



January 25, 2023

Seabrook Island Utility Commission
2902 A Seabrook Island Road
Johns Island, SC 29455

**RE: *Andell Marina Mixed Use Development
Projected Sanitary Sewer Average Daily Flows***

To Whom It May Concern,

On behalf of our Client, Bohicket Creek Investors, LLC, we have calculated the projected average daily sanitary sewer flows for the Andell Marina Mixed Use project that is depicted in the attached site plan prepared by Synchronicity. The projected flows are based upon the South Carolina Department of Health and Environmental Control (SCDHEC) Regulation 61-17, Appendix A unit contributory loading guidance.

Based on that guidance, we have determined that the facility will have a projected average daily sanitary sewer flow of 11,000 gallons per day which equates to approximately 37 Equivalent Residential Units (ERUs). I have attached the spreadsheet that outlines the calculation backup and assumptions.

Please don't hesitate to reach out should you have any questions.

Sincerely,

Kimley-Horn and Associates, Inc.

A handwritten signature in black ink that reads 'Casey Warfield'.

Casey Warfield, P.E.
Project Manager / Engineer of Record
Casey.Warfield@Kimley-Horn.com

Attachments:

- Sanitary Sewer Demand Calculations
- Site Plan



Sanitary Sewer Gravity Flow Design Calculations

Project: Andell Mixed-Use
 Date: 1/25/2023

TYPE OF ESTABLISHMENT		HYDRAULIC LOADING (GPD)	UNIT	EXISTING USE QUANTITIES	PROPOSED USE QUANTITIES	Net # of Units	Flow (GPD)	Assumptions
A.	Airport	8	per Employee					
		4	per Passenger					
B.	Apartments, Condominiums, Patio Homes							
		300	per Unit					
		225	per Unit	10	10	2,250	2 bedroom short term rental cottages	
	3. One (1) Bedroom	150	per Unit					
C.	Assembly Halls	4	per Seat					
D.	Barber Shop	8	per Employee					
		75	per Chair					
E.	Bars, Taverns (Excludes Restaurant)	8	per Employee					
		30	per Seat					
F.	Beauty Shop	8	per Employee					
		94	per Chair					
G.	Boarding House, Dormitory	38	per Resident					
H.	Bowling Alley (Excludes Restaurant, Bar, or Lounge)	8	per Employee					
		94	per Lane					
I.	Camps							
		75	per Person					
		38	per Person					
		26	per Person					
	4. Travel Trailer	131	per Site					
J.	Car Wash	56	per Car					
K.	Churches	2	per Seat					
L.	Clinics, Doctor's Office	11	per Employee					
		4	per Patient					
M.	Country Club, Fitness Center, Spa	38	per Member					
N.	Dentist Office	11	per Employee					
		6	per Chair					
		278	per Suction Unit, Std.					
		71	per Suction Unit, Recycle					
		0	per Suction Unit, Air Gen.					
O.	Factories, Industries	19	per Employee					
		26	per Employee					
		30	per Employee					
		34	per Employee					
P.	Fairgrounds (Average Attendance)	4	per Person					
Q.	Grocery Stores (No Restaurant or Food Prep.)	19	per Person					
R.	Hospitals	75	per Resident Staff					
		150	per Bed					
S.	Hotels (No Restaurant)	75	per Bedroom					
T.	Institutions	75	per Resident					
U.	Laundries (Self Service)	300	per Machine					
V.	Marinas	23	per Slip	15	15	345	600' of dock space, assume 40' average slips (for anticipated on-shore bathroom and shower usage)	
W.	Mobile Homes	225	per Unit					
X.	Motels (No Restaurant)	75	per Unit					
Y.	Nursing Homes	75	per Bed					
		113	per Bed					
Z.	Offices, Small Stores, Business, Administration Buildings (No Restaurant)	19	per Person					
AA.	Picnic Parks (Average Attendance)	8	per Person					
BB.	Prison / Jail	11	per Employee					
		94	per Inmate					
CC.	Residences	300	per House / Unit					
DD.	Rest Areas, Welcome Centers	4	per Person					
		8	per Person					
EE.	Rest Homes	75	per Bed					
		113	per Bed					
FF.	Restaurants							
		30	per Seat	250	250	7500	Assumed 250 seats between the Boat House and Yacht Club	
		53	per Seat					
		30	per Car Service Space					
	4. Vend. Machine, Walk-up Deli, or Food P	30	per Person					
GG.	Schools, Day Care	8	per Person					
		11	per Person					
		15	per Person					
HH.	Service Stations	8	per Employee					
		8	per Car Served					
		56	per Car Washed					
II.	Shopping Centers, Large Department Stores, Malls (No Restaurant)	19	per Person					
JJ.	Stadiums, Coliseums (No Restaurant)	4	per Seat					
KK.	Swimming Pools (with sewer facilities and showers)	8	per Person	120	120	960	Approximately 180 parking spots in main parking field. Assumed one-third of the cars are going to the pool at an average of 2 people per car	
LL.	Theaters (Indoor / Drive In)	4	per Seat / Stall					
AVERAGE DAILY FLOW PROJECT TOTAL:							11,055	GPD
ERU:							36.85	Assumed 1 ERU = 300 GPD *To be confirmed with utility provider
Hourly Peaking Factor:							2.5	(2.5 Hourly Peaking Factor per DHEC Regs)
Design Flow:							27,638	GPH (Average Daily Flow X Hourly Peaking Factor)
							461	GPM
							1.026	CFS

Note: Projected Flows per SCDHEC Regulation 61-67, Appendix A
<https://www.scdhec.gov/sites/default/files/Library/Regulations/R.61-67.pdf>