CAD/md

RESOLUTION NO. 2025 - 401

A RESOLUTION AUTHORIZING AN AGREEMENT FOR DESIGN- BUILD INITIAL SERVICES IN THE AMOUNT OF $5,116,165.55 BETWEEN THE CITY OF TAMPA AND VOGEL BROS. BUILDING CO. IN CONNECTION WITH CONTRACT 25-C-00001 SULPHUR SPRINGS PUMP STATION REHABILITATION DESIGN-BUILD; AUTHORIZING THE MAYOR OF THE CITY OF TAMPA TO EXECUTE SAID AGREEMENT ON BEHALF OF THE CITY OF TAMPA; PROVIDING AN EFFECTIVE DATE.

WHEREAS, via the competitive selection process pursuant to Florida Statutes Section 287.055, the Consultants' Competitive Negotiation Act ("CCNA"), as applicable, the City of Tampa ("City") selected Vogel Bros. Building Co. ("Firm") to provide professional services in connection with 25-C-00001 Sulphur Springs Pump Station Rehabilitation Design-Build, ("Project") as detailed in the Agreement for Design Build Services ("Agreement"); and

WHEREAS, the City seeks to enter into this Agreement with the Firm to provide professional services for pump station rehabilitation which includes, but will not be limited to, replacement of all pumps, motors, pump discharge valves, electrical and control components, flow meter, generators, other equipment needed to restore station reliability and provide improved operation, and building and other improvements needed to accommodate and provide suitable environment for selected equipment,; and post-design services as needed; and

WHEREAS, it is in the best interest of the City of Tampa to enter into each Agreement.

NOW, THEREFORE,
BE IT RESOLVED BY THE CITY COUNCIL
OF THE CITY OF TAMPA, FLORIDA, THAT:

Section 1. The Agreement between the City and the Firm, in connection with Contract 25-C-00001 Sulphur Springs Pump Station Rehabilitation Design-Build, copies of which are attached hereto and made a part hereof, are authorized and approved in their entirety or in substantially similar form.

Section 2. The Mayor of the City of Tampa is authorized and empowered to execute, and the City Clerk of the City of Tampa ("City Clerk") to attest and affix the official seal of the City of Tampa to, said Agreement on behalf of the City of Tampa.

Section 3. This resolution provides funding in the amount of $5,116,165.55 for the Sulphur Springs Pumping Station Rehabilitation Design-Build Initial Services for use by the Wastewater Department within the Wastewater Capital Construction Fund.

Section 4. The City Clerk shall file a fully executed copy of each Agreement in the official records of the City of Tampa as maintained by the Office of the City Clerk.

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Section 5. The proper officers of the City are authorized to do all things necessary and proper in order to carry out and make effective the provisions of this Resolution, which shall take effect immediately upon its adoption.

PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF TAMPA, FLORIDA, ON MAY 15 2025.

ATTEST:

CITY CLERK/~~DEPUTY CITY CLERK~~

CHAIRMAN\CHAIRMAN PRO-TEM CITY COUNCIL

APPROVED AS TO FORM:

E/S

Justin R. Vaske
SENIOR ASSISTANT CITY ATTORNEY

AGREEMENT FOR DESIGN-BUILD INITIAL SERVICES

THIS AGREEMENT made and entered into at Tampa, Florida, this _____ day of _____, 2025, by and between the City of Tampa, a municipal corporation of the State of Florida, hereinafter referred to as "CITY", and the following entity authorized to do business in the State of Florida: Vogel Bros. Building Co.**,** hereinafter referred to as "FIRM", with an FEIN of 39-0679620.

WITNESSETH:

WHEREAS, the CITY desires to engage the FIRM to perform certain services pertinent to such work which shall be referred to as Contract 25-C-00001 Sulphur Springs Pump Station Rehabilitation Design-Build- DB ("Project") in accordance with this Agreement and limited to the elements of the Design Criteria Package ("DESIGN CRITERIA PACKAGE") attached hereto as **Exhibit A**; and

WHEREAS, the FIRM desires to provide such services in accordance with this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants, promises, representations and considerations to be kept, performed and paid, the parties hereto agree for themselves, their successors and assigns, as follows:

I. GENERAL SCOPE OF THIS AGREEMENT

A. The relationship of the FIRM to the CITY shall be that of an independent professional Design-Builder for the Project; and the FIRM shall provide the Initial Design-Build services required under this Agreement in accordance with acceptable architectural/engineering/construction practices and ethical standards.

B. Any additional services to be provided by the FIRM shall be set out in detail by subsequent Agreement and shall be limited to the elements of the DESIGN CRITERIA PACKAGE.

C. The Guaranteed Maximum Price proposal to be prepared and provided by the FIRM in accordance with this Agreement shall be used as a basis for negotiating the future Agreement for Construction Services. A Design-Build Fee not to exceed seven percent (7 %) of the Cost Of Construction shall be used in the calculation of the Total Project Cost.

D. The scope of services to be provided is indicated in **Exhibit B**.

II. DATA AND SERVICES TO BE PROVIDED BY THE CITY

The CITY shall provide:

A. Available plans and specifications of existing construction.

B. Ground topography.

III. PERIOD OF SERVICE

A. The FIRM shall begin work promptly after receipt of a fully executed copy of the Agreement. All work shall be completed within 448 days after issuance of the Notice to Proceed.

B. The FIRM's services called for under this Agreement shall be completed provided that, if the FIRM's services are delayed for reasons beyond the FIRM's control, the time of performance shall be adjusted appropriately.

IV. GENERAL CONSIDERATIONS

A. All original sketches, tracings, drawings, computations, details, design calculations, specifications and other documents and plans that result from the FIRM's services under this Agreement shall become and remain the property of the CITY upon receipt of payment by the FIRM from the CITY for services rendered in connection with the preparation of said sketches, tracings, etc. Where such documents are required to be filed with governmental agencies, the FIRM will furnish copies to the CITY upon request.

B. The CITY acknowledges that the materials cited in Paragraph IV. A. above, which are provided by the FIRM, are not intended for use in connection with any project or purpose other than the Project and purpose for which such materials were prepared without prior written consent and adaptation by the FIRM shall be at the CITY's sole risk, and the FIRM shall have no responsibility or liability therefor.

C. Any use by the CITY of such materials in connection with a project or purpose other than that for which such materials were prepared without prior written consent and adaptation by the FIRM shall be at the CITY's sole risk, and the FIRM shall have no responsibility or liability, therefore.

V. COMPENSATION

The CITY shall compensate the FIRM for the Initial Design-Build services performed under this Agreement in the amount of $5,116,165.55 in accordance with **Exhibit C**.

VI. PAYMENT

Payment shall be made in accordance with Part VII of Chapter 218, Florida Statutes, entitled Local Government Prompt Payment Act, after receipt of the FIRM's invoice (application for payment), which shall be accompanied by sufficient supporting documentation and contain sufficient detail, to constitute a "proper invoice" as defined by Fla. Stat. §218.72, and to allow a proper pre- and post-audit of expenditures, should the CIY require one to be performed, in such form and containing such further detail, backup, and other information as the CITY may from time to time require. Invoices shall be about submitted no more than once a month, shall be itemized, detailed, and accompanied by valid receipts and sent to the CITY Project Manager care of the address noted on a particular approved work order or such other address as may from time to time be communicated to FIRM in writing by the CITY Project Manager. Invoices shall be signed by an authorized employee of FIRM who has the best actual knowledge of information contained in such invoice. FIRM shall submit proper invoices for approval to the CITY Project Manager (or as otherwise designated in the applicable work order or from time to time by the Director of the CITY's Contract Administration Department). Any dispute pertaining to pay requests must be presented to the CITY pursuant to Executive Order 2003-1, as amended, or its successor order. Subcontracted Work, if any, shall be invoiced at its actual cost without markup.
Where subcontracting exists with, FIRM shall with each invoice, submit a report on Form DMI-30 DMI Sub-(Contractors/ Consultants/Suppliers) Payments of all subcontracting entity contract amounts and payments

together with completed reports or forms as the CITY may from time to time require pursuant to Chapter 26.5, City of Tampa Code.

VII. RECORDS

Records for Personnel Expenses shall be kept on a generally recognized accounting basis and shall be available to the CITY or its authorized representative at mutually convenient times.

With respect to all matters covered by this Agreement, records will be made available for examination, audit, inspection, or copying purposes at any time during normal business hours at a location within Hillsborough County, Florida as often as the CITY, HUD (if applicable), representatives of the Comptroller General of the United States or other federal agency may reasonably require. FIRM will permit same to be examined and excerpts or transcriptions made or duplicated from such records, and audits made of all contracts, invoices, materials, records of personnel and of employment and other data relating to all matters covered by this Agreement. The CITY's right of inspection and audit shall obtain likewise with reference to any audits made by any other agency, whether local, state or federal. FIRM shall retain all records and supporting documentation applicable to this Agreement for five (5) years from the date of submission of the annual performance report to HUD, if applicable. If any litigation, claim, negotiation, audit, monitoring, inspection or other action has been started before the expiration of the required record retention period, records must be retained until completion of the action and resolution of all issues which arise from it, or the end of the required period, whichever is later.

VIII. PERSONNEL

The FIRM represents that it has or will secure, at its own expense, all personnel required in performing the services under this Agreement. All personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services. No person who is serving sentence in a penal or correctional institution shall be employed on work under this Agreement. The FIRM further certifies that all of its employees assigned to serve the CITY have such knowledge and experience as required to perform the duties assigned to them. Any employee of the FIRM who, in the opinion of the CITY, is incompetent, or whose conduct becomes detrimental to the work, shall immediately be removed from association with the certain professional engineering services under this Agreement.

IX. SUSPENSION, CANCELLATION OR ABANDONMENT

Suspension, cancellation or abandonment of this Agreement shall be necessitated if any of the following occur: disclosure of CITY confidential information, procedures or activities; failure of the FIRM to aggressively, adequately, timely and appropriately perform the services required by this Agreement to the satisfaction of the CITY, or other similar cause.

In the event the Project is suspended, cancelled or abandoned at the CITY's sole discretion, the FIRM shall be given fifteen (15) days prior written notice of such action and shall be compensated for the professional services provided and reimbursable expenses incurred up to the date of suspension, cancellation or abandonment in an amount mutually agreed to by the CITY and FIRM and supported by back-up documentation.

Upon suspension, cancellation or abandonment of the Project by the CITY, the FIRM shall immediately cease work, deliver all original sketches, tracings, drawings, computations, details, design

calculations, specifications and other documents and plans that result from the FIRM's services under this Agreement, and shall be compensated for its services rendered up to the time of such suspension, cancellation or abandonment on a quantum meruit basis; and the CITY shall have no further financial obligation to the FIRM.

X. TERMINATION

A. Termination for Cause**.**

In the event that the FIRM shall for any reason or through any cause not have completed performance within the time fixed for performance under this Agreement; or any representation or warranty made under Article XII of this Agreement shall prove to be untrue in any material respect; or the FIRM shall otherwise be in default under this Agreement; or the FIRM has subcontracted, assigned, delegated, transferred its rights, obligations or interests under this Agreement without the CITY's consent or approval; or the FIRM has filed bankruptcy, become insolvent or made an assignment for the benefit of creditors, or a receiver, or similar officer has been appointed to take charge of all or part of FIRM assets; or the FIRM disclosed CITY confidential information, procedures or activities; or the FIRM fails to adequately, timely and appropriately perform the services required by this Agreement or other similar cause.

Then the CITY may provide five (5) days written notice that the conduct of the FIRM is such that the interests of the CITY are likely to be impaired or prejudiced, stating the facts upon which the opinion is based. Then the CITY may upon fifteen (15) days written notice, and at the end of the (15) days terminate this Agreement for cause (herein "Termination Date"). Upon that termination for cause, the FIRM shall be entitled to compensation for services properly and satisfactorily performed through the date of such termination for cause. However, no allowance shall be included for termination expenses. In the event of such termination for cause, the FIRM shall be entitled to receive just and equitable compensation for any satisfactory work performed as of the Termination Date; however, FIRM shall not be compensated for any anticipatory profits that have not been earned as of the date of the Termination Date. All work accomplished by FIRM prior to the Termination Date shall be documented. In the event the project is terminated for cause pursuant to this Article, the FIRM shall deliver all original sketches, tracings, drawings, computations, details, design calculations, specifications and other documents and plans that result from the FIRM's services under this Agreement. The aforementioned original sketches, tracings, drawings, computations, details, design calculations, specifications and other documents and plans shall be without restriction on future use by the CITY. Notwithstanding the above or any section herein to the contrary, FIRM shall not be relieved of liability to the CITY for damages sustained by the CITY by virtue of any breach of the Contract by FIRM.

B. Termination for Convenience.

The CITY may reduce the scope of work or terminate work under this Agreement or amendment to this Agreement without cause; in the event of such scope reduction or termination other than for cause, the CITY shall compensate the FIRM for services properly performed through the date of such reduction in scope or termination, which date shall be fixed in written notice from the CITY and which date shall be not sooner than fifteen (15) days after notice. Notwithstanding such termination or reduction in scope, the CITY shall be entitled to receive from the FIRM upon request any and all information related to the Project and the CITY shall preserve and protect all such information and assure ready access thereto by the FIRM in connection with resolution of the amount due to the FIRM. The CITY, at its own discretion, shall be entitled to direct the FIRM to terminate any or all the FIRM's

subcontracts or subconsulting agreements. In the event the project is terminated for convenience pursuant to this Article, the FIRM shall deliver all original sketches, tracings, drawings, computations, details, design calculations, specifications and other documents and plans that result from the FIRM's services under this Agreement. The aforementioned original sketches, tracings, drawings, computations, details, design calculations, specifications and other documents and plans shall be without restriction on future use by the CITY.

XI. **INSURANCE**

The FIRM, at its own cost and expense, shall affect and maintain at all times during the life of this Agreement insurance, in accordance with that indicated in **Exhibit D**.

XII. **INTERESTS OF MEMBERS OF THE CITY**

No member of the governing body of the CITY and no other officer, employee, or agent of the CITY who exercise any functions or responsibilities in connection with the carrying out of the Project to which this Agreement pertains shall have any personal interest, direct or indirect, in this Agreement.

XIII. INTEREST OF THE FIRM

The FIRM covenants that it presently has no interest and shall not acquire any interest, direct or indirect, in any project to which this Agreement pertains or any other interest which would conflict in any manner or degree with its performance of any contracted service hereunder. The FIRM further covenants that in the performance of this Agreement no person having such interest shall be employed.

The FIRM warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the FIRM to solicit or secure this Agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or FIRM, other than a bona fide employee working solely for the FIRM any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement.

The FIRM shall disclose any clients that may either conflict with or affect its independent judgment when performing any work for the City of Tampa covered by this Agreement. Failure of the FIRM to disclose the above professional conflict of interest may result in termination of this Agreement and may require the return of all payments, if any, made to the FIRM from the CITY. If, in its sole discretion, the City of Tampa determines that a professional conflict of interest is deemed to exist, the FIRM shall be in default of this Agreement.

XIV. COMPLIANCE WITH LAWS

A. The FIRM shall comply with the applicable requirements of State laws and all Ordinances of the City of Tampa as amended from time to time.

B. If the Project involves E.P.A. Grant eligible work, the CITY and the FIRM agree that the provisions of 40 CFR, Part 35, Appendix C-1, shall become a part of this Agreement and that such provisions shall supersede any conflicting provisions of this Agreement for work performed.

C. If the Project involves work under other Federal or State Grantors or Approving Agencies, the CITY and the FIRM shall review and approve the applicable required provisions or any other supplemental

provisions as may be included in the Agreement.

D. The FIRM shall assist the CITY in complying with all applicable terms and conditions of the government grants under Title XIII, Subchapter C, Part I of the Omnibus Budget Reconciliation Act of 1993 (26 U.S.C. 1391, et seq.) and under Title I of the Housing and Community Development Act of 1974 (PL 93-383), 24 CFR Part 570 *et seq.*

E. The FIRM agrees to comply with the requirements of the Secretary of Labor in accordance with the Davis-Bacon Act as amended, the provisions of Contract Work Hours and Safety Standards Act (40 U.S.C. 327 *et seq.)* and all other applicable Federal, state and local laws and regulations pertaining to labor standard insofar as those acts apply to the performance of this Agreement.

F. Truth-In-Negotiation Certification: The FIRM certifies that the wage rates and other factual unit costs supporting the compensation are accurate, complete, and current at the time of the execution of the Agreement of which this Certificate is a part. The original price and any additions thereto shall be adjusted to exclude any significant sums by which the CITY determines the Agreement amount was increased due to inaccurate, incomplete, or non-current wage rates and other factual unit costs and that such original Agreement adjustments shall be made within one (1) year following the end of the Agreement.

XV. ASSIGNABILITY

The FIRM shall not assign or transfer any interest in this Agreement without consent from the CITY; provided, however, that the claim for money due or to become due the FIRM from the CITY under this Agreement may be assigned to a bank or other financial institution or to a Trustee in Bankruptcy. Notice of any such assignment shall be furnished promptly to the CITY.

XVI. EQUAL EMPLOYMENT

During the performance of this Agreement or any related Work Order, the FIRM shall:

A. Not discriminate against any employee or applicant for employment because of race, color, religion, age, sex, handicap, or national origin. The FIRM shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, age, sex, handicap, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The FIRM shall post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

B. In all solicitations or advertisements for employees placed by or on behalf of the FIRM, it must state that all qualified applicants will receive considerations for employment without regard to race, color, religion, age, sex, handicap, or national origin.

C. Workforce Development Program is not applicable.

D. Apprenticeship Program is not applicable.

XVII. EQUAL BUSINESS OPPORTUNITY PROGRAM

A. See **Exhibit E** for Tampa's Equal Business Opportunity Program Procedures.

B. The FIRM shall demonstrate good faith effort toward the utilization of City of Tampa Certified Women/Minority Business subcontractors, subfirms, or suppliers.

C. The CITY shall make available a list of Certified Women/Minority Enterprises.

D. The FIRM shall report to the CITY its subcontractors/subfirms/suppliers solicited or utilized as required by **Exhibit E**.

E. At the time of the submission of invoices, the FIRM shall submit to the CITY a report (Exhibit E) of all subcontractors, subfirms or suppliers utilized with their final contract amounts and any other reports or forms as may be required by the CITY.

XVIII. CODE OF ETHICS

In connection with this Agreement, the FIRM hereby covenants and agrees that it shall comply with all applicable government laws, statutes, rules and regulations including, without limitation, the City of Tampa's Code of Ethics. Pursuant to Section 2-522 of the City of Tampa Code, the FIRM acknowledges that if it fails to comply with the City of Tampa's Code of Ethics, such a failure shall render this Agreement voidable by the CITY and subject the FIRM to debarment from any future CITY contracts or agreements.

XIX. NEGATION OF AGENT OR EMPLOYEE STATUS

FIRM shall perform this Agreement as an independent FIRM and nothing contained herein shall in any way be construed to constitute FIRM or the assistants of FIRM to be representative, agent, subagent, or employee of CITY or any political subdivision of the State of Florida. FIRM certifies FIRM's understanding that CITY is not required to withhold any federal income tax, social security tax, state and local tax, to secure worker's compensation insurance or employer's liability insurance of any kind or to take any other action with respect to the insurance or taxes of FIRM and assistants of FIRM.

In no event and under no circumstances shall any provision of this Agreement make CITY or any political subdivision of the State of Florida liable to any person or entity that contracts with or that provides goods or services to FIRM in connection with the Services the FIRM has agreed to perform hereunder or otherwise, or for any debts or claims of any nature accruing to any person or entity against FIRM; and there is no contractual relationship, either express or implied, between CITY or any political subdivision of the State of Florida any person or any political subdivision of the State of Florida any person or entity supplying any work, labor, services, goods or materials to FIRM as a result of the provisions of the Services provided by FIRM hereunder or otherwise.

XX. SEVERABILITY

If any item or provision to this Agreement is held invalid or unenforceable by a court of competent jurisdiction, the remainder of the Agreement shall not be affected, and every other term and provision of this Agreement shall be deemed valid and enforceable to the extent permitted by law.

XXI. CHOICE OF LAW

The laws of the State of Florida (without giving effect to its conflicts of law principles) govern all matters arising out of or relating to this Agreement, including, without limitation, its interpretation, construction, performance and enforcement.

XXII. DESIGNATION OF FORUM

Any part bringing a legal action or proceeding against any other party arising out of or relating to this Agreement may bring the legal action or proceeding in the United States District Court for the Middle District of Florida, Tampa Division or in any court of the State of Florida sitting in Tampa.

XXIII. AUTHORIZATION

Each party represents to the other that such has authority under all applicable laws to enter into an agreement containing each covenants and provisions as are contained herein, that all of the procedural requirements imposed by law upon each part for the approval and authorization of this Agreement have been properly completed, and that the persons who have executed the Agreement on behalf of each party are authorized and empowered to execute said Agreement.

XXIV. ENTIRE AGREEMENT

This Agreement sets forth the entire agreement between the parties and there are no promises or understandings other than those stated herein. Exhibits to this Agreement shall be deemed to be incorporated by reference as though set forth in full herein. In the event of a conflict or inconsistency between this Agreement and the provisions in the incorporated Exhibits, and unless otherwise specified herein, then this Agreement will prevail.

XXV. INDEMNIFICATION

To the fullest extent permitted by law, FIRM shall indemnify and hold harmless CITY from liabilities, damages, losses and costs, including reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the FIRM and persons employed or utilized by FIRM in its performance hereunder.
The FIRM shall not be required to defend, indemnify or hold harmless the CITY for any acts, omissions, or negligence of the CITY, the CITY's employees, agents, or separate contractors.

XXVI. ESTOPPEL/WAIVER

No waiver of any provisions of this Agreement shall be effective unless it is in writing, signed by the party against whom it is asserted, and any such waiver shall only be applicable to the specific instance in which it relates and shall not be deemed to be a continuing waiver.

The failure of the CITY to enforce any term or condition of this Agreement shall not constitute a waiver or estoppel of any subsequent violation of this Agreement.

XXVII. AUDIT REQUIREMENTS.

In the event, that during the period of this Agreement, the FIRM expends more than $1,000,000 in federal funds in an operating year from this and other federal grants, the FIRM shall, at its own cost and expense, cause to be carried out an independent audit. The audit shall be completed and a copy furnished to the CITY, within the earlier of thirty (30) calendar days after receipt of the auditor's report(s) or nine (9) months after the end of the audit period, unless a longer period is agreed to in advance by the CITY. For purposes of this Agreement, an operating and/or audit year is the equivalent to the FIRM's fiscal year. The determination of when Grant Funds are expended is based on when the activity related to the expenditure occurs.

The audit shall be conducted in compliance with the Office of Management and Budget: Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, as applicable, which are made a part of this Agreement by reference thereto. In the event the audit shows that the entire funds disbursed hereunder, or any portion thereof, were not expended in accordance with the conditions of this Agreement, the FIRM shall be held liable for reimbursement to the CITY of all funds not expended in accordance with these applicable regulations and Agreement provisions within thirty (30) calendar days after the CITY has notified the FIRM of such non-compliance. Said reimbursement shall not preclude the CITY from taking any other action as provided herein.

If expenditure does not exceed $1,000,000 during an operating year, the FIRM shall provide the CITY with its annual financial statement within ninety (90) days of the end of its operating year. Said financial statement shall be prepared by an actively licensed certified public accountant.

State Single Audit: Each nonstate entity shall comply with all applicable requirements of section 215.97, F.S., and Audit Requirements. A State single audit is required if an nonstate entity expends $1,000,000 or more of State financial assistance in any fiscal year of such nonstate entity in accordance with the requirements of the Florida Single Audit Act.

XXVIII. DEFAULT

A default shall consist of any use of Grant Funds for a purpose other than as authorized by this Agreement, noncompliance with any provision in all Articles herein, any material breach of this Agreement, failure to comply with the audit requirements as provided herein, or failure to expend Grant Funds in a timely or proper manner. A cancellation for default pursuant to this Article shall not impair or limit the CITY's remedy for the FIRM's breach of warranty to the extent of work performed, not for errors or omissions in the professional engineering services prior to cancellation.

XXIX. BUDGET APPROPRIATIONS

The CITY is subject to Section 166.241, Florida Statutes, and is not authorized to contract for expenditures in any fiscal year except in pursuance of budgeted appropriates. With respect to this Agreement, the CITY has budgeted and appropriated sufficient monies to fund the CITY's obligations under this Agreement. The obligations of the CITY hereunder shall not constitute a general indebtedness of the CITY within the meaning of the Florida Constitution.

XXX. SCRUTINIZED COMPANIES

Section 287.135, Florida Statutes, prohibits agencies or local governmental entities from contracting for goods or services of any amount with companies that are on the Scrutinized Companies that Boycott Israel List or are engaged in a boycott of Israel, and of $1 million or more with companies that are on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or are engaged in business operations in Cuba or Syria. Specifically, Section 287.135(2), Florida Statutes, states: "A company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of: (a) Any amount if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, or is engaged in a boycott of Israel; or (b) One million dollars or more if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company: 1. Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473; or 2. Is engaged in business operations in Cuba or Syria; or 3. On the Iran Terrorism Sectors List, created pursuant to s. 215.473."
Upon submitting its bid or proposal, a bidder/proposer: (i) certifies the company is not in violation of Section 287.135, Florida Statutes, and shall not be in violation at the time the company enters into or renews any resulting contract; and (ii) agrees any such resulting contract shall be deemed to contain a provision that allows the CITY, at its option, to terminate such contract for cause if the company is found to have submitted a false certification, been placed on one or any of the foregoing Lists, been engaged in a boycott of Israel, or been engaged in business operations in Cuba or Syria.

XXXI. PROHIBITION AGAINST ECONOMIC INCENTIVES TO FOREIGN COUNTRIES OF CONCERN

Pursuant to Section 288.0071, F.S, as a condition of this Agreement, the FIRM is required to provide an executed affidavit signed under penalty of perjury verifying that it is not a foreign entity or a foreign country of concern such as the People's Republic of China, the Russian Federation, the Islamic Republic of Iran, the Democratic People's Republic of Korea, the Republic of Cuba, the Venezuelan regime of Nicolas Maduro or the Syrian Arab Republic with whom the City is prohibited from contracting with under Florida law.

XXXII. PUBLIC RECORDS

A. Exempt Plans. FIRM pursuant to this Agreement (and as part of the solicitation process that resulted in award of this Agreement) may hold, come into possession of, and/or generate certain building plans, blueprints, schematic drawings, including draft, preliminary, and final formats, which depict the internal layout and structural elements of a building, facility, or other structure owned or operated by the CITY or an agency (singularly or collectively "Exempt Plans"), which pursuant to Section 119.071(3), Florida Statutes, are exempt from Section 119.07(1), Florida Statutes and Section 24(a), Art. I of the Florida State Constitution. FIRM certifies it has read and is familiar the exemptions and obligations of Section 119.071(3), Florida Statutes; further that FIRM is and shall remain in compliance with same, including without limitation maintaining the exempt status of such Exempt Plans, for so long as any Exempt Plans are held by or otherwise in its possession. This section shall survive the expiration of earlier termination of this Agreement.

B. Data Collection. Pursuant to Section 119.071(5)(a)2a, Florida Statutes, social security numbers shall only be collected from FIRM by the CITY should such number be needed for identification, verification, and/or tax reporting purposes. To the extent FIRM collects an individual's social security number in the course of acting on behalf of the CITY pursuant to the terms and conditions this Agreement, FIRM shall follow the requirements of Florida's Public Records Law.

C. Access. The City of Tampa is a public agency subject to Chapter 119, Florida Statutes. In accordance with Florida Statutes, 119.0701, FIRM agrees to comply with Florida's Public Records Law, including the following:

1. FIRM shall keep and maintain public records required by the CITY to perform the services under this Agreement;

2. Upon request by the CITY, provide the CITY with copies of the requested records, having redacted records in total on in part that are exempt from disclosure by law or allow the records to be inspected or copied within a reasonable time (with provision of a copy of such records to the CITY) on the same terms and conditions that the CITY would provide the records and at a cost that does not exceed that provided in Chapter 119, Florida Statutes, or as otherwise provided by law;

3. Ensure that records, in part or in total, that are exempt or that are confidential and exempt from disclosure requirements are not disclosed except as authorized by law for the duration of the Agreement term and following completion (or earlier termination) of the Agreement if FIRM does not transfer the records to the CITY;

4. Upon completion (or earlier termination) of the Agreement, FIRM shall within 30 days after such event either transfer to the CITY, at no cost, all public records in possession of the FIRM or keep and maintain the public records in compliance with Chapter 119, Florida Statutes. If FIRM transfers all public records to the CITY upon completion (or earlier termination) of the Agreement, FIRM shall destroy any duplicate records that are exempt or confidential and exempt from public records disclosure requirements. If FIRM keeps and maintains public records upon completion (or earlier termination) of the Agreement, FIRM shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the CITY in a format that is compatible with the information technology systems of the agency.

The failure of FIRM to comply with Chapter 119, Florida Statutes, and/or the provisions set forth in this Article shall be grounds for immediate unilateral termination of the Agreement by the CITY; the CITY shall also have the option to withhold compensation due FIRM until records are received as provided herein.

IF FIRM HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO FIRM'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT 813-274-8598, JIM.GREINER@TAMPAGOV.NET, AND CONTRACT ADMINISTRATION DEPARTMENT, TAMPA MUNICIPAL OFFICE BUILDING, 4TH FLOOR, 306 E. JACKSON ST. TAMPA, FLORIDA 33602.

XXXIII. E-VERIFY

Pursuant to §448.095, Florida Statutes, FIRM certifies that it is registered with and uses the U.S. Department of Homeland Security's E-Verify system to verify the US employment eligibility of all of FIRM's employees hired by the FIRM during the term of this Agreement and/or while performing work or providing services for the City of Tampa. FIRM shall require that all subcontractors performing work or providing services on behalf of FIRM for the City of Tampa also comply with the requirements of §448.095, Fla. Stat and utilize the E-Verify system to verify US employment eligibility of all employees hired by subcontractor. The FIRM shall require for the subcontractor to provide to FIRM an affidavit stating that the subcontractor does not employ, contract with or subcontract with an unauthorized alien. FIRM shall maintain a copy of such affidavit for the duration of the Agreement.

XXXIV. LABOR

Pursuant to Florida Statutes Section 786.06 (13) effective July 1, 2024, when a contract is executed, renewed, or extended between a nongovernmental entity and a governmental entity, the nongovernmental entity must provide the governmental entity with an affidavit signed by an officer or a representative of the nongovernmental entity under penalty of perjury attesting that the nongovernmental entity does not use coercion for labor or services as defined in this section. For purposes of this subsection, the term "governmental entity" has the same meaning as in s. 287.138(1).

XXXV. CERTIFICATES, CERTIFICATIONS, ATTESTATIONS AND OTHER PROVISIONS

The certificates, certifications, attestations pursuant to the Consolidated State Law Affidavit, and other provisions, if any, are contained in the attached hereto as **Exhibit F**, if applicable, and are, by this reference, fully incorporated herein.

[SIGNATURES APPEAR ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the CITY has caused these presents to be executed in its name by its Mayor, and attested and its official Seal to be hereunto affixed by its City Clerk, and the FIRM has hereunto set its hand and Seal in TRIPLICATE, the day and year first written above.

FIRM:
VOGEL BROS. BUILDING CO.

By: _____

Print Name: _____

Title: □ Pres □ Exec/Sr Vice Pres □ CEO □ Gen Partner
□ Mgr (Mgr-Mgd LLC) □ Member (Member-Mgd LLC)
□ Other *(must attach proof of authority)*: _____

License no: _____
Use entity Ch 471/481/489 license no; individual's only if applicable.

[SEAL]

ATTEST:

By: _____
City Clerk/Deputy City Clerk

[SEAL]

CITY:
City of Tampa, Florida

By: _____
Jane Castor, Mayor

APPROVED AS TO FORM:

_____
Justin R. Vaske, Senior Assistant City Attorney

CONSOLIDATED STATE LAW AFFIDAVIT

AFFIDAVIT OF COMPLIANCE WITH CONVICTED VENDOR LIST (PUBLIC ENTITY CRIME) PURSUANT TO SECTION 287.133, FLORIDA STATUTES, PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES PURSUANT TO SECTION 287.135, FLORIDA STATUTES, PROHIBITION AGAINST HUMAN TRAFFICKING PURSUANT TO SECTION 787.06, FLORIDA STATUTES, COMPLIANCE WITH E-VERIFY PURSUANT TO SECTION 448.095, FLORIDA STATUTES, PROHIBITION AGAINST ECONOMIC INCENTIVES TO FOREIGN COUNTRIES OF CONCERN PURSUANT TO SECTION 288.0071, FLORIDA STATUTES, AND COMPLIANCE WITH FOREIGN COUNTRIES OF CONCERN PURSUANT TO SECTION 287.138, FLORIDA STATUTES.

The undersigned Affiant, on behalf of the Entity listed below ("Entity"), hereby attests under penalty of perjury as follows:

1. **Public Entity Crimes**
   a. Affiant understands that a "person" or "affiliate" who has been placed on the "convicted vendor list" following a "conviction" for a "public entity crime" (as those terms are defined in Section 287.133, Florida Statutes) for a period of 36 months following the date of being placed on the convicted vendor list, is ineligible to contract with or submit a bid, proposal or reply to contract with the City of Tampa. Entities placed on either the "discriminatory vendor list" or "antitrust vendor list" are ineligible to transact business with the City of Tampa.
   b. Affiant understands and attests that neither Affiant, nor any person or affiliate of the Entity, nor the Entity have been placed on any of the above referenced vendor lists that would render the Entity ineligible to contract with or submit a bid, proposal or reply to contract with the City of Tampa.

2. **Scrutinized Companies**
   a. Affiant understands that pursuant to Section 287.135(2)(a), Florida Statutes, the Entity would be ineligible to contract with or submit a bid, proposal or reply to contract with the City of Tampa if the Entity is on the "Scrutinized Companies that Boycott Israel List" (created pursuant to Section 215.4725, Florida Statutes) or is engaged in a boycott of Israel. If the value of the contract is one million dollars or more if, at the time of bidding on, submitting a proposal or reply for, or entering into or renewing a contract, the Entity:
      1. Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in Iran Terrorism Sectors List, created pursuant to Section 215.473, Florida Statutes; or
      2. Is engaged in business operations in Cuba or Syria.
   b. Affiant attests that neither Affiant nor the Entity are on the Scrutinized Companies that Boycott Israel List, Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in Iran Terrorism Sectors List, nor are we engaged in a boycott of Israel, and understand that any resulting contract may be terminated for a falsification of this Affidavit.

3. **E-Verify**
   a. Affiant understands and attests that pursuant to Section 448.095(5), Florida Statutes, the Entity must comply with Florida's E-Verify law to enter into a contract with the City of Tampa.
   b. The undersigned Entity is registered with and uses the United States Department of Homeland Security's E-Verify system to verify the work authorization status of all new employees.
   c. No public employer has terminated a contract with the Entity pursuant to Section 448.095(5), Florida Statutes, within the year immediately preceding the date of contracting or submitting a bid, proposal or replay to contract with the City of Tampa.
   d. Entity is currently in compliance and will remain in compliance, for the duration of any contract with the City of Tampa, with all requirements of Section 448.095(5), Florida Statutes.
   e. Affiant understands and attests that, if there is a good faith belief that the Entity has knowingly violated Section 448.09(1), Florida Statutes, there is an obligation on the part of the City of Tampa to terminate a contract pursuant to Section 448.095(5), Florida Statutes.
   f. Affiant understands and attests that, if there is a good faith belief that one of Entity's subcontractor(s) has knowingly violated the Section 448.09(1), Florida Statutes, but the Entity has otherwise complied with its obligations thereunder, then the Entity will be required to immediately terminate the contract with the subcontractor in order to continue providing services to the City of Tampa.

4. **Anti-Human Trafficking**
   Affiant hereby understands and attests that the undersigned Entity does not use coercion of labor or services as those terms are defined in section 787.06(13), Florida Statutes.

5. **Compliance with Prohibition Against Economic Incentives to Foreign Countries of Concern**.
   Affiant, on behalf of the Entity attest to the following:
   That pursuant to Section 288.0071, F.S, as a condition of this Agreement, the Entity attests to the following: that it is not a foreign entity or a foreign country of concern such as the People's Republic of China, the Russian Federation, the Islamic Republic of Iran, the Democratic People's Republic of Korea, the Republic of Cuba, the Venezuelan regime of Nicolas Maduro or the Syrian Arab Republic with whom the City is prohibited from contracting with under Florida law.

6. **Compliance with Foreign Countries of Concern**
   Affiant, on behalf of the Entity attest to the following:
   a. Entity is not owned by the government of a foreign country of concern as defined in Section 287.138, Florida Statutes. (Source: § 287.138(2)(a), Florida Statutes.)

b. The government of a foreign country of concern does not have a controlling interest in Entity. (Source: § 287.138(2)(b), Florida Statutes.)

c. Entity is not organized under the laws of, and does not have a principal place of business in a foreign country of concern. (Source: § 287.138(2)(c), Florida Statutes.)

The undersigned is authorized to execute this Affidavit on behalf of Entity.

The undersigned further sayeth naught.

Date: 4/16/25 (Affiant) Signed: _____

Entity: Vogel Bros Building Co Name: Darren Vogel

Title: Vice President

STATE OF Florida
COUNTY OF Polk

SWORN to (or affirmed) and subscribed before me, by means of ☑ physical presence or ☐ online notarization, this 16th day of April, 2025, by Darren Vogel, as Vice President, who is personally known to me or who has produced _____ as identification.

[AFFIX NOTARY SEAL/STAMP]

KATHLEEN S RUCKER
NOTARY PUBLIC
STATE OF FLORIDA
NO. HH 296314
MY COMMISSION EXPIRES AUG. 14, 2026

Kathleen S Rucker
Signature of Notary
Name: Kathleen S Rucker
(Print or Type Name)
Notary Public: State of Florida
My Commission Expires_____

RFQ: 25-C-00001 DESIGN-BUILD SERVICES FOR THE SULPHUR SPRINGS PUMPING STATION REHABILITATION

PREPARED BY:

Jacinto Ferras, P.E. – PROJECT COORDINATOR
WASTEWATER DEPARTMENT

CITY OF TAMPA
September 2024

JACINTO CARLOS FERRAS LICENSE No 49454 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Jacinto Ferras
Date: 2024.10.01 13:53:54 -04'00'

DESIGN CRITERIA PACKAGE

1. Purpose

The City of Tampa has prepared the Design Criteria Package for RFQ: 25-C-00001 Design-Build Services related to Sulphur Springs Pumping Station Rehabilitation. It is the City's intent that the rehabilitation be accomplished through a design-build approach and be completed through the development and execution of a Guaranteed Maximum Price (GMP) proposal. The City may, at its option, directly purchase certain products for use on this contract.

