



June 9, 2020

TO: Planning Board
City of Miami Beach
1700 Convention Center Dr
Miami Beach, FL 33139

Re: Miami Beach Marina Redevelopment Water & Sewer Flows

To whom it may concern:

Attached are water and sewer demand calculations prepared in accordance with the criteria of Miami-Dade County Code of Ordinances Chapter 24 requirements for sewer flows as regulated by Miami-Dade County Department of Regulatory and Economic Resources Division of Environmental Resources Management (DERM). The calculations show the average daily flow to the City's sewer system is anticipated to be reduced by the redevelopment project. The existing and proposed uses and flows are shown in the calculations attached to this letter. The existing and proposed uses are based upon information obtained from the developer and the Miami-Dade County Property Appraiser.

In summary, the redevelopment project is anticipated to result in a water and sewer flow of 5,064 GPD less than the existing use.

If you have any questions or require any additional information, please feel free to contact me at (305) 535-7712 or via email at barton.fye@kimley-horn.com

Respectfully,

KIMLEY-HORN AND ASSOCIATES, INC.

A handwritten signature in blue ink, appearing to read 'B. Fye'.

Barton J. Fye, P.E., ENV SP

300 Alton
Schedule of Daily Rated Gallonages - Previous Uses

Previous Types of Land Uses	Units	Gallons Per Day (GPD)	Previous Flow Demand(GPD)
Residential Land Uses			
		gpd/unit (under	
	Units	210 3000 sq. ft.)	-
Single Family Residence		gpd/unit (3001 -	
	Units	310 5000 sq. ft.)	-
		gpd/unit (over	
Townhouse Residence	Units	510 5000 sq. ft.)	-
Apartment	Units	165 gpd/unit	-
Mobile Home Residence/Park	Units	135 gpd/unit	-
Duplex or Twin Home Residence	Units	160 gpd/unit	-
	Units	150 gpd/unit	-
Residential Facility/Institution			
a) CLF	Beds	75 gpd/bed	-
b) Apartment Dormitory	Units	100 gpd/unit	-
c) Fire Station	SF	10 gpd/100 sq. ft.	-
d) Jail	Person	150 gpd/person	-
e) Other	Person	100 gpd/person	-
Commercial Land Uses			
Airport			
a) Common Area/Concourse/Retail	SF	10 gpd/ 100 sq. ft.	-
b) Food Service		see restaurant use for allocation	-
Bank	SF	10 gpd /100 sq. ft.	-
Banquet Hall (with or without kitchen)	SF	10 gpd/ 100 sq. ft.	-
Bar, Cocktail Lounge, Nightclub, or Adult Entertainment	SF	20 gpd/100 sq. ft.	-
Barber Shop	SF	10 gpd /100 sq. ft.	-
Beauty Shop	SF	25 gpd/100 sq. ft.	-
Big Box Retail	SF	2.5 gpd/100 sq. ft.	-
Bowling Alley	Lanes	100 gpd/lane	-
Car Wash			
a) Manual Washing	Bay	350 gpd/bay	-
b) Automated Washing	Bay	5,500 gpd/bay	-
With recycle system		based on system design and evaluation by the Department	-
Coin Laundry	Washer	110 gpd/washer	-
Country Club with or without kitchen	SF	20 gpd/ 100 sq. ft.	-
Dentist's Office	SF	20 gpd/ 100 sq. ft.	-
Fitness Center or Gym	SF	10 gpd/100 sq. ft.	-
Funeral Home	SF	5 gpd/ 100 sq. ft.	-
Gas Station Convenience Store/ Mini-Mart		450 gpd/unit	-
a) Without Car Wash	Units	450 gpd/unit	-
b) w/ Single Automated Car Wash	Units	1,750 gpd/unit	-
Additional Single Automated Car Wash	Units	1,300 gpd/unit	-
Hospital	Beds	250 gpd/bed	-
Hotel or Motel	Rooms	115 gpd/room	-
House of Worship	SF	10 gpd/ 100 sq. ft.	-
Industrial use NOT discharging a process wastewater and NOT utilizing water for an industrial process (including but not limited to automotive repair, boat repair, carpentry, factory, machine shop, welding)	SF	4 gpd/100 sq. ft.	-
Industrial use discharging a process wastewater or utilizing water for an industrial process based on system design and evaluation by the Department	SF	4 gpd/100 sq. ft.	-
Kennel	SF	15 gpd/100 sq. ft.	-
Marina	Slips	60 gpd/slip	(24,000.00)
Nail Salon	SF	30 gpd/ 100 sq. ft.	-
Nursing / Convalescent Home	Beds	125 gpd/bed	-
Office Building	SF	5 gpd/ 100 sq. ft.	-
Pet Grooming	SF	20 gpd/ 100 sq. ft.	-
Physician's Office	SF	20 gpd/100 sq. ft.	-
Public Park			
a) With toilets only	People	5 gpd/ person	-
b) With toilets andshowers	People	20 gpd/ person	-
Public Swimming Pool Facility	People	30 gpd/ person	-
Recreational Vehicle (RV) Park (seasonal use)	Space	150 gpd/space	-
Restaurant			
a) Fast-Food	SF	65 gpd/ 100 sq. ft.	-
b) Full Service	SF	100 gpd/ 100 sq. ft.	(32,157.00)
	400.00		
	32,157.00		

