



Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From Michigan Ave to South of 43rd Street
Miami-Dade County, Florida

Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

1 SCOPE OF WORK – SUPPLEMENTAL AGREEMENT

This amendment to the project scope of services is to provide consulting engineering services to the City of Miami Beach due to the project delays, FDOT changes to the roadway and drainage designs and the City's desire to incorporate wastewater improvements as a result. FDOT modifications include the addition of a two-way protected bicycle lanes, additional pavement widening, relocation of drainage inlets, adjustments of the curb and gutter, sidewalk and lighting, and adjustments of the roadway profile. Based on noted design changes FDOT will be resubmitting 60% and 90% submittals for the water main plans. The WM relocation plans will be resubmitted to FDOT and the City of Miami Beach at the 60% and 90% submittals and updated based on the FDOT design changes.

This amendment will also include a Basis of Design Report (BODR), final design, permitting, preparation of technical special provisions, electronic delivery and post design activities in relation to the installation of one (1) wastewater Pump Station, 200 LF of 8-inch force main, 4, 000 LF of 8"/10"/12"/15"/18" and 10 manholes along SR 907/Alton Road from Michigan Avenue to south of 43 Street. See detailed scope in Exhibit A for additional information.

2 SCHEDULE

Design Schedule and submittal is based on the Roadway design schedule.
BODR and final recommendations– TBD
60% Plans Submittals- September 20th, 2022
90% Plans Submittals- May 20th, 2023
100% Plans Submittals- August 31st, 2023
Plans Specifications and Estimate (PS&E) – August 19th, 2024
Letting Date – October 30th, 2024

3 ESTIMATE OF WORK EFFORT

See attached Estimate of Work Effort and Fee Spreadsheet – Exhibit B

4 REQUEST TO UTILIZE / ADD SUB-CONSULTANT

Survey and SUE Sub-consultant to be utilized.



Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From Michigan Ave to South of 43rd Street
Miami-Dade County, Florida

Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

5 DELIVERABLES

Plans, Permits, Engineer's Opinion of Probable Cost, soft digs of existing utilities and Technical Special Provisions for the installation of the proposed wastewater pump stations and force main sewer.

6 EXCLUSIONS

Permit fees will be paid by City of Miami Beach.

Environmental services for contamination clean-up if encountered.

7 METHOD OF COMPENSATION

The proposed services will be compensated in the form of a Lump Sum of **\$404, 808.41** Compensation will be based on progress submittals of construction documents. Additional services beyond the project scope will require prior approval and separate letter of authorization with justification for the request.

8 PRELIMINARY ESTIMATE OF PROBABLE COSTS

See Preliminary Engineer's Opinion of Probable Cost in Exhibit C.

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From Michigan Ave to South of 43rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

9 CONSULTANT ACCEPTANCE

Prepared For Stantec by:

Dave Clarke, P.E.
Name

Project Manager
Name


Signature

6-17-2022
Date

Reviewed and accepted for Stantec by:

Ramon Castella, P.E.
Name

Vice-President
Name


Signature

6-17-2022
Date

10 SCOPE OF WORK

Approved for by City of Miami Beach by:

Name

Name

Signature

Date

**Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From Michigan Ave to South of 43rd Street
Miami-Dade County, Florida**



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

Exhibit A – Scope of Services

Scope of Work

The scope of the work for this Task Work Order (TWO) includes:

- City of Miami Beach retained Hazen and Sawyer to develop a city-wide Sewer System Master Plan which was completed in October of 2019. Using the results of the Master Plan, the City evaluated the Alton Road corridor from Michigan to South of 43rd Street and identified wastewater improvements within Basin 28 E which include one (1) wastewater Pump Station, 200 LF of 8-inch force main, 4, 000 LF of 8"/10"/12"/15"/18" and 10 manholes. The number of pump stations, pipe sizes and lengths are approximate and will be verified in the BDOR. For this Task Work Order, Stantec will review the recommendations from the Sewer Master Plan and develop a Basis of Design Report to determine the proposed improvements, conduct an analysis to determine the size of one (1) pump station and confirm the length and size of the gravity sewer and FM main along Alton Road golf course. In addition to the BODR, Stantec will also develop construction documents for the new Pump Station, force main and manholes which will include final design, permitting, specifications (per FDOT standards) and limited support during construction.
- Scope of work for the BODR will include:
 - Review of Sewer System Master Plan developed by Hazen and Sawyer for City of Miami Beach.
 - Review hydraulic model (infoworks ICM SE by Innovyze) referenced in the Sewer System Master Plan Report by Hazen, develop list of questions, and participate in a model review meeting with the City and Consultant who prepared the model. Updates to the model are limited to the addition of existing gravity sewer system within the service area being evaluated. It is anticipated that the model is updated to accurately represent existing infrastructure and has been calibrated to reflect existing wastewater flow conditions.
 - Collect and review existing as built and GIS utility information
 - Perform site visit at proposed Pump Station location.
 - Using the City's calibrated hydraulic model, add the existing gravity sewer system within the service area, determine the proposed sewer pump station capacity (if needed), size of proposed force main, and size of new gravity sewer system along Alton Road into the R/W from Michigan to Chase Avenue for existing and future conditions. A conceptual layout of proposed facilities prepared by the City is included in Exhibit D.

Financial Project ID No's.: 429193-1-56-01

Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road

From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street

Miami-Dade County, Florida

Stantec Consulting Services Inc.

901 Ponce de Leon Boulevard Suite 900

Coral Gables FL 33134

Tel: (305) 445-2900

Fax: (305) 445-3366

-
- Perform hydraulic model to size the proposed gravity, PS and FM and coordinate with City for impacts citywide due to the proposed work.
 - Preliminary mechanical and structural calculations to size pumps, wet well, and discharge force main.
 - Preliminary electrical coordination to identify necessary power upgrades
 - Summarize findings in a draft and final BODR
- The scope of the work for the Pump Station (PS), Force main and Gravity Sewer includes:
- Installation of one (1) Pump Station design based on the BODR recommendations.
 - Installation of proposed gravity sewer and manholes as recommended in the BODR along SR 907/Alton Road from Michigan to Chase Avenue.
- The scope of the work for the watermain update includes:
- Revise waterline utility drawings to account for FDOT design changes that include addition of a two-way protected bicycle lanes, additional pavement widening, relocation of drainage inlets, adjustments of the curb and gutter, sidewalk and lighting, and adjustments of the roadway profile.
 - Update existing utility information
 - Prepare updated 60% and 90% EOPCC
 - Update Technical Special Provisions
 - Prepare and resubmit 60% Preliminary Engineering drawings and Technical Special Provisions.
 - Prepare and resubmit 90% Detailed Engineer documents.

The Scope of Work for this TWO includes the following:

1. Coordination with:
 - a. Florida Dept. of Transportation (FDOT)
 - b. City of Miami Beach

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

-
- c. Miami-Dade Department of Regulatory Economic Resource (RER) formerly DERM
 - d. Florida Department of Environmental Protection

Updated Water Main Plans

- 2. Update WM plans due to FDOT changes which include addition of a two-way protected bicycle lanes, additional pavement widening, relocation of drainage inlets, adjustments of the curb and gutter, sidewalk and lighting, and adjustments of the roadway profiled

New Pump Station

- 3. Supplement topographic survey and soft digs of the property for the new Pump station. The survey will show the property's relationship to boundary, easement lines and location of above ground visible improvements. Additional Geotechnical borings will also be required and provided by the City of Miami Beach.
- 4. Provide landscape services for screening of PS site with new clusia shrubs. Design will include spacing of shrubs, selection of species per CLIENT's preference (does not include shrubs that require irrigation), and general landscaping notes. (does not include beautification, photo boards or rendering showing finished look, or architectural screening)
- 5. Coordinate location, sketch and description of property and easement location for FPL equipment if necessary.
- 6. Designate utilities horizontally within the subject property to the edge of the pavement or adjacent roadway at each pump station site. Electromagnetic detection/ground penetrating radar techniques will be used to locate utilities and help identify four (4) soft-dig locations at the pump station site. These field located utilities will be plotted on the survey for the pump station.
- 7. Prepare BODR and preliminary drawings which illustrate the basic components of the improvements including, the size, scale, location, dimensions, layout, and character of each major design feature.
- 8. BODR will include final design criteria and be submitted to permit agencies for review.



Financial Project ID No's.: 429193-1-56-01

Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road

From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street

Miami-Dade County, Florida

Stantec Consulting Services Inc.

901 Ponce de Leon Boulevard Suite 900

Coral Gables FL 33134

Tel: (305) 445-2900

Fax: (305) 445-3366

9. Stantec will design the pump station with watertight hatches to avoid an elevated structure and meet the 100-year flood elevation. This will include the minimum wet well rim elevation required by agency having jurisdiction, and the minimum elevation for the bottom of the electrical equipment. Design will include necessary structural and civil efforts to harmonize grading with adjacent areas.
10. Coordinate power upgrade requirements with FPL. Stantec will identify the proposed upgrades required for the new pump station, will coordinate with FPL for preliminary power upgrade design, coordinate minimum easement requirements, coordinate preliminary costs of upgrades, and work with FPL to identify lead times on upgrades.
11. Detailed design for the new Pump Station based on the BODR recommendations along Alton Road at the recommended location in exhibit D. This will include design plans and project specifications.
12. The new pump station will be designed with a new wet well, new underground valve vault, backup generator, electrical equipment and privacy fence.
13. The pump station will be designed based on city of Miami Beach Public Works standards for Sanitary Force mains and pump stations and RER DERM.