1.1 The scope shall include, but not be limited to the following:

- Preliminary design services that will include:
    - Assessment and identification of equipment replacement needs to restore, update, maintain, and improve continued station operation
    - Development of an alternatives analysis of potential improvements that will be used to evaluate and finalize required improvements
- Comprehensive design services of selected improvements
- Site planning
- Regulatory permitting
- Preconstruction Services with Development of Guaranteed Maximum Price for Construction
- Construction of selected improvements, including any demolition and rehabilitation of the pumping station
- Logistic sequencing for improvements while the pumping station is operational
- Start-up and testing
- Operation and Maintenance manuals
- Training in the operation of the selected improvements
- Scheduling of all logistics
- Construction Management and Oversight
- Public Relation activities to maintain a positive responsive to the project from affected neighborhoods
- Estimated Project Cost: $50,000,000.00-$60,000,000.00

1.2 This document provides the criteria for the design and rehabilitation of the Sulphur Springs Pumping Station. The intent is to list the minimum design-build criteria necessary for achieving this rehabilitation.

1.3 This package is not a specification or prescriptive checklist and is not intended to replace the professional judgment by a competent licensed professional engineer after coordination with the end-user and stakeholders of the City of Tampa.

1.4 Additionally, nothing in this document should preclude consideration and use of emerging technologies and commercially available products if they can be proven to result in a successful and satisfactory design for the rehabilitation of the Sulphur Springs Pumping Station.

2. Design Criteria

2.1 The design is based on providing facilities and improvements that will meet the needs of the Wastewater Department to effectively and efficiently operate the Sulphur Springs Pumping Station. These needs are based on mission and operation requirements. The design should consider existing conditions and the current and future needs of the department. It is imperative that the final designer and preparer of construction documents fully understand the operational requirements, permitting, site logistics and all related requirements to design the facility and improvements accordingly.

2.2 The Sulphur Springs pumping station was placed into service in 1980. Several of the station's components are original and have reached the end of their useful life. The station currently uses four (4) pumps. Pump # 1, Pump #2 and Pump #3 are variable speed pumps rated at 21,300 GPM (900 hp). Pump #4 is a variable speed pump rated at 15,000 GPM (700 hp). Pump # 1 and Pump #3 are controlled by medium voltage eddy current clutch systems. Pump #2 and Pump #4 are controlled by variable frequency drives. The majority of this equipment is currently in operable condition; however, there have been several equipment failures that have required repairs to maintain the reliability of the pumping station.

The station discharges through a force main consisting of a 42-inch and 48-inch pipe that connects to a gravity main that discharges to Ybor pumping station. Investigations and station data indicate the force main contains debris that is causing high head conditions and is restricting pumping capacity. This force main was constructed in 2008 to replace the original force main constructed in 1977. Design build services shall include cleaning the existing force main to remove debris to restore pipeline capacity. Specialized cleaning methods will need to be developed to complete the cleaning and maintain continuous wastewater service. These efforts could include designing and constructing pipe connections to place the original force main back in service to provide a redundant pipeline for use during the cleaning operations.

2.3 Design build services shall also include, but not be limited to, demolition, replacement of all pumps, motors, pump discharge valves, electrical and control components, flow meter, replacement or rehabilitation of existing generators, and replacement other equipment needed to restore station reliability and provide improved operations. The design build services shall include the installation of new equipment to improve system reliability including, but not limited to, methods and equipment to improve and possibly automate removal and handling of wet well screenings to prevent clogging and wear on pumping equipment and methods and equipment to improve odor

control. Building additions and other improvements may be needed to accommodate and provide suitable environment for selected equipment.

2.4 Pump selection and pumping strategy shall provide station capacity to meet peak wet weather flows of 31,250 gpm (45 MGD), estimated future flows, current average daily flows of 9,700 GPM – 11,100 GPM (14-16 MGD), and the minimum flow requirements of 4,200 GPM (6 MGD) without excessive pump cycling. The pump station's peak design capacity will need to be evaluated and determined by the design team. The pump selection and pumping strategy shall be designed to maintain a constant wet well water elevation and to maximize energy efficiency using variable speed control. The pump selection and operating strategy shall be designed so that backup pumping capacity is provided to meet maximum wet weather flow rates in the event that one of the primary pumps fails. The pumping equipment shall be designed to handle and properly convey wastewater containing considerable volume of solids and rags and shall be designed not to develop problems associated with the accumulation of rags.

2.5 Architectural updates and landscaping improvements shall be included to further improve the appearance and acceptance of the station from the adjacent properties.

2.6 Wastewater flow must be maintained throughout all phases of the construction. There has been a history of complaints associated with odors and noise related to other construction projects and the use of a bypass pumping systems. Specialized design, construction approaches and sequencing shall be developed and utilized to eliminate and minimize these issues. If the construction sequencing requires bypass pumping, the bypass pumping system must include a reliable and redundant back-up pumping system and measures must be implemented to minimize odors and associated noise. Bypass pumping systems shall be designed to handle the same peak wet weather flow as the proposed pumping station. In the event the primary conveyance system fails, there must be an adequately sized, redundant back-up system capable of delivering the design peak wet weather flow. Bypass pumping systems shall be designed with variable speed control such that the pumped bypass flows match the influent flows. Bypass systems relying on electrical power must have sufficiently sized back-up generators or equivalent diesel pumping equipment in case of a power outage.

2.7 The new pumping station will contain substantial electrical gear operating at 480 volts and higher voltages including 4160 volts. The design build services shall include an arc flash assessment for all selected electrical equipment and implementation of the safety measures needed to protect personnel from the potential Arc Flash Risks.

2.8 The Design Build team shall prepare and submit detailed construction plans and specifications at 60%, 90% and 100% phases. All drawings shall be produced in 3D (i.e. AutoCAD Civil 3D or Rivet as compatible for rendering) and shall be accurately georeferenced. Drawings shall meet the current Wastewater Department Drafting Standards.

2.9 The FIRM will provide a GMP estimate at 90% and final construction plan phases. The 90% GMP will be used to determine small and minority business subcontracting opportunities.

3 Site Development Criteria

The site street address is 7902 N 13th Street, Tampa Florida, 33604. The entire existing site consist of 0.69 acres and is currently zoned RS-50. The site is bounded by residential homes to the North, 13th Street to the East, Nome Street to the South, and 12th Street to the west. Adjacent to this property are residential developments (single family and duplexes).

All components and required building improvements of the rehabilitated station shall be contained within the limits of the existing site.

4 Facilities Development Criteria

4.1 Provide a property survey including all existing site utilities, in the work area.

4.2 Conduct preliminary design services that will include the following:

- Evaluate and determine station flow capacity requirements needed to meet current average, low, peak daily flows, estimated future flows, and peak wet weather flows.

- Evaluate and determine methods for cleaning the existing force main. The evaluation will include determining methods and requirements for cleaning the pipe and capturing debris, methods to maintain continuous wastewater service during cleaning operations, need and scope of work to reactivate original force main to provide a redundant pipeline during cleaning, and improvements needed to complete the pipeline cleaning. The evaluation will include developing cost estimates associated with the work needed to complete the pipeline cleaning.

- Determine the rehabilitation needs of the Sulphur Springs (13th Street) pumping station by assessing the existing pumping station's equipment including all pumps, motors, valves, electrical and control components, flow meter, generators and other equipment and identifying replacement/rehabilitation needs to restore station reliability, update equipment and systems, and provide improved operation. Services will also include determining associated building and other improvements needed to accommodate and provide a suitable environment for selected equipment.

- Development of an alternatives analysis for pump selection and operation strategy, control equipment, methods and equipment to improve operating efficiency, methods and equipment to improve and possibly automate removal and handling of wet well screenings to prevent clogging and wear on pumping equipment, methods to improve odor control, equipment selection, equipment layout and required building improvements, construction sequencing, methods and strategies to maintain continuous wastewater service during all phases of construction, and methods to minimize disruption to the adjacent properties during construction.

- Development of alternatives for building, architectural, and landscaping improvements.
- Preparation of associated cost estimates for the various alternatives

The City will evaluate the various alternatives and will make a final selection of the required improvements that will be used for the final design.

4.3 Create final plans and specifications for the selected force main cleaning method and pumping station improvements that will include: Finalized Auto CAD and pdf drawings, technical specification and pricing proposals developed to a GMP document with all associated exhibits (scope, pricing, qualifications). Present final design; site plan, site preparation, build schedule, equipment purchases and placement, utility agreements, building permits and all required approvals from regulatory agencies and local authorities. Force main cleaning and construction of pumping station improvements will likely be completed through separate GMP contracts.

5 Environmental Criteria/Permitting

The Design Build team will be responsible for all required environmental testing and permitting needed to complete the project. The scope of these requirements will be determined by the Design Build team based on the selected improvements and construction requirements. At a minimum it is anticipated the following tasks shall be completed:

- Preparation of a FDEP Application for Constructing a Domestic Wastewater Collection/Transmission System
- Performance of an Asbestos and Lead Paint survey. If the survey indicates any asbestos or lead paint that is designated to be removed, these items must be removed and disposed by a licensed contractor in accordance with EPC Standards.
- Preparation of plan sets, submittal, and responses to RFI's to obtain building permits for pumping station construction.

6 Project Management and Oversight

The Design Build team will be responsible for project management activities and oversight of the Sulphur Springs Pumping Station Rehabilitation with consistent coordination with the City during the design and construction portions. The contractors utilized for the project shall have the suitable personnel and equipment, resources, financial stability and experience to accomplish the Project requirements and objectives.

7 Start-up/Operations/Training

7.1 The Design Build team shall provide start-up of the rehabilitated pumping station. The design build team will be completely responsible for the operation and maintenance of the pumping station during the construction phase. The City will not take over operation and maintenance of the pumping station until the project is substantially complete as determined by the City.

7.2 The Design Build team shall provide detailed operation and maintenance (O&M) manuals to the City for review and approval. Upon approval, an electronic copy and a specific number of hard copies of the O&M manuals will be required. The actual quantity and specific format of the O&M manuals will be clearly defined during the design phase of the project. Specific equipment information will also need to be compiled through the City's Asset Tracking form and conveyed to the City so that the equipment's asset data can be entered in the City's Maintenance Management System.

7.3 The Design Build team shall provide AutoCAD as-builts drawings accurately depicting the as-built conditions of the pumping station and other improvements constructed during the project. Hard copies of the as-built drawings will also be required as will be determined during the design phase.

7.4 The Design Build team shall provide all Training on the various pumping station equipment necessary for the proper maintenance and operation of the pumping station. The specific training requirements and equipment requiring training will be provided during the final design phase of the project.

8 Public Relations

The station is located in a residential area and there have been a history of complaints associated with station odors and concerns during construction. Contact with the neighborhood association and retail/commercial business is necessary through the design and construction of this project. Inquiries and questions about design and construction will be handled by the Design Build team, after coordination of the responses with the City of Tampa.

EXHIBIT B - SCOPE OF SERVICES

25-C-00001

City of Tampa

Sulphur Springs Pump Station Rehabilitation - Design-Build

I. PROJECT BACKGROUND

The Sulphur Springs Pump Station (SSPS) is owned and operated by the City of Tampa (CITY) Wastewater Department and is located at 7902 N 13th Street, Tampa, FL 33604. The SSPS was placed into service in 1980. Several of the station's components are original and have reached the end of their useful life. The station currently uses four (4) pumps. Pump #1, Pump #2, and Pump #3 are variable speed pumps rated at 21,300 GPM (900 hp). Pump #4 is a variable speed pump rated at 15,000 GPM (700 hp). Pump #1 and Pump #3 are controlled by medium voltage eddy current clutch systems. Pump #2 and Pump #4 are controlled by variable frequency drives. The station discharges through a force main consisting of a 42-inch and 48-inch pipe that connects to a gravity main that discharges to Ybor pumping station. Investigations and data indicate the force main contains debris that is causing high head conditions and is restricting pumping station capacity. Generally, the station equipment is in operable condition; however, there have been several equipment failures that have required repairs to maintain the reliability of the pumping station.

The rehabilitation will be executed through a progressive design-build approach, commencing with this scope of services to develop a Basis of Design Report (BODR), representing a 30-percent design completion. The BODR will assess the condition of equipment and facilities comprising the existing SSPS, develop an analysis of alternatives for pumping strategy, equipment selection and layout, construction sequencing and opinion of probable construction cost.

Concurrently with the BODR, Vogel Bros. Building Co. (FIRM) will develop the design for odor control system at Cheney Park, the design for the reactivation of the original force main, and the design for the bypass and cleaning the existing force main. Upon completion of each design, FIRM will develop Guaranteed Maximum Price (GMP) 1 for the reactivation of the original force main, and GMP 2 for the bypass and cleaning of the existing force main.

Upon approval of the BODR by the CITY, the FIRM, under future authorization, will proceed through progressive 60-percent, and 90-percent pump station rehabilitation design development, with the development of GMP 3 proposal after the CITY approval of the 90-percent design. Upon approval of GMP 3, the FIRM will complete the 100-percent design and begin construction of the rehabilitation of the SSPS.

The rehabilitation of the SSPS is intended to include the demolition and replacement of all pumps, motors, pump discharge valves, piping, electrical and control components, flow meter, replacement of existing generators, and replacement of other equipment needed to restore station reliability and provide improved operations. Building additions and other improvements may also be needed to accommodate and provide suitable environments for selected equipment as well as improve the external appearance of the building.

The BODR will evaluate the following:

- Determine and recommend replacement pump selection, redundancy, and operation control strategy to maximize pump efficiency. This will include effluent hydraulic modeling for the SSPS
- Coarse screen layout and alternatives for protecting the equipment
- Assessment of existing emergency power equipment and alternatives
- Assessment of existing piping and valves with determination of repair/replacement needs
- Assessment of station structural systems and recommendations for modifications requirements
- Recommended electrical and instrumentation improvements
- Assessment of existing heating, ventilation and air conditioning (HVAC) system with recommendations for improvements
- Architectural and landscaping improvements
- Required permits
- Maintenance of pump station operation and bypass requirements during construction
- Preliminary cost estimate for various alternatives

This scope of services represents the FIRM's Phase 1 (BODR) services as defined in the RFQ-25-C-00001 and as detailed herein. Phase 1 is intended to result in the completion of the BODR and includes preconstruction services required to develop the following Guaranteed Maximum Price (GMP) packages: GMP 1 for the reactivation of the original force main, and GMP 2 for the bypass and cleaning of the existing force main. Engineering services for the detailed design for the pumping station rehabilitation beyond the BODR will be authorized in a separate Phase 2 scope of services.

II. SCOPE OF SERVICES

TASK 100 – PROJECT MANAGEMENT

FIRM will lead and manage the processes of performing the project management activities to provide an overall coordination of the project work and its deliverables. The activities that comprise these processes are detailed in the following Tasks.

TASK 100.1 – Project Schedule

FIRM will develop and maintain a project schedule throughout the duration of the work. The schedule will be developed in Primavera P6 format and will be cost loaded to facilitate the Earned Value Management (EVM) activities. Each activity of the scope of services, as well as a general listing of tasks required under subsequent Project phases, will be incorporated into the schedule. Project timelines, along with the identification of task inter-relationships, will be provided in a Gant chart format. The schedule will include both the original baseline and actual progress.

A draft baseline project schedule will be submitted to the CITY for review and approval. The project schedule will be updated monthly and delivered electronically to the CITY as part of the monthly progress report and invoice.

Task 100.1 Deliverables:

- Draft and final Project Schedule baseline and monthly updates. To be provided in electronic format only (.xer and .pdf).

TASK 100.2 – Risk Management Plan

FIRM will develop a risk management plan with the goal of increasing the probability of occurrence and/or impact of positive risks and to decrease the probability of occurrence and/or impact of negative risks. Risk management activities will include:

- **Identify Risks** – The FIRM will identify individual project risks as well as sources of overall project risk and document them in a risk register.
- **Perform Qualitative Risk Analysis** – The FIRM will prioritize individual project risks for further analysis or action by assessing their probability of occurrence and impacts as well as other characteristics.
- **Perform Quantitative Risk Analysis** – The FIRM will numerically analyze the combined effect of identified individual risks and other sources of uncertainty on the overall project objectives.
- **Risk Responses** – The FIRM will develop options, select strategies, and agree on actions to address overall project risk exposure, as well as to treat individual risks.
- **Implement Risk Responses** – The FIRM will implement agreed upon risk responses associated with the work included in the scope of services.
- **Monitor Risks** – The FIRM will monitor the implementation of agreed-upon risk response plans, will monitor identified risks, will identify and analyze new risks, and evaluate overall risk process effectiveness throughout the duration of the preconstruction services.

A risk register will be initiated with the first risk identified and will be regularly updated as new risks become apparent. It will include, for every individual risk listed, the overall outcome from the above risk management activities providing a measured and quantitative basis to establish future project contingencies for the following construction phase. A complete updated risk register, and assessment will be submitted to the CITY monthly.

Task 100.2 Deliverables:

- Risk Register and assessment monthly updates. To be provided in electronic format only (.xls).

TASK 100.3 – Project Controls and Reporting

FIRM will monitor and control the project work by tracking, reviewing, and reporting the overall progress using EVM. The cost loaded schedule developed in Task 100.1 will be used as a framework to assess and report on the overall project health. Reports that will be generated include:

- Cash Flow Curves (PDF)
- Project Status and Progress Reports in a searchable and bookmarked PDF that will include:
    - Work completed since the previous report.
    - Work anticipated in the upcoming month.
    - Budget status, including contracted amount, total spent to date, amount remaining, percent spent, and actual percent complete.
    - Schedule status, including variances in the project schedule by milestone and deliverable, and total project.
    - Dates of anticipated milestones and deliverables in the upcoming month.
    - List of coordination and information required, including responsible parties.

- List of problems encountered (if any) and proposed resolution, including technical, budgetary and schedule problems.
- List of potential scope changes, including a brief description and reason for the change, along with the potential impact on budget and schedule.
- List of issues needing resolution, including party(s) involved and date required so as not to impact the project schedule.
- Earned Value Analysis (EVA) to assess the overall schedule and each work package weighted progress including:
  - Trend Analysis (when necessary)
  - Variance Analysis (when necessary)
  - Forecasting (when necessary)
  - Reserves/Contingency Analysis
- What-IF Scenarios: Conducted when necessary to anticipate potential future challenges and plan appropriate responses.

Task 100.3 Deliverables:

- Cash Flow Curves - One-time deliverable after approval of the baseline schedule and SOV.
- Project Status & Progress Report with EVA – will be delivered monthly by the 15th day of the month following the reporting period in a searchable and bookmarked PDF.

TASK 100.4 – Project Meetings & Workshops

FIRM will prepare for and conduct the following meetings and workshops:

- Project Kick-Off.
- Cheney Park Odor Control System 60 percent and 90 percent design review meetings.
- Reactivation of the Original Force Main 90 percent design review Meeting.
- Hydrostatic Test Plan draft review meeting.
- Sequence of Construction draft review meeting for the reactivation of the original force main and bypass and cleaning of the existing force main.
- GMP 1 – Reactivation of the original force main review meetings (Draft and Final).
- Bypass and Cleaning of Existing Force Main 90 percent design review meeting.
- GMP 2 – Bypass and Cleaning of Existing Force Main review meetings (Draft and Final).
- BODR Workshop - Pump Selection/Layout and Coarse Screening
- BODR Workshop - I&C/SCADA and Electrical
- BODR Workshop - HVAC
- BODR Workshop - Structural, Architectural and Landscape
- BODR Workshop - Odor Control
- Basis of Design Report (BODR) review meeting.
- Early procurement plan draft review meeting.
- Public Outreach (Kick-off meeting, two coordination meetings and a public engagement workshop)
- Equal Business Opportunity (EBO) meetings (Two meetings; one meeting per GMP).

FIRM will prepare agendas and minutes for all the above meetings and workshops.

TASK 100.5 – Consultant and Subconsultant Management

FIRM will prepare and coordinate necessary consultants, subconsultant, and subcontractors' agreements for the work and will manage these contracts throughout the entire duration of the

services.

TASK 200 – Cheney Park Odor Control System

FIRM will perform the following tasks necessary for the design and installation of an odor control system at Cheney Park.

TASK 200.1 – Cheney Park Odor Control System Design

FIRM will finalize a system selection for the odor control system at Cheney Park as recommended in the previously developed Odor Control System Technical Memorandum (Appendix A). FIRM will perform additional testing to confirm the system's suitability and effectiveness to ensure the odor control system will meet the necessary performance and operational requirements. FIRM will support this task by evaluating the associated electrical requirements including coordination with TECO for a new service at this location.

Firm will prepare 60 percent, 90 percent, and 100 percent design documents to include the installation of a concrete slab to support the unit, electrical connections, water supply, a duct connection at the most appropriate location, and a drain connection to a manhole on the 30-inch gravity sewer that crosses the park. FIRM will prepare a preliminary opinion of probable construction cost for the odor control system at 90 percent design. The odor control system will likely be a rental unit provided through the CITY's odor control contract. The installation of the odor control system for Cheney Park will be included in GMP 1 or GMP 2 depending on the design schedule.

FIRM will facilitate a meeting with the CITY to review the 60 percent and 90 percent design.

Task 200.1 Deliverables:

- 60%, 90% and 100% design drawings and technical specifications for the odor control system at Cheney Park. To be provided in electronic format (CAD and PDF).
- Preliminary opinion of Probable Construction Cost for the odor control system at Cheney Park at 90% design.

TASK 200.2 - Permitting

FIRM will provide permitting services to acquire the necessary permits for the construction of the Cheney Park Odor Control system. This will also include pre-application meetings, if necessary. FIRM anticipates the following permits to be required:

- City Building Department – electrical (pre-application meeting only)
- Florida Department of Environmental Protection

FIRM assumes that no site development, environmental, or stormwater permits are required. If needed, services will be provided through use of design allowance.

TASK 300 – Original Force Main Reactivation & Hydrostatic Test Plan

FIRM will perform the following tasks for the reactivation of the original force main:

TASK 300.1 - Utility Coordination

FIRM will coordinate with existing utilities along the project route to determine if there are any conflict with the reactivation of the original force main and will incorporate any modification into the design.

TASK 300.2 –Design of the Reactivation of the Original Force Main

Portions of the original force main were removed to resolve conflicts with newer utilities, establish new end connections, and connect tributary force mains. Additionally, both the pumping station connection and the downstream discharge connection to the gravity sewer have been modified. These modifications will require reconstruction, and all original appurtenances, including air relief valves, emergency drains, isolation valves, and surge protection facilities, will need to be recovered, verified, and/or reconstructed to ensure they are in satisfactory condition for operational service.

An evaluation will also be conducted on the existing 36" plug valve for pump 3 to determine the requirements for its replacement. The CITY has confirmed that the valve sticks and that the actuator for this valve is working properly and does not require replacement. Consideration will also be given to the potential to reuse this equipment for the pump station upgrades that follow.

FIRM will prepare 90 percent, and 100 percent design documents to include detailed drawings, technical specifications, and typical details for the reactivation of the original force main and replacement of the 36" plug valve. Design drawings and specifications will be prepared using CITY standards.

FIRM will facilitate a meeting with the CITY to review the 90 percent design.

Task 300.2 Deliverables:

- 90% and 100% design drawings and technical specifications for the original force main reactivation. To be provided in electronic format (CAD and .pdf)

TASK 300.3 - Permitting

FIRM will provide permitting services to acquire permits necessary for the proposed construction activities including FDOT Utility Permit for construction along Hillsborough Avenue (State Road 600), U.S Highway 41, City of Tampa Right of Way Permit, and FDEP Wastewater Facility or Activity Information Form.

Task 300.3 Deliverable:

- FDOT Permit
- COT ROW Permit
- FDEP Wastewater Facility or Activity Information Form

TASK 300.4 – Hydrostatic Test Plan

FIRM will develop a hydrostatic testing plan to verify the original force main is ready for temporary reactivation. This will allow the existing force main to be temporarily taken out of service to facilitate cleaning under TASK 500. The hydrostatic test plan is expected to include the recovery of existing valves, assumed to be operational, and the construction of a new leakage test plug or valve.

FIRM will facilitate a meeting with the CITY to review the draft hydrostatic test plan. Comments received from the review meeting will be incorporated into a final hydrostatic test plan.

Task 300.4 Deliverable:

- Draft and Final Hydrostatic Test Plan. To be provided in electronic format (.pdf)

TASK 300.5 – Preliminary Sequence of Construction Plan

FIRM will develop a preliminary sequence of construction plan for the reactivation of the original force main. This sequence of construction will also include recommendations for an operating period in which the original force main shall be monitored for safe operation before the existing force main is made available for cleaning under TASK 500. A draft sequence of construction will be submitted to the CITY for review.

FIRM will facilitate a meeting with the CITY to review the preliminary sequence of construction plan. Comments received from the review meeting will be incorporated into a final sequence of construction plan.

Task 300.5 Deliverables:

- Draft and Final Sequence of Construction Plan. To be provided in electronic format (.pdf)

TASK 300.6 – Guaranteed Maximum Price 1 Development

After the CITY has provided comments on the 90 percent design, the FIRM will prepare a draft GMP 1 proposal. Upon approval of the 100 percent design, FIRM will develop the final GMP 1 proposal. These proposals will account for construction costs, fees and engineering services during construction and will include a contingency to address potential costs associated with unforeseen work for the reactivation of the original force main.

The proposal package will comprise:

- Contract Price: The total cost for the construction as proposed.
- Basis of Estimates: Detailed explanation of how the estimates were determined.
- List of Assumptions and Clarifications: Supplementing the drawings and specifications, detailing assumptions and clarifications made during the proposal's preparation.
- Construction Schedule
- Allowance Items: (If applicable) A list of allowance items, their values, and the rationale behind these values.
- Schedule of Alternate Prices: (If applicable) An outline of alternate price schedules.
- Schedule of Unit Prices: (If applicable) A detailed list of unit prices.
- Additional Services: (If applicable) A statement outlining any additional services that may be performed, which are not included in the proposal but may affect the contract price and/or duration if undertaken.
- Savings Provision: (If applicable) Details of any potential savings provisions included in the proposal.

The draft GMP 1 package will be submitted to the CITY for their review. A meeting will be scheduled with the CITY to review and discuss the proposal on an open-book basis. Two (2) meetings are anticipated, one for the draft and one for the revised and final GMP 1. The final GMP 1 proposal will be updated accordingly to reflect CITY comments on the draft.

Task 300.6 - Deliverables:

- Draft and Final GMP 1 Proposal for the reactivation of the original force main. To be provided in a searchable and bookmarked PDF format.

TASK 300.6.1 – Project Task Worksheet

FIRM will use the 90 percent plans of the reactivation of the original force main to identify subcontracting opportunities, including Small and Minority Business subcontracting opportunities, and will develop scope of work and cost estimates for these opportunities. FIRM, with assistance from the CITY, will prepare a Project Task Worksheet (PTW) to identify all subcontractor opportunities and list participation. FIRM will attend up to one (1) meeting with the CITY and Equal Business Opportunity (EBO) office to establish subcontracting opportunities, including minority and small business subcontracting goals for the project. FIRM will be responsible for complying with the requirements of the CITY's EBO program. FIRM will keep the notes of review meetings and prepare and distribute a written summary of the meeting notes and all decisions rendered after the meeting.

Task 300.6.1 Deliverables:

- Draft and final PTW for the reactivation of the original force main. To be provided in a .xslx and .pdf format.

TASK 300.6.2 – Competitive Bidding Process and Procurement

FIRM will handle the procurement of responses from vendors and subcontractors for work packages that are not planned to self-perform and as needed to comply with the CITY's EBO program for the reactivation of the original force main. The procurement process will encompass several key steps to ensure a competitive and fair bidding environment:

- **Prequalify Potential Bidders and Suppliers**: Evaluate and select bidders and suppliers who meet the project's standards and requirements.
- **Establish Bid Schedules**: Define clear timelines for the bidding process to ensure timely completion of procurement activities.
- **Prepare Bid Documents**: Develop comprehensive bid packages that include all necessary specifications, requirements and criteria to meet or exceed Equal Business Opportunity goals.
- **Advertise Bids**: Invite prequalified bidders to bid opportunities and stimulates bidder's interest.
- **Conduct Pre-Bid Conferences**: Organize meetings to discuss bid documents, project scope, and address any queries from potential bidders.
- **Receive, Review, and Analyze Bid Responses**: Assess all received bids for compliance and suitability and formulate recommendations for awarding contracts.

Task 300.6.2 Deliverable:

- Analysis of Bid Responses with Recommendations - To be provided in a searchable and bookmarked PDF format.

TASK 400 – Bypass and Cleaning of Existing Force Main

FIRM will perform the following tasks to develop the bypass plan and the design for the cleaning of the existing force main.

TASK 400.1 – Existing Force Main Cleaning Design and Bypass Plan

FIRM will prepare 90 percent, and 100 percent design documents to include detailed drawings, and technical specifications to incorporate the existing force main modifications needed for the cleaning operations (pigging). The design will include pig launching and retrieval facilities as well as appurtenances necessary to propel the pig(s) multiple passes through the system and collecting

anticipated debris. The debris and solids collected in the system during the pigging operation will be directed into multiple temporary mobile reservoirs or tanks for transport and proper disposal. Supernatant wastewater will be returned to the CITY's downstream wastewater collection system. Design drawings and specifications will be prepared using CITY standards.

FIRM will facilitate a meeting with the CITY to review the 90 percent design. Comments received from the review meeting will be incorporated into the 100 percent design.

Task 400.1 Deliverable:

- 90% and 100% design drawings and technical specifications for the modifications of the existing force main and cleaning (pigging) operations. To be provided in electronic format (CAD and PDF).

TASK 400.2 – Guaranteed Maximum Price 2 Development

After the CITY has provided comments on the 90 percent design, the FIRM will develop a draft GMP 2 proposal. Upon approval of the 100 percent design, FIRM will develop the final GMP 2 proposal. These proposals will account for construction costs, fees and engineering services during construction and will include a contingency to address potential costs associated with unforeseen work for the bypass and cleaning of the existing force main.

The proposal package will comprise:

- Contract Price: The total cost for the construction as proposed.
- Basis of Estimates: Detailed explanation of how the estimates were determined.
- List of Assumptions and Clarifications: Supplementing the drawings and specifications, detailing assumptions and clarifications made during the proposal's preparation.
- Construction Schedule.
- Allowance Items: (If applicable) A list of allowance items, their values, and the rationale behind these values.
- Schedule of Alternate Prices: (If applicable) An outline of alternate price schedules.
- Schedule of Unit Prices: (If applicable) A detailed list of unit prices.
- Additional Services: (If applicable) A statement outlining any additional services that may be performed, which are not included in the proposal but may affect the contract price and/or duration if undertaken.
- Savings Provision: (If applicable) Details of any potential savings provisions included in the proposal.

The draft GMP 2 package will be submitted to the CITY for their review. A meeting will be scheduled with the CITY to review and discuss the proposal on an open-book basis. Two (2) meetings are anticipated, one for the draft and one for the revised and final GMP 2. The final GMP 2 proposal will be updated accordingly to reflect CITY comments on the draft.

Task 400.2 - Deliverables:

- Draft and Final GMP 2 Proposal for the bypass and cleaning of the existing force main. To be provided in a searchable and bookmarked PDF format.

TASK 400.2.1 – Project Task Worksheet

FIRM will use the 90 percent plans of the cleaning of the existing force main and bypass plan to identify subcontracting opportunities, including Small and Minority Business subcontracting opportunities, and will develop scope of work and cost estimates for these opportunities. FIRM, with assistance from the CITY, will prepare a Project Task Worksheet (PTW) to identify all subcontractor opportunities and list participation. FIRM will attend up to one (1) meeting with the CITY and Equal Business Opportunity (EBO) office to establish subcontracting opportunities, including minority and small business subcontracting goals for the project. FIRM will be responsible for complying with the requirements of the CITY's EBO program. FIRM will keep the notes of review meetings and prepare and distribute a written summary of the meeting notes and all decisions rendered after the meeting.

Task 400.2.1 - Deliverables:

- Draft and final PTW for the bypass and cleaning of the existing force main. To be provided in a .xslx and .pdf format.

TASK 400.2.2 – Competitive Bidding Process and Procurement

FIRM will handle the procurement of responses from vendors and subcontractors for work packages that are not planned to self-perform and as needed to comply with the CITY's EBO program for the cleaning of the existing force main and bypass. The procurement process will encompass several key steps to ensure a competitive and fair bidding environment:

- **Prequalify Potential Bidders and Suppliers**: Evaluate and select bidders and suppliers who meet the project's standards and requirements.
- **Establish Bid Schedules**: Define clear timelines for the bidding process to ensure timely completion of procurement activities.
- **Prepare Bid Documents**: Develop comprehensive bid packages that include all necessary specifications, requirements and criteria to meet or exceed Equal Business Opportunity goals.
- **Advertise Bids**: Invite prequalified bidders to bid opportunities and stimulates bidder's interest.
- **Conduct Pre-Bid Conferences**: Organize meetings to discuss bid documents, project scope, and address any queries from potential bidders.
- **Receive, Review, and Analyze Bid Responses**: Assess all received bids for compliance and suitability and formulate recommendations for awarding contracts.

Task 400.2.2 Deliverable:

- Analysis of Bid Responses with Recommendations - To be provided in a searchable and bookmarked PDF format.

TASK 500 – Basis of Design Report (BODR)

FIRM will develop a Basis of Design Report (BODR) to outline the fundamental concepts, criteria, and assumptions that will be used to guide the design of the Sulphur Springs Pump Station Rehabilitation project (Project) for CITY review and approval.

The BODR will include the following Tasks:

TASK 500.1 - Hydraulic Analysis & Pump Recommendations

FIRM will perform a hydraulic analysis of the pump station and will provide pump

recommendations to meet the design conditions stated in the RFQ. These services will include the following:

- Review existing flow data (up to 3 years) and develop a graphic showing flow ranges for both the dry and wet seasons
- Develop a 3-D computer model of wet well and intake structures
- Perform Computational Fluid Dynamic (CFD) Modeling to estimate capacity of intakes
- Evaluate pump layout alternatives (likely 2 +1 large pumps and 1 jockey) but other layouts will be considered based on estimated flow ranges and results of physical modelling. Pump selection will provide sufficient backup pumps, so that any pump can be out of service without affecting the pumping station's required range of flows.
- Perform hydraulic modeling to confirm pump selection and layout for each alternative which shall include force main surge and transient modeling
- Provide recommendations on pump manufacturers and models

Upon completion of the hydraulic analysis and pump sizing and layout, FIRM will facilitate a workshop with the CITY to review the findings and the recommended pump alternatives. Comments received from the review workshop will be incorporated into a summary report that will serve as the basis for the design of the pump improvements. FIRM will incorporate the summary report into the BODR.

TASK 500.1.1 – Data Collection

FIRM will coordinate and compile the existing record information provided by the CITY that will be used to assist with the hydraulic analysis. This task is intended for a cursory review of overall data completeness and determination of additional information needed, if any, as additional record data that may be needed to assist with the hydraulic analysis. Thorough evaluation, tabulation and analysis of the data provided in this task will be performed throughout other tasks in this scope.

Task 500.2 - Coarse Screening

FIRM will proceed with the CITY's selection of screens manufactured by Duperon. Using the hydraulic results presented in Task 600.1, FIRM will collaborate with the selected manufacturer to develop preliminary layout drawings, cost estimates, and alternatives for protecting the equipment.

FIRM will facilitate a workshop with the CITY to review the preliminary layout drawings, cost estimates, and alternatives for protecting the equipment. Once the CITY selects the preferred alternative, FIRM will incorporate the finalized drawings and associated costs into the BODR. The previously developed draft Coarse Screening Technical Memorandum (TM) (Appendix B) will be incorporated into the BODR as an appendix.

Task 500.3 - Electrical Evaluation & Recommended Improvements

FIRM will conduct an electrical evaluation of the SSPS's primary and backup power electrical feed systems, including TECO power feed, standby power, and electrical distribution for the proposed improvements.

The evaluation will encompass the proposed drives, motors, distribution raceways, and duct banks, in accordance with the CITY's preferences and standards. Switchgear, Motor Control Center, variable frequency drives, motor protection features, and construction materials will also be evaluated. FIRM will develop proposed one-line diagrams to depict power distribution to the new equipment.

The electrical evaluation will also include a preliminary power systems analysis necessary for the proper selection of the switchgear, emergency generator, and MCC. This may include conservative assumptions for data such as fault current contribution.

Consideration will be given to creating a climate-controlled electrical room, either internal or external to the existing building. Preliminary floor plans, including dimensions of preliminary equipment selection, will be provided. Recommendations will be included in the BODR. FIRM will facilitate a workshop with the CITY to review the proposed improvements and recommendations and to collaborate on the recommended voltage configuration, motor control center (MCC), and switchgear, based on the pump selection from Task 600.1. Final decisions for the recommended improvements will be included in the BODR.

Task 500.4 - I&C/SCADA Evaluation & Recommended Improvements

FIRM will evaluate and provide recommendations for improvements to the new instrumentation and control system. FIRM will review the current status of the control system, including the PLC, HMI, cabinet RTU, and other associated equipment. FIRM will review the availability of spare parts and maintenance support for major equipment, such as the PLC and instrumentation.

FIRM will select the proposed analytical and process control instruments associated with the improvements, recommend upgrades the RTU system to align with ongoing work efforts being completed by the CITY, and develop proposed control strategies for the new and improved process systems. FIRM will coordinate with the CITY for any additional automation or instrumentation that is not currently installed at the existing facility. FIRM will facilitate a workshop with the CITY to review the proposed improvements and recommendations.

Task 500.5 - HVAC Recommendations

FIRM will evaluate the ventilation system design for the pump station and will develop recommendations for a new HVAC system including drywell side, wet well supply air, and any climate controlled environment required by the pump station modifications and/or improvements. A summary will be provided describing the improvements that are recommended. FIRM will facilitate a workshop with the CITY to review the proposed improvements and recommendations. Once the CITY decides on which improvements to the ventilation system will be used, FIRM will include those drawings and respective costs in the BODR. The summary will be included as an appendix.