300 Alton

Schedule of Daily Rated Gallonages - Previous Uses

Previous Types of Land Uses	Units	Gallons Per Day (GPD)	Previous Flow Demand(GPD)
c) Take-Out		100 gpd/ 100 sq. ft.	-
Retail	26,296.00	10 gpd/ 100 sq. ft.	(2,629.60)
School			
a) Day care/ Nursery (adults and children)		10 gpd/ 100 sq. ft.	-
b) Regular School		12 gpd/ 100 sq. ft.	-
Self-service Storage Units		1.5 gpd/ 100 sq. ft.	-
Shopping Center/ Mall			
a) Shell/Common Area		10 gpd/ 100 sq. ft.	-
Spa		20 gpd/ 100 sq. ft.	-
Sporting Facilities and Auditorium	Setas	3 gpd/seat	-
Theater			
a) Indoor	Seats	1 gpd/seat	-
b) Outdoor/Drive-in	Spaces	5 gpd/space	-
Veterinarian Office	SF	20 gpd/ 100 sq. ft.	-
Warehouse/Speculation Building	SF	2 gpd/ 100 sq. ft.	-
Wholesale Food Preparation (including but not limited to meat markets and commissaries)	SF	35 gpd/ 100 sq. ft.	-
Total Previous Flow:			(58,786.60) GPD

300 Alton
Schedule of Daily Rated Gallonages - Proposed Uses

Types of Land Uses Proposed	Units	Gallons Per Day (GPD)	Projected Flow Demand (GPD)
Residential Land Uses			
		gpd/unit (under	
	Units	210 3000 sq. ft.)	-
Single Family Residence		gpd/unit (3001 -	
	Units	310 5000 sq. ft.)	-
		gpd/unit (over	
Townhouse Residence	Units	510 5000 sq. ft.)	-
Apartment	Units	165 gpd/unit	-
Mobile Home Residence/Park	60.00	135 gpd/unit	8,100.00
		160 gpd/unit	-
Duplex or Twin Home Residence	Units	150 gpd/unit	-
Residential Facility/Institution			
a) CLF	Beds	75 gpd/bed	-
b) Apartment Dormitory	Units	100 gpd/unit	-
c) Fire Station	SF	10 gpd/100 sq. ft.	-
d) Jail	Person	150 gpd/person	-
e) Other	Person	100 gpd/person	-
Commercial Land Uses			
Airport			-
a) Common Area/Concourse/Retail			
	SF	10 gpd/ 100 sq. ft.	-
b) Food Service		see restaurant use for allocation	
Bank	SF	10 gpd /100 sq. ft.	-
Banquet Hall (with or without kitchen)	76,054.00	SF 10 gpd/ 100 sq. ft.	7,605.40
Bar, Cocktail Lounge, Nightclub, or Adult Entertainment	6,336.00	SF 20 gpd/100 sq. ft.	1,267.20
Barber Shop	SF	10 gpd /100 sq. ft.	-
Beauty Shop	SF	25 gpd/100 sq. ft.	-
Big Box Retail	SF	2.5 gpd/100 sq. ft.	-
Bowling Alley	Lanes	100 gpd/lane	-
Car Wash			-
a) Manual Washing	Bay	350 gpd/bay	-
b) Automated Washing	Bay	5,500 gpd/bay	-
With recycle system		based on system design and evaluation by the Department	
Coin Landary	Washer	110 gpd/washer	-
Country Club with or without kitchen	SF	20 gpd/ 100 sq. ft.	-
Dentist's Office	SF	20 gpd/ 100 sq. ft.	-
Fitness Center or Gym	SF	10 gpd/100 sq. ft.	-
Funeral Home	SF	5 gpd/ 100 sq. ft.	-
Gas Station Convenience Store/ Mini-Mart		450 gpd/unit	-
a) Without Car Wash	Units	450 gpd/unit	-
b) w/ Single Automated Car Wash	Units	1,750 gpd/unit	-
Additional Single Automated Car Wash	Units	1,300 gpd/unit	-
Hospital	Beds	250 gpd/bed	-
Hotel or Motel	Rooms	115 gpd/room	-
House of Worship	SF	10 gpd/ 100 sq. ft.	-

