-hour shift 15 Showers provided 35 Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Barber & Beauty Shops (per chair)	100
For food service, add Food Service usage below  Camps  Campground with central comfort stations per camper Day camps (no meals served) per camper w/ food service, add Food Service usage below  Churches  Per seat/no food service For food service, add Food Service usage below For daycares, add school usage below  Grocery Stores  Per 100 square feet of floor space Add per 100 square feet of deli floor space Add per 100 square feet of bakery floor space Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space Country Clubs  Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices  Per practitioner Add per employee per 8-hour shift Doctors Office Per practitioner Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 55  Hospitals Per bed space For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Bowling Alleys	
Camps Campground with central comfort stations per camper 35 Day camps (no meals served) per camper 15 W/ food service, add Food Service usage below Churches Per seat/no food service 5 For food service, add Food Service usage below For daycares, add school usage below Grocery Stores Per 100 square feet of floor space 50 Add per 100 square feet of deli floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100 Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10 Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15 Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15 Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift 15 Showers provided 35 Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Toilet wastes per lane	100
Campground with central comfort stations per camper 15 Day camps (no meals served) per camper 15 w/ food service, add Food Service usage below  Churches Per seat/no food service 5 For food service, add Food Service usage below  For daycares, add school usage below  Grocery Stores Per 100 square feet of floor space 50 Add per 100 square feet of deli floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100  Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift 15 Showers provided 35 Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	For food service, add Food Service usage below	
Day camps (no meals served) per camper  w/ food service, add Food Service usage below  Churches  Per seat/no food service For food service, add Food Service usage below  For daycares, add school usage below  Grocery Stores  Per 100 square feet of floor space Add per 100 square feet of deli floor space Add per 100 square feet of bakery floor space Add per 100 square feet of meat market floor space  Food add per 100 square feet of meat market floor space Add per 100 square feet of meat market floor space  Food add per 100 square feet of meat market floor space  Country Clubs  Per resident member (see Food Service usage below)  Per resident member (see Food Service usage below)  Dentists Offices  Per practitioner  Add per employee per 8-hour shift  15  Doctors Office  Per practitioner  Add per employee per 8-hour shift  15  Factories (exclusive of industrial waste)  Gallons per employee per 8-hour shift  No showers provided  5  Hospitals  Per bed space  For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room  150	Camps	
w/ food service, add Food Service usage below  Churches  Per seat/no food service For food service, add Food Service usage below For daycares, add School usage below  Grocery Stores  Per 100 square feet of floor space Add per 100 square feet of deli floor space Add per 100 square feet of bakery floor space Add per 100 square feet of meat market floor space Add per 100 square feet of meat market floor space  Country Clubs  Per resident member (see Food Service usage below)  Per resident member  Dentists Offices  Per practitioner  Add per employee per 8-hour shift  Doctors Office  Per practitioner  Add per employee per 8-hour shift  Sold per employee per 8-hour shift  Add per employee per 8-hour shift  Sold per employee per 8-hour shift  No showers provided  Afsold per employee per 8-hour shift  No showers provided  Abspitals  Per bed space For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room  Sold Service usage below  Hotels & Motels  Regular per room  Sold Service usage below  Hotels & Motels  Regular per room  Sold Service usage below  Hotels & Motels  Regular per room  Sold Service usage below  Hotels & Motels  Regular per room	Campground with central comfort stations per camper	35
Churches Per seat/no food service For food service, add Food Service usage below For daycares, add school usage below Grocery Stores Per 100 square feet of floor space Add per 100 square feet of deli floor space Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100 Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10 Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15 Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15 Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 55 Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 5  So  So  So  So  So  So  So  So  So	· · · · · · · · · · · · · · · · · · ·	15
Per seat/no food service 5 For food service, add Food Service usage below For daycares, add school usage below  Grocery Stores Per 100 square feet of floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100  Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift 15 Showers provided 15 Showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	w/ food service, add Food Service usage below	
For food service, add Food Service usage below For daycares, add school usage below  Grocery Stores Per 100 square feet of floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100  Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift 15 Showers provided 15 Showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Churches	
For daycares, add school usage below  Grocery Stores  Per 100 square feet of floor space 50 Add per 100 square feet of deli floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100  Country Clubs  Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices  Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office  Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift 15  Showers provided 15 Showers provided 15 Showers provided 35  Hospitals  Per bed space 200 For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room 150	Per seat/no food service	5