Task 500.6 - Structural Analysis & Recommendations

FIRM will propose alternatives for building additions and structural improvements as needed to accommodate other design elements. Structural evaluations, analyses, and designs will be based on the objectives for the station rehabilitation, which will include, but may not be limited to, the following:

- Replacement of all pumps, motors, and pump discharge valves
- Replacement of all electrical and control components
- Replacement of the flow meter
- Replacement of generators
- Replacement or addition of other equipment necessary to restore station reliability and improve operational performance
- Building alterations, additions, expansions, or improvements required to accommodate and provide a suitable environment for the selected equipment.

This evaluation will consider building code and zoning requirements, operation and maintenance issues, and other specific structural requirements. FIRM will facilitate a workshop with the CITY to review the proposed alternatives and recommendations. The selected alternative by the CITY will be included in the BODR. The original summary of findings and recommendations will be included as an appendix.

Task 500.7 - Building Architectural Improvements

FIRM will evaluate alternatives for architectural aesthetic improvements of the pump station building. The alternatives will incorporate recommended building additions and include two renderings that show proposed building features that best improve the overall look of the pump station building and compliments the surrounding neighborhood. FIRM will facilitate a workshop with the CITY to review the proposed alternatives. The final alternative selected will be based on review of the various requirements, cost, and the feasibility of implementation.

Task 500.8 - Landscape Architectural Improvements

FIRM will evaluate alternatives for landscape aesthetic improvements of the pump station site. The proposed alternatives will incorporate recommended landscaping additions and include two renderings that show proposed landscape features that best improve the overall look of the pump station site and compliments the surrounding neighborhood. FIRM will facilitate a workshop with the CITY to review the proposed alternatives. The final alternative selected will be based on review of the various requirements, cost, and the feasibility of implementation.

Task 500.9 - Lead Abatement Plan

An asbestos and lead survey were previously conducted by the CITY. The survey report indicates that asbestos was not found; however, lead paint was detected. The BODR will address the potential need for lead abatement, and if required, FIRM will develop a plan that includes compliance activities.

Task 500.10 - Odor Control

FIRM will finalize the design for the odor control system and will provide preliminary layout drawings for the selected technology. The process for developing the preliminary design includes the following:

- Facilitate a workshop with the CITY to review the options presented in the previously developed Odor Control Fan and Chemical Dosing Testing Technical Memorandum (Appendix B) including ventilation rate from sewer, normally open or closed status of wet well vents, and future status of liquid phase treatment (chemical dosing)
- Conduct continuous hydrogen sulfide (H_2S) and differential pressure testing of SSPS upper wet well and continuous H_2S testing of scrubber inlet under 2,000 and 4,000 cfm air flow conditions. Testing to be conducted for up to 4 weeks and include days with wet well vents closed.
- Evaluate preliminary design for screening equipment and screening storage to determine odor control requirements
- Evaluate hydraulic modeling results to determine turbulence impact on odor conditions and odor control system design criteria
- Facilitate a second workshop with the CITY to review the results of the evaluation to finalize the air flow and H_2S design criteria
- Prepare preliminary vapor phase odor control system layout drawings

Task 500.11 - Permitting

FIRM will review all permitting requirements for the SSPS with the local permitting agencies and will summarize the findings in the BODR. FIRM will attend meetings with the Florida Department of Environmental Protection (FDEP) and the local building department, along with CITY staff, as required. Permit application fees will be covered under the project allowance.

Task 500.12 – Basis Of Design Report (30% Design)

FIRM will summarize and document the preliminary alternatives, schematics, layouts, and criteria developed and evaluated in previous tasks into an overall BODR for CITY review and approval.

FIRM will develop a draft BODR that includes the following elements:

- An executive summary that identifies the SSPS flow, and other design criteria developed and evaluated under Task 600.
- Preliminary hydraulic profile.
- Layouts, schematics, and diagrams will be in 11-inch by 17-inch format suitable for inclusion into a bound report.
- 30% drawings of the proposed improvements.
- Preparation of a preliminary project schedule for design.

FIRM will facilitate a workshop with the CITY to review the draft BODR. Comments received from the review workshop will be incorporated into the final BODR.

Task 500.12 Deliverables:

- Draft and final BODR. To be provided in a searchable and bookmarked PDF.

TASK 500.12.1 - Preliminary Opinion of Probable Construction Cost (POPCC)

FIRM will prepare a preliminary opinion of probable construction cost. An appropriate construction cost contingency of the capital subtotal costs will be applied to establish overall direct costs. The POPCC will delineate the costs of early procurement items outlined in Task 700: Early Procurement Plan.

Appropriate project-related administrative, general conditions, bonds, insurance, and other indirect costs (including design and construction management related fees) will be included to determine a POPCC. Costs will be in a tabular format suitable for inclusion into a bound report.

The cost estimate, presented as part of this evaluation, will be a Class 3 estimate based on the American Association for Cost Engineers. Class 3 estimates are used for budgetary level evaluations and the accuracy of the estimate can range from minus 10 percent to plus 30 percent.

Task 500.12.1 Deliverable:

- Preliminary Opinion of Probable Construction Cost. To be provided in searchable and bookmarked PDF format.

TASK 500.12.2 – Construction Phasing and Maintenance of Plant Operations (MOPO)

FIRM will develop preliminary Construction Schedule, Phasing and MOPO plans based on the preliminary design concepts. MOPO plan will also include the Pump Station Bypassing requirements. Draft preliminary construction phasing and MOPO/Bypassing plans will be

presented in a separate report to CITY for review and comments. Final Report will also be included as an appendix to the BODR.

Task 500.12.2 Deliverables:

- Draft and final Preliminary Phasing and MOPO/Bypass Plan. To be provided in a searchable and bookmarked PDF format.

TASK 600 – Early Procurement Plan

FIRM will perform an Early Procurement Plan of long-lead equipment for the Cheney Park odor control system, the reactivation of the original force main, and the bypass and cleaning of the existing force main. This work is critical to maintaining project timelines, mitigating potential delays, and ensuring the smooth execution of construction and installation phases.

FIRM will identify equipment packages with expected long lead times that can be selected and considered for early procurement using the Early Procurement Allowance. Anticipated equipment that may be considered for early procurement includes, but is not limited to pipe, fittings, valves, appurtenances, and odor control. FIRM will develop a draft early procurement plan that will be presented in a separate report to the CITY for review and comments. FIRM will proceed with early procurement activities as directed and permitted in this scope.

FIRM will facilitate a workshop to review the early procurement strategies and find consensus on the equipment that will be pursued as an early procurement. FIRM will prepare bidding documents and will coordinate and conduct the entire bidding process, including clarifications and responses to bidder's questions. Vendor submittals for early procured equipment will also be reviewed by the FIRM. Bid results and recommendations will be provided to the CITY for final selection.

Task 600.1 Deliverables:

- Draft and final Early Procurement Plan in a searchable and bookmarked PDF.
- Bid results and recommendations in a searchable and bookmarked PDF.

TASK 700 – Public Outreach Program

A public outreach program is needed to maintain a positive response to the project from affected neighborhoods during the reactivation of the original force main, during the cleaning of the existing force main, and during the rehabilitation of the SSPS. To accomplish this, FIRM will perform the following tasks.

TASK 700.1 – Kickoff Meeting

FIRM will facilitate a kick-off meeting with the CITY to review the goals and scope of work related to public outreach for the reactivation of the original force main and the bypass and cleaning of the existing force main.

TASK 700.2 – Public Outreach for the Original Force Main Reactivation and Bypass and Cleaning of the Existing Force Main

FIRM will develop and implement a Community Awareness/Outreach Plan (Plan) tailored to the specific needs of the Sulphur Springs Pump Station Project. Key elements of the Plan will include an assessment of the area demographics, identification of potential public concerns, an outline of recommended outreach activities, internal and external communication protocols, and project staff contact information. The Plan will serve as a living document and will be updated throughout the

duration of the project.

FIRM will develop and maintain a preliminary project stakeholder database, which will include contact information for CITY staff, residents, tenants, and other interested parties. This database will be used to document stakeholder communication throughout the project.

FIRM will establish, maintain, and monitor a project-specific telephone number and email address. Inquiries will be responded to in a timely manner, and all project-related calls and emails will be documented in the project stakeholder database.

FIRM will develop informational materials utilizing clear, accessible language and infographics. All materials will adhere to the CITY brand guidelines and comply with applicable CITY ADA accessibility requirements. Potential collateral materials may include:

- Project fact sheet
- Informational graphics/visualizations
- PowerPoint Presentation

In coordination with the CITY, FIRM will support public information and outreach activities, including:

- Attendance at progress meetings as necessary to stay current on project activities and planning.
- Participation in informal meetings and communications with property owners, residents, tenants, homeowners' associations (HOAs), special interest groups, and other stakeholders to address project details, potential construction and service impacts to properties, and specific stakeholder concerns.

Task 700.2 Deliverables:

- Community Awareness Plan in a searchable and bookmarked PDF.

TASK 700.3 – Public Engagement Workshop

FIRM, in coordination with the CITY, will host a Public Engagement Workshop to present project information and gather feedback from the attendees. FIRM will include the following services:

- Identify an ADA compliant facility
- Prepare and distribute public engagement workshop notifications
- Prepare handouts, fact sheet, comment cards, sign-in sheets, press release, and others as needed
- Provide public engagement workshop notification information to CITY for posting to their social media platforms
- Set-up and breakdown of workshop
- Staffing sign-in table and assisting attendees
- Photographing public engagement workshop (to include in summary report)
- Compiling received feedback and comments for response, if needed
- Prepare public engagement workshop summary report

TASK 800 – Quality Management

FIRM will monitor and record the results of executing the quality management activities to assess quality performance and ensure the project's deliverables are complete, correct and meet CITY expectations.

TASK 800.1 –Quality Control / Constructability Review

FIRM will perform an internal detailed quality check of each deliverable. This check will include a review of the plans, specifications, typical details, cost estimates; as well as constructability reviews to ensure coordination between discipline groups, including mechanical, civil, structural, architectural, HVAC, electrical and I&C. Review logs will be created to record and track comments and concerns discovered while performing the internal QA/QC activities. Comments on each deliverable will be recorded in the log, as well as the actions taken to address each comment. Project deliverables will not be submitted to the CITY until the internal quality control open items have been closed. Copy of the QC logs will be submitted to the CITY with each submitted deliverable.

Task 800.1 Deliverables:

- Review logs updated with each deliverable. To be provided in electronic format (.xls)

Allowances

An Owner's allowances have been included for items specified below. No work shall be performed, nor payment shall be made prior to written authorization by the City based on a scope and fee mutually agreed upon by the CITY and FIRM.

Owner's Allowance Items:

Allowance 1 – Additional Engineering Services

An allowance in the amount of $100,000 is included to cover potential engineering services that may arise throughout the project, which are beyond the originally defined scope. This allowance is intended to ensure that any unforeseen design adjustments, modifications, or enhancements can be addressed promptly and efficiently. FIRM will only use the allowance budget for additional engineering services if authorized in writing by the CITY.

Allowance 2 – Early Procurement

An allowance in the amount of $1,400,000 is included to cover the early procurement of long-lead equipment for the Cheney Park odor control system, the reactivation of the original force main, and the bypass and cleaning of the existing force main that are required for the project. This allowance aims to mitigate potential delays by securing these items in advance, ensuring their timely availability and maintaining the project schedule. FIRM will only use the allowance budget for early procurement if authorized in writing by the CITY.

Allowance 3 – Additional Services

An allowance in the amount of $175,000 for additional services is included to allow the CITY to direct the FIRM to perform additional tasks that may be identified during the execution of this phase of the project but are outside of the Scope of Services as defined throughout Tasks 100 through 900. FIRM will only use the allowance budget for additional services if authorized in writing by the CITY.

Allowance 4 – Permits

An allowance in the amount of $15,000 to pay for all applicable permits for the project. FIRM will only use the allowance budget for permits if authorized in writing by the CITY.

Allowance 5 – Storm Season Bypass Pumping System Installation and Rental

An allowance in the amount of $1,000,000 is included to pay for the installation and rental of a bypass

pumping system to provide additional pumping capacity and emergency backup during the 2025 and 2026 storm seasons. This system will be installed from June 2025 through the end of November 2025. Depending on the construction schedule, the bypass system may also have to be installed from June 2026 through the end of November 2026. It is anticipated that the system will consist of 2-18" bypass pumps or a single 24" bypass pump. FIRM will only use this allowance budget if authorized in writing by the CITY.

III. TIMELINE

The schedule below is based on several tasks being performed concurrently and only relate to FIRM's time (Duration) to complete each critical deliverable. Therefore, it does not consider the CITY's review and/or other stakeholders' review time necessary to complete the project and is not intended to be the term of the Agreement. A complete Primavera P6 project schedule will be submitted to the CITY within 30-days of Work Authorization showing all project tasks and deliverables, including those that were not shown here because they were not deemed critical and therefore can be executed concurrently within the same timeframe estimated for the below critical tasks.

Task	Calendar Days
PROJECT MANAGEMEMT PLAN, RISK MANAGEMENT AND PROJECT CONTROLS	
100 PROJECT MANAGEMENT	448 days from NTP
CHENEY PARK ODOR CONTROL SYSTEM	
200.1 60% DESIGN	136 days from NTP
200.1 90% DESIGN	227 days from NTP
200.1 100% DESIGN	256 days from NTP
ORIGINAL FORCE MAIN REACTIVATION	
300.2 90% *DESIGN*	140 days from NTP
300.2 100% *DESIGN*	182 days from NTP
300.4 *HYDROSTATIC TEST PLAN*	119 days from NTP
300.5 *SEQUENCE OF CONSTRUCTION*	128 days from NTP
300.6 GMP 1 DRAFT	170 days from NTP
CLEANING OF EXISTING FORCE MAIN	
400.1 *90% DESIGN*	168 days from NTP
400.1 100% DESIGN	220 days from NTP
400.2 GMP 2 DRAFT	191 days from NTP
BASIS OF DESIGN REPORT	
500.1 *HYDRAULIC ANALYSIS* & PUMP RECOMMENDATIONS	151 days from NTP
500.12 DRAFT *BODR*	402 days from NTP
500.12.1 *POPCC*	394 days from NTP
500.12.2 *MOPO*	361 days from NTP

IV. ASSUMPTIONS AND OTHER CONSIDERATIONS

1. Allowance will be used to pay for all applicable permits.
2. Contract Amendments. Subsequent preconstruction services, construction phase, and construction phase services will be included in separate scope of work statements.
3. Deliverables. The CITY shall agree to review draft deliverables and provide comments to FIRM in a timely fashion, typically within two weeks of submittal.
4. Estimates and Projections. In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for potential projects, the FIRM has no control over cost or price of labor and material; unknown or latent conditions of existing equipment or structures that may affect operation and maintenance costs; competitive bidding procedures and market conditions; time or quality of performance of third parties; quality, type, management, or direction of operating personnel; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, the FIRM makes no warranty that the CITY's actual project costs, financial aspects, economic feasibility, or schedules will not vary from the FIRM's opinions, analyses, projections, estimates, and GMP.
5. Billing rates are good for the duration of this scope of work, a rate increase will be considered for the next phase should it be needed.

V. SERVICES NOT INCLUDED

The following services are not included in the above-described Scope of Services but may be provided If requested by the CITY. The FIRM can provide the following services for additional compensation as agreed upon and authorized by the CITY.

1. Remodeling/Evaluation/Preliminary design of previously completed work required due to the CITY requests that are not within this Scope of Services or due to changes on unforeseen conditions, codes, regulations, laws or design manuals, and guidelines after the date of this Notice to Proceed.
2. Project Website
3. Zoning Modifications
4. Traffic Control Permits
5. National Pollutant Discharge Elimination System (NPDES)

Appendix A: Odor Control Fan and Chemical Dosing Testing Technical Memorandum

Appendix B: Draft Coarse Screening Technical Memorandum

Appendix A

Odor Control Fan and Chemical Dosing Testing Technical Memorandum

City of Tampa

Sulphur Springs Pump Station Rehabilitation
Odor Control Fan and Chemical Dosing Testing
Technical Memorandum

Prepared for: Mr. Kris Samples, PE
Mead & Hunt
Kris.Samples@meadhunt.com

Date: October 25, 2024

This document is released for interim review and is not intended for construction, bidding, or permit purposes.

James Vaughan Harshman, P.E.
FBPE No. 52651
10/25/24
V&A Consulting Engineers, Inc.

Prepared By: Vaughan Harshman, PE
Reviewed By: David Hunniford, PE

V&A consulting engineers

V&A Project No. 22-0068

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Abbreviations and Acronyms

Abbreviations/Acronyms	Definition
CFM	Cubic feet per minute
FT.	Feet
IN.	Inch
IN.W.C	Inches water column
LPOC	Liquid Phase Odor Control
LS	Lift Station
M&H	Mead and Hunt
MAX.	Maximum
MH	Manhole
MIN	Minimum
N/A	Not Available
N/D	Non-Detectible
OCF	Odor Control Facility
PPM	Parts per million
PS	Pump Station
SSPS	Sulphur Springs Pump Station
V&A	V&A Consulting Engineers, Inc.
VB	Vogel Brothers
VPOC	Vapor Phase Odor Control
WW	Wet Well

1 Introduction

V&A Consulting Engineers, Inc. (V&A) was retained by Mead and Hunt, Inc. (M&H) to provide odor control design services for the rehabilitation of the Sulphur Springs Pump Station located in Tampa, Florida. The SSPS is a critical piece of the City's wastewater collection system, pumping 15 MGD of wastewater from the north and northeastern part of the City's service area across the Hillsborough River to Ybor Pump Station and eventually to the Howard F. Curren Advanced Water Reclamation Facility. M&H and Vogel Brothers Building Company (VB) are executing a design-build project to rehabilitate the SSPS. The City has received odor complaints from the SSPS and along the alignments of the upstream gravity sewers in the past and wishes to address the odor issues in the rehabilitation project.

The SSPS is currently outfitted with a two-stage wet scrubber odor control facility (OCF) nominally rated at 10,000 cubic feet per minute (cfm). The scrubber pulls air from the headspace of the SSPS wet well. The wet well is also outfitted with two air inlet vents with fans. The fans are activated to provide positive ventilation when personnel enter the wet well for maintenance activities perform. Under normal steady-state conditions the fans are not operated but the vents allow fresh make-up air to enter the wet well. Staff observations and odor complaint history suggest that the wet well and gravity sewers immediately upstream of SSPS are well contained in the current ventilation scenario and that the OCF discharge and the gravity sewer along 10th St., Fairbanks St., and Mitchell Ave. north of Waters Ave. (10th St. Sewer) are sources of odors and odor complaints.

A series of fan tests were conducted to analyze ventilation rates and locations. The goal was to maintain the successful containment of odors at the SSPS wet well and in the gravity sewer immediately upstream while improving conditions at the SSPS OCF discharge and the 10th St. Sewer. Specific objectives were analyzing lower airflow rates at SSPS, which would reduce impact on the immediate SSPS surroundings, and analyzing ventilation location and rate to induce vacuum on the 10th St. Sewer.

Lastly, chemical dosing rates upstream of SSPS were adjusted to determine impact on odors and OCF design.

The project vicinity and test monitoring locations are shown below in Figure 1-1.

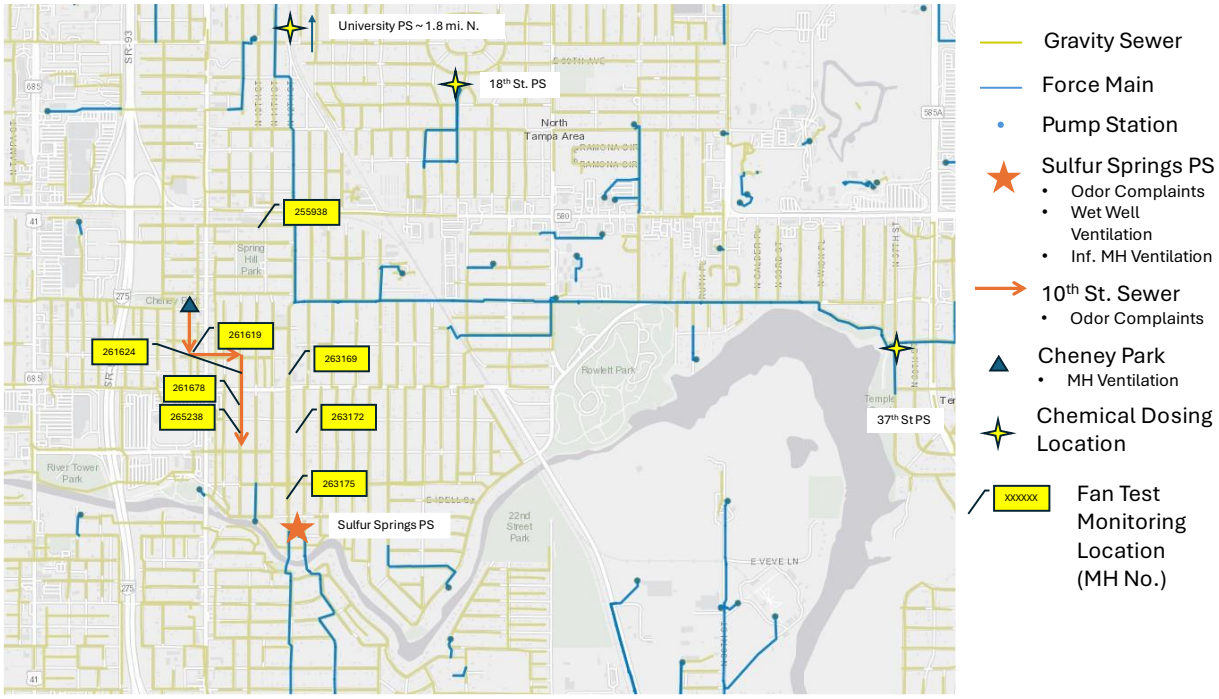


Figure 1-1 Project and Test Locations

2 Background

2.1 Odor Generation and Control

Odor causing compounds are often produced due to the biological decomposition of organic matter containing sulfur and nitrogen. In wastewater collection and treatment systems, odors are commonly generated when bacteria produce odor causing compounds as part of their metabolic processes due to anaerobic conditions. Common factors that contribute to odor emissions include long hydraulic retention times, low flow velocities, sources of turbulence, pressurized headspaces, and wastewater chemistry (i.e., high temperature, high Biological Oxygen Demand (BOD), low pH, and low dissolved oxygen). Common odor causing compounds in wastewater systems include hydrogen sulfide and other reduced sulfur (RSCs), volatile organic compounds, and ammonia/amines.

Generally, most odor control systems involve preventing odor emissions by treating the odor causing compounds before they are released from the wastewater (commonly referred to as liquid phase odor control or chemical addition) or capturing and treating foul air from an odorous headspace (commonly referred to as vapor phase odor control. Liquid phase odor control (LPOC) is generally targeted to mitigating hydrogen sulfide release, while vapor phase odor control (VPOC) technologies can treat a variety of odor compounds. Often, the most effective control strategy involves a combination of technologies designed to address the specific odor compounds observed and factors contributing to their release.

2.2 Ventilation Dynamics

Sewers naturally draw air in, and force air out due to local flow conditions. Under certain conditions, sewers can force large volumes of odorous air out; which frequently generates odor complaints. Air movement in the sewer is caused by friction drag between the water and air. As wastewater flows through the sewer, friction between the wastewater surface and the headspace air causes air to be dragged in the direction of the flow. The only resistance to air movement in a sewer is friction between the air and the stationary walls of the sewer. Figure 2-1 presents sewer air velocity profiles for a gravity sewer flowing approximately half full. The profiles show the air velocity as a fraction of the wastewater surface velocity.

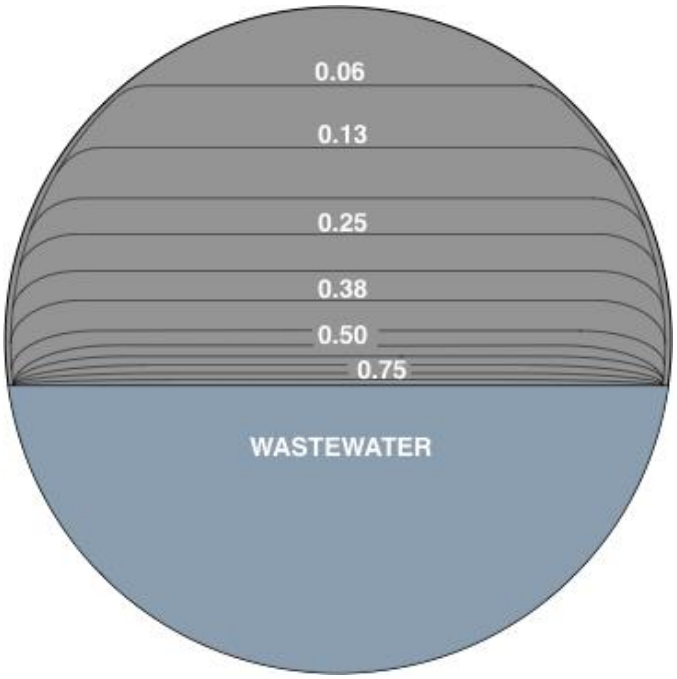


Figure 2-1. Sewer Air Velocity Profile

Just as the sewer has a limited wastewater capacity, the headspace has limited airflow capacity. The volume of air that moves through a sewer is proportional to the depth and velocity of the wastewater. Wastewater flowing at higher velocities will drag more air than at slower velocities. When the velocity of the wastewater decreases due to a flattening of sewer slopes or some other hydraulic constraint, the fast-moving air being pushed by the high velocity wastewater upstream cannot be supported by the slow-moving wastewater downstream, creating a positive pressure zone, as shown in Figure 2-2. Alternating changes in slope can create alternating changes in air pressure which pulls air into the sewer and also pushes air out of the sewer.

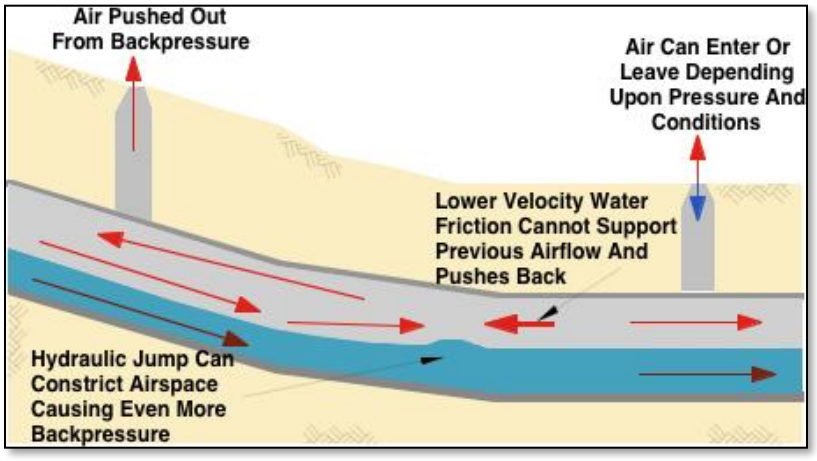


Figure 2-2. Ventilation Effect of Decreasing Slope

Ventilation effects can be severe at inverted siphons (Figure 2-3), full-flowing or surcharged sewers, and pump stations (Figure 2-4). In these situations, all airflow stops, although the upstream sewer continues to drag air. This creates high pressures in the sewers, which can cause significant odor release from manholes and vents, force air upstream in the collection system, and even blow water out of residential plumbing traps under severe conditions. Mechanical ventilation to an OCF is often used to relieve pressure and prevent odor release.

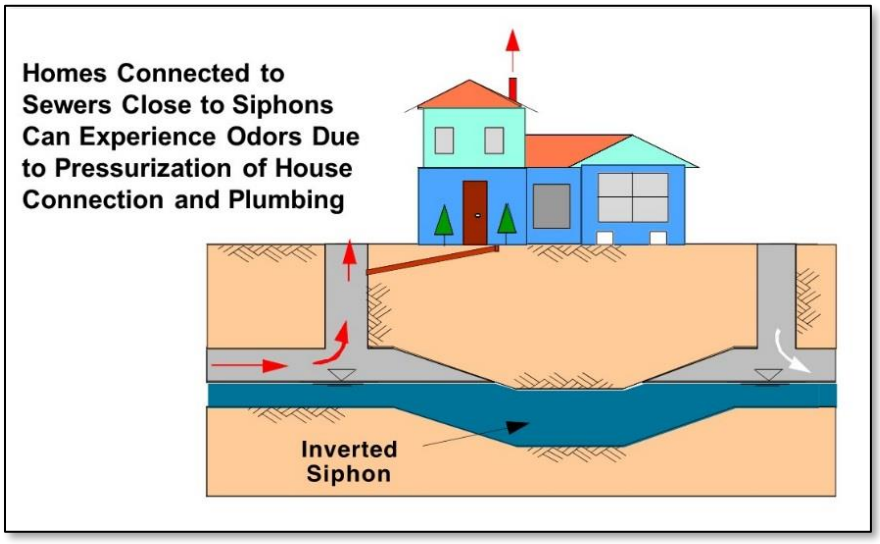


Figure 2-3. Ventilation Conditions at Siphon

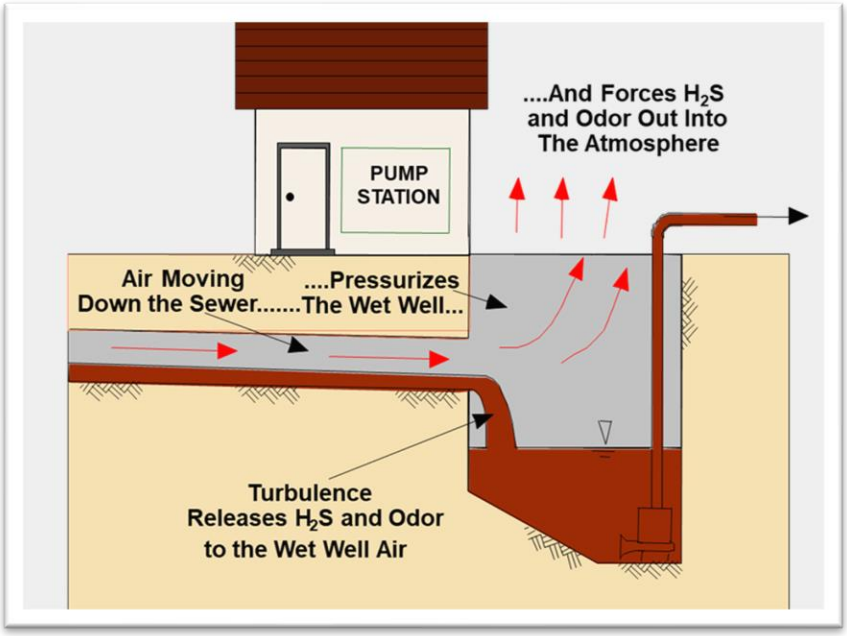


Figure 2-4 Ventilation Conditions at Pump Station

3 Fan Testing

Ventilation dynamics result in natural zones of vacuum and pressure in a sewer. Mechanical ventilation can be used to alter the natural zones. A fan test is conducted to help engineers determine the volume of extracted air necessary to depressurize an area of the offending sewer system and the best type of odor control technology to use to treat the air. By extracting known volumes of air over the course of a typical daily flow period, it is possible to simulate the depressurization effects of a proposed vapor phase odor control facility at the test location. Differential pressure monitoring is conducted to determine the zone of influence produced by the fan test, and to quantitatively determine the magnitude of depressurization in the sewers. Instruments also measure odor compounds in the air for all airflows to identify and quantify ventilation impacts on concentration.

Fan testing generally comprises the following elements:

- Connecting a portable fan to a sewer where a planned odor control facility could be constructed.
- Installing continuous-reading differential air pressure monitors in the sewer, both upstream and downstream of the fan location, if applicable.
- Varying the extracted airflow to produce a range of airflows (for comparison with the pressure data) to determine the optimum airflow capacity of the proposed odor control system.
- Observing variations in odor compound concentration at different airflows so that the most appropriate treatment technology can be identified.

Observations of the hydraulic conditions combined with measurement of air pressure can also be used to identify sewer headspace constrictions and other hydraulic problems that may be causing other odor releases or influencing natural sewer ventilation. Differential pressure monitoring before and after the fan test provides a baseline of typical pressure conditions. Air pressure monitoring during fan testing provides a basis to determine the zone of influence the odor control facility will have on the collection system. The zone of influence is defined as the distance upstream and downstream on the sewer over which the odor control facility will create a negative pressure, and thus control odor emissions.

4 Methodology

4.1 Continuous Monitoring

4.1.1 Hydrogen Sulfide Gas

Gas phase hydrogen sulfide (H_2S) was monitored using the Acrulog PPM H_2S monitor shown below in Photo 4-1. The Acrulog monitor is capable of detecting H_2S concentrations in the range of 0 to 1,000 ppm. The instrument contains a passive hydrogen sulfide electrochemical diffusion type sensor. The units have an integrated data logger, which can record simultaneous air temperature, have an accuracy of 1% (Full Scale), and a resolution of 1 ppm.

Photo 4-1 Acrulog PPM

Hydrogen sulfide is one of the most common odor causing compounds in wastewater systems and has the potential to cause corrosion and damage infrastructure. The potential for odor and corrosion issues generally increases as H_2S concentrations increase. Table 4-1 shows the relative odor and corrosion potential at various headspace H_2S concentrations based on V&A's experience.

Table 4-1. Headspace Hydrogen Sulfide Odor and Corrosion Potentials

Average Hydrogen Sulfide (ppm)	Odor Potential	Biogenic Corrosion Potential
0 to 1 ppm	Negligible	Below Threshold
1 to 5 ppm	Low	Negligible
5 to 25 ppm	Moderate	Low to Moderate
25 to 50 ppm	High	Moderate to High
>50 ppm	Very High	High to Very High

4.1.2 Differential Pressure

Headspace differential air pressure was also monitored on a continuous basis. The differential air pressure of a sewer reflects the ventilation dynamics of the system; during periods of positive pressure differential, the sewer has the ability to vent and release odors to the atmosphere, while periods of negative pressure indicate the sewer has the ability to draw air into the sewer. The differential pressure (DP) monitors record the DP between the headspace inside the sewer and the atmospheric pressure outside. The monitor contains two small tubes, one that is vented to atmosphere and the other that is vented to the headspace. The pressure monitor is capable of detecting DP in the range of +/- 2.0 inches water column (in-w.c.), with a resolution of 0.001 in-w.c (Photo 4-2 and Photo 4-3). Table 4-2 characterizes the degree of pressurization and is based on V&A's experience.

Photo 4-2 Differential Pressure Monitor Installation

Photo 4-3 Acrulog Differential Pressure Monitor

Table 4-2 Differential Pressure Severity Characterization

Pressure Magnitude	Characterization/Degree of Pressurization
<0.00 in-w.c.	Vacuum
0.00 to 0.01 in-w.c.	Neutral
0.01 to 0.10 in-w.c.	Low
0.10 to 0.20 in-w.c.	Moderate
0.20 to 1.00 in-w.c.	High
> 1.00 in-w.c.	Very High

4.2 Grab Sampling

4.2.1 Air Flow Rate

Air flow was measured in a straight run of duct for each fan test location and configuration. A pitot tube (Photo 4-4) and differential pressure gage (Photo 4-5) were used to measure the velocity pressure in the duct, which was then used to calculate the air velocity and volumetric flow rate.

Photo 4-4 Pitot Tube

Photo 4-5 Differential Pressure Gage

4.2.2 Dissolved Sulfide

Wastewater dissolved sulfide grab samples were taken using Gastec™ capillary tubes for dissolved sulfide (DS) analysis, as shown in Photo 4-6. The detector tubes contain a reagent that reacts with the sulfide ion to produce a scaled reading of the DS concentration. The tubes provide a quick and repeatable method for accurately measuring DS. The tubes have a range from 0.5 mg/l to 120 mg/l DS.

While there are several wastewater characteristics that affect biological sulfide production (including BOD, pH, temperature, and sulfate concentration), they are only symptomatic factors of sulfide production and do not necessarily indicate an odor and corrosion problem. The most important parameter related to H_2S gas production and release is the DS concentration itself.

Photo 4-6. Gastec Tubes

The amount of gas phase H_2S released from the wastewater (i.e. the observed concentration) will depend not only on the DS concentration but other factors such as wastewater temperature and pH, degree of turbulence, and ventilation. In an idealized condition, 1 mg/l of DS is capable of generating a gas phase H_2S concentration of over 100 ppm. Most wastewater systems will be observed to have concentrations ranging from 0 to 5 mg/l in main interceptors. Table 4-3 provides a general range of odor and corrosion potential due to sulfide release based on the overall system-wide average DS concentration observed in the wastewater system. The ranges are based on V&A's experience in municipal wastewater systems.

Table 4-3. Dissolved Sulfide Odor & Corrosion Potential Characterization

Average Dissolved Sulfide Concentration	Odor & Corrosion Potential
< 1 mg/l	Negligible to Moderate
1 to 5 mg/l	Moderate to High
> 5 mg/l	High to Very High

4.2.3 pH, ORP, and Temperature

Hand-held meters (Photo 4-7) were used for pH, ORP, and temperature.

Photo 4-7 pH, ORP, & Temperature Multimeter

4.2.4 Nitrate and Nitrite

The City uses nitrate solution for LPOC, therefore residual nitrate and nitrite (an intermediate compound in the reduction of nitrate) can indicate the efficiency of nitrate dosing. Color-indicating test strips were used for field analysis of nitrate and nitrite (Photo 4-8).

Photo 4-8 Nitrate/Nitrite Test Strips

4.3 Fan Testing

Fan testing was performed at three locations – ventilation from the SSPS wet well, direct ventilation from the sewer at the first manhole upstream of SSPS, and direct ventilation from the 10th St, Sewer at Cheney Park.

The objective of the fan test at SSPS wet well was to determine if odors can be successfully contained with a lower cfm air flow rate than the existing OCF. The tests for direct ventilation of the sewers at the SSPS influent manhole and at the Cheney Park location were designed to test air flows of roughly 50%, 100% and 150% of the theoretical maximum natural air flow caused induced by the wastewater flow in the sewers at those locations. Actual air flows were constrained by the flow and pressure conditions in the field. The actual ranges tested for each location are shown in Table 4-4.

Table 4-4 Fan Test Air Flow Rates

Ventilation Location	SSPS Wet Well	Cheney Park	SSPS Influent Manhole
Low Setting	3,500 – 3,700 cfm	560 cfm	1,100 – 1,300 cfm
Medium Setting	4,600 – 4,900 cfm	680 – 850 cfm	1,400 – 1,650 cfm
High Setting	6,500 – 6,900 cfm	1,100 – 1,400 cfm	2,350 cfm

4.3.1 SSPS Wet Well Location

Fan testing at the SSPS wet well was performed using the existing fan on the OCF installed on site. The inlet damper was used to adjust air flow rates and air flow was measured in the straight duct between the OCF vessel discharge and the fan. Photo 4-9 shows the damper location in the duct from the wet well. Photo 4-10 shows air flow sampling location.

