

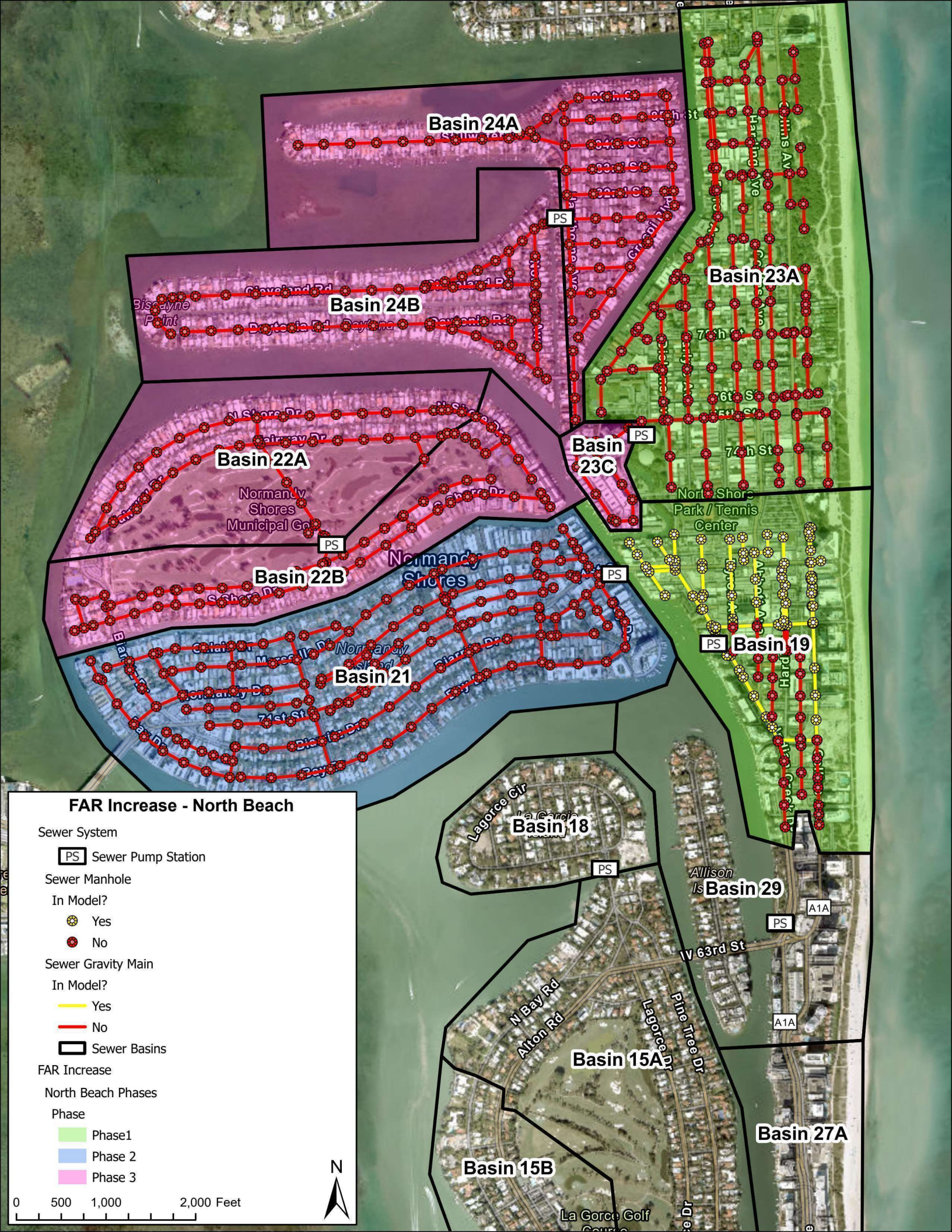


**City of Miami Beach
North Beach FAR - Hydraulic Evaluation
Fee Estimate**

Task No.	Task Description	Vice President	Senior Associate	Associate	Sr. Principal Engineer	Sr. Principal Engineer	Sr. Principal Engineer	Assistant Engineer II	Total Hours	Cost
		Guillermo Regalado	Beth Waters	Nandita Ahuja	Ethan Hypes	Hannah Borders	Briana Parbus	Rhyannan Campos		
	LABOR									
1	Hydraulic Evaluation									
	Water Analysis	2	8	40			80		130	\$ 27,948
	Sewer Analysis									
	Develop sewer flow path in GIS		2			4		16	22	\$ 3,510
	Tabulate and assign existing and proposed flows to each new manhole (605 total)	2	16		40	80		352	490	\$ 76,437
	Update sewer model to include all new 605 MHs with GIS and flow data ²		16		176	40		40	272	\$ 53,726
	Perform InfoWorks Model Run (1 scenario: Baseline) ²	2	2		40				44	\$ 9,250
	Review model results and verify sewer profiles, adjust sewer profiles as needed ²	2	40		80	40		80	242	\$ 46,834
	Perform InfoWorks Model Runs (2 scenario: Baseline and FAR Increase)	2	4		160				166	\$ 34,202
	Analyze model results and pump station impacts	2	40		40	40		176	298	\$ 51,524
	Review sewer flow path age	2	4		16	32		60	114	\$ 19,449
Task 1 Sub-total		14	132	40	552	236	80	724	1778	\$ 322,879
2	Technical Memorandum									
	Water Writeup	1	2	16			24		43	\$ 9,273
	Sewer Writeup	2	16		16	40		100	174	\$ 29,777
Task 2 Sub-total		3	18	16	16	40	24	100	217	\$ 39,050
TOTALS		17	150	56	568	276	104	824	1995	\$ 361,929
Labor Rates Used		\$280.00	\$280.00	\$222.17	\$203.26	\$203.26	\$203.26	\$133.54		

Assumptions:

- The three FAR Phases (1-3) are be analyzed with all flow increases occurring simultaneously.
- All gravity sewer profile data available in GIS and in as-builts is accurate and will generate adequate sewer flow profiles for this analysis. Should survey data be needed to confirm areas of the gravity system being analyzed, that will require additional compensation to procure the services of a surveyor, or the City will need to procure the services of a surveyor separately and provide the survey data to Hazen for use in this analysis. This will impact the timeline for completion as well.
- A preliminary review of the gravity sewer pipeline age will be reviewed in this analysis and considered when determining the impacts of the FAR increases. Water pipeline age or condition is not included in this analysis.
- Results will be presented in a technical memorandum format with detailed specific impacts to the sewer pump stations and gravity mains identified. The water analysis will not identify specific improvements.
- Increases in water and sewer demands for each FAR Phase (1-3) will be developed by the City and provided to Hazen for use in this analysis.
- 8 months will be needed to complete this analysis.
- No other FAR analyses will be included in the analysis. Completed hydraulic analysis for developments reviewed to the start date of this FAR analysis will be included.



FAR Increase - North Beach

Sewer System

PS Sewer Pump Station

Sewer Manhole

In Model?

Yes

No

Sewer Gravity Main

In Model?

Yes

No

Sewer Basins

FAR Increase

North Beach Phases

Phase

Phase 1

Phase 2

Phase 3

0 500 1,000 2,000 Feet