Grocery Stores Per 100 square feet of floor space Add per 100 square feet of deli floor space Add per 100 square feet of bakery floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 100 Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10 Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15 Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15 Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 15 Showers provided 35 Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room	For food service, add Food Service usage below	
Per 100 square feet of floor space Add per 100 square feet of deli floor space 50 Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 50 Add per 100 square feet of meat market floor space 100  Country Clubs  Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices  Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office  Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 15 Showers provided 15 Showers provided 15 Showers provided 35  Hospitals  Per bed space 200 For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room 150	For daycares, add school usage below	
Add per 100 square feet of deli floor space Add per 100 square feet of bakery floor space 50 Add per 100 square feet of meat market floor space 100  Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 15 Showers provided 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Grocery Stores	
Add per 100 square feet of bakery floor space Add per 100 square feet of meat market floor space 100  Country Clubs Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 55  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Per 100 square feet of floor space	5
Add per 100 square feet of meat market floor space 100  Country Clubs  Per resident member (see Food Service usage below) 25 Per non-resident member 10  Dentists Offices  Per practitioner 200  Add per employee per 8-hour shift 15  Doctors Office  Per practitioner 200  Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste)  Gallons per employee per 8-hour shift 15  Showers provided 15 Showers provided 35  Hospitals  Per bed space 200 For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room 150	Add per 100 square feet of deli floor space	50
Country Clubs Per resident member (see Food Service usage below) Per non-resident member 10  Dentists Offices Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Add per 100 square feet of bakery floor space	50
Per resident member (see Food Service usage below)  Per non-resident member  Dentists Offices  Per practitioner  Add per employee per 8-hour shift  Doctors Office  Per practitioner  Add per employee per 8-hour shift  Doctors Office  Per practitioner  Add per employee per 8-hour shift  15  Factories (exclusive of industrial waste)  Gallons per employee per 8-hour shift  No showers provided  15  Showers provided  15  Hospitals  Per bed space  For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room  150	Add per 100 square feet of meat market floor space	100
Per non-resident member 10  Dentists Offices  Per practitioner 200  Add per employee per 8-hour shift 15  Doctors Office  Per practitioner 200  Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste)  Gallons per employee per 8-hour shift  No showers provided 15  Showers provided 15  Showers provided 35  Hospitals  Per bed space 200  For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room 150	Country Clubs	
Per non-resident member 10  Dentists Offices  Per practitioner 200  Add per employee per 8-hour shift 15  Doctors Office  Per practitioner 200  Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste)  Gallons per employee per 8-hour shift  No showers provided 15  Showers provided 15  Showers provided 35  Hospitals  Per bed space 200  For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room 150	Per resident member (see Food Service usage below)	25
Per practitioner 200 Add per employee per 8-hour shift 15  Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	· · · · · · · · · · · · · · · · · · ·	10
Add per employee per 8-hour shift  Doctors Office  Per practitioner Add per employee per 8-hour shift  Factories (exclusive of industrial waste)  Gallons per employee per 8-hour shift  No showers provided 15 Showers provided 15 Showers provided 35  Hospitals  Per bed space For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room 150	Dentists Offices	
Doctors Office Per practitioner 200 Add per employee per 8-hour shift 15  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels Regular per room 150	Per practitioner	200
Per practitioner Add per employee per 8-hour shift  Factories (exclusive of industrial waste)  Gallons per employee per 8-hour shift No showers provided 15 Showers provided 35  Hospitals Per bed space For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels Regular per room 150	Add per employee per 8-hour shift	15
Add per employee per 8-hour shift  Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 35 Hospitals Per bed space For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Doctors Office	
Factories (exclusive of industrial waste) Gallons per employee per 8-hour shift No showers provided 15 Showers provided 35 Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Per practitioner	200
Gallons per employee per 8-hour shift No showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels Regular per room 150	Add per employee per 8-hour shift	15
No showers provided 15 Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels Regular per room 150	Factories (exclusive of industrial waste)	
Showers provided 35  Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels Regular per room 150	Gallons per employee per 8-hour shift	
Hospitals Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	No showers provided	15
Per bed space 200 For food service excluding patients, add restaurant Food Service usage below Hotels & Motels Regular per room 150	Showers provided	35
For food service excluding patients, add restaurant Food Service usage below  Hotels & Motels  Regular per room  150	Hospitals	
Hotels & Motels Regular per room 150	Per bed space	200
Regular per room 150	For food service excluding patients, add restaurant Food Service usage below	
	Hotels & Motels	
Resort hotels & cottages 75	Regular per room	150
	Resort hotels & cottages	75