Photo 4-9 SSPS OCF Duct and Damper

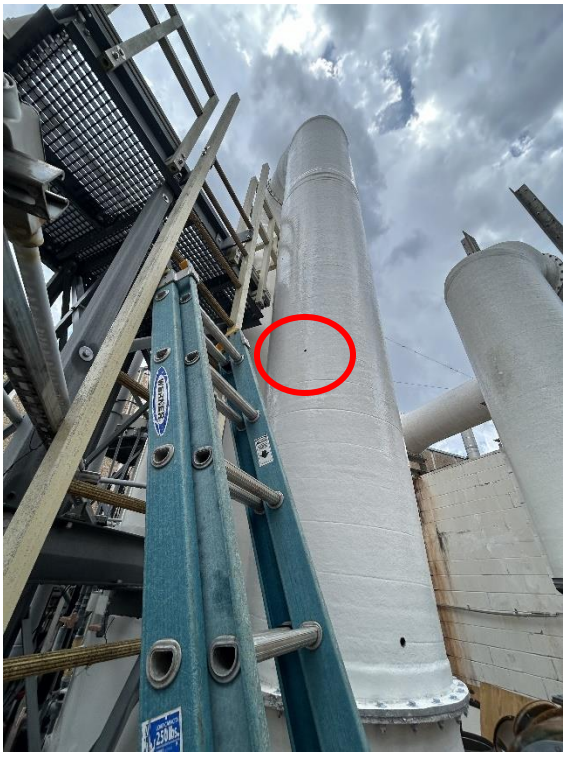


Photo 4-10 SSPS Air Flow Sampling Location

4.3.2 Cheney Park Location

Cheney Park was selected for fan testing because it is a City-owned property in the area of frequent odor complaints and suspected sewer pressurization. As a City-owned property, an OCF could potentially be located in the park to relieve pressure in the sewer headspace. Fan testing at Cheney Park was conducted using a temporary OCF that was connected to a sewer manhole at the intersection of Arctic St. and Mitchell Ave. Air flow was measured in the straight run of duct between the manhole and OCF. Photo 4-11 shows the temporary OCF installation at Cheney Park.

Photo 4-11 Temporary OCF at Cheney Park

4.3.3 SSPS Influent Manhole Location

Fan testing at the SSPS influent was performed using the existing fan on the OCF installed on site. The OCF inlet was disconnected from the wet well and temporary ducting was routed from the OCF to the influent MH. A temporary blast gate was used to adjust air flow rates and air flow was measured in the straight duct between the OCF vessel discharge and the fan. Photo 4-12, Photo 4-13, and Photo 4-14 show the temporary duct configuration.

Photo 4-12 Temporary Duct Connection to OCF

Photo 4-13 Temporary Duct Routing to Influent MH

Photo 4-14 Temporary Duct Connection to Influent MH

4.4 Liquid Phase Odor Control Testing

Following the fan test, the City's Liquid Phase Odor Control (LPOC) program was adjusted to document the impact on sulfide levels in the study area. The LPOC program includes nitrate solution dosing sites at three locations immediately upstream of the study area – University PS, 18th St. PS, and 37th St. PS. All H_2S monitors were left in place and daily liquid-phase grab sampling was conducted on each branch of the system for five days while LPOC adjustments were made at the three dosing locations.

5 Fan Test Results

5.1 Monitoring and Sampling Locations

Monitoring locations and rationale are summarized in Table 5-1. The flows into SSPS consist of two main trunk lines. One runs along 12th St. and collects flow from University PS and 37th St. PS in addition to other flows. The other runs along 10th St. and other streets farther upstream and collects flow from 18th St. PS in addition to other flows. For simplicity, the lines are identified as the "12th St. Sewer" and the "10th St. Sewer", regardless of where the sample location is located.

Table 5-1 Monitoring Locations and Rationale

MH No.	Location	Rationale
263175	12th St. between River Cove St. and Sitka St.	All combined flows entering SSPS
263172	12th St. between Bird St. and Juneau St.	12th St. Sewer upstream of 10th St Sewer junction, downstream of suspected restriction at Waters Ave.
263169	12th St. just south of Fairbanks St.	12th St. Sewer upstream of suspected restriction at Waters Ave.
265238	10th St. between Sitka St. and Bird St.	10th St. Sewer upstream of 12th St Sewer junction, downstream of Bird St. junction chamber
261678	10th St. between Bird St. and Juneau St.	10th St. Sewer upstream of Bird St. junction chamber, downstream of suspected restriction at Waters Ave.
261624	10th St. between Waters Ave. and Fairbanks St.	10th St. Sewer upstream of suspected restriction at Waters Ave.
261619	Intersection of Fairbanks St. and Mitchell St.	10th St. Sewer in area of frequent odor complaints and suspected pressurization.
255938	Skagway Ave. between 10th St. and 11th St.	10th St. Sewer upstream of Cheney Park ventilation location.

Data collection challenges and mitigation efforts are discussed in the first section below followed by the data for each of the eight monitor locations.

5.2 Data Challenges and Mitigation

Fan testing data was impacted by Hurricane Debby which affected weather in the Tampa Bay area from August 4-7, 2024. The continuous H_2S and DP monitors were installed on July 31, 2024 to collect background for several days prior to scheduled fan testing the week of August 4. The storm forced a delay of one week for the fan testing and the monitors remained installed for an additional week, including during the storm event. While none of the monitored manholes flooded and, therefore, none of the monitors were submerged, there was impact from water, likely due to localized street flooding.

5.2.1 Instrument Shut Down

While the Acrulog monitors are designed to operate in the humid conditions of a sewer where condensation is likely, they are prone to shut down if exposed to direct application of water such as rainfall or spray from a hose. Several of the monitors shut down during or after the storm event, leaving gaps in the collected data. It is suspected that storm water entered through the manholes causing drips or flows onto the monitors resulting in monitor shut down and data loss.

5.2.2 Atmospheric Tubing Blockage

The DP monitors require a sample tube routed to atmosphere for measurement of the pressure differential between the sewer and the surrounding atmosphere. Reliable installation of the sample tube is always challenging, particularly for manholes in streets. Photo 5-1 and Photo 5-2 show the atmospheric sampling arrangement. During and following the storm event several of the DP monitors produced erratic data indicative of a failure of the atmospheric sample tubing. It is likely that the tubing was blocked by water and/or debris from localized street flooding.

Photo 5-1 Manhole With Differential Pressure Monitor Installed

Photo 5-2 Close-Up of Atmospheric Sample Tube

5.2.3 Supplemental Sampling

Supplemental sampling was conducted on September 16, 2024 to fill the data gaps created by the monitor data loss. Grab sampling of differential pressure was conducted at several locations under various ventilation conditions, including the mobilization of a temporary fan to Cheney Park. The supplemental data is included in the data summary and discussion for each sample site below.

5.3 Fan Test Data and Observations

The following sections present the data and observations for the background and each fan test by monitoring location. The locations are shown in Figure 1-1.

5.3.1 MH 263175 – 12th St. Between River Cove and Sitka

5.3.1.1 Overall Data and Background

Figure 5-1 and Figure 5-2 show all H_2S and DP data collected during the monitoring period. Table 5-2 and Table 5-3 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location did not provide data from 8/11 to 8/15. The DP data is erratic and unreliable following Hurricane Debby, including during the fan test.

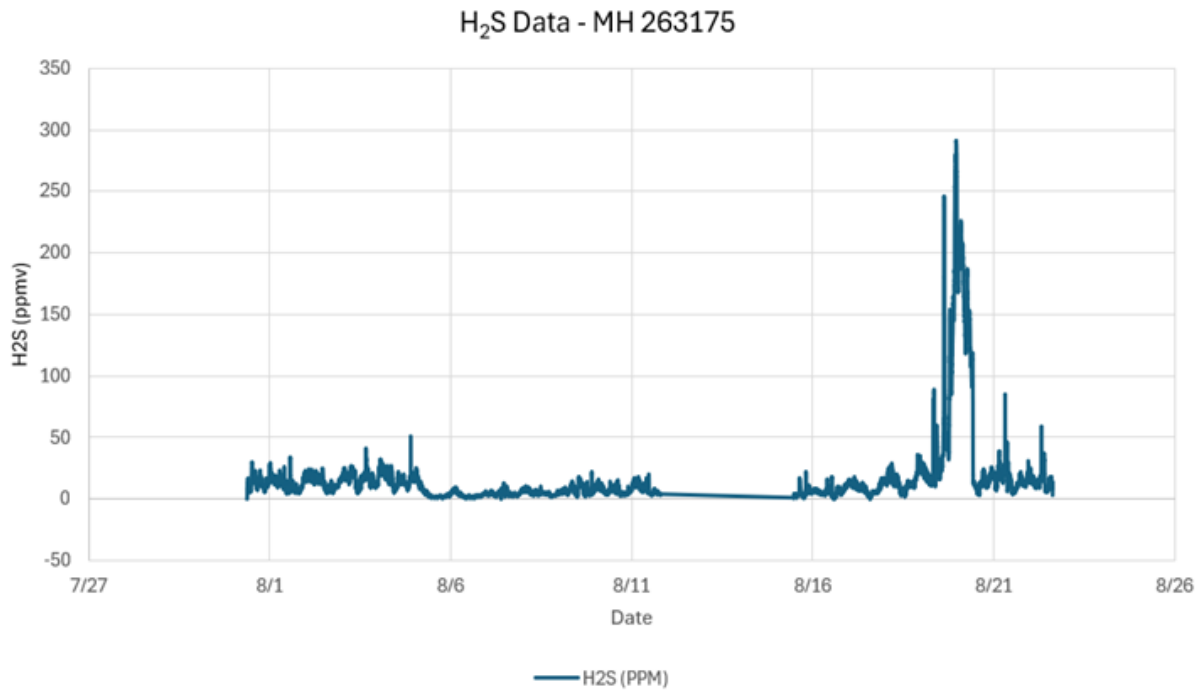


Figure 5-1 MH 263175 H_2S Data

Table 5-2 MH 263175 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	14	Low to Moderate
Maximum	41	Moderate to High

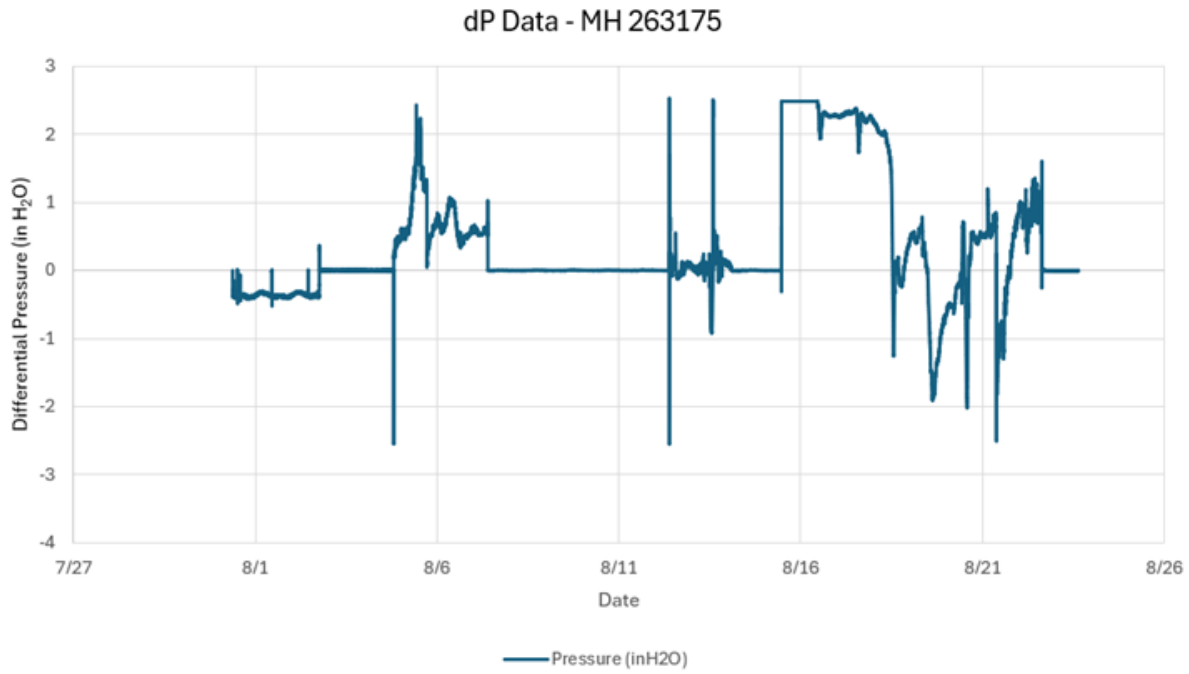


Figure 5-2 MH 263175 DP Data

Table 5-3 MH 263175 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.51	Vacuum
Average	-0.36	Vacuum
Maximum	0.02	Low
Supplemental (Grab)	-0.48	Vacuum

5.3.1.2 SSPS Wet Well Fan Test

Figure 5-3 shows the DP data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well. Table 5-4 summarizes the supplemental DP data collected on 9/16.

There is no H_2S data during the fan test due to a monitor failure and the DP monitor data is erratic and unreliable. However, the supplemental testing shows a strong vacuum at this location under all ventilation rates.

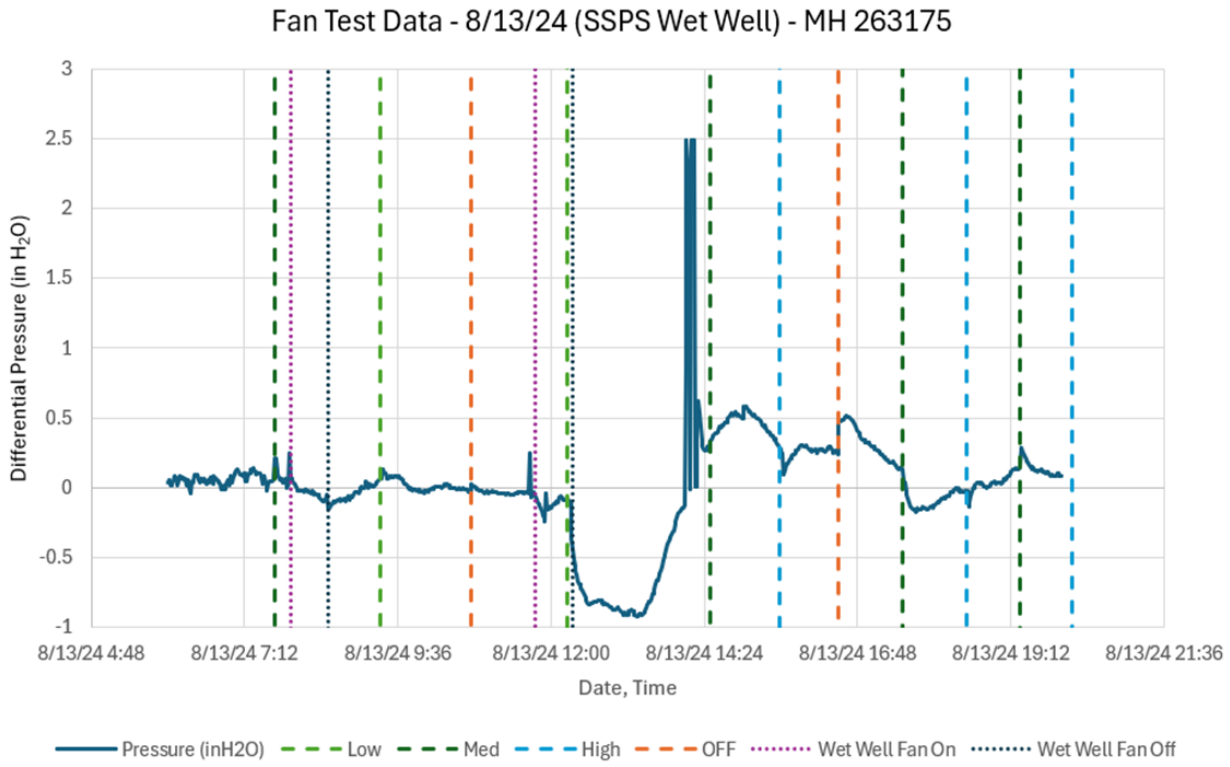


Figure 5-3 MH 263175 Data SSPS Wet Well Fan Test

Table 5-4 MH 263175 SSPS Wet Well Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.48	Vacuum
Low Air Flow	-0.10	Vacuum

5.3.1.3 Cheney Park Fan Test

Figure 5-4 shows the DP data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate.

There is no H_2S data during the fan test due to a monitor failure and the DP monitor data is erratic and unreliable. No impact was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

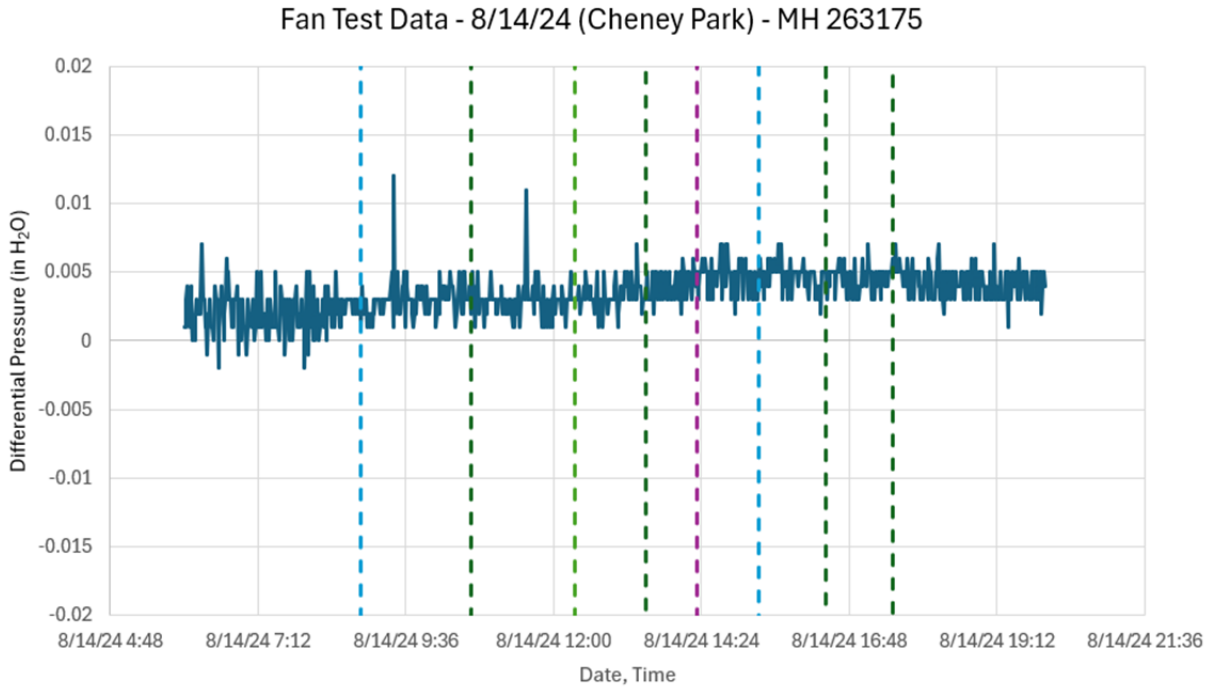


Figure 5-4 MH 263175 Data Cheney Park Fan Test

5.3.1.4 SSPS Influent MH Fan Test

Figure 5-3Figure 5-5 shows the DP data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

There is no H_2S data during the fan test due to a monitor failure and the DP monitor data is erratic and unreliable. Impact from the test is likely at this location, but was not observed upstream so further testing was not conducted.

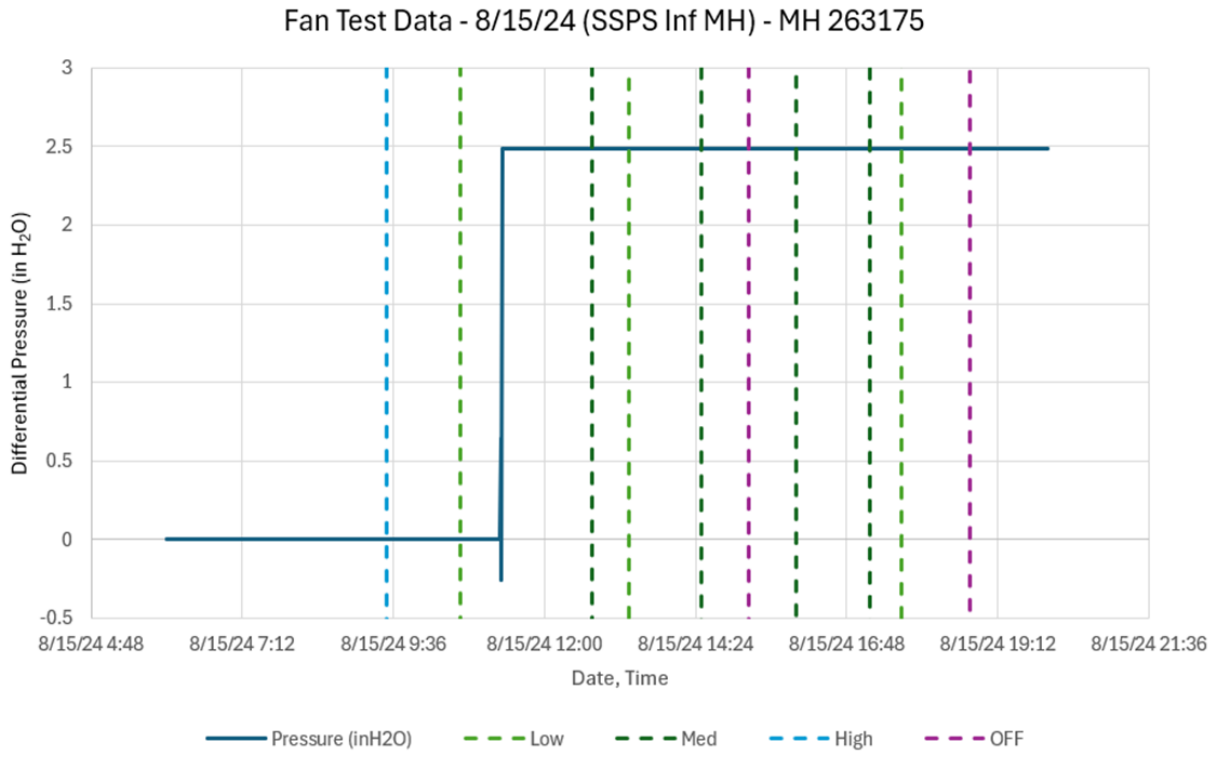


Figure 5-5 MH 263175 Data SSPS Inf. MH Fan Test

5.3.2 MH 263172 – 12th. St. Between Bird and Juneau

5.3.2.1 Overall Data and Background

Figure 5-6 and Figure 5-7 show all H_2S and DP data collected during the monitoring period. Table 5-5 and Table 5-6 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location did not provide data from 8/5 to 8/15. The DP data is erratic and unreliable during Hurricane Debby.

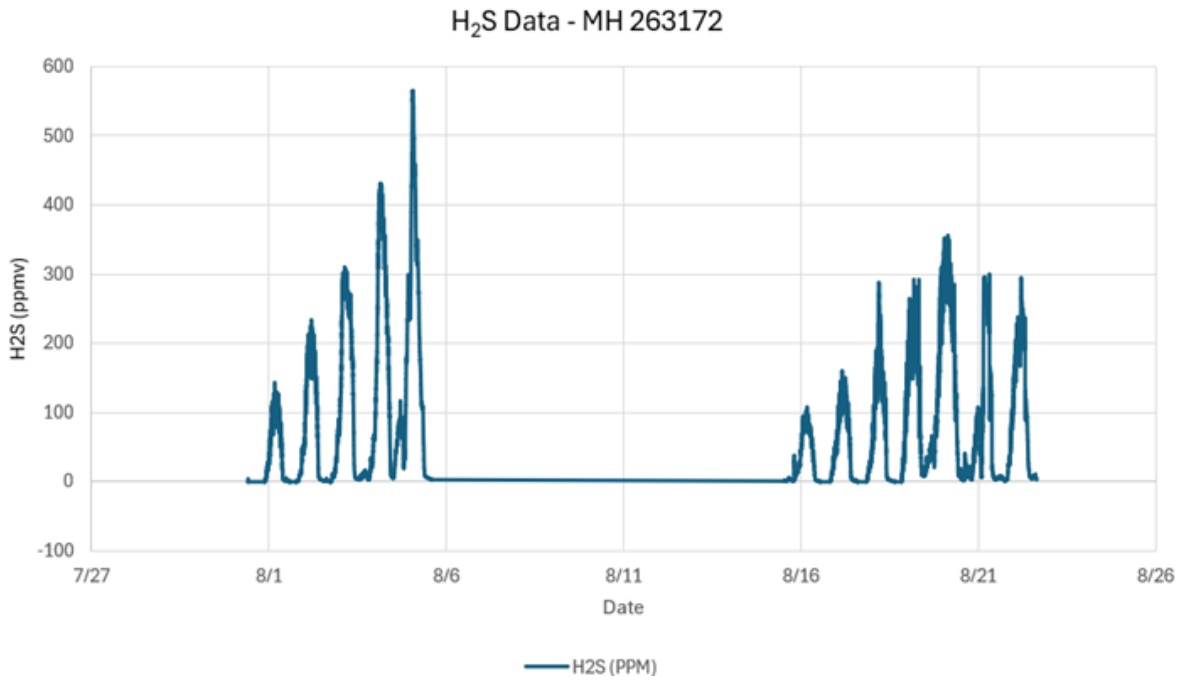


Figure 5-6 MH 263172 H_2S Data

Table 5-5 MH 263172 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	95	High to Very High
Maximum	565	Very High

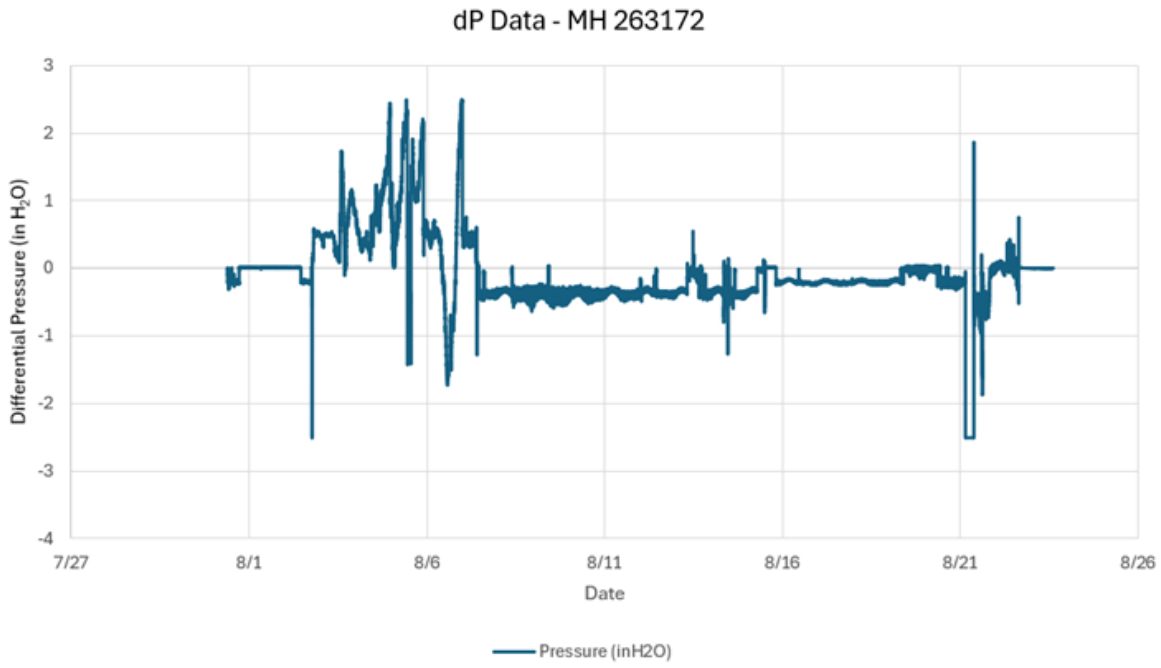


Figure 5-7 MH 263172 DP Data

Table 5-6 MH 263172 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.32	Vacuum
Average	-0.20	Vacuum
Maximum	0.01	Neutral
Supplemental (Grab)	-0.48	Vacuum

5.3.2.2 SSPS Wet Well Fan Test

Figure 5-8 shows the DP data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well. Table 5-7 summarizes the supplemental DP data collected on 9/16.

There is no H_2S data during the fan test due to a monitor failure. The DP monitor data clearly shows the changes in headspace pressure with changes in ventilation rate. This location was under vacuum under all ventilation conditions, reaching neutral or positive pressure only when the OCF fan was off or when the positive wet well ventilation system was activated. The supplemental testing also shows a strong vacuum at this location under all ventilation rates.

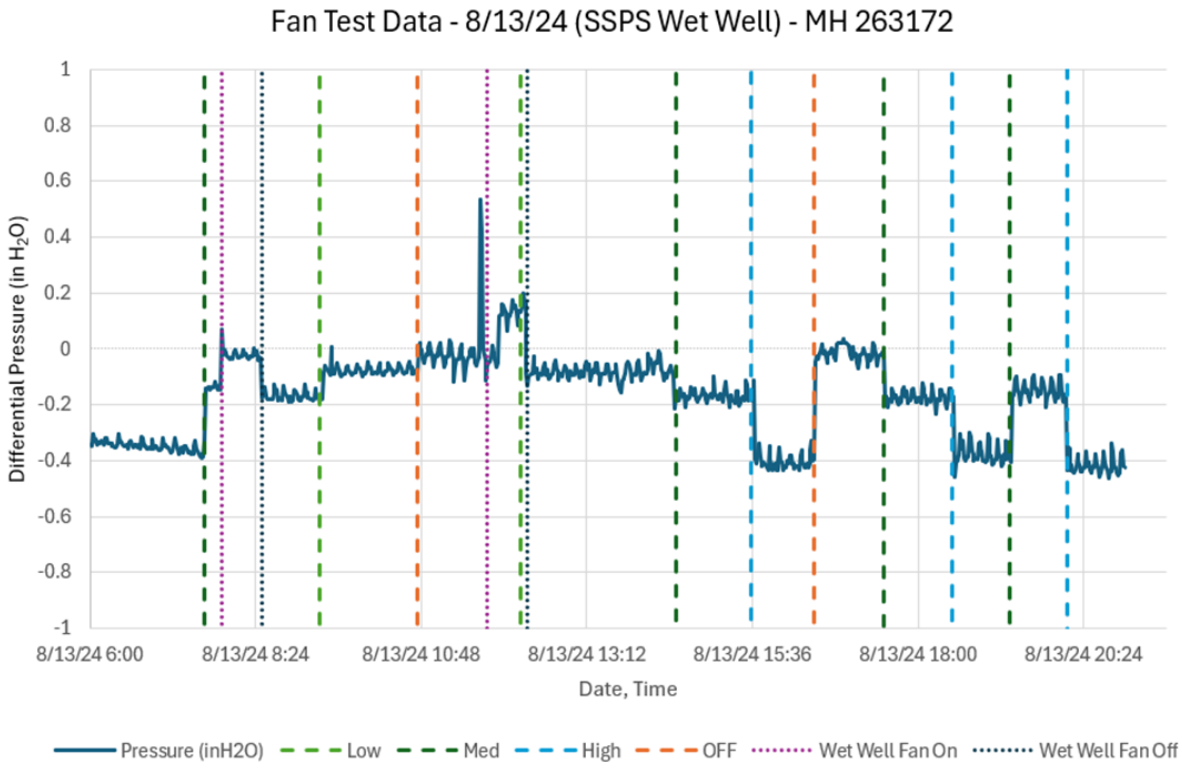


Figure 5-8 MH 263172 Data SSPS Wet Well Fan Test

Table 5-7 MH 263175 SSPS Wet Well Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.48	Vacuum
Low Air Flow	-0.13	Vacuum

5.3.2.3 Cheney Park Fan Test

Figure 5-9 shows the DP data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate.

There is no H_2S data during the fan test due to a monitor failure. The DP monitor data shows some fluctuation in pressure that is not correlated with the air flow changes at Cheney Park. These fluctuations are most likely due to activity at SSPS. No impact from Cheney Park ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

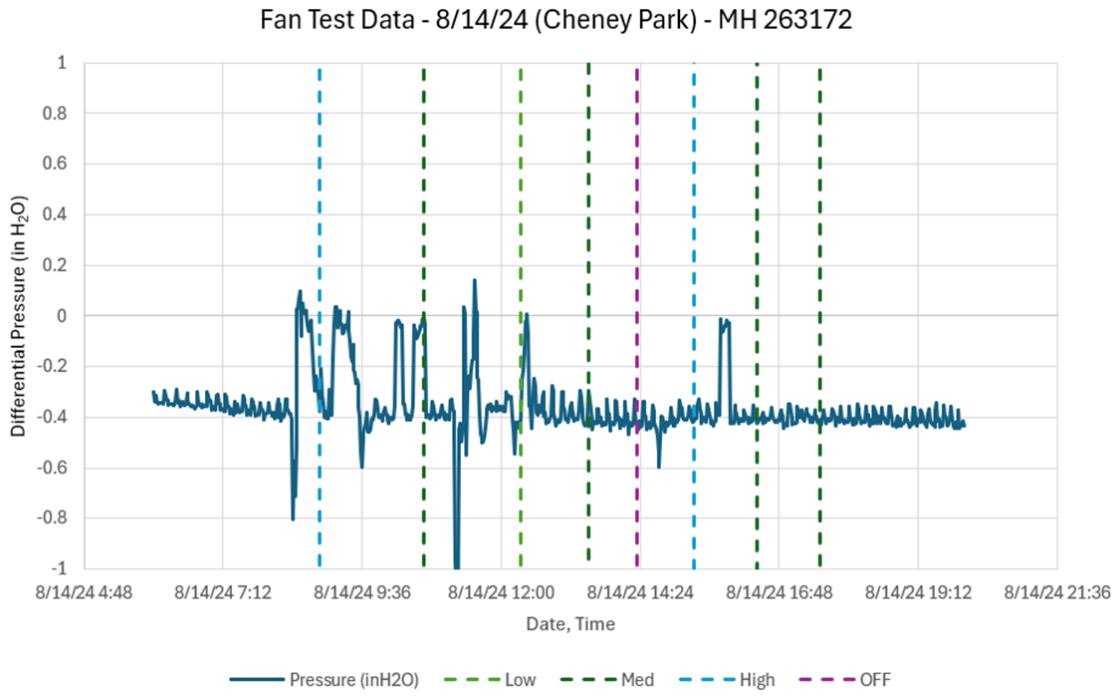


Figure 5-9 MH 263172 Data Cheney Park Fan Test

5.3.2.4 SSPS Influent MH Fan Test

Figure 5-10 shows the DP data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

There is no H2S data during the fan test due to a monitor failure. The DP monitor data clearly shows the shut down of wet well ventilation at the beginning of the day and the resumption of wet well ventilation at the end of the day. There is a noticeable change in data pattern at approximately 11:00 am rendering the following data suspect, but there is no noticeable response to air flow changes before or after the pattern change.

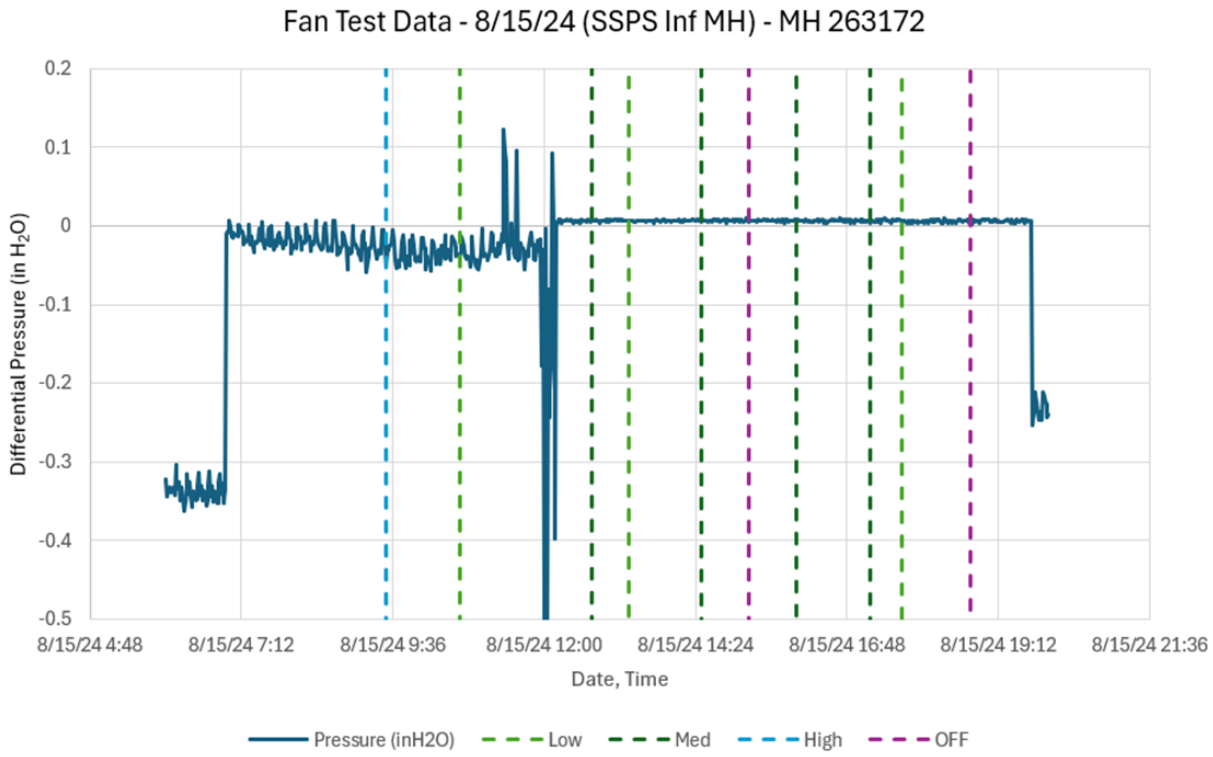


Figure 5-10 MH 263172 Data SSPS Inf. MH Fan Test

5.3.3 MH 263169 – 12th St. and Fairbanks

5.3.3.1 Overall Data and Background

Figure 5-11 and Figure 5-12 show all H_2S and DP data collected during the monitoring period. Table 5-8 and Table 5-9 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location provided data throughout the entire monitoring period. The initial monitor reached its maximum range of 220 ppm each of the first several days after installation. The monitor was replaced with a higher capacity unit on 8/7. The DP data is erratic and unreliable during Hurricane Debby.