14. Preparation of Construction Plans (Pump Station, 19 sheets):

Cover Sheet with Sheet Index (Included with gravity sewer and FM Set)

Legend and Key Plan (Included with gravity sewer and FM Set)

General Notes, Abbreviations and Pipping Schedule (Included with gravity sewer and FM Set)

CIVIL

Standard Details (Included with gravity sewer and FM Set)

1. Proposed Site Plan

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

-
2. Stormwater Pollution Prevention Plan (SWPPP)

MECHANICAL

3. PS Plans, Sections and Details

STRUCTURAL

4. Notes and Symbols
5. Valve Vault and Wet Well
6. Foundation Support
7. Structural Details

ELECTRICAL & INSTRUMENTATION

8. Notes and Symbols
9. Electrical Site Plan
10. Equipment Elevations
11. Grounding Plans
12. Single Line Diagram and Riser Diagram
13. Electrical Details
14. Pump Control panel schematic
15. Control Panel Details

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

-
- 16. RTU Installation
 - 17. Wiring Diagrams
 - 18. Schedules

New Gravity Sewer and Force Main

- 15. Development of a preliminary gravity sewer alignment along Alton Road and proposed tie-in locations for new and existing laterals. Discuss the alignment option in meeting with City of Miami Beach and FDOT prior to development of 60% design documents.
- 16. Development of Force main pipe alignment between proposed pump station and manhole on existing 18-inch gravity sewer on the west side of W 27 Street.
- 17. Detailed design (plan and profile) of 8/10/12/18" gravity sewer main and associated connections and appurtenances along SR 907/Alton Road, from Michigan Ave to Chase Avenue.
- 18. Detailed design (plan and profile) of 8" force main and associated connections and appurtenances on the west side of W 27 Street.

19. Preparation of Construction Plans (Gravity Sewer and Force Main 23 sheets):

- 1. Cover Sheet with Sheet Index
- 2. General Notes
- 4. Legend and Key Plan (2 sheets)
- 6. Tabulation of Quantities – Sanitary force main, manholes and fittings (2 sheets)
- 7. Plan and Profile for force main (1 sheet)
- 20. Plan and Profile for gravity sewer Including connections to Existing (13 Sheets)

22. Details (2)

Permitting and Support and Applications

20. Preparation and submittal of permit applications to the following:

- a. Miami-Dade Department of Regulatory Economic Resource (RER) formerly DERM
- b. Florida Department of Environmental Protection
- c. City of Miami Beach Building Department – Dry Run
- d. City of Miami Beach Public Works
- e. DERM Sewer Extension

21. Addressing permit comments. Up to three rounds of RFIs for each agency and revising plans as to resolve these RFIs.

LIMITED SUPPORT DURING BIDDING AND CONSTRUCTION

22. Provide bidding support to FDOT during procurement addressing questions from prospective bidders.

23. Post design services for the new pump station, force main and gravity sewer which include:

- a. Preconstruction Conference
- b. Shop Drawing review (Manholes, Modification of existing manholes, gravity sewer pipes, bypass plan for gravity sewer installation, fittings, bypass plan pumps, control panel, valves, wet well, pipes, fittings, etc.)
- c. Change order evaluation and recommendations

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

- d. Start-up Testing
- e. RFIs and Engineers Supplemental Instructions (ESI's)
- f. Field visits

24. Prepare Technical Special Provisions (TSPs) required for:

- a. Wastewater Pump Stations
- b. Sanitary Force main construction
- c. Gravity Sewer main construction
- d. Update water main construction specifications

25. Prepare Engineers Estimate of Probable Construction Cost in FDOT format

26. Electronic Delivery of the proposed design JPA per FDOT requirements and Final delivery to City of Miami Beach.

Prepare and submit progress drawings and documents for City of Miami Beach review and approval as follows:

a) 30% submittal:

30% drawings, technical specifications (TOC), class 5 (expected accuracy between 30% to 50%) preliminary Opinion of Probable Construction Cost and draft schedule of values. (Deliverables include: Digital copies of 11" x 17" Design Plans at 1"=40" scale for Plan & Profile, digital copies of the technical specifications, digital copies of preliminary Opinion of Probable Construction Cost.

b) 60% submittal:

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

60% drawings, draft technical specifications, class 4 (expected accuracy between 15% to 30%) preliminary Opinion of Probable Construction Cost and draft schedule of values. (Deliverables include: Digital copies of 11" x 17" Design Plans at 1"=40" scale for Plan & Profile, digital copies of the technical specifications, digital copies of preliminary Opinion of Probable Construction Cost.

c) 90% submittal:

90% drawings, draft technical specifications, class 2 (expected accuracy between 5% to 15%) preliminary Opinion of Probable Construction Cost and draft schedule of values. (Deliverables include: Digital copies of 11" x 17" Design Plans at 1"=40" scale for Plan & Profile, digital copies of the technical specifications, digital copies of preliminary Opinion of Probable Construction Cost.

d) Permit Package:

Permit submittal and resolution of permit review comments for the agencies listed above. (Deliverables include: eight (4) copies of 11" x 17" Design Plans at 1"=40" scale for Plan & Profile, two (2) copies of technical specifications signed and sealed by Stantec's Engineer of Record (EOR), completed permit applications for each agency signed and sealed by Stantec's EOR, tracking sheet with indication of dates of submittal of each application and approval or comments from the corresponding agency).

e) 100% Submittal:

Prepare and submit 100% Final drawings, technical specifications, schedule of values and class 1 (expected accuracy between 5% to 10%) Opinion of Probable Construction Cost to City of Miami Beach and FDOT to execute Construction JPA. (Package shall include five (5) copies of approved 100% Construction Plans in 11" x 17" format, Final Technical specifications (One (1) original not bound, and four (4) copies bound, Final Opinion of Probable Cost, flash drive with 100% Construction Plans (CADD files (Microstation) and PDFs), Final Opinion of Probable Cost in excel, draft and final meeting minutes).



Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida

Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

Assumptions/Clarifications:

Assumptions and exclusions for this Scope of Work include:

1. The City's Infoworks hydraulic model is up to date and reflects the existing system hydraulic conditions accurately as of issuance of NTP and no calibration is required. Any model updates or modeling of additional scenarios will require additional compensation.
2. Stantec will add the existing gravity sewer in the basin being evaluated. Gravity pipeline data, including pipe sizes and invert elevations, is available in electronic (GIS format) or record drawings in pdf and will be provided by the City.
3. Stantec assumes the existing model was calibrated with existing field pressure data. This scope does not include purchasing or installation of pressure loggers at key locations to validate existing model.
4. Design for any Temporary Works (e.g. excavation, shoring, sheeting, or stabilization of pits or excavations) is not included. Minimum requirements will be included in Technical Specifications.
5. Transient analysis is not required for either replacement of water mains or force mains.
6. Design for relocation of other utilities (gas, electric, telecommunications etc.) is not included in this scope of work.
7. Chain-link fencing with privacy slats at the PS site is not included in this scope of work. PS will be screened with new shrubs.
8. Lighting plans for the PS site is excluded from scope of work.
9. Scope of work does not include submittals to City of Miami Beach Design Review Board, City of Miami Beach Historical Preservation Board, or City of Miami Beach Planning Department
10. Subsurface geotechnical investigations have been completed for the roadway design and provide sufficient data and design recommendations to complete the gravity sewer main design. Available data and geotechnical reports will be provided to the Engineer.
11. Additional Geotech information will be provided by the City at the PS sites to support design of the new Pump Stations.
12. CAD drawings will be in Microstation (FDOT Requirements)

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

13. With the exception of the design of the wet well and PS Structures, no other structural analysis or design is required for this project.
14. Design and/or specification of cathodic protection systems is not required for this project.
15. Summary of Water and sanitary valve box & manhole adjustment provided a tabular table.
16. Design of sheet piling is not required for this project.
17. Prepare backout Utility Work Schedule for City of Miami Beach to review and sign. City will review schedule and submit to FDOT.
18. Line and lay drawings and fitting schedules are not required for this project.
19. Project limits of proposed water, force main and gravity sewer utility improvements do not extend beyond the limits of the proposed FDOT roadway construction.
20. Engineer shall prepare and make a total of four submittals to City of Miami Beach for review (60%, 90%, Permit Set, and 100% Plans). Engineer shall be entitled to additional compensated for additional and/or supplemental submittal requests.
21. Engineer shall prepare and make a total of 8 submittals to FDOT which coincide with the 60%, 90%, 100%, PS&E, Plans Completed, Production Date, Plans to specs and plans to Tally per Project Schedule milestones.
22. Environmental services for contamination clean-up, if encountered, would be additional services and Stantec will be entitled for any effort required.
23. This scope does not include pump drawdown tests for existing sewer pump stations, or installations of pressure loggers to verify existing pumping conditions.
24. Permitting with City of Miami Beach Urban Forestry or Public Works is not included as part of this scope.
25. This scope does not include permitting with DERM's following departments - Pollution Remediation Section, Water Control, or obtaining Class I – Class VI permits.
26. Permit fees will not be paid by City of Miami Beach.
27. Coordination of Temporary Construction Easements with private property owners are not included as part of this scope.



Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida

Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

-
28. This scope only includes a design for up to one new pump station. Design of any additional pump station will require additional compensation.
 29. This proposal assumes the pump station location include the minimum required footprint to accommodate a new pump station, access driveway, harmonize flood elevation elements, and minimum clearances. If a new location is required based on limited PS site area, Stantec will request for additional compensation to evaluate an optimal location.
 30. Public Outreach is not included in this scope of work

Current FDOT Projects Information

Project Manager: Raymond Valido, P.E.

Contact Number: (305) 470-5162

Email: Natalie.raymond.valido@dot.state.fl.us

FDOT Scope of Work: Roadway reconstruction, intersection improvements, milling and resurfacing, adjustment of valves and manholes, sidewalk and curb ramps, signing and pavement markings signalization.

Production Schedule:

Plans Completed – February 24th, 2023

PS&E – August 19th, 2024

Letting Date – October 30th, 2024

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

Exhibit B - Work Effort Spreadsheet

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION ESTIMATE OF WORK EFFORT AND FEE



CONSULTANT: STANTEC CONSULTING SERVICES INC.

WPI NO.: N/A

DESCRIPTION: Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.

CONST. YR. 2024

COUNTY: MIAMI-DADE

From: Michigan Ave

To: South of 43 Street

CLASSIFICATION	W O R K %	MANHOURS						HOURLY RATE (W/OUT OM)	FIXED FEE (OM)	TOTAL HOURLY RATE	ESTIMATED COST	
		A	B	TOTAL WORK EFFORT								
		DESIGN ANALYSIS & PLANS	POST DESIGN SERVICE									
		ELEMENTS										
S T A N T E C	CHIEF ENGINEER	5%	116	14	130				\$ 211.43	\$ 23.52	\$ 234.95	\$30,543.50
	PROJECT MANAGER	15%	348	43	391				\$ 184.15	\$ 20.48	\$ 204.63	\$80,010.33
	SENIOR ENGINEER	30%	697	86	783				\$ 150.20	\$ 16.71	\$ 166.91	\$130,690.53
	PROJECT ENGINEER	15%	348	43	391				\$ 118.51	\$ 13.18	\$ 131.69	\$51,490.79
	SR. ENGINEERING TECHNICIAN	35%	813	100	913				\$ 79.32	\$ 8.82	\$ 88.14	\$80,471.82
SUB TOTAL		100%	3,693	286	2608	STANTEC SUB TOTAL				\$143.10	\$373,206.97	
H A D O N N E			0		0				\$ 75.48	\$ 8.12	\$ 83.60	\$0.00
			0		0				\$ 45.95	\$ 4.94	\$ 50.89	\$0.00
			0		0				\$ 90.68	\$ 9.76	\$ 100.44	\$0.00
			0		0				\$ 40.42	\$ 4.35	\$ 44.77	\$0.00
						HADONNE SUB TOTAL				0	\$0.00	
SOFT-DIG SURVEY	SURVEY 4-MAN CREW- DAYS 20 SOFT DIGS & Survey for PS	100%	26.00		26	HADONNE SURVEY TOTAL				26	\$1,215.44	\$31,601.44
											\$31,601.44	

If revised estimate, give reasons for revisions

TOTAL CONTRACT FEE COMPUTATIONS-(STANTEC)

Estimator	Dave E. Clarke	(a) Total Loaded Salary	\$373,206.97
Date:	5/11/2022	(b) TOTAL OVERHEAD ⁽¹⁾	\$0.00
		(c) OPERATING MARGIN ⁽²⁾	\$0.00
		(d) FCCM ⁽³⁾	\$0.00
		(e) DIRECT EXPENSE ⁽⁴⁾	\$0.00

Services for Hadonne Sub consultant are included in Sub activities 5 & 6

SUB TOTAL CONTRACT AMOUNT (LUMP SUM)-STANTEC \$373,206.97

TOTAL CONTRACT FEE COMPUTATIONS (HADONNE)

(1) Total Overhead (General) = Included in (a) Total Loaded Salary	(a) Total Loaded Salary	\$0.00
(2) Operating Margin = Included in (a) Total Loaded Salary	(b) TOTAL OVERHEAD ⁽¹⁾	\$0.00
(3) Facilities Capital Cost of Money (FCC) = Included in (a) Total Loaded Salary	(c) OPERATING MARGIN ⁽²⁾	\$0.00
(4) Direct Reimbursables (Out-of-Picket) = Included in (a) Total Loaded Salary	(d) FCCM ⁽³⁾	\$0.00
	(e) DIRECT EXPENSE ⁽⁴⁾	\$0.00

TOTAL CONTRACT AMOUNT (LUMP SUM)-HADONNE \$0.00

SUB TOTAL CONTRACT AMOUNT (LUMP SUM)-SURVEY \$31,601.44

GRAND TOTAL CONTRACT AMOUNT (LUMP SUM) \$404,808.41



CONSULTANT: STANTEC CONSULTING SERVICES INC.

WPI NO.: N/A

DESCRIPTION: Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.

CONST. YR. 2024

COUNTY: MIAMI-DADE

From: Michigan Ave

To: South of 43 Street

TASKS	W O R K %	MANHOURS				HOURLY RATE (W/OUT OM)	FIXED FEE (OM)	TOTAL HOURLY RATE	ESTIMATED COST
		BODR AND PM TOTAL HOURS	ELEMENTS						
BODR		220						\$31,484.20	
PM & COORDINATION		153						\$21,895.83	
SUB TOTAL		373						\$53,380.03	

TASKS	W O R K %	MANHOURS		HOURLY RATE (W/OUT OM)	FIXED FEE (OM)	TOTAL HOURLY RATE	ESTIMATED COST
		WATER MAIN TOTAL HOURS	TOTAL SHEETS				
UPDATE 90% PLANS		266	38				\$38,056.97
SUB TOTAL		266	38				\$38,056.97

TASKS	W O R K %	MANHOURS		HOURLY RATE (W/OUT OM)	FIXED FEE (OM)	TOTAL HOURLY RATE	ESTIMATED COST
		GRAVITY SEWER TOTAL HOURS	TOTAL SHEETS				
30% PLANS		204	16				\$29,194.44
60% PLANS		332	22				\$47,512.52
90% PLANS		216	22				\$30,906.12
100% PLANS		134	22				\$19,176.74
SUB TOTAL		886	22				\$126,789.82

TASKS	W O R K %	MANHOURS		HOURLY RATE (W/OUT OM)	FIXED FEE (OM)	TOTAL HOURLY RATE	ESTIMATED COST
		PS & FM TOTAL HOURS	TOTAL SHEETS				
DESIGN ANALYSIS		151					\$21,609.61
30% PLANS		59	2				\$8,443.49
60% PLANS		260	19				\$37,208.60
90% PLANS		130	19				\$18,604.30
100% PLANS		65	19				\$9,302.15
SUB TOTAL		665	19				\$95,168.15

TASKS	W O R K %	MANHOURS				HOURLY RATE (W/OUT OM)	FIXED FEE (OM)	TOTAL HOURLY RATE	ESTIMATED COST
		PERMITTING & POST DESIGN (FM, PS, SS)	ELEMENTS						
PERMIT		132						\$18,890.52	
POST DESIGN		286						\$40,921.48	
SUB TOTAL		418						\$59,812.00	

STANTEC TOTAL HRS	2608	\$373,206.97
STANTEC TOTAL SHEET COUNT	79	
SURVEY AND SUE SERVICES	0	\$31,601.44
GRAND TOTAL CONTRACT AMOUNT		\$404,808.41

**Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
 BODR, New Pump Stations and Force Mains**

ACTIVITY: A. (BODR and Preliminary Sketches) FM & PUMP STATION & GRAVITY SEWER

SUBACTIVITY: 1 (Design Analysis)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Review of Sewer System Master Plan and hydraulic model developed by Hazen and Sawyer for City of Miami Beach.	LS	1	35	35		
2	Hydraulic and Modeling Evaluation and calculations to validate number of pump stations proposed, size of new force mains & size of relocated gravity sewer mains	LS	1	35	35		
3	Performing easement research and coordinating proposed sketches	EA	0	0	0		For 1 PS site
4	Draft BODR	LS	1	80	80		
5	Final BODR Including Workshop	LS	1	60	60		
6	Preliminary drawings illustrating the PS site layout and new force main.	EA	1	30	30		Civil Demo/Existing, Civil Site Plan, & Mechanical Section
7	Hydraulic Calculations for Pump Selection	EA	1	40	40		Assume 40 hrs for each station
8	Structural Calculations for PS buoyancy, wet well structure	EA	1	20	20		Assume 20 hrs for each station
9	Coordinate with FPL for preliminary power upgrade, easement requirements,	EA	1	20	20		
10	Coordinate collection of field data for survey, geotech and SUE	LS	1	10	10		
11	Obtain utility design ticket and existing utility information	EA	12	2	24		Obtain Sunshine Onecall design ticket and existing utility information from UA/Os
12	Field Reviews	EA	3	8	24		Estimate is for 1 field visits @ 4 hours each (2 persons) and includes preparation, travel, and documentation time.
13	Contract File (Set-up and maintenance)	LS	1	50	50		Setup project, maintenance of files, schedule updates, sub-consultant management, progress reports etc. Assume approx 4 hrs per month for 12 months
14	FDOT Computation Book & Quantities	LS	1	24	24		Quantities based on PS and new pipeline alignment
15	Bidding Support	LS	1	40	40		
16	Meeting Via Teams	EA	1	4	4		Meetings with City of Miami Beach and FDOT; Kick off meeting with City to discuss report and hydraulic model Meeting with FDOT to discuss location and alignment prior to development of 60% design deliverable.
17	Meetings In-Person	EA	1	4	4		Meetings with City of Miami Beach and FDOT; Kick off meeting with City to discuss report and hydraulic model Meeting with FDOT to discuss location and alignment prior to development of 60% design deliverable.
SUBACTIVITY SUBTOTAL					500		
18	Quality Assurance/Quality Control	%	5%		25		
SUBACTIVITY TOTAL					525		

Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.
FINANCIAL PROJECT No.: 429193-1-56-02
BODR, New Pump Stations and Force Mains

ACTIVITY: A. (PS and FM PLANS)

SUBACTIVITY: 2 (Construction Plans 30%)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
Pump Stations Drawings-General/Civil							
1	Cover Sheet and Index	Sheet	0	0	0		Included with Gravity Sewer
2	Legend and Key Plan	Sheet	0	0	0		Included with Gravity Sewer
3	General Notes, Abbreviations and Piping Schedule	Sheet	0	0	0		Included with Gravity Sewer
4	Standard Details	Sheet	0	0	0		Included with Gravity Sewer
5	Prop Site/Grading Plan	Sheet	1	0			Not part of 30% submittal
6	SWPPP	Sheet	1	0			Not part of 30% submittal
Pump Stations Drawings-Mechanical							
7	PS Plans and Sections & Details	Sheet	1	48		48	
Pump Stations Drawings-Structural							
8	Notes and Symbols	Sheet	1	0		0	Not part of 30% submittal
9	Valve Vault and Wet well	Sheet	1	0		0	Not part of 30% submittal
10	Foundation Support	Sheet	1	0		0	Not part of 30% submittal
11	Structural Details	Sheet	1	0		0	Not part of 30% submittal
Pump Stations Drawings-Electrical & Instrumentation							
12	Notes and Symbols	Sheet	1	0		0	Not part of 30% submittal
13	Elec Site Plan and Equipment Elevations	Sheet	2	0		0	Not part of 30% submittal
14	Grounding Plan	Sheet	1	0		0	Not part of 30% submittal
15	Single Line & Riser Diagram	Sheet	1	0		0	Not part of 30% submittal
16	Electrical Details	Sheet	1	0		0	Not part of 30% submittal
17	Pump Control Panel Schematic	Sheet	1	0		0	Not part of 30% submittal
18	Control Panel Details	Sheet	1	0		0	Not part of 30% submittal
19	RTU Installation and Wiring Diagrams	Sheet	2	0		0	Not part of 30% submittal
20	Schedules	Sheet	1	0		0	Not part of 30% submittal
Force Main Drawings-							
21	Key Sheet/Key Plan	Sheet	0	0		0	Included with Gravity Sewer
22	General Notes	Sheet	0	0		0	Included with Gravity Sewer
23	Legend and Key Plan	Sheet	0	0		0	Included with Gravity Sewer
24	Tabulation of Quantities and Lateral Tables	Sheet	0	0		0	Included with Gravity Sewer
25	8'10"12" Force main Plan	Sheet	1	8		8	
26	Structural Details	Sheet	0	0		0	
27	Standard Details including Gravity Sewer Details	Sheet	0	0		0	
28	Special Details	Sheet	0	0		0	
29	Pavement and Base Restoration/General Notes and Details	Sheet	0	0		0	
30	Core Boring Reports	Sheet	0	0		0	
31	Traffic Control Notes	Sheet	0	0		0	
32	Traffic Control Typical Sections	Sheet	0	0		0	
33	Traffic Control Plan	Sheet	0	0		0	
34	Electronic Delivery	LS	0	0		0	
35	Phase Review Meetings	EA	0	0		0	
SUBACTIVITY SUBTOTAL					56		
36	Quality Assurance/Quality Control	%	5%			3	
SUBACTIVITY TOTAL					59		

Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
 BODR, New Pump Stations and Force Mains

ACTIVITY: A. (PS and FM PLANS)

SUBACTIVITY: 2. (Construction Plans 60%)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
Pump Stations Drawings-General/Civil							
1	Cover Sheet and Index	Sheet	0	0	0		Included with Gravity Sewer
2	Legend and Key Plan	Sheet	0	0	0		Included with Gravity Sewer
3	General Notes, Abbreviations and Piping Schedule	Sheet	0	0	0		Included with Gravity Sewer
4	Standard Details	Sheet	0	0	0		Included with Gravity Sewer
5	Prop Site/Grading Plan (including Landscaping)	Sheet	1	16	16		
6	SWPPP	Sheet	1	16	16		
Pump Stations Drawings-Mechanical							
7	PS Plans and Sections & Details	Sheet	1	24	24		
Pump Stations Drawings-Structural							
8	Notes and Symbols	Sheet	1	8	8		
9	Valve Vault and Wet well	Sheet	1	36	36		
10	Foundation Support	Sheet	1	20	20		
11	Structural Details	Sheet	1	16	16		
Pump Stations Drawings-Electrical & Instrumentation							
12	Notes and Symbols	Sheet	1	8	8		
13	Elec Site Plan and Equipment Elevations	Sheet	2	12	24		
14	Grounding Plan	Sheet	1	8	8		
15	Single Line & Riser Diagram	Sheet	1	8	8		
16	Electrical Details	Sheet	1	8	8		
17	Pump Control Panel Schematic	Sheet	1	8	8		
18	Control Panel Details	Sheet	1	8	8		
19	RTU Installation and Wiring Diagrams	Sheet	2	8	16		
20	Schedules	Sheet	1	8	8		
Force Main Drawings							
21	Key Sheet/Key Plan	Sheet	0	0	0		Included with Gravity Sewer
22	General Notes	Sheet	0	0	0		Included with Gravity Sewer
23	Legend and Key Plan	Sheet	0	0	0		Included with Gravity Sewer
24	Tabulation of Quantities and Lateral Tables	Sheet	0	0	0		Included with Gravity Sewer
25	8"10"/12" Force main Plan	Sheet	1	16	16		
26	Structural Details	Sheet	0	0	0		
27	Standard Details including Gravity Sewer Details	Sheet	0	0	0		
28	Special Details	Sheet	0	0	0		
29	Pavement and Base Restoration/General Notes and Details	Sheet	0	0	0		
30	Core Boring Reports	Sheet	0	0	0		
31	Traffic Control Notes	Sheet	0	0	0		
32	Traffic Control Typical Sections	Sheet	0	0	0		
33	Traffic Control Plan	Sheet	0	0	0		
34	Electronic Delivery	LS	0	0	0		
35	Phase Review Meetings	EA	0	0	0		
SUBACTIVITY SUBTOTAL					248		
36	Quality Assurance/Quality Control	%	5%			12	
SUBACTIVITY TOTAL					260		

Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
 BODR, New Pump Stations and Force Mains

ACTIVITY: A. (PS and FM PLANS)

SUBACTIVITY: 2 (Construction Plans 90%)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
Pump Stations Drawings-General/Civil							
1	Cover Sheet and Index	Sheet	0	0	0		Included with Gravity Sewer
2	Legend and Key Plan	Sheet	0	0	0		Included with Gravity Sewer
3	General Notes, Abbreviations and Piping Schedule	Sheet	0	0	0		Included with Gravity Sewer
4	Standard Details	Sheet	0	0	0		Included with Gravity Sewer
5	Prop Site/Grading Plan (Including Landscape Plans)	Sheet	1	10	10		
6	SWPPP	Sheet	1	10	10		
Pump Stations Drawings-Mechanical							
7	PS Plans and Sections	Sheet	1	12	12		
Pump Stations Drawings-Structural							
8	Notes and Symbols	Sheet	1	4	4		
9	Valve Vault and Wet well	Sheet	1	18	18		
10	Foundation Support	Sheet	1	10	10		
11	Structural Details	Sheet	1	4	4		
Pump Stations Drawings-Electrical & Instrumentation							
12	Notes and Symbols	Sheet	1	2	2		
13	Elec Site Plan and Equipment Elevations	Sheet	2	6	12		
14	Grounding Plan	Sheet	1	4	4		
15	Single Line & Riser Diagram	Sheet	1	4	4		
16	Electrical Details	Sheet	1	2	2		
17	Pump Control Panel Schematic	Sheet	1	4	4		
18	Control Panel Details	Sheet	1	4	4		
19	RTU Installation and Wiring Diagrams	Sheet	2	4	8		
20	Schedules	Sheet	1	4	4		
Pump Stations Drawings-Instrumentation							
Force Main Drawings:							
21	Key Sheet/Key Plan	Sheet	0	0	0		Included with Gravity Sewer
22	General Notes	Sheet	0	0	0		Included with Gravity Sewer
23	Legend and Key Plan	Sheet	0	0	0		Included with Gravity Sewer
24	Tabulation of Quantities and Lateral Tables	Sheet	0	0	0		Included with Gravity Sewer
25	8"/10"/12" Force main Plan	Sheet	1	12	12		
26	Structural Details	Sheet	0	0	0		
27	Standard Details including Gravity Sewer Details	Sheet	0	0	0		
28	Special Details	Sheet	0	0	0		
29	Pavement and Base Restoration/General Notes and Details	Sheet	0	0	0		
30	Core Boring Reports	Sheet	0	0	0		
31	Traffic Control Notes	Sheet	0	0	0		
32	Traffic Control Typical Sections	Sheet	0	0	0		
33	Traffic Control Plan	Sheet	0	0	0		
34	Electronic Delivery	LS	0	0	0		
35	Phase Review Meetings	EA	0	0	0		
SUBACTIVITY SUBTOTAL					124		
36	Quality Assurance/Quality Control	%	5%			6	
SUBACTIVITY TOTAL					130		

**Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.
FINANCIAL PROJECT No.: 429193-1-56-02
BODR, New Pump Stations and Force Mains**

ACTIVITY: A. (PS and FM PLANS)

SUBACTIVITY: 2. (Construction Plans 100%)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
Pump Stations Drawings-General/Civil							
1	Cover Sheet and Index	Sheet	0	0			Included with Gravity Sewer
2	Legend and Key Plan	Sheet	0	0	0		Included with Gravity Sewer
3	General Notes, Abbreviations and Piping Schedule	Sheet	0	0	0		Included with Gravity Sewer
4	Standard Details	Sheet	0	0	0		Included with Gravity Sewer
5	Prop Site/Grading Plan	Sheet	1	6			
6	SWPPP	Sheet	1	6			
Pump Stations Drawings-Mechanical							
7	PS Plans and Sections & Details	Sheet	1	8			
Pump Stations Drawings-Structural							
8	Notes and Symbols	Sheet	1	0	0		
9	Valve Vault and Wet well	Sheet	1	8		8	
10	Foundation Support	Sheet	1	6		6	
11	Structural Details	Sheet	1	0	0		
Pump Stations Drawings-Electrical & Instrumentation							
12	Notes and Symbols	Sheet	1	0	0		
13	Elec Site Plan and Equipment Elevations	Sheet	2	4		8	
14	Grounding Plan	Sheet	1	2		2	
15	Single Line & Riser Diagram	Sheet	1	2		2	
16	Electrical Details	Sheet	1	0	0		
17	Pump Control Panel Schematic	Sheet	1	2		2	
18	Control Panel Details	Sheet	1	0	0		
19	RTU Installation and Wiring Diagrams	Sheet	2	2		4	
20	Schedules	Sheet	1	2		2	
Pump Stations Drawings-Instrumentation							
Force Main Drawings-							
21	Key Sheet/Key Plan	Sheet	0	0	0		Included with Gravity Sewer
22	General Notes	Sheet	0	0	0		Included with Gravity Sewer
23	Legend and Key Plan	Sheet	0	0	0		Included with Gravity Sewer
24	Tabulation of Quantities and Lateral Tables	Sheet	0	0	0		Included with Gravity Sewer
25	8"/10"/12" Force main Plan & Profile	Sheet	1	8		8	
26	Structural Details	Sheet	0	0	0		
27	Standard Details including Gravity Sewer Details	Sheet	0	0	0		
28	Special Details	Sheet	0	0	0		
29	Pavement and Base Restoration/General Notes and Details	Sheet	0	0	0		
30	Core Boring Reports	Sheet	0	0	0		
31	Traffic Control Notes	Sheet	0	0	0		
32	Traffic Control Typical Sections	Sheet	0	0	0		
33	Traffic Control Plan	Sheet	0	0	0		
34	Electronic Delivery	LS	0	0	0		
35	Phase Review Meetings	EA	0	0	0		
SUBACTIVITY SUBTOTAL					62		
36	Quality Assurance/Quality Control	%	5%			3	
SUBACTIVITY TOTAL					65		

**Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.
FINANCIAL PROJECT No.: 429193-1-56-02**

BODR, New Pump Stations and Force Mains

ACTIVITY: A. (PS and FM PLANS)

SUBACTIVITY: 3 (Permits)

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Prepare Permit Applications FDEP	EA	1	20		20		1 permit applications for 1 PS, 1 for the forcemain and 1 Gravity Sewer
2	Prepare Permit Applications DERM Sewer	EA	1	20		20		1 permit applications for 1 PS, 1 for the forcemain and 1 Gravity Sewer
3	Prepare Permit Applications Building	EA	1	20		20		1 permit applications for 1 PS, 1 for the forcemain and 1 Gravity Sewer
4	Prepare Permit Applications Public Works	EA	1	16		16		1 permit applications for 1 PS, 1 for the forcemain and 1 Gravity Sewer
5	Coordination and RFI with Permitting Agencies	EA	6	8		48		Assume two for PS, FM, GS
6	Permit Meetings	EA	2	4		8		
7	Permit Fees	LS						To be paid by City of Miami Beach. Stantec will request check from City once permit package is ready to be submitted.
SUBACTIVITY TOTAL						132		

**Proposed BODR, New Pump Stations and Force Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
 BODR, New Pump Stations and Force Mains**

ACTIVITY: B. (POST DESIGN) FM & PUMP STATION

SUBACTIVITY: 4 (Post Design Services)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Post Design Services-Pre-Construction Meeting	EA	2	4	8		Two persons including travel and meeting time
2	Shop Drawing Review	EA	12	6	72		Assume 6 for each PS and FM including resubmittals and 12 for sanit sewer
3	Engineering Assistance & RFI's	EA	12	6	72		PS, FM and San Sewer
4	Change Order Evaluation and recommendation	EA	4	6	24		PS, FM and San Sewer
5	Construction Site Visits	EA	4	4	16		
6	Start Up testing	EA	1	12	12		
7	Plans Update & Revisions	EA	8	6	48		PS, FM and San Sewer
8	Review Preliminary As-built Drawings Review	EA	17	2	34		2 Pages for FM Design and 11 Pages for San Sewer
SUBACTIVITY TOTAL					286		

**Proposed 8"/10"/12"/18" Gravity Sewer Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
Gravity Sewer Plans**

ACTIVITY: A. (GRAVITY SEWER PLANS)

SUBACTIVITY: 2 (Construction Plans 30%)

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Pipe Line Alignment & Design	LS	1	100		100		
2	Cover Sheet and Index	Sheet	1	8		8		includes PS, FM and Gravity Sewer
3	General Notes, Abbreviations and Piping Schedule	Sheet	1	8		8		includes PS, FM and Gravity Sewer
4	Legend and Key Plan	Sheet	2	8		16		includes PS, FM and Gravity Sewer
5	Tabulation of Quantities and Lateral Tables	Sheet	2	8		16		includes PS, FM and Gravity Sewer
6	Summary of Including Pipe segment, diameter, material, slope and manholes	Sheet	1	8		8		includes PS, FM and Gravity Sewer
7	8"/10"/12"/18" Gravity Sewer Plan/Profile Sheets	Sheet	11	10		110		
8	Laterals Connections to Existing Manholes	Sheet	2	0		0		Not part of 30% Submittal
9	Standard Details	Sheet	2	8		16		includes PS, FM and Gravity Sewer
10	Typical Details	Sheet	0	0		0		
11	Pavement and Base Restoration/General Notes and Details	Sheet	0	0		0		
12	Traffic Control Analysis	LS	0	40		0		Assumed under FDOT project
13	Traffic Control Notes	Sheet	0	0		0		
14	Traffic Control Typical Sections	Sheet	0	0		0		
15	Traffic Control Plan	Sheet	0	0		0		
16	Phase Review Meetings	EA	0	0		0		
17	Prepare Construction Cost Estimate	LS	1	12		12		Engineers estimate of probable cost in FDOT format
18	Special Provisions/ Specifications / TOC	LS	1	0		0		Not part of 30% Submittal
SUBACTIVITY SUBTOTAL						194		
19	Quality Assurance/Quality Control	%	5%			10		
SUBACTIVITY TOTAL						204		

**Proposed 8"/10"/12"/18" Gravity Sewer Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
Gravity Sewer Plans**

ACTIVITY: A. (GRAVITY SEWER PLANS)

SUBACTIVITY: 2 (Construction Plans 60%)

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Cover Sheet and Index	Sheet	1	6		6		includes PS, FM and Gravity Sewer
2	General Notes, Abbreviations and Piping Schedule	Sheet	1	6		6		includes PS, FM and Gravity Sewer
3	Legend and Key Plan	Sheet	2	6		12		includes PS, FM and Gravity Sewer
4	Tabulation of Quantities and Lateral Tables	Sheet	2	6		12		includes PS, FM and Gravity Sewer
5	Summary of Including Pipe segment, diameter, material, slope and manholes	Sheet	1	8		8		includes PS, FM and Gravity Sewer
6	8"/10"/12"/18" Gravity Sewer Plan/Profile Sheets	Sheet	11	16		176		
7	Laterals Connections to Existing Manholes	Sheet	2	12		24		
8	Standard Details	Sheet	2	4		8		includes PS, FM and Gravity Sewer
9	Typical Details	Sheet	0	0		0		
10	Pavement and Base Restoration/General Notes and Details	Sheet	0	0		0		
11	Traffic Control Analysis	LS	0	20		0		Assumed under FDOT project
12	Traffic Control Notes	Sheet	0	16		0		Assumed under FDOT project
13	Traffic Control Typical Sections	Sheet	0	12		0		Assumed under FDOT project
14	Traffic Control Plan	Sheet	0	0		0		Assumed under FDOT project
15	Phase Review Meetings	EA	2	4		8		Attend Phase Review Meetings with City and FDOT During 60% Submittal.
16	Prepare Construction Cost Estimate	LS	1	16		16		Engineers estimate of probable cost in FDOT format
17	Special Provisions/ Specifications / TOC	LS	1	40		40		
SUBACTIVITY SUBTOTAL						316		
18	Quality Assurance/Quality Control	%	5%			16		
SUBACTIVITY TOTAL						332		