300 Alton
Schedule of Daily Rated Gallonages - Proposed Uses

Types of Land Uses Proposed	Units	Gallons Per Day (GPD)	Projected Flow Demand (GPD)	
Industrial use NOT discharging a process wastewater and NOT utilizing water for an industrial process (including but not limited to automotive repair, boat repair, carpentry, factory, machine shop, welding)	SF	4 gpd/100 sq. ft.	-	
Industrial use discharging a process wastewater or utilizing water for an industrial process based on system design and evaluation by the Department	SF	4 gpd/100 sq. ft.	-	
Kennel	SF	15 gpd/100 sq. ft.	-	
Marina	400.00	Slips	60 gpd/slip	24,000.00
Nail Salon		SF	30 gpd/ 100 sq. ft.	-
Nursing / Convalescent Home		Beds	125 gpd/bed	-
Office Building	15,000.00	SF	5 gpd/ 100 sq. ft.	750.00
Pet Grooming		SF	20 gpd/ 100 sq. ft.	-
Physician's Office		SF	20 gpd/100 sq. ft.	-
Public Park				-
a) With toilets only		People	5 gpd/ person	-
b) With toilets and showers		People	20 gpd/ person	-
Public Swimming Pool Facility		People	30 gpd/ person	-
Recreational Vehicle (RV) Park (seasonal use)		Space	150 gpd/space	-
Restaurant				-
a) Fast-Food		SF	65 gpd/ 100 sq. ft.	-
b) Full Service	10,000.00	SF	100 gpd/ 100 sq. ft.	10,000.00
c) Take-Out		SF	100 gpd/ 100 sq. ft.	-
Retail	20,000.00	SF	10 gpd/ 100 sq. ft.	2,000.00
School				-
a) Day care/ Nursery (adults and children)		SF	10 gpd/ 100 sq. ft.	-
b) Regular School		SF	12 gpd/ 100 sq. ft.	-
Self-service Storage Units		SF	1.5 gpd/ 100 sq. ft.	-
Shopping Center/ Mall				-
a) Shell/Common Area		SF	10 gpd/ 100 sq. ft.	-
Spa		SF	20 gpd/ 100 sq. ft.	-
Sporting Facilities and Auditorium		Setas	3 gpd/seat	-
Theater				-
a) Indoor		Seats	1 gpd/seat	-
b) Outdoor/Drive-in		Spaces	5 gpd/space	-
Veterinarian Office		SF	20 gpd/ 100 sq. ft.	-
Warehouse/Speculation Building		SF	2 gpd/ 100 sq. ft.	-
Wholesale Food Preparation (including but not limited to meat markets and commissaries)		SF	35 gpd/ 100 sq. ft.	-

Total Proposed Flow: 53,722.60

Total Previous Flow: (58,786.60)

Net Projected Flow: (5,064.00)