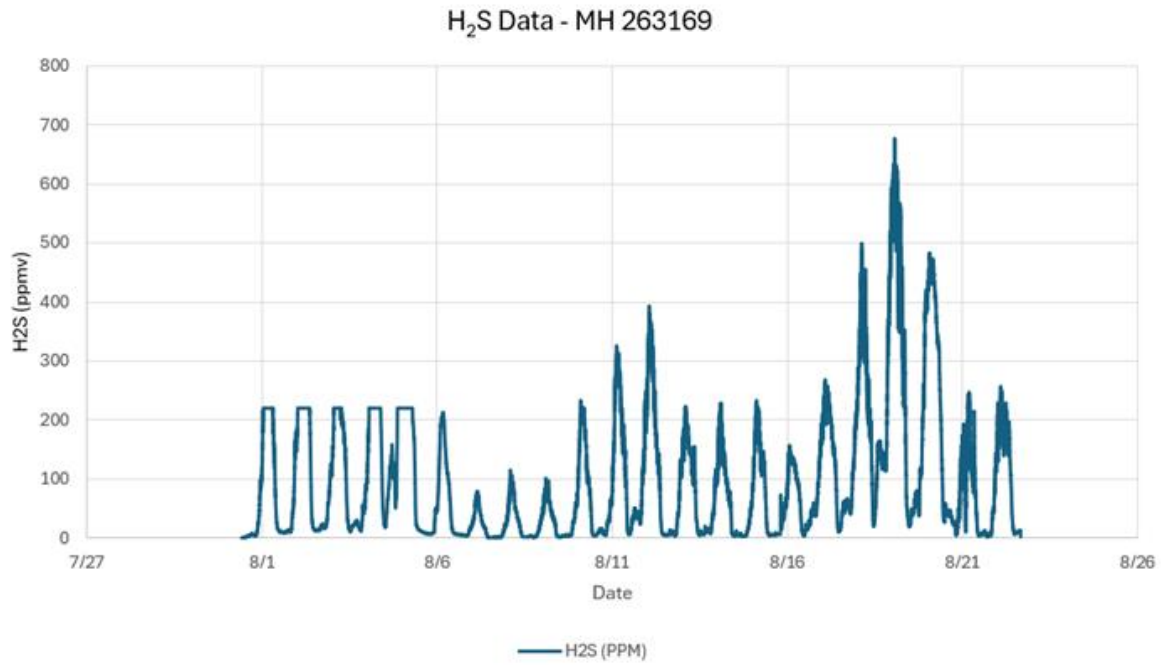


Figure 5-11 MH 263169 H_2S Data

Table 5-8 MH 263169 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	100	High to Very High
Maximum	220	Very High

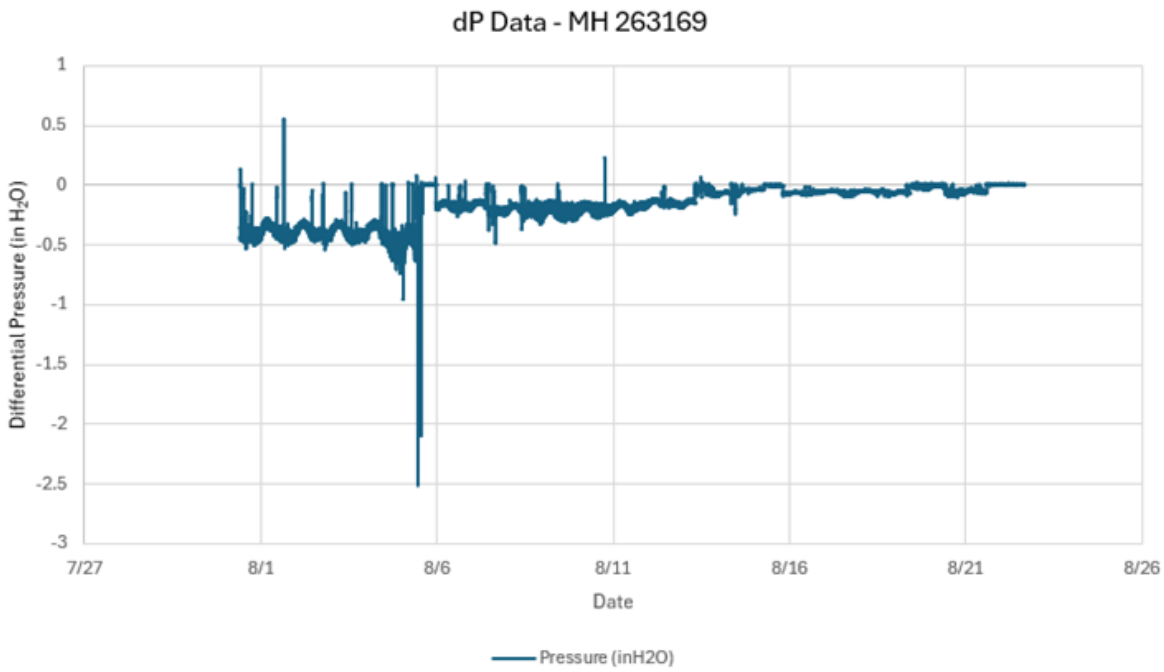


Figure 5-12 MH 263169 DP Data

Table 5-9 MH 263169 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.96	Vacuum
Average	-0.42	Vacuum
Maximum	0.02	Low
Supplemental (Grab)	-0.56	Vacuum

5.3.3.2 SSPS Wet Well Fan Test

Figure 5-13 shows the H_2S and DP data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well. Table 5-10 summarizes the supplemental DP data collected on 9/16.

The H_2S data during the fan test has a similar pattern to the background. The DP monitor data clearly shows the changes in headspace pressure with changes in ventilation rate. This location was under vacuum under all ventilation conditions, reaching neutral or positive pressure only when the OCF fan was off or when the positive wet well ventilation system was activated. The supplemental testing also shows a strong vacuum at this location under all ventilation rates.

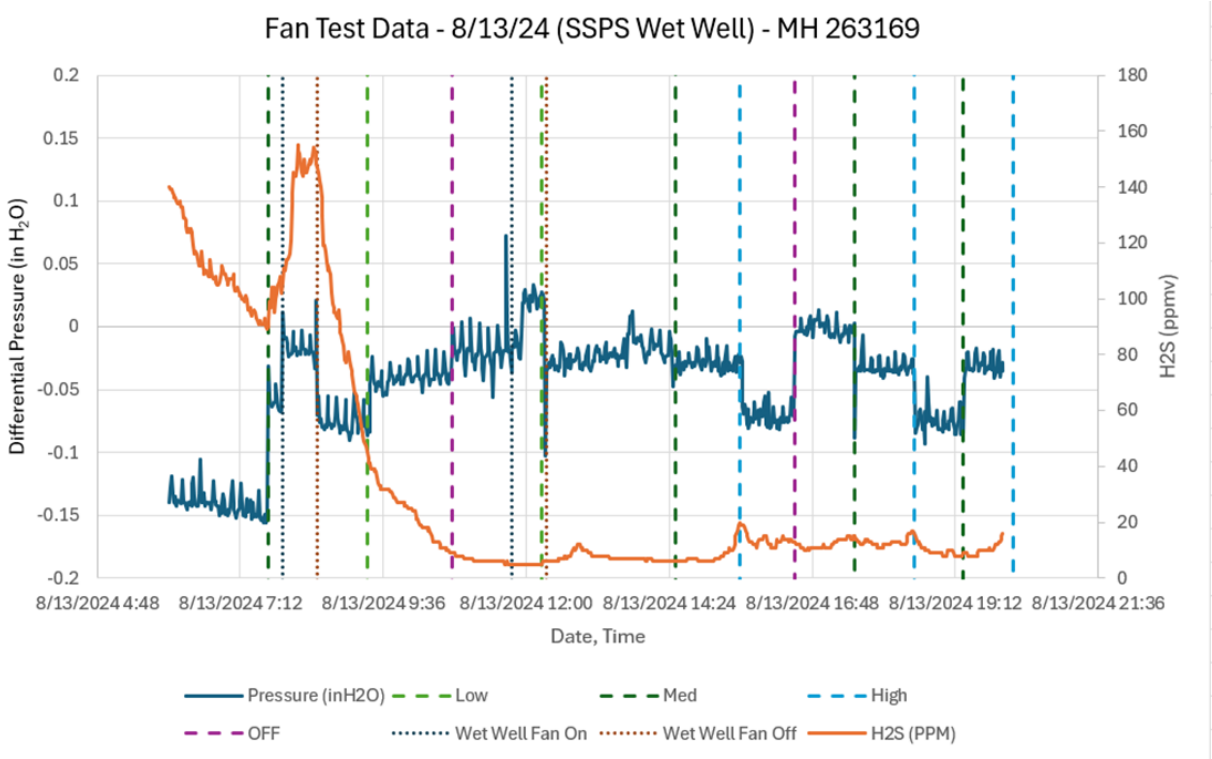


Figure 5-13 MH 263169 Data SSPS Wet Well Fan Test

Table 5-10 MH 263169 SSPS Wet Well Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.56	Vacuum
Low Air Flow	-0.16	Vacuum

5.3.3.3 Cheney Park Fan Test

Figure 5-14 shows the H_2S and DP data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background. The DP monitor data shows some fluctuation in pressure that is not correlated with the air flow changes at Cheney Park. These fluctuations are most likely due to activity at SSPS. No impact from Cheney Park ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

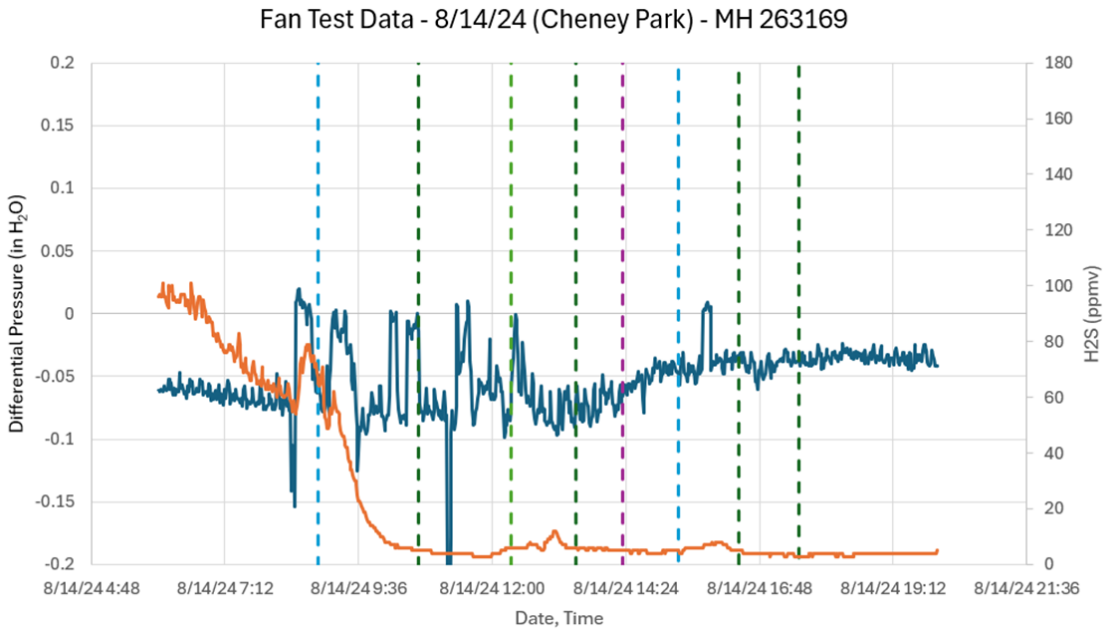


Figure 5-14 MH 263169 Data Cheney Park Fan Test

5.3.3.4 SSPS Influent MH Fan Test

Figure 5-15 shows the H_2S and DP data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background. The DP monitor data clearly shows the shut down of wet well ventilation at the beginning of the day and the resumption of wet well ventilation at the end of the day but there is no noticeable response to air flow changes.

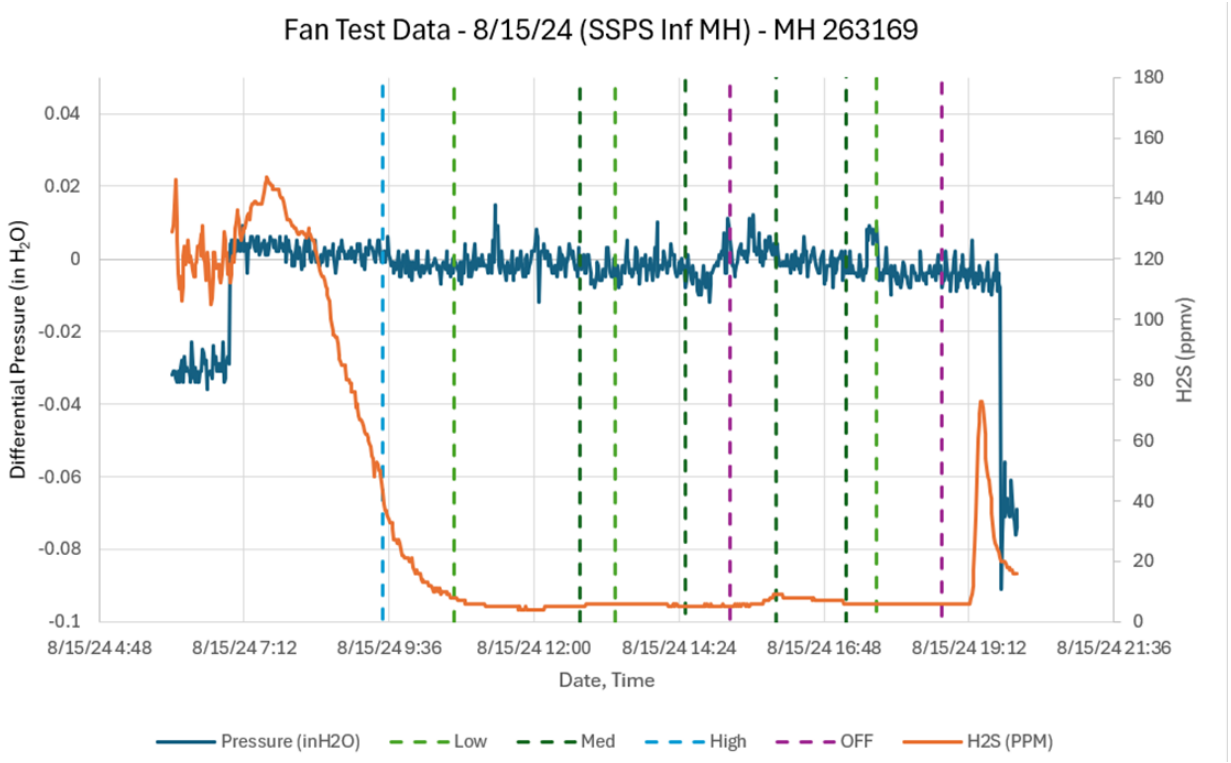


Figure 5-15 MH 263169 Data SSPS Inf. MH Fan Test

5.3.4 MH265238 – 10th St. Between Sitka and Bird

5.3.4.1 Overall Data and Background

Figure 5-16 and Figure 5-17 show all H_2S and DP data collected during the monitoring period. Table 5-11 and Table 5-12 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location provided data throughout the entire monitoring period. The DP data is assumed to be incorrect. The DP monitor shows consistently neutral conditions but vacuum was observed during grab sampling and was confirmed during supplemental DP testing on 9/16. There was likely a failure of the atmospheric sample tube or p-trap throughout the monitoring period.

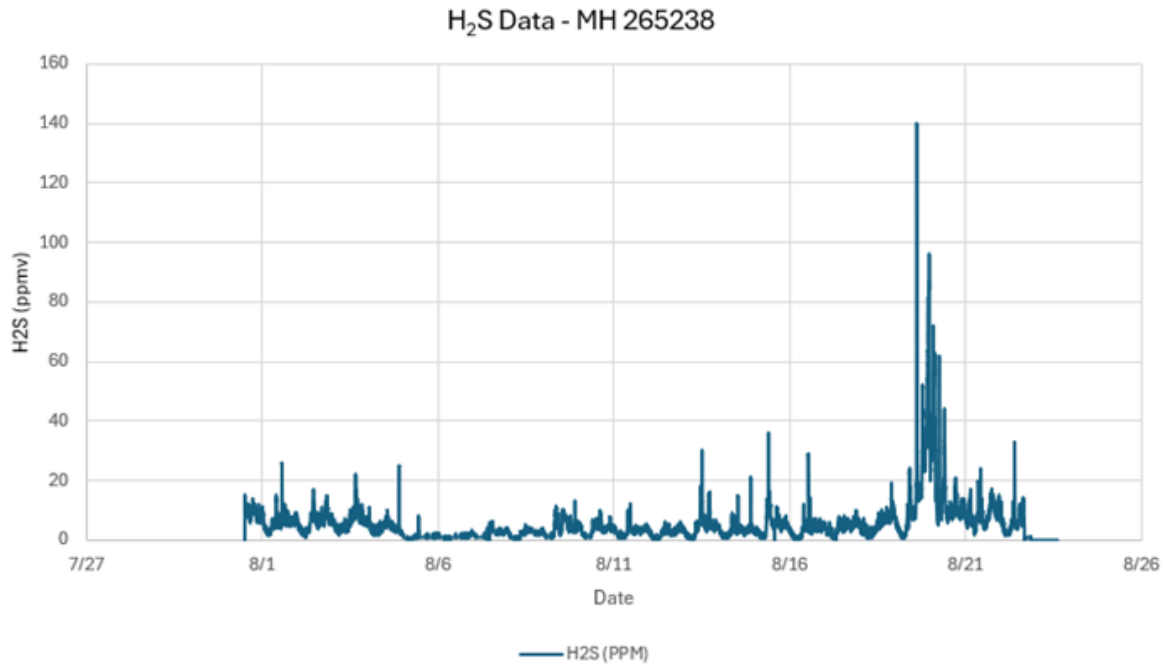


Figure 5-16 MH 265238 H_2S Data

Table 5-11 MH 265238 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	6	Low
Maximum	26	Moderate

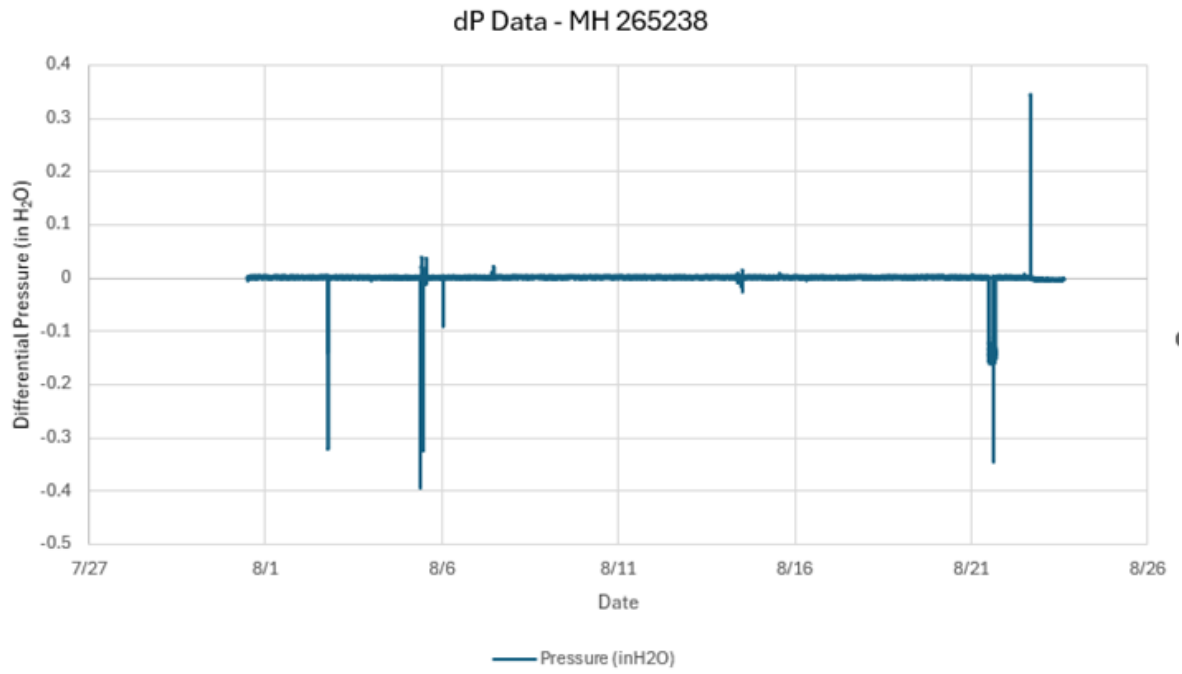


Figure 5-17 MH 265238 DP Data

Table 5-12 MH 265238 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.32	Vacuum
Average	0.00	Neutral
Maximum	0.00	Neutral
Supplemental (Grab)	-0.35	Vacuum

5.3.4.2 SSPS Wet Well Fan Test

Figure 5-18 shows the H_2S and DP data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well. Table 5-13 summarizes the supplemental DP data collected on 9/16.

Some ventilation influence on the H_2S level is observed at this location, particularly the increases in H_2S when ventilation is shut off from 10:45 AM to 12:15 PM and from 4:30 PM to 5:30 PM. The DP monitor data does not show any significant changes in pressure but the data is assumed to be incorrect as described above. The supplemental testing shows a strong vacuum at this location under all ventilation rates.

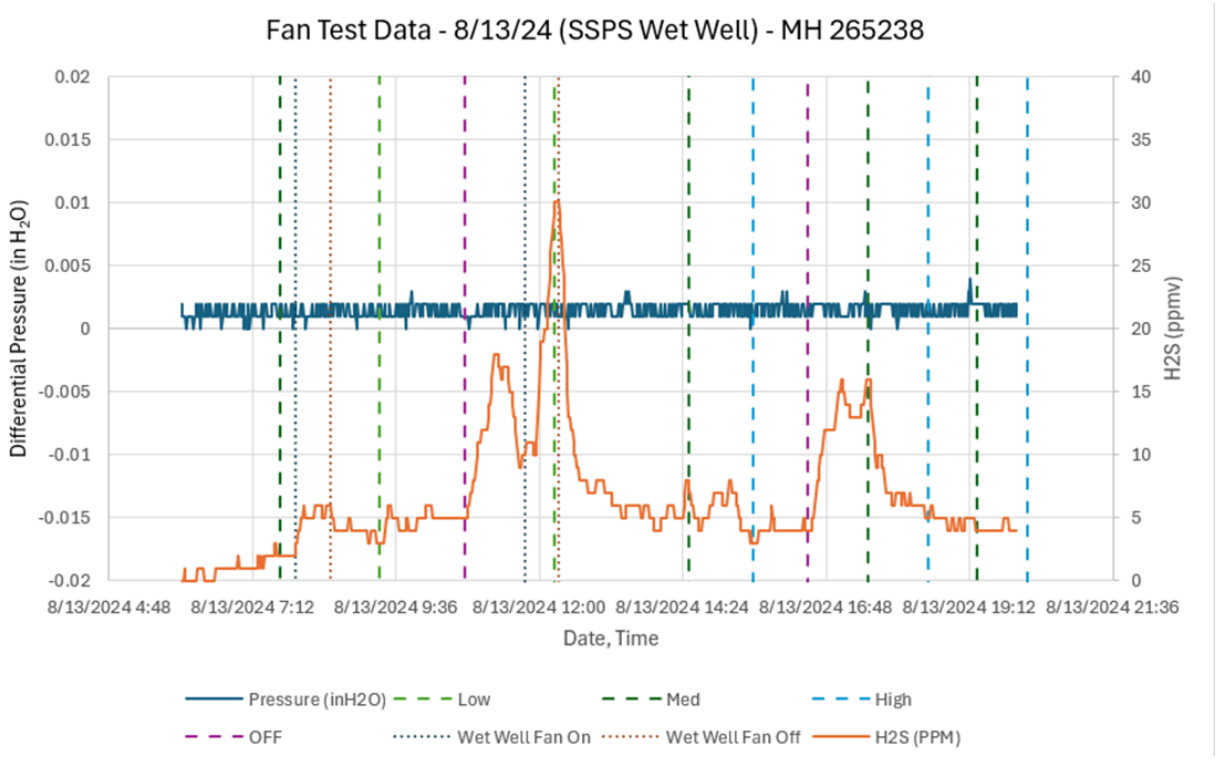


Figure 5-18 MH 265238 Data SSPS Wet Well Fan Test

Table 5-13 MH 265238 SSPS Wet Well Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.35	Vacuum
Low Air Flow	-0.05	Vacuum

5.3.4.3 Cheney Park Fan Test

Figure 5-19 shows the H_2S and DP data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background and does not exhibit any influence from the ventilation changes. The DP monitor data is assumed to be incorrect as described above. No impact from Cheney Park ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

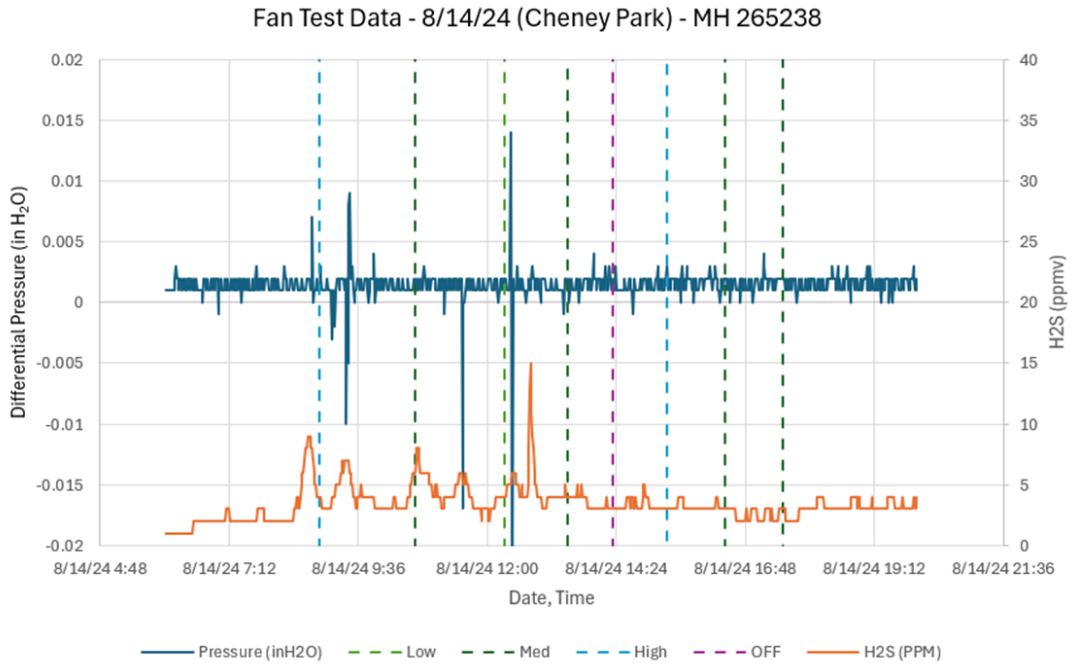


Figure 5-19 MH 265238 Data Cheney Park Fan Test

5.3.4.4 SSPS Influent MH Fan Test

Figure 5-20 shows the H_2S and DP data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background with the exception of the increase from 7:15 AM to 9:30 AM. This increase in H_2S is likely due to the shut down of the wet well ventilation at SSPS and is consistent with the response observed during the SSPS wet well fan test. The DP monitor data is assumed to be incorrect as described above. However, no influence was observed on the 12th St. Sewer during the influent MH test; therefore, it is unlikely that there was any significant influence at this location also.

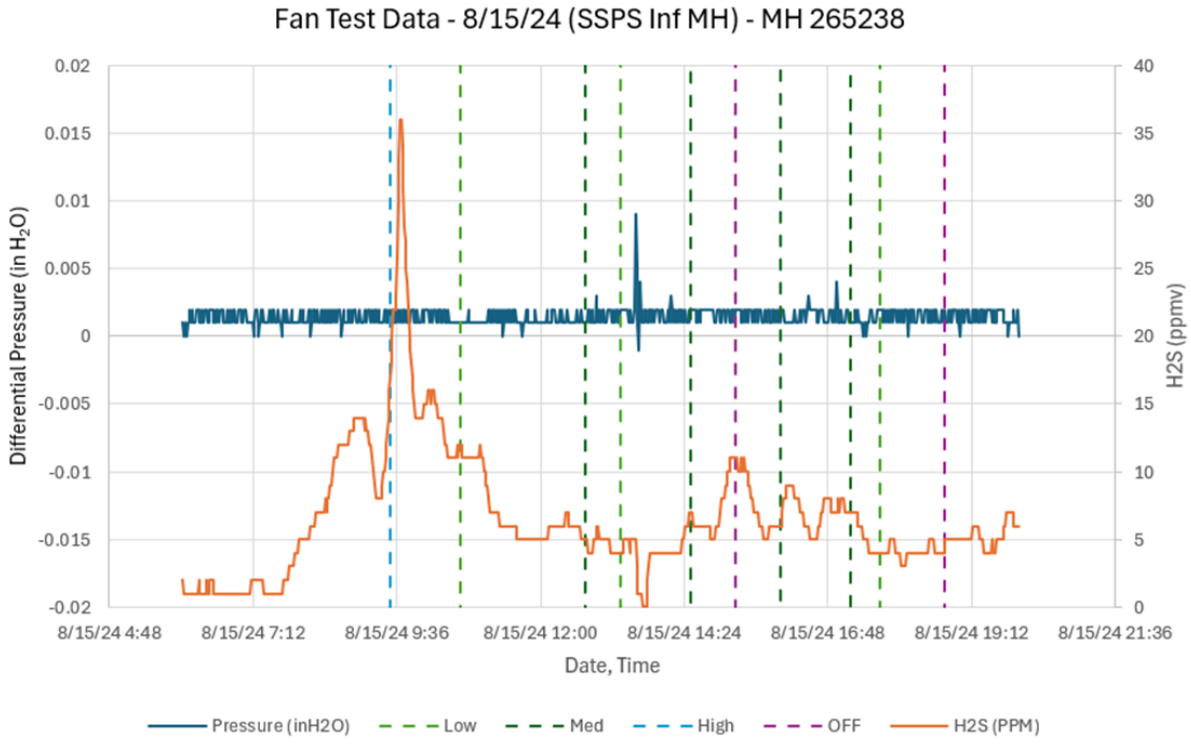


Figure 5-20 MH 265238 Data SSPS Inf. MH Fan Test

5.3.5 MH261678 – 10th St. Between Bird and Juneau

5.3.5.1 Overall Data and Background

Figure 5-21 and Figure 5-22 show all H_2S and DP data collected during the monitoring period. Table 5-14 and Table 5-15 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location provided data throughout the entire monitoring period. The DP data had a significant pattern change during Hurricane Debby and did not provide data from 8/7 to 8/17, including during the fan test.

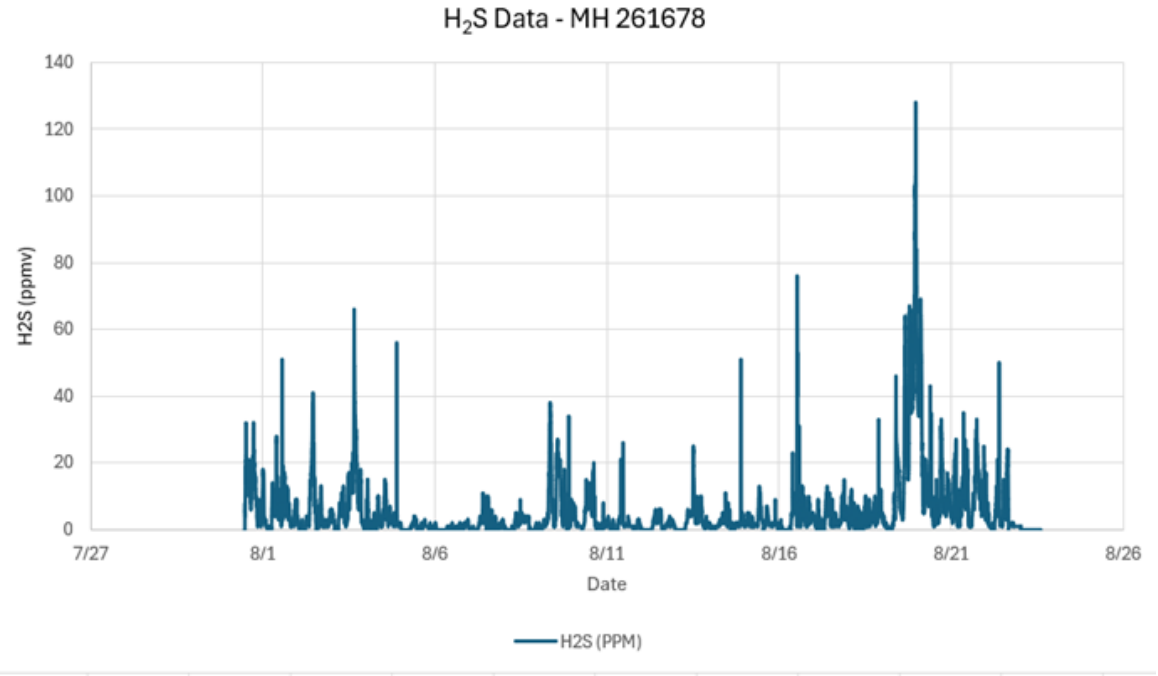


Figure 5-21 MH 261678 H_2S Data

Table 5-14 MH 261678 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	7	Moderate
Maximum	66	High

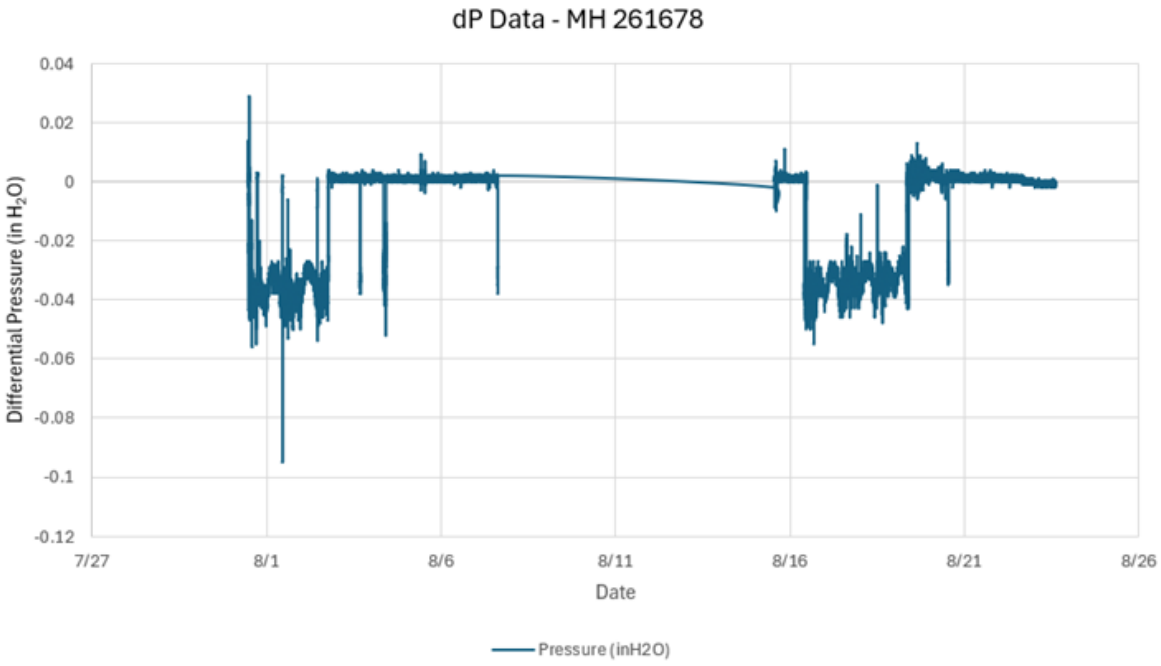


Figure 5-22 MH 261678 DP Data

Table 5-15 MH 261678 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.10	Vacuum
Average	-0.04	Vacuum
Maximum	0.00	Neutral
Supplemental (Grab)	-0.16	Vacuum

5.3.5.2 SSPS Wet Well Fan Test

Figure 5-23 shows the H_2S data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well. Table 5-16 summarizes the supplemental DP data collected on 9/16.

Some ventilation influence on the H_2S level is observed at this location, particularly the increase in H_2S when ventilation is shut off and the positive ventilation system is activated from 11:45 AM to 12:20 PM. There is no DP data due to monitor failure, but the supplemental testing shows vacuum at this location under all ventilation rates.