**Proposed 8"/10"/12"/18" Gravity Sewer Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
Gravity Sewer Plans**

ACTIVITY: A. (GRAVITY SEWER PLANS)

SUBACTIVITY: 2 (Construction Plans 90%)

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Cover Sheet and Index	Sheet	1	2		2		includes PS, FM and Gravity Sewer
2	General Notes, Abbreviations and Piping Schedule	Sheet	1	2		2		includes PS, FM and Gravity Sewer
3	Legend and Key Plan	Sheet	2	2		4		includes PS, FM and Gravity Sewer
4	Tabulation of Quantities and Lateral Tables	Sheet	2	4		8		includes PS, FM and Gravity Sewer
5	Summary of Including Pipe segment, diameter, material, slope and manholes	Sheet	1	6		6		includes PS, FM and Gravity Sewer
6	8"/10"/12"/18" Gravity Sewer Plan/Profile Sheets	Sheet	11	12		132		
7	Laterals Connections to Existing Manholes	Sheet	2	6		12		
8	Standard Details	Sheet	2	2		4		includes PS, FM and Gravity Sewer
9	Typical Details	Sheet	0	0		0		
10	Pavement and Base Restoration/General Notes and Details	Sheet	0	0		0		
11	Traffic Control Analysis	LS	0	10		0		Assumed under FDOT project
12	Traffic Control Notes	Sheet	0	8		0		Assumed under FDOT project
13	Traffic Control Typical Sections	Sheet	0	6		0		Assumed under FDOT project
14	Traffic Control Plan	Sheet	0	0		0		Assumed under FDOT project
15	Phase Review Meetings	EA	2	4		8		Attend Phase Review Meetings with City and FDOT During 90% Submittal.
16	Prepare Construction Cost Estimate	LS	1	8		8		Engineers estimate of probable cost in FDOT format
17	Special Provisions/ Specifications / TOC	LS	1	20		20		
SUBACTIVITY SUBTOTAL						206		
18	Quality Assurance/Quality Control	%	5%			10		
SUBACTIVITY TOTAL						216		

**Proposed 8"/10"/12"/18" Gravity Sewer Main JPA Installation on SR 907/Alton Road.
 FINANCIAL PROJECT No.: 429193-1-56-02
Gravity Sewer Plans**

ACTIVITY: A. (GRAVITY SEWER PLANS)

SUBACTIVITY: 2 (Construction Plans 100%)

TASK		BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1	Cover Sheet and Index	Sheet	1	0		0		includes PS, FM and Gravity Sewer
2	General Notes, Abbreviations and Piping Schedule	Sheet	1	0		0		includes PS, FM and Gravity Sewer
3	Legend and Key Plan	Sheet	2	0		0		includes PS, FM and Gravity Sewer
4	Tabulation of Quantities and Lateral Tables	Sheet	2	2		4		includes PS, FM and Gravity Sewer
5	Summary of Including Pipe segment, diameter, material, slope and manholes	Sheet	1	2		2		includes PS, FM and Gravity Sewer
6	8"/10"/12"/18" Gravity Sewer Plan/Profile Sheets	Sheet	11	8		88		
7	Laterals Connections to Existing Manholes	Sheet	2	4		8		
8	Standard Details	Sheet	2	0		0		includes PS, FM and Gravity Sewer
9	Typical Details	Sheet	0	0		0		
10	Pavement and Base Restoration/General Notes and Details	Sheet	0	0		0		
11	Traffic Control Analysis	LS	0	0		0		Assumed under FDOT project
12	Traffic Control Notes	Sheet	0	0		0		Assumed under FDOT project
13	Traffic Control Typical Sections	Sheet	0	0		0		Assumed under FDOT project
14	Traffic Control Plan	Sheet	0	0		0		Assumed under FDOT project
15	Phase Review Meetings	EA	2	4		8		Attend Phase Review Meetings with City and FDOT During 100% Submittal.
16	Prepare Construction Cost Estimate	LS	1	6		6		Engineers estimate of probable cost in FDOT format
17	Special Provisions/ Specifications / TOC	LS	1	12		12		
SUBACTIVITY SUBTOTAL						128		
18	Quality Assurance/Quality Control	%	5%			6		
SUBACTIVITY TOTAL						134		

Proposed 8"/12" Water Main JPA Installation on SR 907/Alton Road.
FINANCIAL PROJECT No.: 429193-1-56-02
Water Main Plans

ACTIVITY: A. (WATER PLANS)

SUBACTIVITY: 2 (Construction Plans 90%)

TASK	BASIS OF ESTIMATE	NO. OF UNITS	HOURS/ UNIT	NO. OF SHEETS	TOTAL HOURS	CADD HOURS	REMARKS
1 Pipe Line Alignment & Design	LS	1	40		40		Update of alignment for 12-inch WM along Alton Road.
2 Key Sheet/Key Plan	Sheet	0	0		0		Update PM and FDOT Design standards and other FDOT project information
3 General Notes	Sheet	1	6		6		Update FDOT design notes and verify UA/O contact list from 2018
4 Legend and Key Plan	Sheet	1	6		6		No change from original scope
5 Tabulation of Quantities and Pay Item Notes	Sheet	3	6		18		Updating Tabulation of quantities sheets based on updated WM alignment and verifying FDOT description numbers
6 Summary of Valve and Manhole adjustment	Sheet	0	0		0		No change from original scope
7 Summary of water meter service and service lines	Sheet	0	0		0		No change from original scope
8 8"/12" Water main Plan/Profile Sheets	Sheet	11	5		55		Update of plan and profile based on roadway update from FDOT which includes bicycle lane along, additional pavement widening, relocation of drainage inlets, shifting of the curb and gutter, sidewalk and lighting and finally adjusting of the roadway profile.
9 Laterals Connections Plan/Profile Sheets	Sheet	9	6		54		Update of side street plan and profile based on roadway update from FDOT which includes bicycle lane along, additional pavement widening, relocation of drainage inlets, shifting of the curb and gutter, sidewalk and lighting and finally adjusting of the roadway profile.
10 Plan/Profile sheets	Sheet	0	0		0		No change from original scope
11 Fire Hydrant Connection Plan/Profile Sheets	Sheet	4	6		24		Update of Fire Hydrant profile based on roadway update from FDOT which includes bicycle lane along, additional pavement widening, relocation of drainage inlets, shifting of the curb and gutter, sidewalk and lighting and finally adjusting of the roadway profile.
12 Structural Details	Sheet	0	0		0		
13 General Details	Sheet	0	0		0		
14 Typical Details	Sheet	0	0		0		
15 Pavement and Base Restoration/General Notes and Details	Sheet	0	0		0		No change from original scope
16 Core Boring Reports	Sheet	0	0		0		
17 Traffic Control Notes	Sheet	0	0		0		No change from original scope
18 Traffic Control Typical Sections	Sheet	0	0		0		No change from original scope
19 Traffic Control Plan	Sheet	0	0		0		No change from original scope
20 Special Provisions / Specifications	LS	1	24		24		
21 Prepare Construction Cost Estimate	LS	1	24		24		Update engineers estimate of probable construction cost in FDOT formats for 60% and 90% resubmittals
22 Computation Book & Quantities	LS	1	24		24		Update quantities based on the updated pipeline alignment
23 Electronic Delivery	LS	0	0		0		No change from original scope
24 Phase Review Meetings	EA	3	6		18		Attend Phase Review Meetings with City and FDOT During 60% Submittal.
25 FDOT Submittals	EA	0	0		0		
SUBACTIVITY SUBTOTAL					253		
26 Quality Assurance/Quality Control	%	5%			13		
SUBACTIVITY TOTAL					266		