SCHEDULE OF DAILY RATED GALLONAGE FOR VARIOUS OCCUPANCY

<u>TYPES OF LAND USES</u>	<u>GALLONS PER DAY (GPD)</u>
RESIDENTIAL LAND USES	
Single Family Residence	210 gpd/unit (under 3,001 sq. ft.)
	310 gpd/unit (3,001-5,000 sq. ft.)
	510 gpd/unit (over 5,000 sq. ft.)
Townhouse Residence	165 gpd/unit
Apartment	135 gpd/unit
Mobile Home Residence/Park	160 gpd/unit
Duplex or Twin Home Residence	150 gpd/unit
Residential Facility/Institution:	
a) Congregate Living Facility (CLF)	75 gpd/bed
b) Apartment Dormitory	100 gpd/unit
c) Fire Station	10 gpd/100 sq. ft.
d) Jail	150 gpd/person
e) Other	100 gpd/person
COMMERCIAL LAND USES	
Airport:	
a) Common Area/Concourse/Retail	10 gpd/100 sq. ft.
b) Food Service	see restaurant use for allocation
Bank	10 gpd/100 sq. ft.
Banquet Hall (with or without kitchen)	10 gpd/100 sq. ft.
Bar, Cocktail Lounge, Nightclub, or Adult Entertainment	20 gpd/100 sq. ft.
Barber Shop	10 gpd/100 sq. ft.
Beauty Shop	25 gpd/100 sq. ft.
Big Box Retail	2.5 gpd/100 sq. ft.
Bowling Alley	100 gpd/lane
Car Wash:	
a) Manual Washing	350 gpd/bay
b) Automated Washing	5,500 gpd/bay
Coin Laundry	110 gpd/washer
Country Club with or without kitchen	20 gpd/100 sq. ft.
Dentist's Office	20 gpd/100 sq. ft.
Fitness Center or Gym	10 gpd/100 sq. ft.
Funeral Home	5 gpd/100 sq. ft.
Gas Station/Convenience Store/Mini-Mart:	
a) Without car wash	450d/unit
b) With single automated car wash	1,750 gpd/unit
Additional single automated car wash	1,300 gpd/unit
Hospital	250 gpd/bed
Hotel or Motel	115 gpd/room

TYPES OF COMMERCIAL LAND USES (CONTINUED)	
House of Worship	10 gpd/100 sq. ft.
Industrial use NOT discharging a process wastewater and NOT utilizing potable water for an industrial process (including but not limited to automotive repair, boat repair, carpentry, factory, machine shop, welding)	4 gpd/100 sq. ft.
Industrial use discharging a process wastewater or utilizing potable water for an industrial process based on system design and evaluation by the Department	4 gpd/100 sq. ft.
Kennel	15 gpd/100 sq. ft.
Marina	60 gpd/slip
Nail Salon	30 gpd/100 sq. ft.
Nursing/Convalescent Home	125 gpd/bed
Office Building	5 gpd/100 sq. ft.
Pet Grooming	20 gpd/100 sq. ft.
Physician's Office	20 gpd/100 sq. ft.
Public Park:	
a) With toilets only	5 gpd/person
b) With toilets and showers	20 gpd/person
Public Swimming Pool Facility	30 gpd/person
Recreational Vehicle (RV) Park (seasonal use)	150 gpd/space
Restaurant	
a) Fast Food	65 gpd/100 sq. ft.
b) Full Service	100 gpd/100 sq. ft.
c) Take-Out	100 gpd/100 sq. ft.
Retail	10 gpd/100 sq. ft.
School:	
a) Day care/Nursery (adults and children)	10 gpd/100 sq. ft.
b) Regular school	12 gpd/100 sq. ft.
Self-service storage units	1.5 gpd/100 sq. ft.
Shopping Center/Mall Shell/Common Area	10 gpd/100 sq. ft.
Spa	20 gpd/100 sq. ft.
Sporting Facilities and Auditorium	3 gpd/seat
Theater	
a) Indoor	1 gpd/seat
b) Outdoor/Drive-in	5 gpd/space
Veterinarian Office	20 gpd/100 sq. ft.
Warehouse/Speculation Building	2 gpd/100 sq. ft.
Wholesale Food Preparation (including but not limited to meat markets and commissaries)	35 gpd/100 sq. ft.

LEGEND:

gpd - gallons per day
sq. ft. - square feet

NOTES:

- 1) Sewage gallonage refers to sanitary sewage flow on a per unit and/or use basis for average daily flow in gallons per day.
- 2) Condominiums shall be rated in accordance with the specific type of use (e.g., apartment, townhouse, warehouse, etc.).