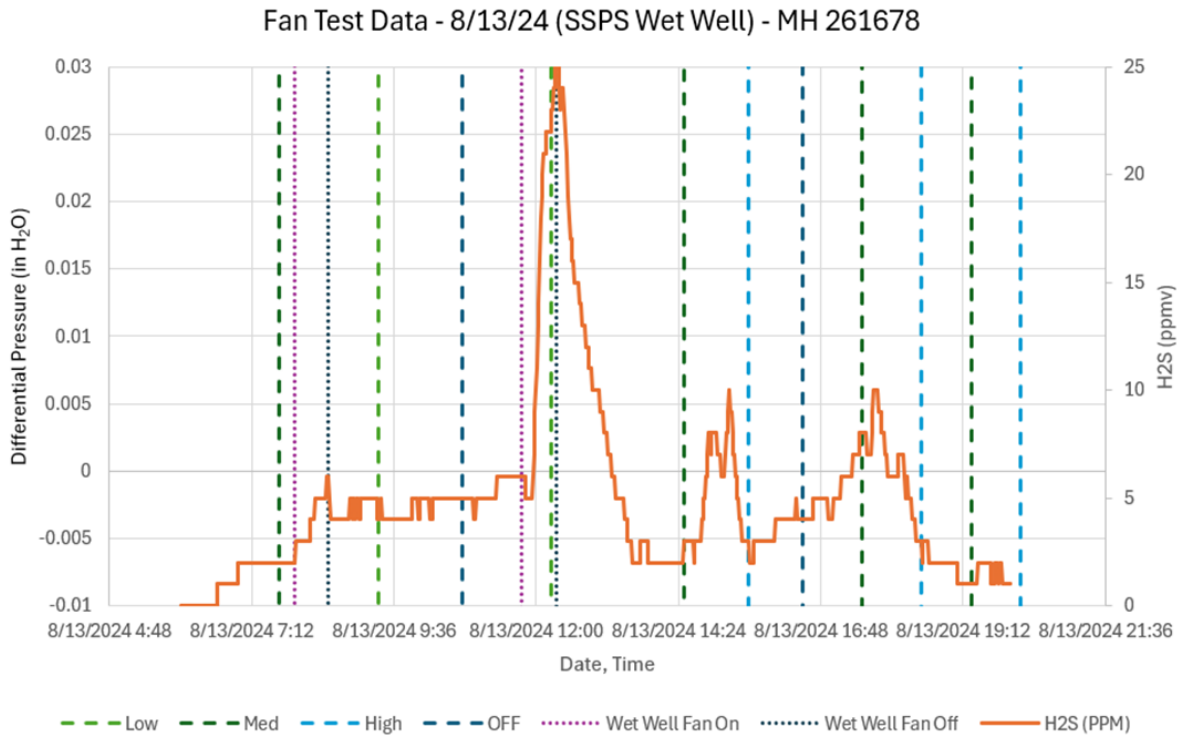


Figure 5-23 MH 261678 Data SSPS Wet Well Fan Test

Table 5-16 MH 261678 SSPS Wet Well Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.16	Vacuum
Low Air Flow	-0.05	Vacuum

5.3.5.3 Cheney Park Fan Test

Figure 5-24 shows the H_2S data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background and does not exhibit any influence from the ventilation changes. One increase in H2S at 10:40 AM coincides with an air flow rate change, but the absence of any other correlated changes indicates this is most likey a coincidence and not influenced by Cheney Park ventilation. There is no DP data due to monitor failure. No impact from Cheney Park ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

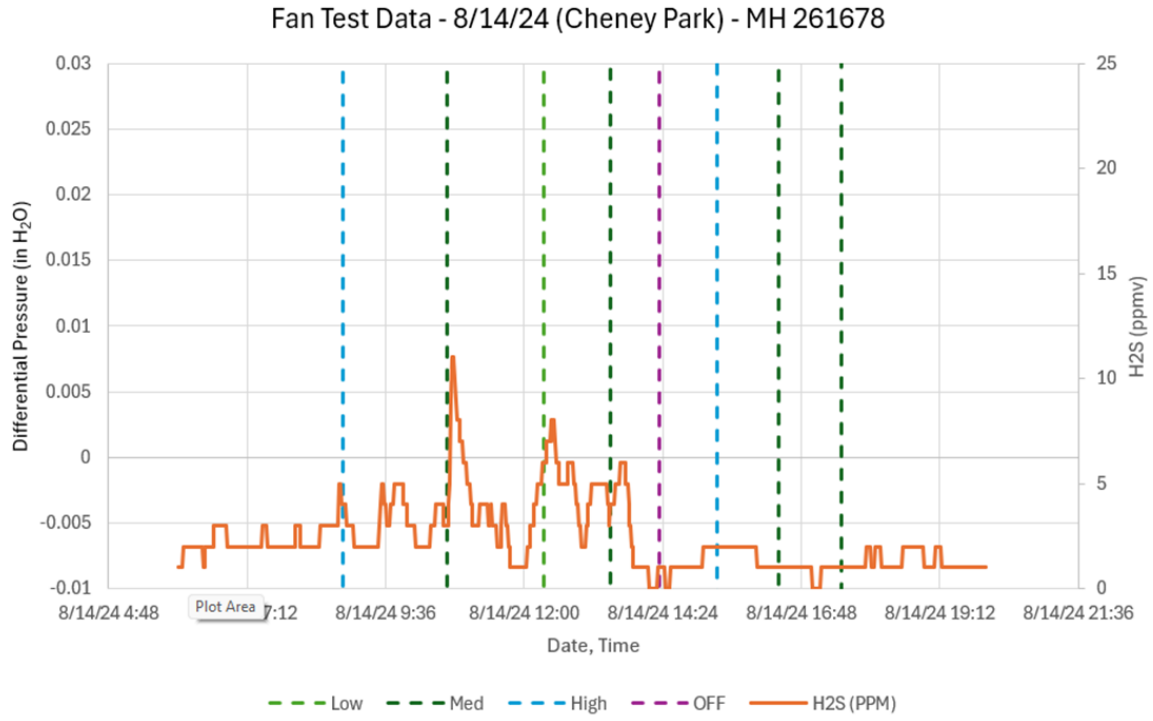


Figure 5-24 MH 261678 Data Cheney Park Fan Test

5.3.5.4 SSPS Influent MH Fan Test

Figure 5-25 shows the H_2S data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background. There is no DP data due to monitor failure. However, no influence was observed on the 12th St. Sewer during the influent MH test; therefore, it is unlikely that there was any significant influence at this location also.

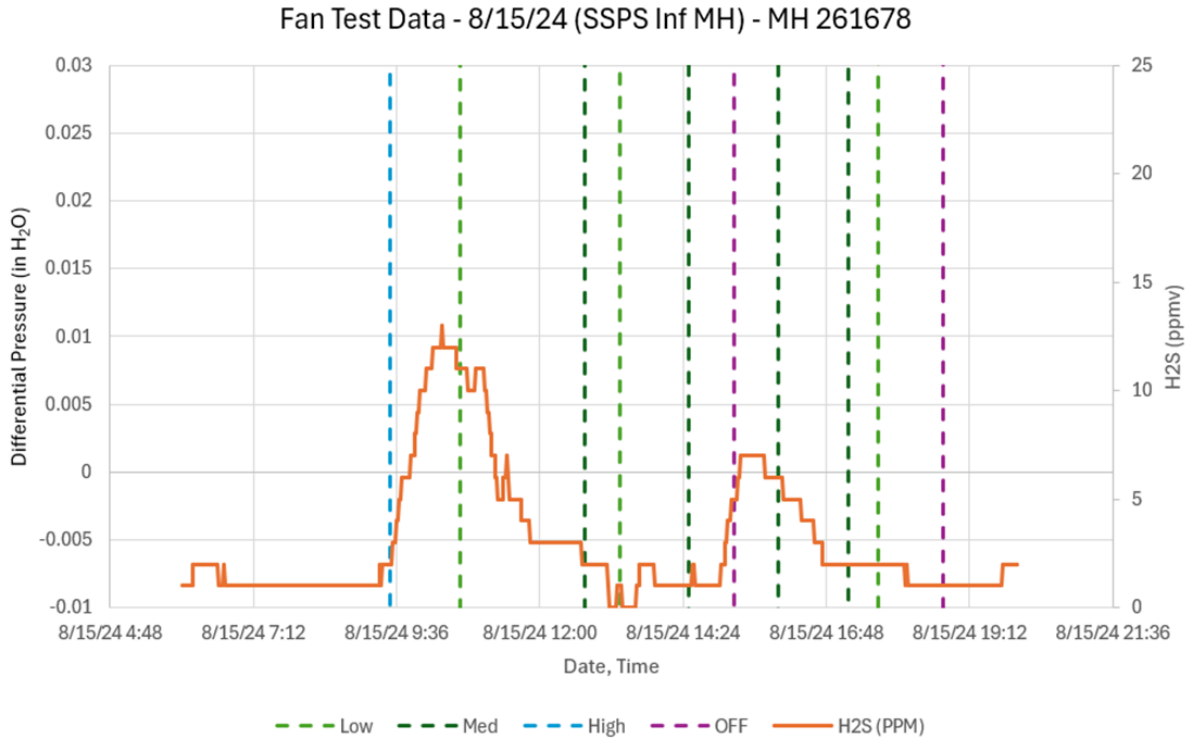


Figure 5-25 MH 261678 Data SSPS Inf. MH Fan Test

5.3.6 MH 261624 – 10th. St. Between Waters and Fairbanks

5.3.6.1 Overall Data and Background

Figure 5-26 and Figure 5-27 show all H_2S and DP data collected during the monitoring period. Table 5-17 and Table 5-18 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location provided data throughout the entire monitoring period. The DP data was erratic during Hurricane Debby and unreliable thereafter, including during the fan test.

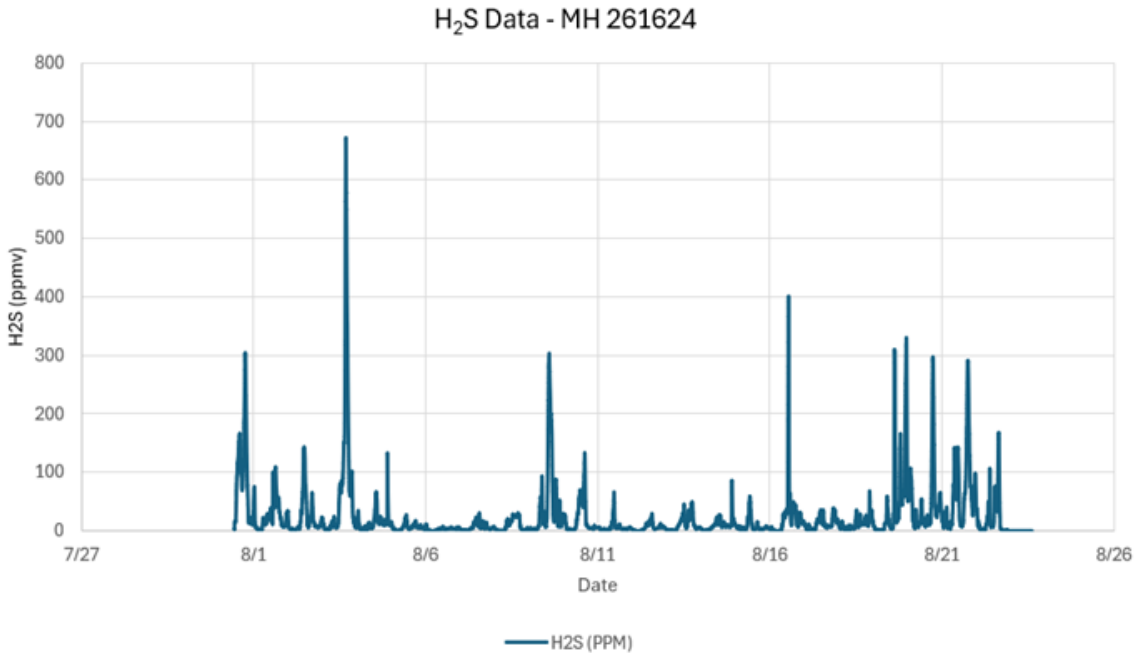


Figure 5-26 MH 261624 H_2S Data

Table 5-17 MH 261624 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	41	High
Maximum	672	Very High

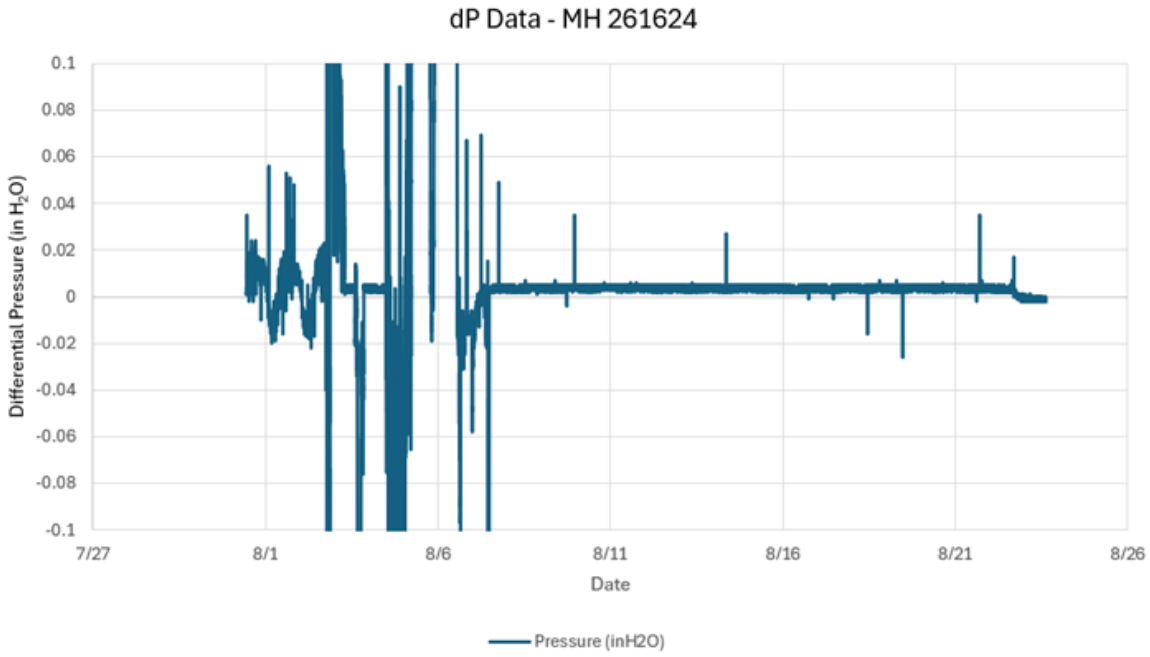


Figure 5-27 MH 261624 DP Data

Table 5-18 MH 261624 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.02	Vacuum
Average	0.00	Neutral
Maximum	0.06	Low
Supplemental (Grab)	0.03	Low

5.3.6.2 SSPS Wet Well Fan Test

Figure 5-28 shows the H_2S and DP data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well. Table 5-19 summarizes the supplemental DP data collected on 9/16.

The H_2S data during the fan test has a similar pattern to the background. The DP data is unreliable, but the supplemental testing shows pressure at this location under all ventilation rates. This supports the conclusion that there is a hydraulic blockage (i.e., "pipe full" condition) on the 10th St. Sewer at Waters Ave.. This is preventing influence from SSPS ventilation at points north of Waters Ave. on the 10th St. Sewer.

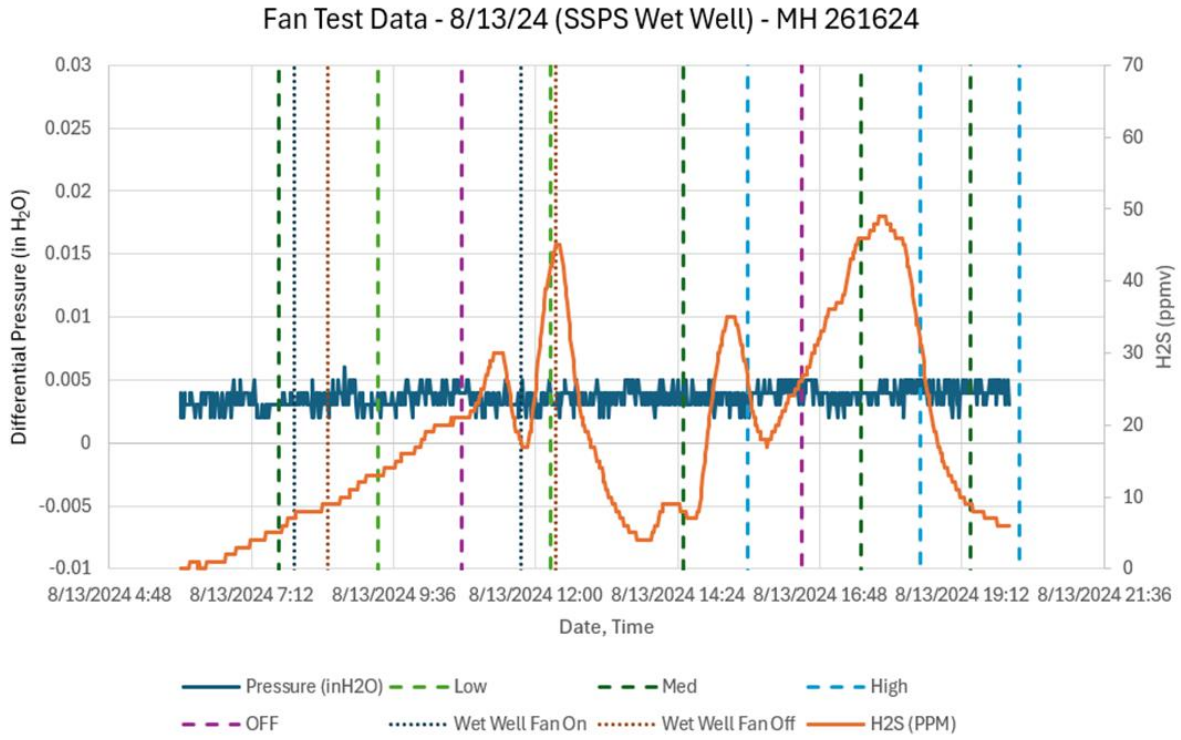


Figure 5-28 MH 261624 Data SSPS Wet Well Fan Test

Table 5-19 MH 261624 SSPS Wet Well Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	0.03	Low
Low Air Flow	0.01	Low

5.3.6.3 Cheney Park Fan Test

Figure 5-29 shows the H_2S and DP data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate. Table 5-20 shows supplemental DP testing conducted with ventilation at the Cheney Park location.

The H_2S data during the fan test has a similar pattern to the background and does not exhibit any influence from the ventilation changes. The DP data is unreliable, but the supplemental testing shows this location moving from positive pressure to vacuum with ventilation at Cheney Park.

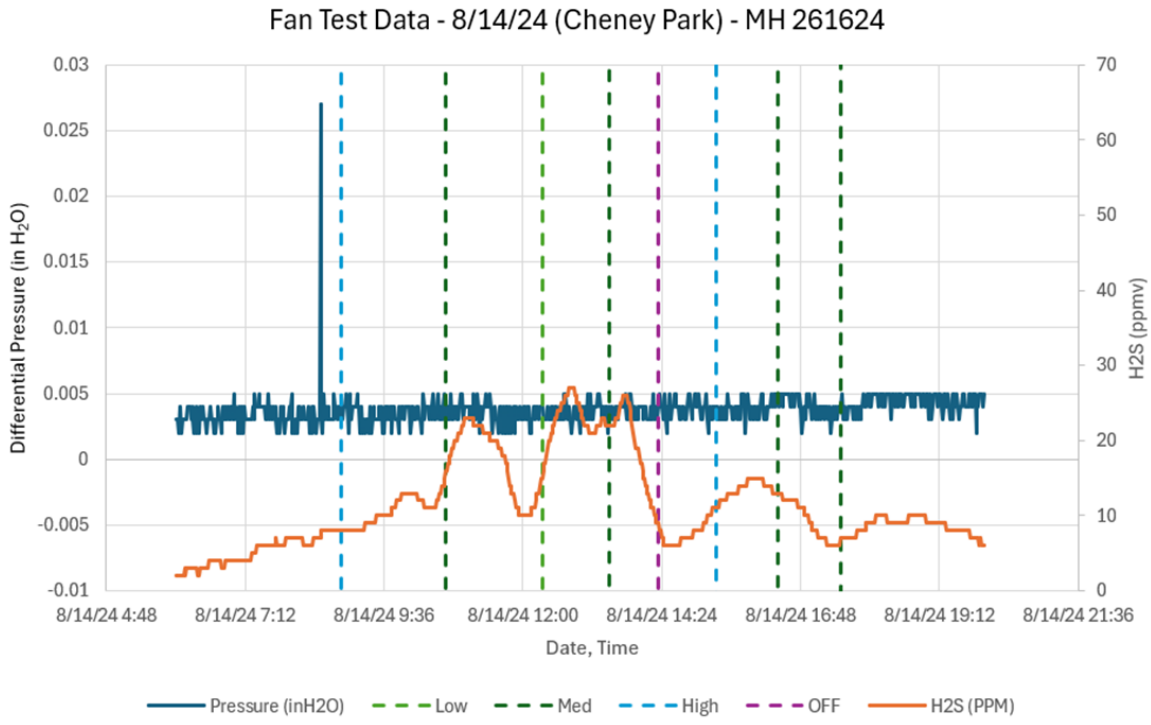


Figure 5-29 MH 261624 Data Cheney Park Fan Test

Table 5-20 MH 261624 Cheney Park Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.03	Vacuum
No Air Flow	0.03	Low

5.3.6.4 SSPS Influent MH Fan Test

Figure 5-30 shows the H_2S and DP data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background. There is no DP data due to monitor failure. However, no influence was observed during supplemental sampling with wet well ventilation, therefore no influence is expected with influent MH ventilation.

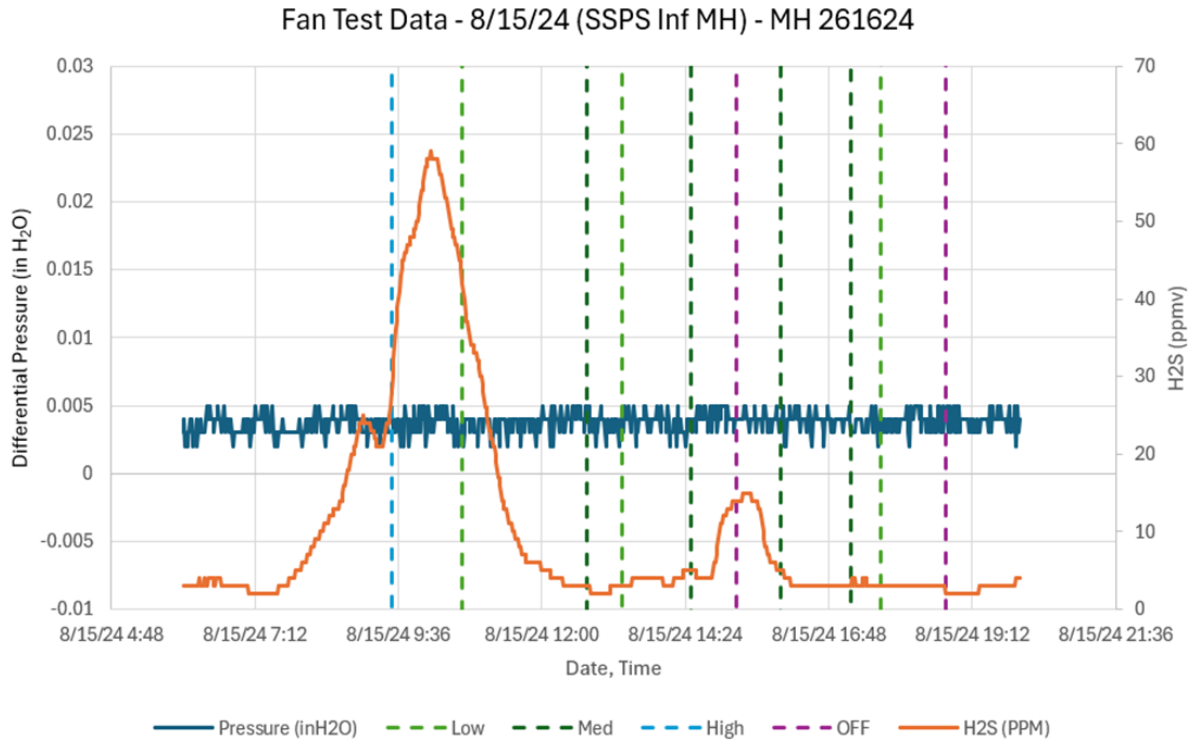


Figure 5-30 MH 261624 Data SSPS Inf. MH Fan Test

5.3.7 MH 261619 – Mitchell and Fairbanks

5.3.7.1 Overall Data and Background

Figure 5-31 and Figure 5-32 show H_2S and DP all data collected during the monitoring period. Table 5-21 and Table 5-22 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location provided data throughout the entire monitoring period. The DP data was erratic during Hurricane Debby and did not provide data from 8/7 - 8/15, including during the fan test.

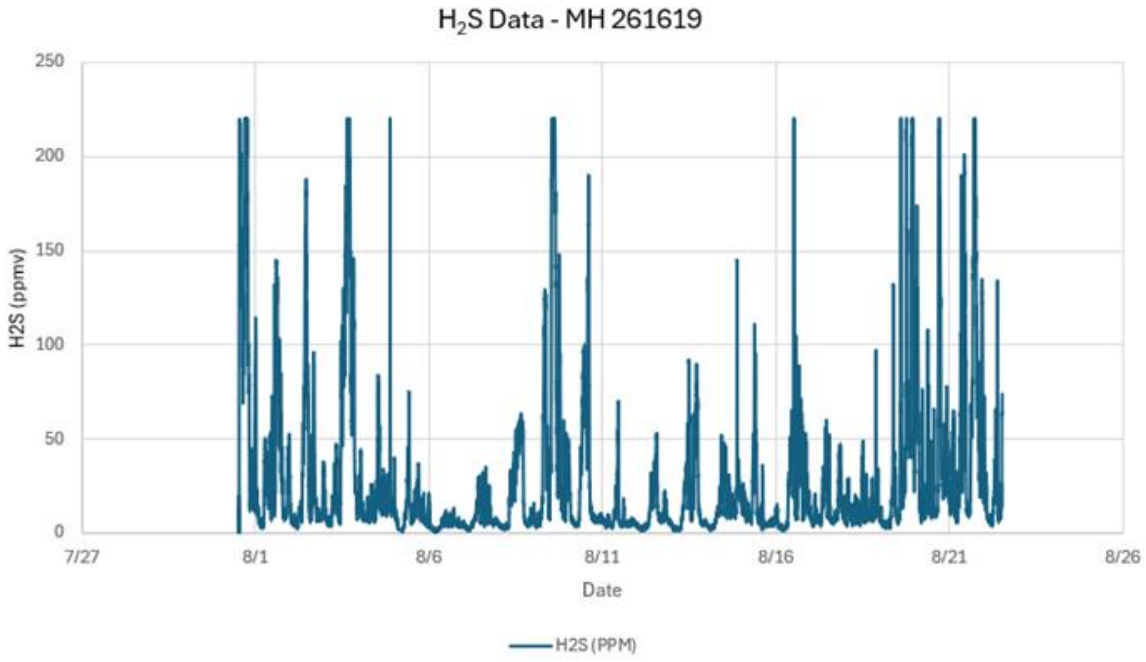


Figure 5-31 MH 261619 H_2S Data

Table 5-21 MH 261619 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	43	High
Maximum	220	Very High

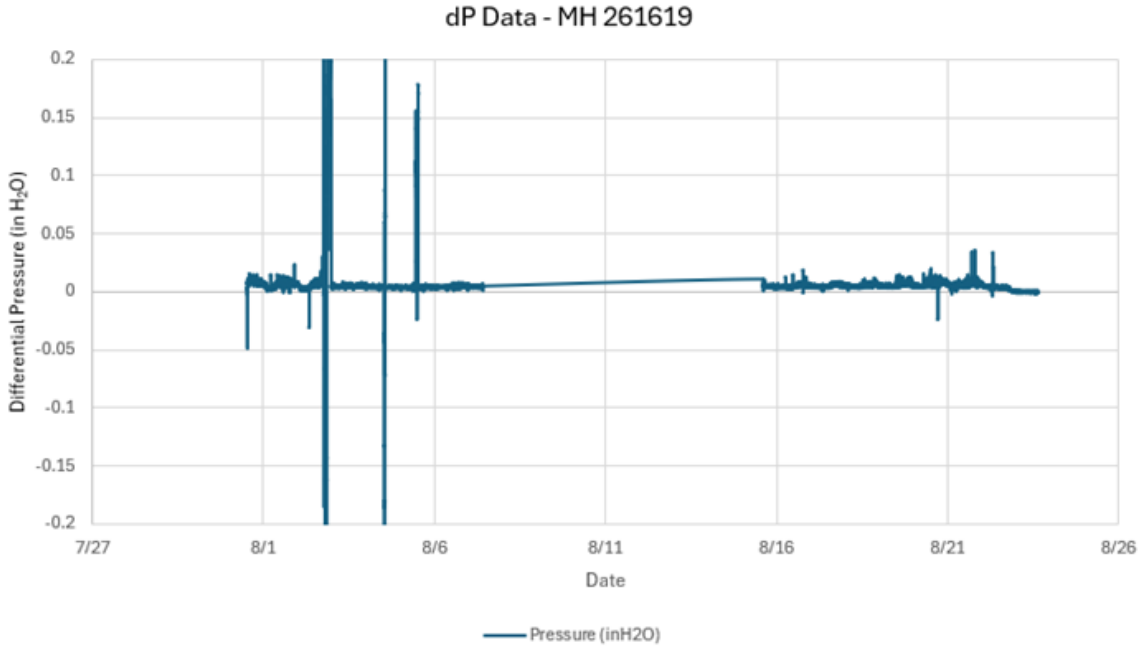


Figure 5-32 MH 261619 DP Data

Table 5-22 MH 261619 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.03	Vacuum
Average	0.01	Low
Maximum	0.03	Low
Supplemental (Grab)	0.01	Low

5.3.7.2 SSPS Wet Well Fan Test

Figure 5-33 shows the DP data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well.

The H_2S data during the fan test has a similar pattern to the background. There is no DP data due to monitor failure. No impact from SSPS ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

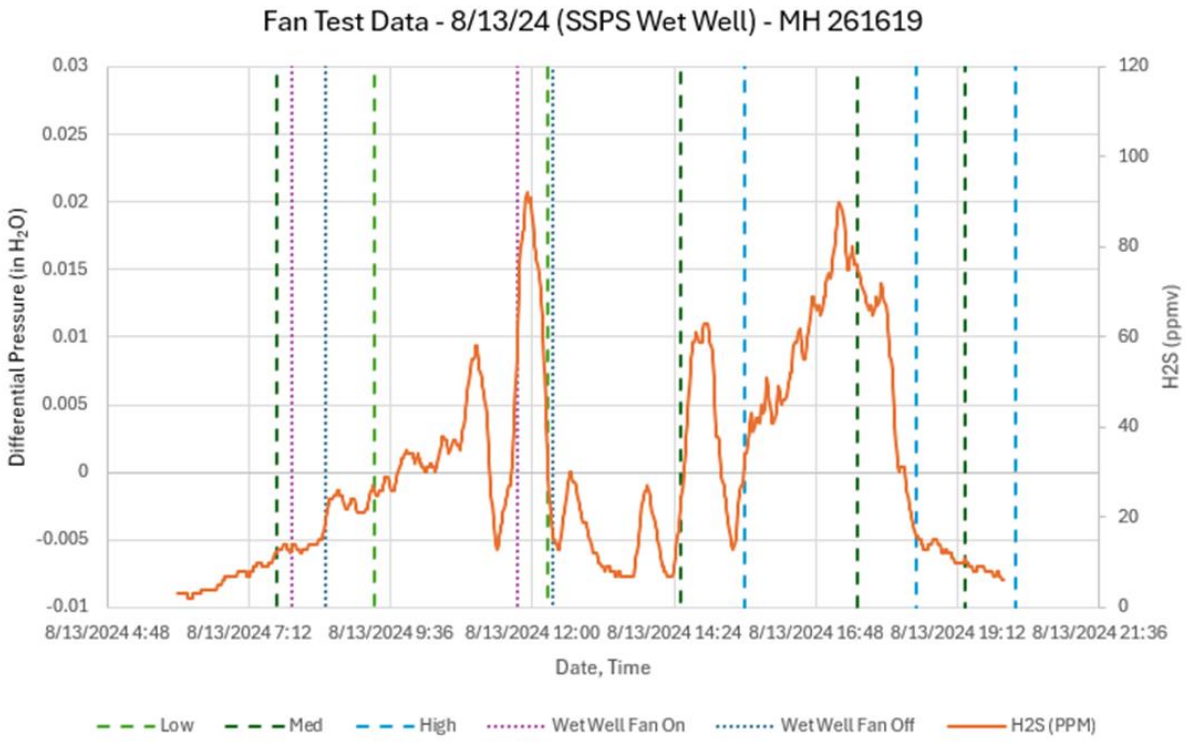


Figure 5-33 MH 261619 Data SSPS Wet Well Fan Test

5.3.7.3 Cheney Park Fan Test

Figure 5-34 shows the H_2S data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate. Table 5-23 shows supplemental DP testing conducted with ventilation at the Cheney Park location.

The H_2S data during the fan test has a similar pattern to the background and does not exhibit any influence from the ventilation changes. There is no DP data due to monitor failure, but the supplemental testing shows this location moving from positive pressure to vacuum with ventilation at Cheney Park.

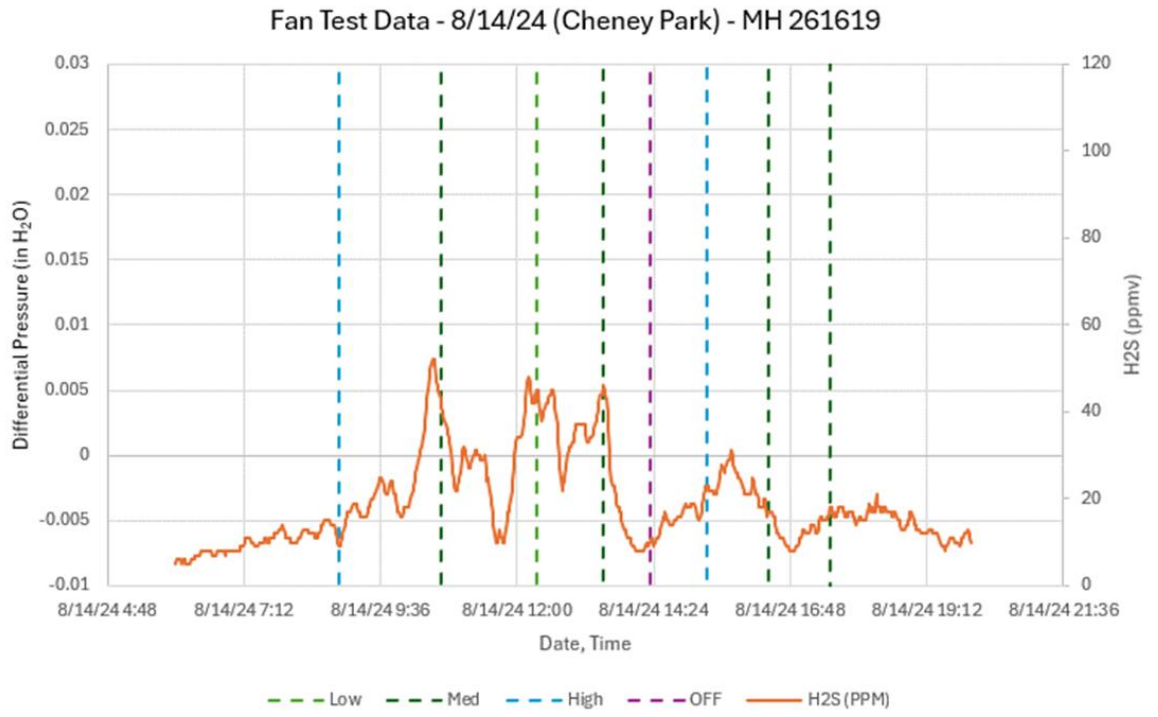


Figure 5-34 MH 261619 Data Cheney Park Fan Test

Table 5-23 MH 261619 Cheney Park Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.04	Vacuum
No Air Flow	0.01	Low

5.3.7.4 SSPS Influent MH Fan Test

Figure 5-35 shows the H_2S data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background. There is no DP data due to monitor failure. No impact from SSPS ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

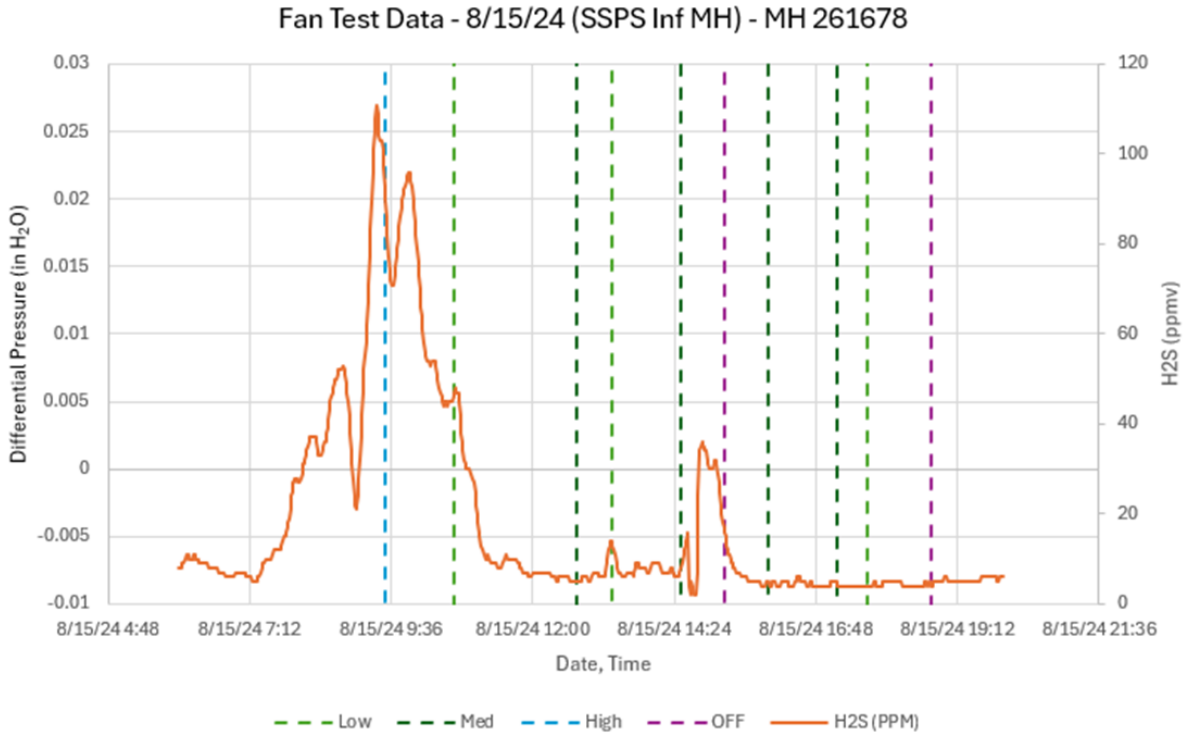


Figure 5-35 MH 261619 Data SSPS Inf. MH Fan Test

5.3.8 MH 255938 – Skagway Between 10th St. and 11th St.

5.3.8.1 Overall Data and Background

Figure 5-31 and Figure 5-32 show all H_2S and DP data collected during the monitoring period. Table 5-21 and Table 5-22 show a summary of the background data collected prior to Hurricane Debby and the supplemental data collected on 9/16.

The H_2S monitor at this location provided data throughout the entire monitoring period. The DP data was erratic during Hurricane Debby and did not provide data from 8/7 - 8/15, including during the fan test.