Mobile Home Parks	
per single wide mobile home space	300
per double wide mobile home space	450
	430
Nursing Homes, Rest Homes, Adult Congregate Living Facilities  Per bed	100
Add for food service	100 65
Office Buildings (per employee per 8-hour shift)	15
Parks, Public Picnic	_
Toilets only per person	5
With bath house, showers, & toilets per person	10
Recreation Vehicle Park*	
Recreational vehicle space for overnight stay,	
without water & sewer hookup per vehicle space Recreational vehicle space for	50
overnight stay,	75
With water & without sewer hookup per vehicle space	75
Recreational vehicle space for overnight stay,	
with water & sewer hookup per vehicle space	120
Recreation vehicle space with water and sewer hookup per vehicle space with	60
effluent engineered to be compliant with wastewater strength reduction.	
Food Service	40
Per day per seat	40
Using single service articles only per seat	25
Bar and cocktail lounge per seat	30
Carry out only	5
Per meal served without public restrooms	10
Per meal served with public restrooms Add per employee per 8-hour shift	15
Residences	10
Single or multiple family per dwelling unit	150
1 bedroom	150
2 bedrooms 3 bedrooms	270
	370
4 bedrooms For each additional bedroom add	450
	50 75
Rooming houses per occupant space	73
Schools (per student)	15
Day schools & day cares	15
Add for food service	5
Add for day school workers	20
Boarding schools	75
Stadiums, Race Tracks, Ball Parks (per seat)	5
Swimming Pools and Bathhouses (per patron)	10
Theaters (per seat)	

## FOOTNOTES:

The estimated flows for residential systems assume a maximum occupancy of 2 persons per bedroom. Where residential care facilities (non-institutional) will house more than 2 persons in any bedroom, estimated flows are to be increased by 75 gallons per each additional occupant.

Wastewater from food service operations is high strength wastewater in nature and may require special system sizing and treatment/disposal considerations. For food service operations, kitchen wastewater flows are normally to be calculated at 66% of the total wastewater flow. Wastewater flows should include estimated flow from drains from all drink dispensers including soda, tea, coffee, juice, and ice cream.

Systems serving high volume establishments, such as fast food restaurants, convenience stores, and service stations require special sizing consideration due to above average wastewater volume expected from restroom facilities.

Residential Strength Wastewater as the primary sewage effluent from a septic tank must not exceed the following parameters: Five-Day Biochemical Oxygen Demand (BOD5) of 300 mg/L; Total Suspended Solids (TSS) of 300 mg/L; and Fats, Oil and Grease of 25 mg/L. Other contaminants may also be present in the wastewater; however, they shall not exceed the concentrations or quantities normally found in residential sewage.