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

Exhibit C – Preliminary Engineer’s Estimate of Probable Construction Cost

ENGINEERS OPINION OF PROBABLE COST OF CONSTRUCTION

Quantities on Alton Rd from STA: 91+00 TO 164+00

For City of Miami Beach Est. Construction 02/2025

FDOT Financial Project ID No.: 429193-1-56-01

By: LF
 Check By: DC
 Date: 5/19/2022
 Revised: 6/17/2022

ITEM		DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	EXTENDED COST
12" DIP Water Main & Fittings						
1	590-4-101	IRRIGATION SYSTEM BACKFLOW/VACUUM BREAKER PREVENTION	EA	14	\$ -	\$ -
2	1050-16-002	UTILITY PIPE, REMOVE & DISPOSE, 2" - 4.9"	LF	75	\$ 32	\$ 2,400.00
3	1050-16-003	UTILITY PIPE, REMOVE & DISPOSE, 5" - 7.9"	LF	30	\$ 35	\$ 1,050.00
4	1050-16-004	UTILITY PIPE, REMOVE & DISPOSE, 8" - 19.9"	LF	230	\$ 37	\$ 8,510.00
5	1050-18-002	UTILITY PIPE, PLUG & PLACE OUT OF SERVICE, 2" - 4.9"	LF	950	\$ 10	\$ 9,500.00
6	1050-18-003	UTILITY PIPE, PLUG & PLACE OUT OF SERVICE, 6"	LF	415	\$ 15	\$ 6,225.00
		UTILITY PIPE, PLUG & PLACE OUT OF SERVICE, 8"	LF			
7	1050-18-004	UTILITY PIPE, PLUG & PLACE OUT OF SERVICE, 10"	LF	5,260	\$ 15	\$ 78,900.00
		UTILITY PIPE, PLUG & PLACE OUT OF SERVICE, 12"	LF			
8	1050-31-102	UTILITY PIPE,F&I,PVC,WATER, 2"	LF	194	\$ 45	\$ 8,730.00
9	1050-41-102	UTILITY PIPE,F&I,PE,WATER, 2"	LF	5,175	\$ 50	\$ 258,750.00
10	1050-51-203	UTILITY PIPE,F&I,DI/CI,WATER 3"	LF	285	\$ 100	\$ 28,500.00
11	1050-51-204	UTILITY PIPE,F&I,DI/CI,WATER 4"	LF	25	\$ 165	\$ 4,125.00
12	1050-51-206	UTILITY PIPE,F&I,DI/CI,WATER, 6"	LF	280	\$ 150	\$ 42,000.00
13	1050-51-208	UTILITY PIPE,F&I,DI/CI,WATER, 8"	LF	830	\$ 175	\$ 145,250.00
14	1050-51-212	UTILITY PIPE,F&I,DI/CI,WATER, 12"	LF	5,195	\$ 200	\$ 1,039,000.00
15	1055-51-108	UTILITY FITTING,F&I, DI/CI,ELBOW, 8"	EA	52	\$ 2,500	\$ 130,000.00
16	1055-51-112	UTILITY FITTING,F&I, DI/CI,ELBOW, 12"	EA	40	\$ 3,000	\$ 120,000.00
17	1055-51-208	UTILITY FITTING,F&I, DI/CI, TEE, 8"	EA	3	\$ 2,600	\$ 7,800.00
18	1055-51-212	UTILITY FITTING,F&I, DI/CI, TEE, 12"	EA	26	\$ 3,600	\$ 93,600.00
19	1055-51-308	UTILITY FITTING,F&I,DI/CI,REDUCER,8"	EA	5	\$ 2,000	\$ 10,000.00
20	1055-51-312	UTILITY FITTING,F&I,DI/CI,REDUCER,12"	EA	11	\$ 2,600	\$ 28,600.00
21	1055-51-503	UTILITY FITTING,F&I,DI/CI,CAP/PLUG, 3"	EA	2	\$ -	\$ -
22	1055-51-504	UTILITY FITTING,F&I,DI/CI,CAP/PLUG, 4"	EA	4	\$ -	\$ -
23	1055-51-608	UTILITY FITTING,F&I, DI/CI,WYE, 8"	EA	6	\$ 2,500	\$ 15,000.00
24	1060 15	UTILITY STRUCTURE, BELOW GROUND, ADJUST/MODIFY	EA	55	\$ 400	\$ 22,000.00
25	1070-1-1	UTILITY AUXILIARY ITEMS, 8" CONCRETE SLAB FOR GROUND < 2.5'	SF	1,160	\$ 50	\$ 58,000.00
26	1080-21-102	UTILITY FIXTURE,F&I, 2", METER/VALVE BOX	EA	117	\$ 2,450	\$ 286,650.00
27	1080-21-500	UTILITY FIXTURE, VALVE/METER BOX, ADJUST	EA	17	\$ 400	\$ 6,800.00
28	1080-21-600	UTILITY FIXTURE, REMOVE & DISPOSE (WATER METER)	EA	133	\$ 200	\$ 26,600.00
29	1080-23-103	UTILITY FIXTURE,F&I,3", SOLID SLEEVE	EA	1	\$ -	\$ -
30	1080-23-104	UTILITY FIXTURE,F&I,4", SOLID SLEEVE	EA	2	\$ -	\$ -
31	1080-23-106	UTILITY FIXTURE F&I,6", SOLID SLEEVE	EA	5	\$ -	\$ -
32	1080-23-108	UTILITY FIXTURE,F&I, 8", SOLID SLEEVE	EA	6	\$ 5,500	\$ 33,000.00
33	1080-23-110	UTILITY FIXTURE,F&I, 10", SOLID SLEEVE	EA	1	\$ 6,500	\$ 6,500.00
34	1080-23-112	UTILITY FIXTURE,F&I, 12", SOLID SLEEVE	EA	3	\$ 7,500	\$ 22,500.00
		UTILITY FIXTURE,F&I, 12", TAPPING SLEEVE	EA			
35	1080-24-103	UTILITY FIXTURE,F&I, 3", VALVE ASSEMBLY	EA	2	\$ 1,400	\$ 2,800.00
36	1080-24-104	UTILITY FIXTURE,F&I, 4", VALVE ASSEMBLY	EA	5	\$ 1,400	\$ 7,000.00
37	1080-24-106	UTILITY FIXTURE,F&I, 6", VALVE ASSEMBLY	EA	11	\$ 2,600	\$ 28,600.00
38	1080-24-112	UTILITY FIXTURE,F&I, 12", VALVE ASSEMBLY	EA	24	\$ 4,700	\$ 112,800.00
39	1080-26-102	UTILITY FIXTURE,F&I, 2", FVO ASSEMBLY	EA	20	\$ 3,800	\$ 76,000.00
		UTILITY FIXTURE,F&I, 2", AIR ASSEMBLY	EA			
40	1644-113-08	FIRE HYDRANT,F&I,STD,2 WAY,FLUSH TYPE, ONE PUMPER, 6"	EA	12	\$ 5,100	\$ 61,200.00
41	1644-900	FIRE HYDRANTS (REMOVE)	EA	10	\$ 1,000	\$ 10,000.00
Subtotal WM IMPROVEMENTS						\$ 2,798,390.00
PS, FM, Gravity Sewer & Laterals						
42	1050-18-003	UTILITY PIPE, PLUG & PLACE OUT OF SERVICE, 5.0-18"	LF	4,000	\$ 15	\$ 60,000.00
43	1050-31-206	UTILITY PIPE,F&I,PVC,SEWER, 6"	LF	4600	\$ 85.00	\$ 391,000.00
44	1050-31-208	UTILITY PIPE,F&I,PVC,SEWER, 8" thru 18"	LF	4,000	\$ 150	\$ 600,000.00
45	1055-31-608	UTILITY FITTING,F&I, PVC, WYE	EA	46	\$ 200	\$ 9,200.00
46	1055-31-606	UTILITY FITTING,F&I, PVC, CLEAN OUT	EA	46	\$ 200	\$ 9,200.00
47	1050-51-208	UTILITY PIPE,F&I,DI/CI,SEWER, 8"	LF	200	\$ 150	\$ 30,000.00
48	1060-11-212	UTILITY STRUCTURE, BELOW GROUND, F&I, SEWER, 0-80FT3, 6.1-12'	EA	2	\$ 9,000	\$ 18,000.00
49	1060-11-222	UTILITY STRUCTURE, BELOW GROUND, F&I, SEWER, >80FT3, 6.1-12'	EA	8	\$ 12,000	\$ 96,000.00
50	1060-15	UTILITY STRUCTURE, BELOW GROUND, ADJUST/MODIFY	EA	4	\$ 4,000	\$ 16,000.00
51	1060 16	UTILITY STRUCTURE, BELOW GROUND, REMOVE & DISPOSE	EA	9	\$ 3,500	\$ 31,500.00
52	1501-1	UTILITY LIFT STATION SANITARY SEWER (TEMPORARY BY-PASS SYSTEM)	EA	1	\$ 35,000	\$ 35,000.00
53	1501-1	UTILITY LIFT STATION SANITARY SEWER (PS 1 at W 28th)	EA	1	\$ 1,000,000	\$ 1,000,000.00
Subtotal SAN IMPROVEMENTS						\$ 2,295,900.00
Subtotal Entire Project						\$ 5,094,290.00
	Maintenance of Traffic		percent of construction	8.0%	\$	407,543.20
	Mobilization		percent of construction	8.0%	\$	407,543.20
	Contingency Fund		percent of construction	10.0%	\$	509,429.00
	Construction Engineering Administration (CEA)		percent of construction	6.0%	\$	305,657.40
Subtotal Construction Allowances						\$ 1,630,172.80
Total Estimated Cost of Utility Work						\$6,724,462.80

Financial Project ID No's.: 429193-1-56-01
Proposed BODR & Final Design for new Pump Station and Gravity Sewer along SR 907/Alton Road
From south of Ed Sullivan Drive/ 43rd Street to W 63rd Street
Miami-Dade County, Florida



Stantec Consulting Services Inc.
901 Ponce de Leon Boulevard Suite 900
Coral Gables FL 33134
Tel: (305) 445-2900
Fax: (305) 445-3366

Exhibit D – Alternatives from for PS and FM Improvements (Basins 28 A, B, C & E) from Wastewater Master Plan