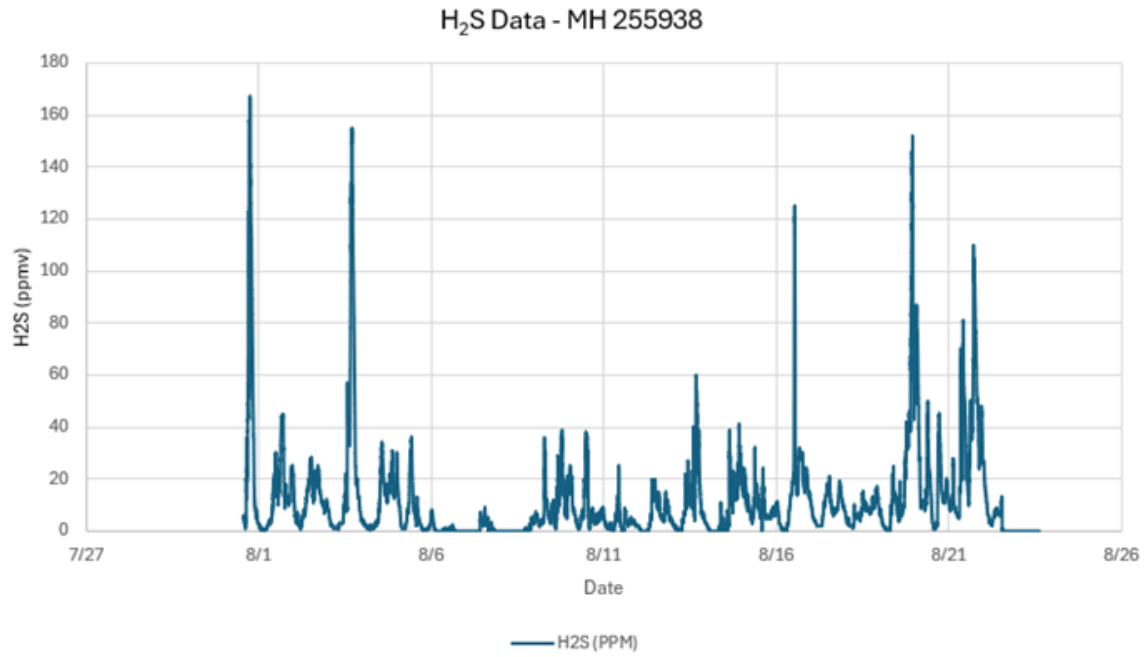


Figure 5-36 MH 255938 H_2S Data

Table 5-24 MH 255938 Background H_2S Summary

	H_2S (ppm)	Odor and Corrosion Potential
Average	17	Moderate
Maximum	167	Very High

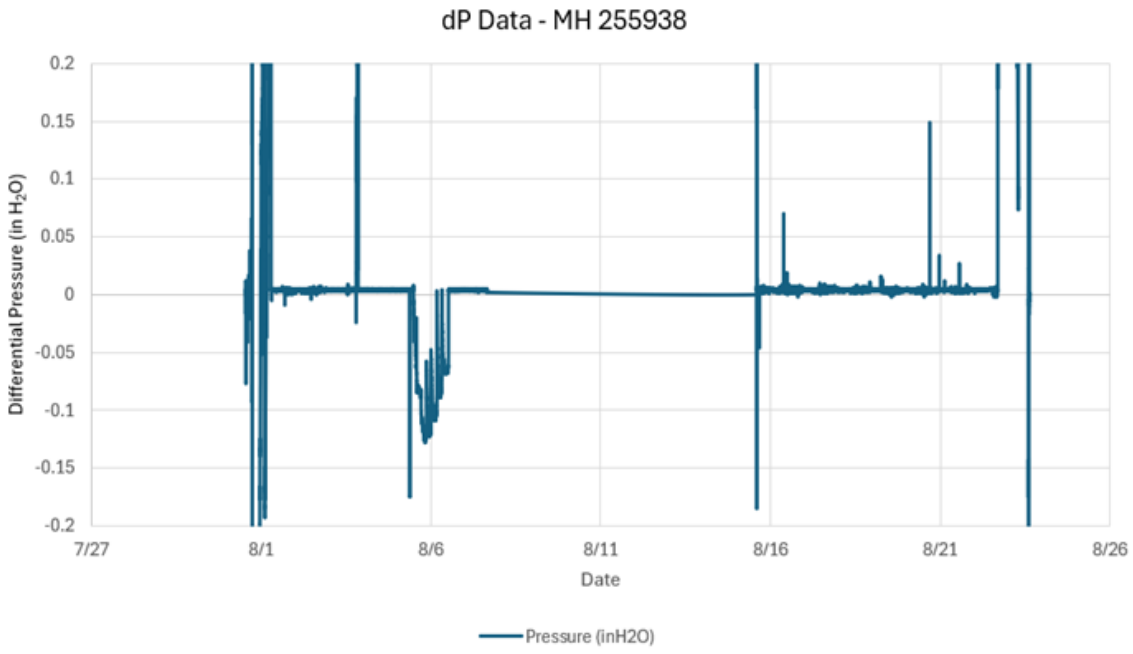


Figure 5-37 MH 255938 DP Data

Table 5-25 MH 255938 Background DP Summary

	DP (in.w.c)	Degree of Pressurization
Minimum	-0.01	Vacuum
Average	0.00	Neutral
Maximum	0.01	Low
Supplemental (Grab)	-0.01	Vacuum

5.3.8.2 SSPS Wet Well Fan Test

Figure 5-28 shows the H_2S data collected during the SSPS wet well fan test. The vertical dashed lines represent changes in air flow rate. The vertical dotted lines represent activation and deactivation of the positive ventilation system for the wet well.

The H_2S data during the fan test has a similar pattern to the background. There is no DP data due to monitor failure. No impact from SSPS ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

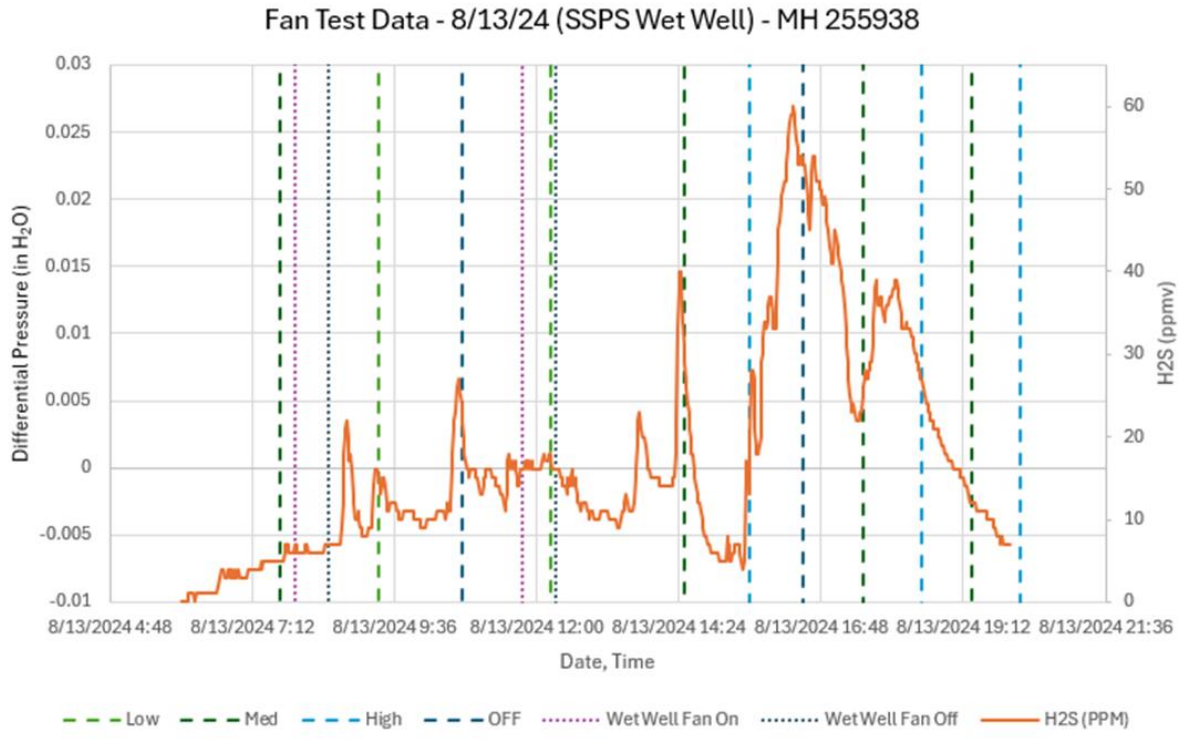


Figure 5-38 MH 255938 Data SSPS Wet Well Fan Test

5.3.8.3 Cheney Park Fan Test

Figure 5-349 shows the H_2S data collected during the Cheney Park fan test. The vertical dashed lines represent changes in air flow rate. Table 5-23 shows supplemental DP testing conducted with ventilation at the Cheney Park location.

The H_2S data during the fan test has a similar pattern to the background and does not exhibit any influence from the ventilation changes, with the possible exception of the H_2S increase at 3:30 pm. The Cheney Park ventilation had been off for one hour and when it was resumed it may have caused accumulated H_2S to be conveyed down the sewer headspace, resulting in the observed spike. There is no DP data due to monitor failure, but the supplemental testing shows this location moving from slight vacuum to strong vacuum with ventilation at Cheney Park.

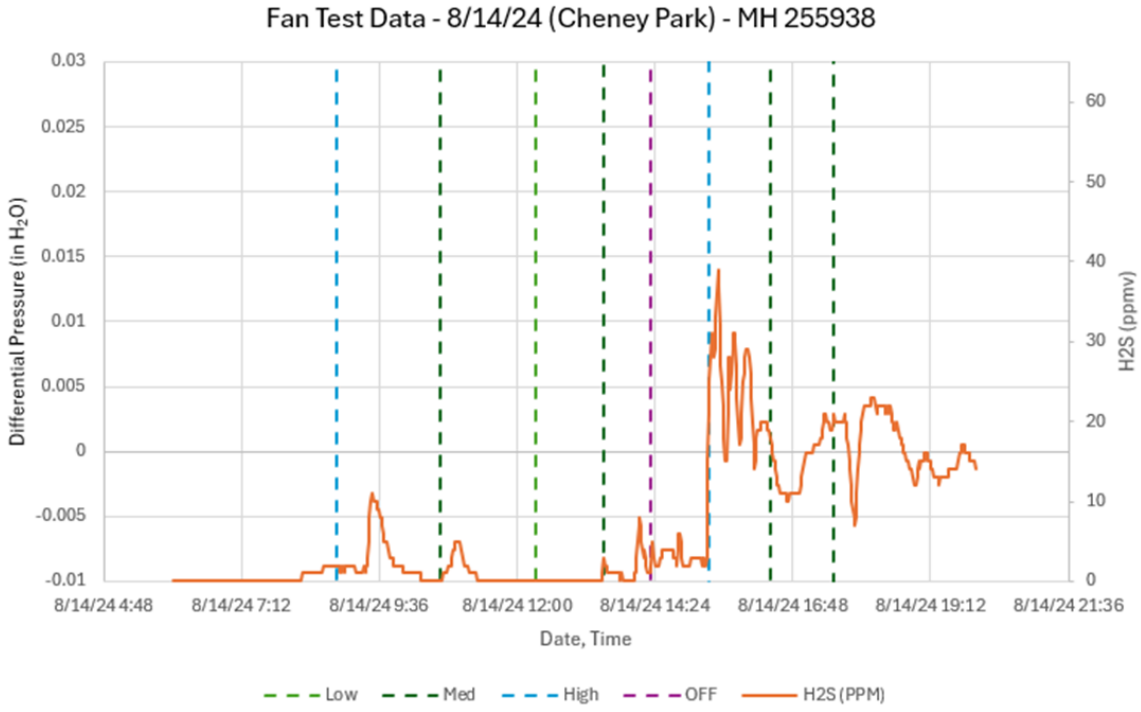


Figure 5-39 MH 255938 Data Cheney Park Fan Test

Table 5-26 MH 255938 Cheney Park Supplemental DP Data

	DP (in.w.c)	Degree of Pressurization
High Air Flow	-0.08	Vacuum
No Air Flow	-0.01	Low

5.3.8.4 SSPS Influent MH Fan Test

Figure 5-3540 shows the H_2S data collected during the SSPS influent MH fan test. The vertical dashed lines represent changes in air flow rate.

The H_2S data during the fan test has a similar pattern to the background. There is no DP data due to monitor failure. No impact from SSPS ventilation was expected at this location due to the hydraulic restriction on the 10th St. Sewer at Waters Ave.

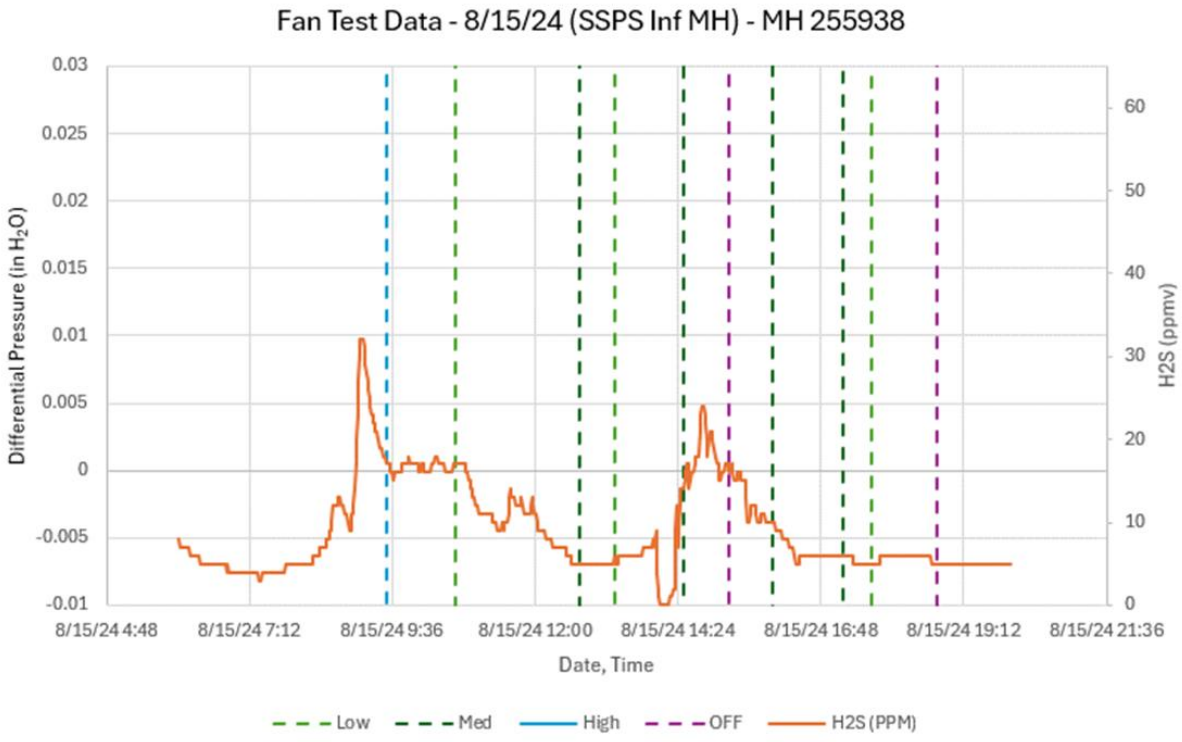


Figure 5-40 MH 255938 Data SSPS Inf. MH Fan Test

5.4 SSPS Wet Well Air Inlet Findings

The wet well at SSPS is equipped with two air intake vents, each with a fan configured to convey fresh air into the wet well. One of the vents is shown in Photo 5-3. These fans are activated when personnel enter the wet well, but when the fans are not in operation the vents are open to atmosphere.

Photo 5-3 SSPS Wet Well Intake Vent

The air flow rate in each of these vents was measured during the supplemental sampling on 9/16/24. The air intake fans were not running during these measurements. The exhaust air to the OCF and the influent air at each stack were measured at the high and low exhaust air conditions. Table 5-27 summarizes the results of the testing.

Table 5-27 SSPS Wet Well Intake Vent Air Flow

	High Air Flow	Low Air Flow
Exhaust Air (cfm)	6,129	3,212
East Stack Influent Air (cfm)	1,761	1,276
West Stack Influent Air (cfm)	2,320	1,880
Total Influent Air (cfm)	4,081	3,156
Net Air from Sewer (cfm)	2,048	56
Fraction of Air from Sewer	33.4%	1.7%

At the high air flow rate of approximately 6,000 cfm, 2/3 of the influent air to the SSPS wet well was entering through the intake vents with 1/3, or approximately 2,000 cfm, coming from the upstream sewer. As the

exhaust air flow was reduced to approximately 3,000 cfm, nearly all of the air entered through the vents with a negligible amount coming from the upstream sewer. It appears that below 3,000 cfm essentially all of the make-up air is conveyed through the wet well vents. As the air flow increases above 3,000 cfm the restriction in the vents causes an increasing fraction of the make-up air to be conveyed from the sewer. There are two key insights from this observation:

1. This phenomenon explains the lack of influence observed during the SSPS Influent MH test. The maximum air flow tested in that configuration was 2,350 cfm. At that air flow rate most of the makeup air was likely provided by the vents with very little sewer ventilation.
2. The net air from the sewer at the high air flow setting was approximately 2,000 cfm. If the vents were mechanically closed during normal operation and only opened for personnel entry, successful ventilation of the sewer could likely be achieved with a 2,000 cfm air flow rate.

5.5 Fan Test Findings

The zones of influence for ventilation at SSPS and at Cheney Park are shown in Figure 5-41.

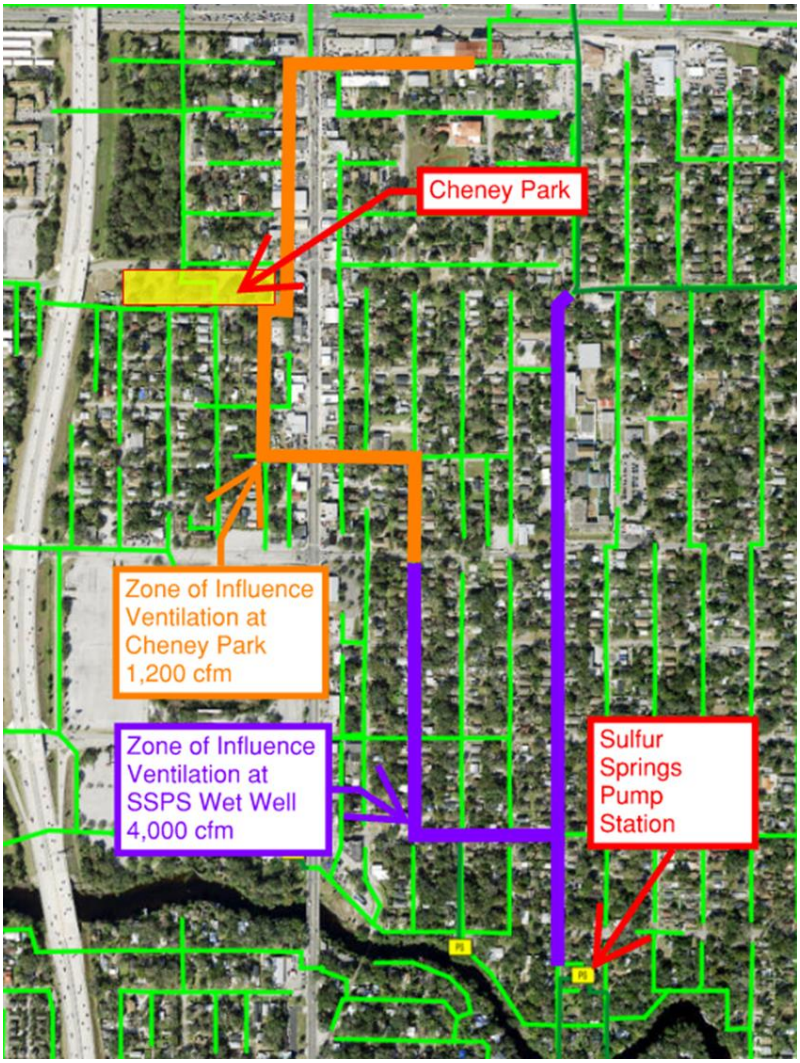


Figure 5-41 Fan Test Results - Zone of Influence

The purple color depicts the 12th St. and 10th St. Sewer segments that are under control with the current ventilation configuration and rates. The fan testing shows that this segment can be controlled with a lower air flow rate of 4,000 cfm ventilated at the SSPS wet well, which would result in a lower volume treated air plume released to the SSPS surroundings. The supplemental air inlet testing indicates that the ventilation rate could be further reduced to 2,000 cfm if the air intake vents at the wet well are mechanically closed when not in use for personnel entry.

The orange color depicts the 10th St. Sewer segment that is not currently under control. The fan testing shows that this segment could be kept under vacuum by ventilating at a rate of 1,200 cfm from the manhole adjacent to Cheney Park.

The fan test showed that ventilating at the SSPS influent manhole at lower air exhaust rates was unsuccessful in maintaining vacuum on the system.

6 LPOC Test Results

The City applies LPOC treatment in the form of Bioxide® nitrate solution at three points that feed directly to SSPS. Two feed points, University PS and 37th St. PS, discharge to the 12th St. Sewer. The third feed point, 18th St. PS, discharges into the 10th St. Sewer. Feed rates at these locations were adjusted over the course of five days to observe the effect on H_2S and DS levels in both gravity interceptors and at SSPS, providing relevant data for selection of design criteria for an OCF at SSPS. Additional Bioxide®feed points upstream of these three PS locations have only indirect impact on SSPS and therefore were not adjusted.

6.1 LPOC Monitoring Locations

All monitors used during the fan test were left in place for the LPOC test. The separate impacts on the 10th and 12th St. Sewers as well as the impact on SSPS were analyzed. Data from MH 261619 was used to analyze the 10th St. Sewer and was referred to as “Cheney Park”. Data from MH 263619 was used to analyze the 12th St. Sewer and was referred to as “12th & Waters”. Data from MH 263175 was used to analyze the combined flow into SSPS and was referred to as “SSPS”. A manhole immediately upstream or downstream of each of these locations was used to obtain liquid grab samples to avoid disturbing the monitors in these locations.

6.2 LPOC Test Data and Observations

Data collected at each of the LPOC monitoring locations included DS, nitrite, nitrate, pH, ORP and wastewater temperature. Table 6-1, Table 6-2, and Table 6-3 show all grab data collected during the LPOC test period (N/D is not detected and N/A is not available). Figure 6-1 shows all H_2S and DS data collected along with the nitrate solution feed rate at each of the dosing locations.

Table 6-1 Cheney Park (10th St Sewer) LPOC Grab Sampling Data

Date	Time	DS Liquid (mg/L)	Nitrite (mg/L	Nitrate (mg/L)	pH	ORP (mv)	Temp. (Deg. F)
8/19/24	07:50	2	1	25	7.31	-145	86.1
8/19/24	11:40	N/D	1	25	7.03	-85	88.1
8/19/24	14:20	N/D	N/D	N/D	7.93	-180	86.5
8/19/24	16:55	N/D	1	25	7.67	-145	88.5
8/20/24	07:50	1	0.25	5	7.07	-135	86.5
8/20/24	15:30	N/D	0.5	10	7.18	-93	86.9
8/21/24	08:37	2	0.5	17.5	7.04	-195	86.5
8/21/24	15:20	0.8	N/D	N/D	6.71	-154	87.8
8/22/24	08:15	1.8	0.5	10	7.34	-208	85.7
8/22/24	12:25	3	0.5	10	7.50	-218	85.6
8/22/24	14:10	0.5	0.75	10	7.52	-169	86.1
8/22/24	17:15	N/D	0.5	10	7.56	-92	86.3

Table 6-2 12th and Waters (12th St Sewer) LPOC Grab Sampling Data

Date	Time	DS Liquid (mg/L)	Nitrite (mg/L	Nitrate (mg/L)	pH	ORP (mv)	Temp. (Deg. F)
8/19/24	07:30	4	N/D	N/D	7.00	-211	83.7
8/19/24	11:20	N/D	N/D	N/D	7.94	-122	86.1
8/19/24	14:00	N/D	1	10	6.63	-138	87.5
8/19/24	16:35	N/D	N/D	N/D	7.57	-225	87
8/20/24	07:15	1	N/D	N/D	7.27	-210	84.6
8/20/24	14:55	1.5	N/D	N/D	7.71	-194	86
8/21/24	07:30	4	N/D	N/D	7.47	-236	84.7
8/21/24	14:50	0.25	N/D	N/D	7.92	-152	86.4
8/22/24	07:40	5	N/D	N/D	7.51	-224	84.5
8/22/24	11:50	0.25	N/D	N/D	7.99	-143	85
8/22/24	14:35	0.5	N/D	N/D	7.91	-174	85.6
8/22/24	16:47	0.6	N/D	N/D	7.76	-156	85.6

Table 6-3 SSPS LPOC Grab Sampling Data

Date	Time	DS Liquid (mg/L)	Nitrite (mg/L	Nitrate (mg/L)	pH	ORP (mv)	Temp. (Deg. F)
8/19/24	08:10	13	N/D	N/D	7.38	-232	85
8/19/24	11:00	4	0.5	10	8.02	-125	86
8/19/24	13:40	N/D	N/D	N/D	7.52	-125	87
8/19/24	16:15	7.5	N/D	N/D	7.37	-210	88
8/20/24	08:10	2	0.25	5	7.30	-210	85.9
8/20/24	14:35	1.9	N/D	N/D	7.38	-215	86.5
8/21/24	14:30	0.4	N/D	N/D	7.56	-154	86.4
8/22/24	8:35	3	N/D	N/D	7.62	-242	84.7
8/22/24	11:35	0.25	N/D	N/D	7.97	-139	83.9
8/22/24	14:20	1.7	N/A	N/A	7.67	-212	85.8
8/22/24	17:35	1	N/A	N/A	7.77	-191	85.6

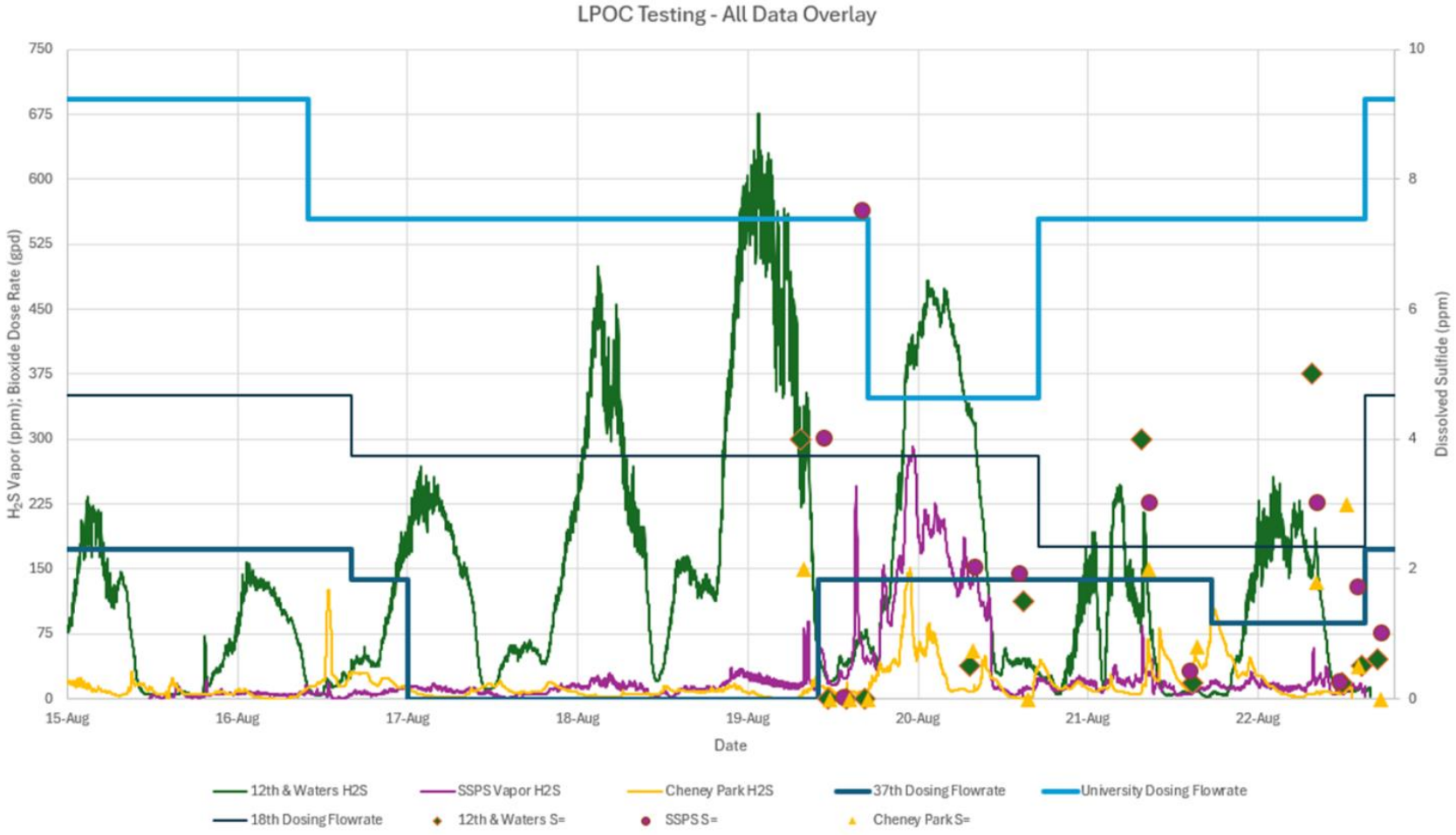


Figure 6-1 LPOC Feed Rate, H_2S, and DS Data Overlay

The following general observations are made from this data:

- There appears to be insufficient detention time for the complete removal of sulfide between the 18th St. PS dosing location and Cheney Park. Sulfide removal via nitrate is a biochemical process that can take from 30 min. to 2 hours to be completed in the sewer. Residual nitrate and DS were consistently observed at the Cheney Park location at all feed rates, indicating there is insufficient time for the complete reaction between DS and nitrate between the dosing location and Cheney Park.

- Residual nitrate was detected at SSPS on only two occasions, indicating additional nitrate consumption and sulfide removal in the line from Cheney Park to SSPS.

- The 12th St. Sewer has a diurnal H_2S pattern that seems to be influenced by the 37th St. dosing location. Both the University and 37th St. dose rates were reduced on 8/16, then the feed at 37th St. was unintentionally stopped entirely on 8/17. The diurnal H_2S peaks rose dramatically after 8/16. The 37th St. dosing location was brought back online on 8/19, but the University dose was reduced further on the same day. On 8/20 the diurnal peak diminished, indicating a stronger influence from 37th St. feed resumption than from the University feed reduction.

- The highest DS levels recorded at SSPS were during the time 37th St. was not feeding. When 37th St. was brought back online DS levels dropped at SSPS despite further reductions at University.

- The Cheney Park and SSPS locations exhibited a very similar pattern on 8/19 and 8/20 during the lowest dose period at University PS. There should be no influence from University at Cheney Park. Flow from University does not enter the 10th St. Sewer and there should be no atmospheric influence due to the restriction on the 10th St. Sewer at Waters Ave. The similar patterns may be a coincidence, but should be noted for comparison in future testing and optimization efforts.

6.3 LPOC Test Findings & Recommendations

The objective of the LPOC test was to determine the impact of LPOC changes on design criteria for OCFs at Cheney Park and/or SSPS. Table 6-4 shows recommended H_2S design criteria for OCFs based on the background data and the data collected at reduced LPOC feed rates.

Table 6-4 OCF H_2S Critiera vs LPOC Rates

	Current LPOC Dosing		50% of Current LPOC Dosing	
	Avg. H_2S (ppm)	Peak H_2S (ppm)	Avg. H_2S (ppm)	Peak H_2S (ppm)
Cheney Park	25	50	50	150
SSPS	25	50	150	300

Further investigation and optimization of the 37th and University PS feed rates and dose strategy are also recommended to reduce the diurnal H_2S peaks in the 12th St. Sewer.

7 Technology Evaluation

7.1 Vapor Phase Treatment

Ventilation dynamics, headspace pressurization, odor emissions, and, in some cases, even corrosion can be effectively controlled by extracting and treating air from the collection system. There are many vapor phase odor treatment technologies and variations or combinations of technologies that are available to provide odor control for wastewater collection systems. Typically, chemical scrubbers, such as the current system at SSPS, are difficult to maintain and operate at remote locations within the collection system. Activated carbon adsorbers and biological treatment systems (biofilters, bioscrubbers) can be easily located within the collection system, given sufficient land availability. Ultimately, the selection of the preferred odor control technology depends on the characteristics of the foul air stream and the collection system itself.

7.2 Liquid Phase Treatment

There are several liquid phase chemical control options that may be used effectively to reduce or eliminate dissolved sulfide in wastewater collection systems. The majority of these chemicals are used for the treatment of sulfide-related odors and corrosion. Although chemicals have been used very effectively to control odors in many applications, a thorough evaluation of all odor control options must be performed before selecting chemical treatment due to the high cost of chemicals. Each sulfide generation situation is unique, with site specific parameters which may or may not make specific chemical treatment feasible or economical.

7.3 Technology Comparison

Table 7-1 and Table 7-2 summarize the advantages and disadvantages of liquid phase and vapor phase OCF as well as the benefits and comparative cost ranges of specific odor control technologies.

Table 7-1 Overview of Liquid Phase Sulfide Control Techniques

Odor/Corrosion Control System	Suitable Conditions	Advantages	Disadvantages	Capital Cost	O&M Cost
Liquid Phase/Chemical Addition	**H_2S as primary odor compound corrosion control required**	**Provides odor and corrosion control; low capital cost**	**May not address non-H_2S odor compounds; high life cycle cost**	**Low-Mid**	**Mid-High**
Nitrate Salts	- Long retention times - Complete sulfide removal and/or prevention required - Multiple sidestreams/ control points - Remote / residential dosing sites	Can be used to prevent sulfide generation or oxidize sulfide in gravity sewers and force mains; safe to handle	Dosages and operating costs vary depending on use: prevention vs. removal; Slime layer acclimation	Low	Mid-High
Iron Salts	- Low Residence time between dose and control points 90% sulfide removal sufficient - Moderate to High velocity forcemains	Economical for sulfide control in gravity sewers or force mains	Does not control non-H_2S odors; sulfide control to low concentration may be difficult; increased solids production.	Low	Mid-High
pH Adjustment	- High dissolved sulfide concentrations and long retention time forcemains - single control point applications	Prevents sulfide release; economical for high sulfide concentrations.	Sufficient mixing time required to prevent release from side streams. Sulfide may still be released downstream if elevated pH not maintained.	Low-Mid	Mid-High

Table 7-2. Overview of Vapor Phase OCF Techniques

Odor/Corrosion Control System	Suitable Conditions	Advantages	Disadvantages	Capital Cost	O&M Cost
Vapor Phase/Air Treatment	**Headspace pressurization multiple odor causing compounds**	**Capable of broad spectrum odor control. Lower O&M costs.**	**May not effectively mitigate corrosion. Higher capital costs.**	**Mid-High**	**Low-High**
Carbon Scrubber	- Low H_2S concentrations - Complete odor removal required - Smaller remote sites	High H_2S/RSC/VOC removal efficiencies good odor removal performance low O&M requirements	Requires frequent media changeouts removal efficiency impacted by condensation/high humidity high life cycle cost	Mid	Mid-High
Biotrickling Filter	High H_2S /Low Odor Concentrations Moderate to High Airflow Volumes Small Footprint Requirements	High H_2S Removal Efficiency 10 year + Media Life No Chemicals Low Life Cycle Cost	Poor VOC Removal Efficiency Moderate RSC and Total Odor Removal Performance Moderate O&M Requirements	Mid-High	Low
Biofilter	High H_2S and Odor Concentrations	High H_2S/RSC/VOC Removal Efficiencies Good Odor Removal Performance No Chemicals Low O&M Requirements Low Life Cycle Cost	3 to 5 year media life Large Footprint	Mid-High	Low

8 Recommendations

Based on the technology evaluation, biological or hybrid biological systems are recommended for the SSPS and Cheney Park locations. Although the City currently operates a chemical scrubbing system at SSPS, chemical scrubber systems are costly and maintenance intensive. At the H_2S conditions in the SSPS system, stand alone carbon adsorption systems would require frequent media change outs with associated labor demands, downtime, and cost. Biological systems or hybrid biological systems incorporating a biological treatment stage with a carbon polishing stage will provide the best combination of reliable treatment with no chemical expense, infrequent media replacement needs and minimal monthly maintenance requirements. The City employs biological and hybrid biological systems at other locations in the collection system. These systems are available from multiple vendors for purchase or as part of turnkey odor and corrosion control services.

One system is recommended for treatment of the SSPS wet well, 12th St. Sewer, and 10th St. Sewer south of Waters Ave. The fan test shows this system can be sized for 4,000 cfm with the current wet well configuration and potentially as low as 2,000 cfm if the SSPS wet well vents are mechanically closed during normal operation.

A second system is recommended to relieve pressure on the 10th St. Sewer north of Waters Ave. It is assumed this system would be located in the City-owned property at Cheney Park. Fan testing shows this system should be sized for 1,000 - 1,200 cfm.

8.1 System Type and Design Criteria with Current LPOC Program

With the City's current LPOC program, hybrid biological systems can be used at both the SSPS and Cheney Park locations. Hybrid biological systems provide the benefit of a low profile for aesthetics with a carbon polishing stage. Table 8-1 shows the recommended system types and design criteria with the current LPOC program. Photo 8-1 shows a hybrid biological system.

Table 8-1 VPOC System Types and Criteria with Current LPOC Treatment

Location	SSPS with Open Wet Well Vents	SSPS with Closed Wet Well Vents	Cheney Park
Air Flowrate (cfm)	4,000	2,000	1,200
Avg./Peak H_2S (ppm)	25/50	25/50	25/50
System Type	Hybrid Biological	Hybrid Biological	Hybrid Biological
Approx. Pad Footprint (ft.)	12 X 35	12 X 22	12 X 20
Height (ft.)	8	8	8

Photo 8-1 Hybrid Biological System

8.2 Design Criteria with Reduced LPOC Program

With a 50% reduction in the City's current LPOC program, a hybrid biological system can be used at the Cheney Park location, but a biological trickling filter (BTF) with a carbon polisher is recommended for SSPS. BTFs can treat much higher concentrations of H_2S, but are significantly taller and require an external carbon adsorber for polishing. Table 8-2 shows the recommended system types and design criteria with a reduced current LPOC program. Photo 8-2 shows a hybrid biological system.