Basin 28 E Option 1 A&B

Sewer Basins

Sewer Pump Station

- Dry Pit
- Booster
- Submersible
- Dry Pit/Booster

Sewer Gravity Main

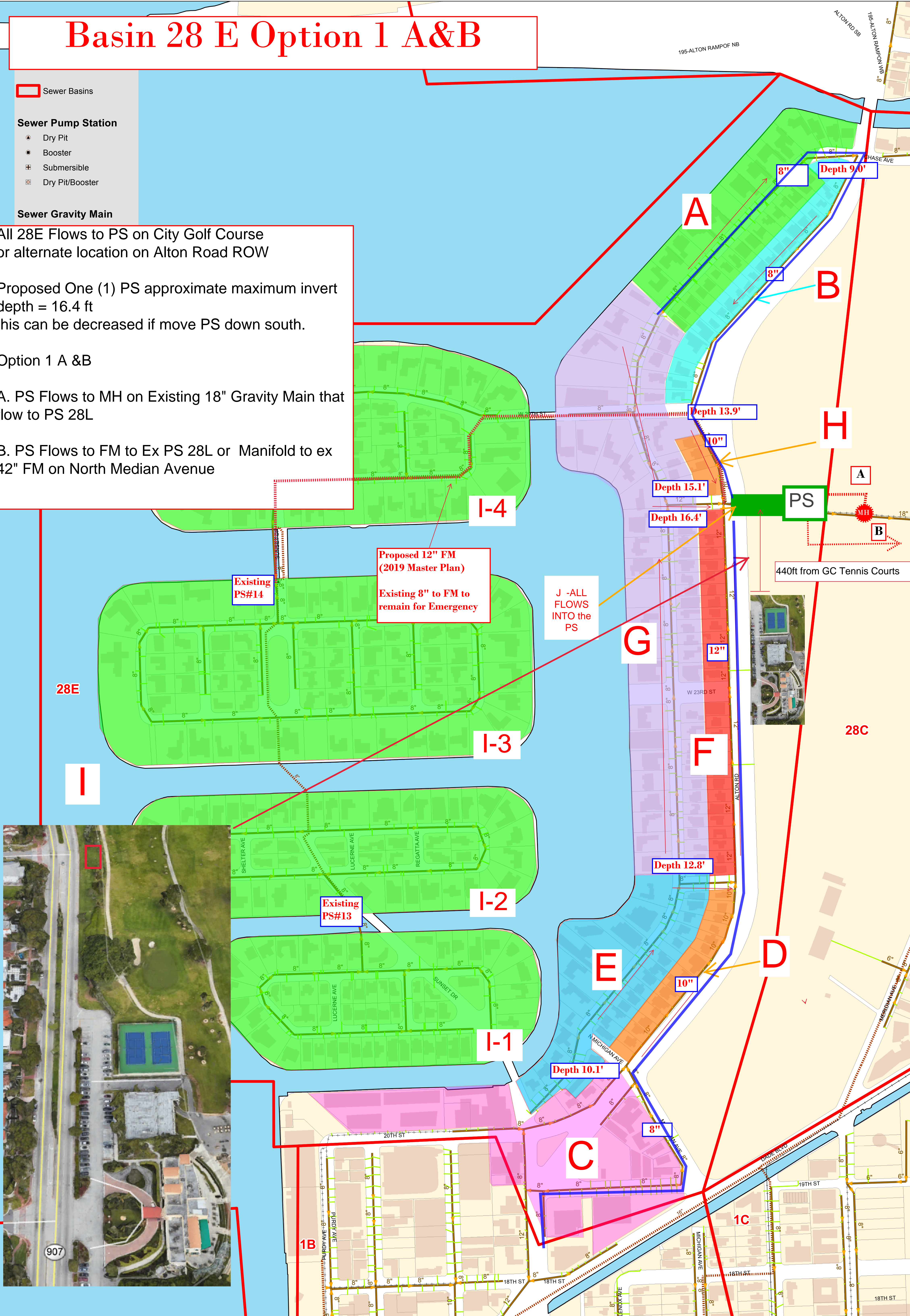
All 28E Flows to PS on City Golf Course or alternate location on Alton Road ROW

Proposed One (1) PS approximate maximum invert depth = 16.4 ft
this can be decreased if move PS down south.

Option 1 A & B

A. PS Flows to MH on Existing 18" Gravity Main that flow to PS 28L

B. PS Flows to FM to Ex PS 28L or Manifold to ex 42" FM on North Median Avenue



000000	SHEET NO.	1	DATE	7/31/2020
	DRAWN	workvera		
	SCALE	Not To Scale		
	REQUESTED	Nestor Navarro		
	FILENAME	MiamiBeachGIS		



Miami Beach
Miami-Dade County, FL

Sewer System: Basin 28E



Basin 28 A,B,C Option 2

Lateral

Sewer Pump Station

- Dry Pit
- Booster
- Submersible
- Dry Pit/Booster

Sewer Gravity Main

Sewer Force Main

- Force Main
- Transmission Force Main
- Abandoned In Place

Sewer Basins

BUILDINGS

Water

PARCEL

PSA PS in Alton Rd and 43rd (grassy Triangle median) with options:

- [1] FM to PS B
- [2] FM manifold to PS B FM

- 18.7 ft approx maximum depth at PSA

PSB City Parcel (ex. Parking Lot)

- [1] all flows 28A, 28B, 28C
- [2] 28B & 28C

- 15.1 ft approx maximum depth at PSB

Exit Options:

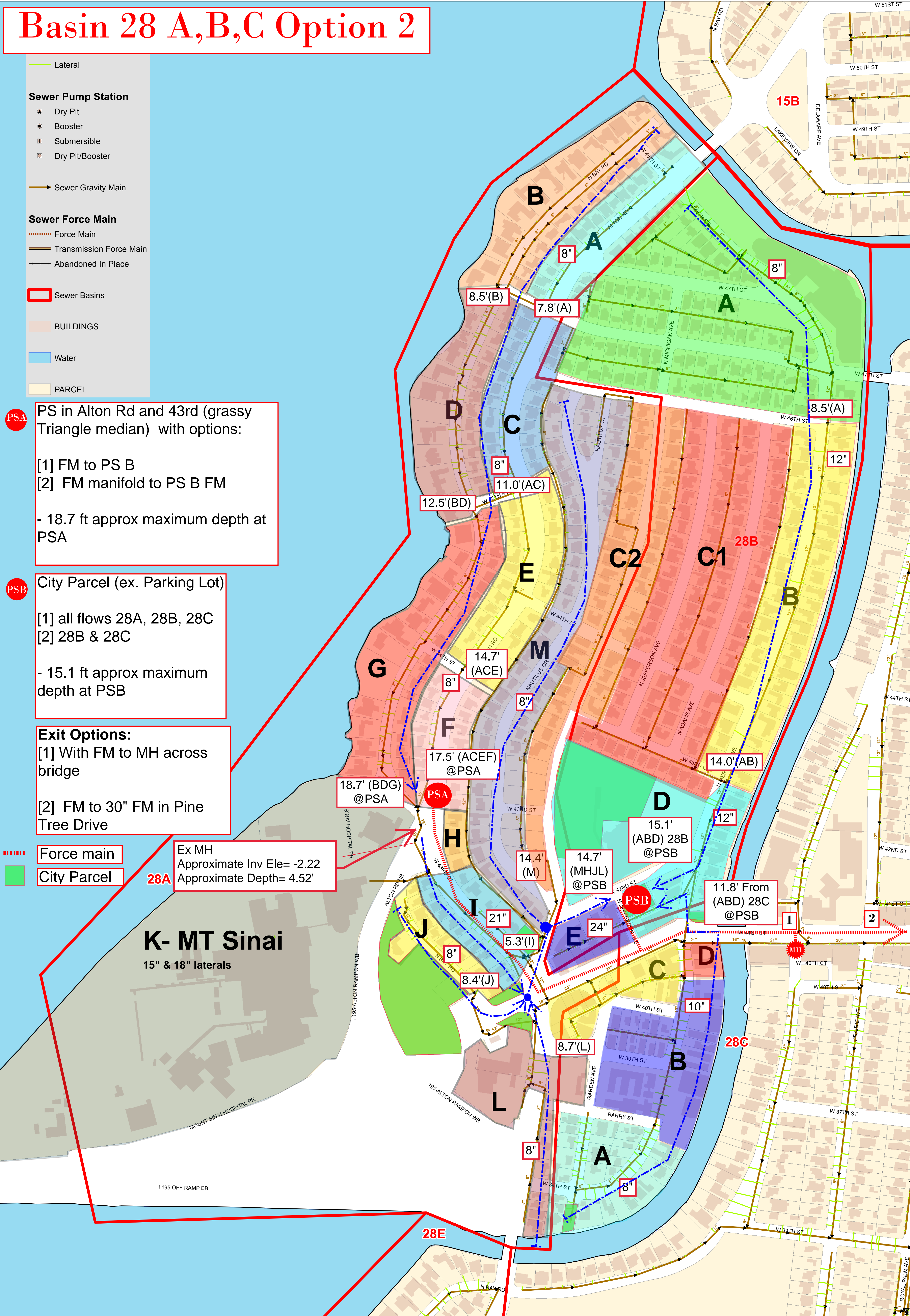
- [1] With FM to MH across bridge
- [2] FM to 30" FM in Pine Tree Drive

Force main

City Parcel

28A Ex MH
Approximate Inv Ele= -2.22
Approximate Depth= 4.52'

K- MT Sinai
15" & 18" laterals



SHEET NO.	DATE	DRAWN	WORKERS
1	8/3/2020		
SCALE	REQUESTED	FILENAME	
Not To Scale	Nestor Navarro	MiamiBeachGIS	



Miami Beach
Miami-Dade County, FL

Sewer System: Basin 28A & 28B