Table 8-2 VPOC System Types and Criteria with 50% Reduction in Current LPOC Treatment

Location	SSPS with Open Wet Well Vents	SSPS with Closed Wet Well Vents	Cheney Park
Air Flowrate (cfm)	4,000	2,000	1,200
Avg./Peak H_2S (ppm)	150/300	150/300	50/150
System Type	BTF + Carbon	BTF + Carbon	Hybrid Biological
Approx. Pad Footprint (ft.)	15 X 35	12 X 25	12 X 20
Height (ft.)	27	25	8

Photo 8-2 BTF System

8.3 Additional Considerations

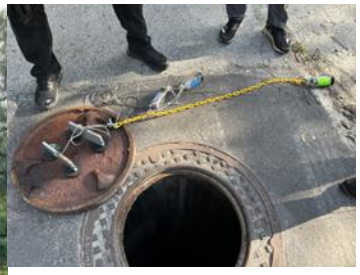
The following items should be considered in the final design of OCFs for the SSPS Rehabilitation and upstream 10th St. Sewer:

- Ventilation for personnel entry to SSPS wet well. Frequency, duration, ventilation methods, odor impact, and potential need for supplemental odor control during entry.
- Feasibility and operational impacts of mechanically closing wet well vents.
- Future chemical dosing flexibility vs cost and aesthetic impact on SSPS rehabilitation design.
- Logistics of installing an OCF at Cheney Park.

The City should consider performing a long term trial of reducing the airflow on the existing wet scrubber system to 4000 cfm as the fan testing demonstrated that is a sufficient airflow to keep the upstream gravity sewer under negative pressure. During that trial Acrulog H2S data should be collected in the wet well and scrubber chemical usage changes documented.

In addition, a test of operating the existing wet scrubber at 2000 cfm for 2-3 days with the two fresh air vents closed off should be considered to gain further understanding of the impact on wet well H2S and pressure conditions at the upper end of the 12th St Sewer and the 10the St Sewer south of Waters Ave.

V&A Project No. 22-0068



V&A consulting engineers
8600 Hidden River Pkwy.
Suite 550
Tampa, FL 33637

Appendix B

Draft Coarse Screening Technical Memorandum

Sulphur Springs Pumping Station Rehabilitation Coarse Screening TM

20-C-00014
May 13, 2021

DRAFT

CONTENTS

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List of Figures

1. Introduction

The Sulphur Springs Pumping Station (SSPS) is owned and operated by the City of Tampa (City) Wastewater Department. The SSPS has been in operation for over forty years, and will undergo a complete rehabilitation. As a part of the SSPS rehabilitation, the existing manual coarse screens will be replaced. This Technical Memorandum (TM) will develop the design criteria for the new coarse screens and screening process.

2. Existing Screen Conditions

The SSPS currently has two manual coarse screens (see **Figure 1**). City operators manually rake the screen and place the solids in trash bins. The bins are then hoisted up to the ground floor. This process is physically intensive and time consuming.

FIGURE 1: EXISTING MANUAL COARSE SCREEN

3. Screening Design Criteria

Screening in wastewater pumping stations protects pumps from rags, wipes, plastics and other solids. This reduces clogging and extends the useful life of pumps and other equipment in the collection system. The evaluation of screening options for the SSPS will rely on design criteria established in the Design Criteria TM and parameters used in specifying the screen installed at the City's University Pump Station. Design criteria are outlined below in **Table 1**.

TABLE 1: SCREENING DESIGN CRITERIA

SSPS Design Criteria	
Minimum Flow	6.6 MGD
Maximum Flow	36 MGD
Minimum Water Depth	1.0 feet
Maximum Water Depth	6.0 feet
Bar Spacing	25 mm (1-inch)

4. Screening Technologies

The City has installed automatic bar screen equipment at the University, Louisiana, and San Carlos Pumping stations in recent years. Each of the screens was supplied by a different manufacturer and the Design-Build team has made visits to observe each of the screens in operation and to get feedback from City staff.

41 Hydrodyne Screen

The City's University Pump Station used a Hydrodyne® Tiger Shark automatic bar screen (see **Figure 2** and **Figure 3**). The screen is oriented vertically, and multiple rakes mounted to a chain assembly continuously rake built up rags and debris from the bars of the screen.

FIGURE 2: HYDRODYNE TIGER SHARK

Screenings are deposited into the hopper of a single-auger screw conveyor that dewaters, conditions, and compacts screenings as it transports them to an adjacent dumpster at grade.

FIGURE 3: HYDRODYNE COMPACTOR

4.2 Duperon Screen

The screen installed at the City's San Carlos Pump Station is manufactured by Duperon® and is similar to the Hydrodyne® screen in that it has multiple rakes traveling on a motor driven chain that continuously clean the bars of the screen. Figure X shows the Duperon screen, and Figure X shows discharge from the screening system.

FIGURE 4: DUPERON SCREEN

Screenings are deposited into a positive displacement, dual-auger washing compactor that discharges to a dumpster below grade. Screenings are removed by hoisting a dumpster bag with an overhead crane system installed above grade. The discharge system can be expanded to transport debris up to 40 feet in any direction.

FIGURE 5: DUPERON SCREENINGS DISCHARGE

4.3 Aqualitec Screen

The City installed an Aqualitec® Screentec bar screen at the City's Louisiana Pump Station (see **Figure 6** and **Figure 7**). The Aqualitec screen utilizes a single rake that is lowered on a system of cables to the bottom of the screen, where it is engaged and then lifted to rake debris from the screens. This configuration keeps all moving mechanical parts of the screen above grade.

FIGURE 6: AQUALITEC SCREEN

Collected debris is deposited into a washer/compactor that conveys, cleans, dewaters, and compresses screenings. A shaftless screw conveys screened debris to a dumpster at grade, while the spray bar system sends organic material back to the wet well.

FIGURE 7: AQUALITEC COMPACTOR

44 Alternatives Comparison

Key characteristics of each screening technology option are outlined in Table 2.

TABLE 2: SCREENING TECHNOLOGIES COMPARISON

	Screen Type	Rake Design	Raking Intervals	Screen Angle	Screenings Compaction
Hydrodyne	Bar	Multiple	Continuous	Vertical to 60 degrees	80%*
Duperon	Bar	Multiple	Continuous	Vertical to 45 Degrees	70%
Aqualitec	Bar	Single	Variable	Vertical	50%

*Dependent on washer/compactor model selected

5. Recommendation

Given the continuous operation of both the Hydrodyne and Duperon screens, and the feedback received from staff during site visits, they are better suited to service at the SSPS. It is recommended that both screens are carried through design, with cost dictating the final selection.

EXHIBIT C
Contract No. 25-C-00001
Sulphur Springs Pump Station Rehabilitation – Design Build

COMPENSATION

For performing the services identified within Exhibit A, a Lump Sum with an Owner Allowance for additional services with a total compensation not to exceed $5,116,165.55, the actual total amount of which will be equal to the lump sum per task equal to a total of $2,426,165.55 plus those amounts, if any, not to exceed $2,690,000.00 properly charged against the Allowance for Additional Services, has been established for the work described. Invoices will be submitted monthly, based on progress with the tasks described in the Scope of Services and summarized below.

TASK	DESCRIPTION	COST
100S	PROJECT MANAGEMEMT	$622,719.55
200S	CHENEY PARK ODOR CONTROL SYSTEM	$193,578.00
300S	ORIGINAL FORCE MAIN REACTIVATION & HYDROSTATIC TEST PLAN	$254,508.00
400S	BYPASS AND CLEANING OF EXISTING FORCEMAIN	$95,992.00
500S	BASIS OF DESIGN REPORT	$1,020,260.00
600S	EARLY PROCUREMENT PLAN	$40,336.00
700S	PUBLIC OUTREACH PROGRAM	$51,144.00
800S	QUALITY MANAGEMENT	$147,628.00
	Lump Sum Total	**$2,426,165.55**
	Allowances	
	Allowance No. 1 – Additional Design Services	$100,000.00
	Allowance No. 2 – Early Procurement	$1,400,000.00
	Allowance No. 3 – Additional Services	$175,000.00
	Allowance No. 4 – Permits Application Fees	$15,000.00
	Allowance No. 5 – Storm Season Bypass Pumping System	$1,000,000.00
	Total Allowances	**$2,690,000.00**
	Not-to-Exceed Total	**$5,116,165.55**

Exhibit C

City of Tampa

Sulphur Springs Pump Station Rehabilitation Design-Build

Vogel Bros. Building Co.

Preconstruction Fee Breakdown

Task ID	Task Description	Project Management							Estimating		Mead & Hunt	Total Labor Hours	Vogel Labor Cost	Total Price
		Project Executive	Design Build Team Manager	Preconstruction Manager	Project Controls Specialist	Construction Manager	QA / QC Specialist	Admin/Clerical Support/Project Assistant	Estimator	Lead Estimator				
		$ 250.00	$ 225.00	$ 215.00	$ 160.00	$ 215.00	$ 160.00	$ 95.00	$ 160.00	$ 175.00	1.00			
		D.Vogel	I.Ortiz	I. Martinez	R. Santiago	G. Vincent	TBD	TBD	B.Jaimes	B.Veal				
100	**Task 100 - Project Management**	**$ 2,000.00**	**$ 13,950.00**	**$ 121,690.00**	**$ 65,920.00**	**$ 94,170.00**	**$ -**	**$ -**	**$ -**	**$ 1,400.00**	**$ 233,815.00**	**1,494**	**$ 388,904.55**	**$ 622,719.55**
100.1	Project Schedule			30	160							190	$ 32,050.00	$ 32,050.00
100.2	Risk Management Plan		15	53		15						83	$ 17,995.00	$ 17,995.00
100.3	Project Controls and Reporting		15	60	180							255	$ 45,075.00	$ 45,075.00
100.4	Project Meetings & Workshops	8	12	48	72	48				8		196	$ 38,260.00	$ 38,260.00
100.5	Consultant and Subconsultant Management		20	375		375						770	$ 165,750.00	$ 165,750.00
100.6	Administration Fee											0	$ 89,774.55	$ 89,774.55
200	**Task 200 - Cheney Park Odor Control System**	**$ -**	**$ -**	**$ 3,440.00**	**$ -**	**$ 2,580.00**	**$ -**		**$ -**	**$ -**	**$ 187,558.00**	**28**	**$ 6,020.00**	**$ 193,578.00**
200.1	Cheney Park Odor Control System Design			12		8						20	$ 4,300.00	$ 4,300.00
200.2	Permitting			4		4						8	$ 1,720.00	$ 1,720.00
300	**Task 300 - Original Force Main Reactivation**	**$ 3,000.00**	**$ 1,800.00**	**$ 30,100.00**	**$ 1,920.00**	**$ 21,500.00**	**$ -**		**$ -**	**$ 14,000.00**	**$ 182,188.00**	**352**	**$ 72,320.00**	**$ 254,508.00**
300.1	Utiity Coordination											0	$ -	$ -
300.2	Design of the Reactivation of the Original Force Main		8	28		24						60	$ 12,980.00	$ 12,980.00
300.3	Permitting											0	$ -	$ -
300.4	Hydrostatic Test Plan			8		8						16	$ 3,440.00	$ 3,440.00
300.5	Preliminary Sequence of Construction			20		12						32	$ 6,880.00	$ 6,880.00
300.6	GMP 1 Development	8		20	8	20				40		96	$ 18,880.00	$ 18,880.00
300.6.1	Project Task Worksheet			8	4	8						20	$ 4,080.00	$ 4,080.00
300.6.2	Competitive Bidding Process	4		56		28				40		128	$ 26,060.00	$ 26,060.00
400	**Task 400 - Bypass and Cleaning of Existing Force Main**	**$ 2,000.00**	**$ 900.00**	**$ 10,320.00**	**$ 1,920.00**	**$ 8,600.00**	**$ -**		**$ -**	**$ 14,000.00**	**$ 58,252.00**	**192**	**$ 37,740.00**	**$ 95,992.00**
400.1	Existing Force Main Cleaning Design and Bypass Plar		4	16		16						36	$ 7,780.00	$ 7,780.00
400.2	GMP 2 Development	4		8	8	8				40		68	$ 12,720.00	$ 12,720.00
400.2.1	Project Task Worksheet			8	4	8						20	$ 4,080.00	$ 4,080.00
400.2.2	Competitive Bidding Process	4		16		8				40		68	$ 13,160.00	$ 13,160.00
500	**Task 500 - Basis of Design Report (BODR)**	**$ 2,000.00**	**$ -**	**$ 7,740.00**	**$ 3,840.00**	**$ 6,880.00**	**$ -**		**$ -**	**$ 7,000.00**	**$ 992,800.00**	**140**	**$ 27,460.00**	**$ 1,020,260.00**
500.1	Hydraulic Analysis & Pump Recommendations											0	$ -	$ -
500.1.1	Data Collection											0	$ -	$ -
500.2	Coarse Screening											0	$ -	$ -
500.3	Electrical Evaluation & Recommended Improvements											0	$ -	$ -
500.4	I&C/SCADA Evaluation & Recommended Improvements											0	$ -	$ -
500.5	HVAC Recommendations											0	$ -	$ -
500.6	Structural Analysis & Recommendations											0	$ -	$ -
500.7	Building Architectural Improvements											0	$ -	$ -
500.8	Landscape Architectural Improvements											0	$ -	$ -
500.9	Lead Abatement Plan											0	$ -	$ -
500.10	Odor Control											0	$ -	$ -
500.11	Permitting											0	$ -	$ -
500.12	Basis of Design Report (30% Design)											0	$ -	$ -
500.12.1	Preliminary Opinion of Probable Construction Cost (POPCC)	8		16	12	16				40		92	$ 17,800.00	$ 17,800.00
500.12.2	Construction Phasing and Maintenance of Plant Operations (MOPO)			20	12	16						48	$ 9,660.00	$ 9,660.00
600	**Task 600 - Early Procurement Plan**	**$ -**	**$ 1,800.00**	**$ 8,600.00**	**$ 1,280.00**	**$ 6,450.00**	**$ -**		**$ -**	**$ -**	**$ 22,206.00**	**86**	**$ 18,130.00**	**$ 40,336.00**
600	Early Procurement Plan		8	40	8	30						86	$ 18,130.00	$ 18,130.00
700	**Task 700 - Public Outreach**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**		**$ -**	**$ -**	**$ 51,144.00**	**0**	**$ -**	**$ 51,144.00**
700.2	Public Outreach for the Original FM Reactivaetion and Bypass and Cleaning of Existing FM											0	$ -	$ -
700.3	Public Engagement Workshop											0	$ -	$ -

800	Task 800 - Quality Management	$ -	$ 2,700.00	$ 51,600.00	$ -	$ 25,800.00	$ -		$ -	$ -	$ 67,528.00	372	$ 80,100.00	$ 147,628.00
800.1	QA/QC Project Schedule (Baseline and XX monthly updates)			30		15						45	$ 9,675.00	$ 9,675.00
800.2	QA/QC Risk Management Plan (Risk Register Updates)			30		15						45	$ 9,675.00	$ 9,675.00
800.3	QA/QC Project Controls and Reporting			30								30	$ 6,450.00	$ 6,450.00
												0	$ -	$ -
800.4	QA/QC GMPs 1 and 2		4	16		8						28	$ 6,060.00	$ 6,060.00
800.5	QA/QC Project Task Worksheets for GMPs 1 and 2			4		4						8	$ 1,720.00	$ 1,720.00
800.6	QA/QC Cheney Park Odor Control System 60%, 90% and 100% Design Deliverables			24		8						32	$ 6,880.00	$ 6,880.00
800.7	QA/QC Reactivation of the Original Force Main 90% and 100% Design Deliverables			20		12						32	$ 6,880.00	$ 6,880.00
800.8	QA/QC Hydrostatic Test Plan			4		4						8	$ 1,720.00	$ 1,720.00
800.9	QA/QC Sequence of Construction for the Reactivation of the Original FM and bypass and cleaning of existing FM			8		4						12	$ 2,580.00	$ 2,580.00
800.10	QA/QC Bypass and Cleaning of Existing Foce Main 90% and 100% Design Deliverables			16		8						24	$ 5,160.00	$ 5,160.00
800.11	QA/QC Hydraulic Analysis and Pump Recommendations			4		4						8	$ 1,720.00	$ 1,720.00
800.12	QA/QC Coarse Screening			4		2						6	$ 1,290.00	$ 1,290.00
800.13	QA/QC Electrical Evaluation & Recommended Improvements			2		2						4	$ 860.00	$ 860.00
800.14	QA/QC I&C/SCADA Evaluation & Recommended Improvements			2		2						4	$ 860.00	$ 860.00
800.15	QA/QC HVAC Recommendations			2		2						4	$ 860.00	$ 860.00
800.16	QA/QC Structural Analysis & Recommendations			2		2						4	$ 860.00	$ 860.00
800.17	QA/QC Building Architectural Improvements			2		2						4	$ 860.00	$ 860.00
800.18	QA/QC Landscape Architectural Improvements			2		2						4	$ 860.00	$ 860.00
800.19	QA/QC Lead Abatement Plan			2		2						4	$ 860.00	$ 860.00
800.20	QA/QC Odor Control			4		4						8	$ 1,720.00	$ 1,720.00
800.21	QA/QC BODR (Draft and Final)		8	16		8						32	$ 6,960.00	$ 6,960.00
800.22	QA/QC BODR POPCC			4		4						8	$ 1,720.00	$ 1,720.00
800.23	QA/QC BODR MOPO			4		2						6	$ 1,290.00	$ 1,290.00
800.24	QA/QC Early Procurement Plan (Draft and Final)			8		4						12	$ 2,580.00	$ 2,580.00
	Subtotal Hours Tasks 100s through 800s	**36**	**94**	**1086**	**468**	**772**	**0**	**0**	**0**	**208**				
	Subtotal Fee Tasks 100s through 800s	**$ 9,000.00**	**$ 21,150.00**	**$ 233,490.00**	**$ 74,880.00**	**$ 165,980.00**	**$ -**	**$ -**	**$ -**	**$ 36,400.00**	**$ 1,795,491.00**		**$ 630,674.55**	**$ 2,426,165.55**
	Allowance for Additional Services:													
	Owner's Allowances													**$ 2,690,000.00**
	Allowance No. 1 - Additional Design Services													$ 100,000.00
	Allowance No. 2 - Early Procurement													$ 1,400,000.00
	Allowance No. 3 - Additional Services													$ 175,000.00
	Allowance No. 4 - Permits Application Fees													$ 15,000.00
	Allowance No. 5 - Storm Season Bypass Pumping System Installation and Rental													$ 1,000,000.00
	Preconstruction Scope of Services - All Tasks & Allowances TOTAL													**$ 5,116,165.55**

Exhibit C

City of Tampa

Sulphur Springs Pump Station Rehabilitation Design-Build

Mead & Hunt, Inc.

Preconstruction Fee Breakdown

Task ID	Task Description	Principal	Design Manager	QA/QC Engineer	Structural Engineer	Project Engineer	Sr. Designer	Permitting Tech	SCADA/I&C Engineer	Fiscal/Accounting	Administrative	Subconsultant	Total Labor Hours	M&H Labor Cost	Total Price
		$ 323.00	$ 323.00	$ 323.00	$ 289.00	$ 180.00	$ 185.00	$ 204.00	$ 250.00	$ 95.00	$ 125.00				
100	**Task 100 - Project Management**	**$ 13,243.00**	**$ 147,934.00**	**$ 16,473.00**	**$ -**	**$ 50,760.00**	**$ -**	**$ -**	**$ -**	**$ 2,280.00**	**$ 3,125.00**	**$ -**	**881**	**$ 233,815.00**	**$ 233,815.00**
100.1	Project Coordination	4	100			40				24	25		193	$ 46,197.00	$ 46,197.00
100.2	Risk Management	2	24			24							50	$ 12,718.00	$ 12,718.00
100.3	Project Controls and Reporting	2	36			40							78	$ 19,474.00	$ 19,474.00
100.4	Project Meetings & Workshops	25	58	25		58							166	$ 45,324.00	$ 45,324.00
100.5	Subconsultant Management	8	240	26		120							394	$ 110,102.00	$ 110,102.00
200	**Task 200 - Cheney Park Odor Control System**	**$ 323.00**	**$ 2,584.00**	**$ 3,876.00**	**$ 6,936.00**	**$ 2,880.00**	**$ 4,440.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 166,519.00**	**85**	**$ 21,039.00**	**$ 187,558.00**
200.1	Cheney Park Odor Control System Design (V&A)			8								$ 108,862.00	8	$ 2,584.00	$ 111,446.00
200.1	Structural Pad Design	1	8	4	24	16	24						77	$ 18,455.00	$ 18,455.00
200.1	Electrical (EDA)											$ 57,657.00	0	$ -	$ 57,657.00
200.2	Permitting												0	$ -	$ -
300	**Task 300 - Original Force Main Reactivation**	**$ 1,938.00**	**$ 18,734.00**	**$ 10,336.00**	**$ -**	**$ 15,840.00**	**$ 11,100.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 124,240.00**	**244**	**$ 57,948.00**	**$ 182,188.00**
300.1	Utiity Coordination												0	$ -	$ -
300.2	Design of the Reactivation of the Original Force Main (Wade Trim)	4	40	16		64	60					$ 124,240.00	184	$ 42,000.00	$ 166,240.00
300.3	Permitting			8									8	$ 2,584.00	$ 2,584.00
300.4	Hydrostatic Test Plan		2										2	$ 646.00	$ 646.00
300.5	Preliminary Sequence of Construction			4									4	$ 1,292.00	$ 1,292.00
300.6	GMP 2 Development	2	16	4		24							46	$ 11,426.00	$ 11,426.00
300.6.1	Project Task Worksheet												0	$ -	$ -
300.6.2	Competitive Bidding Process												0	$ -	$ -
400	**Task 400 - Bypass and Cleaning of Existing Force Main**	**$ 646.00**	**$ 5,168.00**	**$ 3,876.00**	**$ -**	**$ 4,320.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 44,242.00**	**54**	**$ 14,010.00**	**$ 58,252.00**
400.1	Existing Force Main Cleaning Design and Bypass Plan (Wade Trim			8								$ 44,242.00	8	$ 2,584.00	$ 46,826.00
400.2	GMP 3 Development	2	16	4		24							46	$ 11,426.00	$ 11,426.00
400.2.1	Project Task Worksheet												0	$ -	$ -
400.2.2	Competitive Bidding Process												0	$ -	$ -
500	**Task 500 - Basis of Design Report (BODR)**	**$ 4,522.00**	**$ 90,440.00**	**$ 29,716.00**	**$ -**	**$ 88,560.00**	**$ 85,100.00**	**$ 9,792.00**	**$ 25,000.00**	**$ -**	**$ -**	**$ 659,670.00**	**1,486**	**$ 333,130.00**	**$ 992,800.00**
500.1	Hydraulic Analysis & Pump Recommendations (AECOM)											$ 342,000.00	0	$ -	$ 342,000.00
500.1.1	Data Collection	2	40	8		60							110	$ 26,950.00	$ 26,950.00
500.2	Coarse Screening	2	60	4		80	80						226	$ 50,518.00	$ 50,518.00
500.3	Electrical Evaluation & Recommended Improvements (EDA)			15								$ 95,692.00	15	$ 4,845.00	$ 100,537.00
500.4	I&C/SCADA Evaluation & Recommended Improvements	2	24	8		24			100				158	$ 40,302.00	$ 40,302.00
500.5	HVAC Recommendations (AECOM)											$ 71,000.00	0	$ -	$ 71,000.00
500.6	Structural Analysis & Recommendations (Biller Rinehart)			15								$ 36,325.00	15	$ 4,845.00	$ 41,170.00
500.7	Building Architectural Improvements (Jerel McCants)											$ 23,030.00	0	$ -	$ 23,030.00
500.8	Landscape Architectural Improvements (Anderson Lesniak)											$ 10,800.00	0	$ -	$ 10,800.00
500.9	Lead Abatement Plan (OHC)											$ 6,705.00	0	$ -	$ 6,705.00
500.10	Odor Control (V&A)			15								$ 74,118.00	15	$ 4,845.00	$ 78,963.00
500.11	Permitting		16			24		48					88	$ 19,280.00	$ 19,280.00
500.12	Basis of Design Report (30% Design) Draft	4	100	15		200	280						599	$ 126,237.00	$ 126,237.00
500.12	Basis of Design Report (30% Design) Final	2	24	8		80	100						214	$ 43,882.00	$ 43,882.00
500.12.1	Preliminary Opinion of Probable Construction Cost (POPCC)												0	$ -	$ -
500.12.2	Construction Phasing and Maintenance of Plant Operations (MOPO)	2	16	4		24							46	$ 11,426.00	$ 11,426.00

600	**Early Procurement Plan**	**$ 646.00**	**$ 11,628.00**	**$ 1,292.00**	**$ -**	**$ 8,640.00**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**90**	**$ 22,206.00**	**$ 22,206.00**
600.1	Early Procurement Plan	2	36	4		48							90	$ 22,206.00	$ 22,206.00
700	**Public Outreach**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 51,144.00**	**0**	**$ -**	**$ 51,144.00**
700.2	Public Outreach (Valerin)											$ 51,144.00	0	$ -	$ 51,144.00
700.3	Public Engagement Workshop												0	$ -	$ -
800	**Task 800 - Quality Management**	**$ 5,168.00**	**$ 7,752.00**	**$ 12,920.00**	**$ 20,808.00**	**$ 2,880.00**	**$ -**	**$ -**	**$ 18,000.00**	**$ -**	**$ -**	**$ -**	**240**	**$ 67,528.00**	**$ 67,528.00**
800.1	QA/QC	16	24	40	72	16			72				240	$ 67,528.00	$ 67,528.00
	Subtotal Hours Tasks 100s through 800s	**82**	**880**	**243**	**96**	**966**	**544**	**48**	**172**	**24**	**25**				
	Total Fee Tasks 100s through 800s	**$ 26,486.00**	**$ 284,240.00**	**$ 78,489.00**	**$ 27,744.00**	**$ 173,880.00**	**$ 100,640.00**	**$ 9,792.00**	**$ 43,000.00**	**$ 2,280.00**	**$ 3,125.00**	**$ 1,045,815.00**		**$ 749,676.00**	**$ 1,795,491.00**

CITY OF TAMPA INSURANCE REQUIREMENTS

Prior to commencing any work or services or taking occupancy under that certain written agreement or award (for purposes of this document, Agreement) between the City of Tampa, Florida (City) and Firm/Awardee/Contractor/Consultant/Lessee/non-City party, etc. (for purposes of this document, Firm) to which this document is attached and incorporated as an Exhibit or otherwise, and continuing during the term of said Agreement (or longer if the Agreement and/or this document so requires), Firm shall provide, pay for, and maintain insurance against claims for injuries to persons (including death) or damages to property which may arise from or in connection with the performance of the Agreement (including without limitation occupancy and/or use of certain property/premises) by Firm, its agents, representatives, employees, suppliers, subtenants, or subcontractors (which term includes sub-consultants, as applicable) of any tier subject to the terms and conditions of this document. Firm's maintenance of insurance coverage as required herein is a material element of the Agreement and the failure to maintain or renew coverage or provide evidence of same (defined to include without limitation Firm's affirmative duty to provide from time to time upon City's request certificates of insurance, complete and certified copies of Firm's insurance policies, forms, and endorsements, information on the amount of claims payments or reserves chargeable to the aggregate amount of coverage(s) whether during the term of the Agreement or after as may be requested by the City in response to an issue or potential claim arising out of or related to the Agreement to which Firm's insurance obligations hereunder may apply or possibly help mitigate) may be treated as a material breach of the Agreement. Should at any time Firm not maintain the insurance coverages required, City at its sole option (but without any obligation or waiver of its rights) may (i) terminate the Agreement or (ii) purchase such coverages as City deems necessary to protect itself (charging Firm for same) and at City's option suspending Firm's performance until such coverage is in place. If Firm does not reimburse City for such costs within 10 days after demand, in addition to any other rights, City shall also have the right to offset such costs from amounts due Firm under any agreement with the City. All provisions intended to survive or to be performed subsequent to the expiration or termination of the Agreement shall survive, including without limitation Firm's obligation to maintain or renew coverage, provide evidence of coverage and certified copies of policies, etc. upon City's request and/or in response to a potential claim, litigation, etc.

The City reserves the right from time to time to modify or waive any or all of these insurance requirements (or to reject policies) based on the specific nature of goods/services to be provided, nature of the risk, prior experience, insurer, coverage, financial condition, failure to operate legally, or other special circumstances. If Firm maintains broader coverage and/or higher limits than the minimums shown herein, the City requires and shall be entitled to such broader coverage and/or higher limits maintained by Firm. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City. No representation is made that the minimum insurance requirements are sufficient to cover Firm's interests, liabilities, or obligations. Required insurance shall not limit Firm's liability.

Firm acknowledges and agrees Firm and not the City is the party in the best position to determine applicability (e.g. "IF APPLICABLE"), confirm, and/or verify its insurance coverage. Acceptance by the City, or by any of its employees, representatives, agents, etc. of certificates or other documentation of insurance or policies pursuant to the terms of this document and the Agreement evidencing insurance coverages and limits does not constitute approval or agreement that the insurance requirements have been met or that coverages or policies are in compliance. Furthermore, receipt, acceptance, and/or approval of certificates or other documentation of insurance or policies or copies of policies by the City, or by any of its employees, representatives, agents, etc., which indicate less coverage than required does not constitute a waiver of Firm's obligation to fulfill these insurance requirements.

MINIMUM SCOPE AND LIMIT OF INSURANCE [1]

A. Commercial General Liability (CGL) Insurance on the most current Insurance Services Office (ISO) Form CG 00 01 or its equivalent on an "occurrence" basis (Modified Occurrence or Claims Made forms are not acceptable without prior written consent of the City). Coverage must be provided to cover liability contemplated by the Agreement including without limitation premises and operations, independent contractors, contractual liability, products and completed operations, property damage, bodily, personal and advertising injury, contractual liability, explosion, collapse, underground coverages, personal injury liability, death, employees-as-insureds. Products and completed operations liability coverage maintained for at least 3 years after completion of work. Limits shall not be less than $1M per occurrence and $2M general aggregate for Agreements valued at $2M or less; if valued over $2M, a general aggregate limit that equals or exceeds the Agreement's value. If a general aggregate limit applies; it shall apply separately to the project/location (ISO CG 2S 03 or 2S 04 or equivalent). **(ALWAYS APPLICABLE)**

B. Automobile Liability (AL) Insurance in accordance with Florida law, as to the ownership, maintenance, and use of all owned, non-owned, leased, or hired vehicles. AL insurance shall not be less than: (a) $500,000 combined single limit each occurrence bodily injury and property damage for Agreements valued at $100,000 or less or (b) $1M combined single limit each occurrence bodily injury and property damage for Agreements valued over $100,000. If transportation of hazardous material involved, the MCS-90 endorsement (or equivalent). **(ALWAYS APPLICABLE)**

C. Worker's Compensation (WC) & Employer's Liability Insurance for all employees engaged under the Agreement, Worker's Compensation as required by Florida law. Employer's Liability with minimum limits of (a) $500,000 bodily injury by accident and each accident, bodily injury by disease policy limit, and bodily injury by disease each employee for Agreements valued at $100,000 and under or (b) $1M bodily injury by accident and each accident, bodily injury by disease policy limit, and bodily injury by disease each for all other Agreements. **(ALWAYS APPLICABLE)**

D. Excess (Umbrella) Liability Insurance for Agreements valued at $2M or more, at least $4M per occurrence in excess of underlying limits and no more restrictive than underlying coverage for all work performed by Firm. May also compensate for a deficiency in CGL, AL, or WC. **(ALWAYS APPLICABLE)**

E. Builder's Risk Insurance for property loss exposure associated with construction/renovation/additions to buildings or structures, including materials or fixtures to be incorporated. Must be "All Risk" form with limits of no less than the project's completed value, have no coinsurance penalties, eliminate the "occupancy clause", cover Finn (together with its contractors, subcontractors of every tier, and suppliers), and name City as a Loss Payee. **(IF APPLICABLE)**

F. Installation Floater coverage for property (usually highly valued equipment or materials such as compressors, generators, etc.) during its installation. Coverage must be "All Risk" including installation and transit for no less than 100% of the installed replacement cost value. **(IF APPLICABLE)**

G. Architects & Engineers Liability/ Professional Liability (E&O)/ Contractors Professional Liability (CPrL)/ Medical Malpractice Insurance where Agreement involves Florida-regulated professional services (e.g. architect, engineer, design-builder, CM, accountant, appraiser, investment banker medical professional) at any tier, whether employed or independent, vicarious design liability exposure (e.g. construction means & methods, design supervision), value engineering, constructability assessments/reviews, BIM process, and/or performance specifications. Limits of at least $1M per occurrence and $2M aggregate; deletion of design/ build liability exclusions, as applicable, and maintained for at least 3 years after completion of work/services and City's acceptance of same. **(IF APPLICABLE)**

H. Railroad Protective Liability CRPL) Insurance for construction within 50ft of operated railroad track(s) or where affects any railroad bridge, trestle, tunnel, track(s) roadbed, or over/under pass. Subject to involved rail road's approval prior to commencement of work. **(IF APPLICABLE).**

I. Pollution and/or Asbestos Legal Liability Insurance where Agreement involves asbestos and/or environmental hazards/contamination risks (defined broadly, e.g. lead, mold, bacteria, fuel storage, underground work, cleanup (owned or non-owned sites), pollutant generation/transportation, marine/natural resource damage, contamination claim, restitution, business interruption, mold, fungus, lead-based paint, 3rd party claims/removal, etc.), with limits of at least $1M per occurrence and $2M aggregate, maintained for at least 3 years after Agreement completion. **(IF APPLICABLE)**

J. Cyber Liability Insurance where Agreement involves portals allowing access to obtain, use, or store data; managed dedicated servers; cloud hosting services; software/hardware; programming; and/or other IT services

[1] "M" indicates million(s), for example $1M is $1,000,000

and products are involved. Limits of not less than $2M per occurrence and $2M aggregate. Coverage sufficiently broad to respond to duties and obligations undertaken by Firm, and shall include, but not be limited to, claims involving infringement of intellectual property/copyright, trademark, trade dress, invasion of privacy violations, damage to or destruction of electronic information, information theft, release of confidential and/or private information, alteration of electronic information, extortion, virus transmission, and network security. Coverage, as applicable and with sufficient limits to respond, for breach response costs, regulatory fines and penalties, credit monitoring expenses. **(IF APPLICABLE)**

K. Drone/UAV Liability Insurance where Agreements involves unmanned aerial vehicles/drones. Coverage to include products and completed operations, property damage, bodily injury with limits no less than $1M per occurrence, and $2M aggregate; may be provided by CGL endorsement subject to City's prior written approval. **(IF APPLICABLE)**

L. Longshore & Harbor Workers' Compensation Act/Jones Act for work being conducted near, above, or on "navigable waters" for not less than the above Employer's Liability Insurance limit. **(IF APPLICABLE)**

M. Garagekeeper/Hangerkeeper/Marina Operator Legal Liability Insurance and/or Hull/P&IInsurance where parking lot, valet, dealership, garage services, towing, etc. and/or operation of a hangar, marina, or air plane/ship repairer, providing safe berth, air/watercraft storage/docking (on land/ in water), fueling, tours, charters, ferries, dredges, tugs, mooring, towing, boat/aircraft equipment/repair/alteration/maintenance, etc.; cover- age against liability for damage to vehicles air/watercraft, their machinery in Firm's care, custody, or control both private & commercial. Limits at least equal to greater of $1M, value of max number of vehicles that may be in Firm's custody, or of most costly object in Firm's custody. (IF **APPLICABLE)**

N. Property Insurance and Interruption of Business ClOB) Insurance where premises, building, structure, or improved real property is leased, licensed, or otherwise occupied by Firm. Property Insurance against all risks of loss to any occupant/tenant improvements at full replacement cost with no coinsurance penalty, including fire, water, leak damage, and flood, as applicable, vandalism and malicious mischief endorsements. lOB by which minimum monthly rent will be paid to City for up to 1year if premises are destroyed, rendered inaccessible or untenantable, including disruption of utilities, water, or telecommunications. **(IF APPLICABLE)**

0. Liquor Liability/Host Liquor Liability where Firm directly or indirectly provides alcoholic beverages, limits of at least $1M per occurrence and $1M aggregate. **(IF APPLICABLE)**

P. Educators Legal Liability Insurance where day care, after school program, recreational activities, etc. limits per G above. **(IF APPLICABLE)**

ADDITIONAL REQUIREMENTS

ACCEPTABILTIY OF INSURERS- Insurance is to be placed with insurers admitted in the State of Florida and who have a current A.M. Best rating of no less than **A-:VII** or, if not rated by A.M. Best, as otherwise approved by the City in advance and in writing.

ADDITONAL INSURED - **City, its elected officials, departments, officers, officials, employees, and volunteers together with, as applicable, any associated lender of the City shall be covered as additional insureds on all liability coverage** (e.g. CGL, AL, and Excess (Umbrella) Liability) as to liability arising out of work or operations performed by or on behalf of Firm including materials, parts, or equipment furnished in connection with such work or operations and automobiles owned, leased, hired, or borrowed by or on behalf of Firm. Coverage can be provided in the form of an endorsement to Firm's insurance (at least as broad as ISO Form CG 20 10 11 85 or **both** CG 10 20, CG 20 26, CG 20 33, or CG 20 38 **and** CG 20 37 if later revisions used).

CANCELLATION/NON-RENEWAL – Each insurance policy shall provide that at least 30 days written notice must be given to City of any cancellation, intent to non-renew, or material reduction in coverage (except aggregate liability limits) and at least 10 days' notice for non-payment of premium. Firm shall also have an independent duty to notify City in like manner, within 5 business days of Firm's receipt from its insurer of any notices of same. **If** any policy's aggregate limit is reduced, Firm shall directly take steps to have it reinstated. Notice and proof of renewal/continued coverage/certifications, etc. shall be sent to the City's notice (or Award contact) address as stated in the Agreement with a copy to the following:

☑ Contract Administration Department, 306 E Jackson St, Tampa, FL 33602 ☐ Purchasing Department, 306 E Jackson Street, Tampa, FL 33602

☐ Other:_____

CERTIFICATE OF INSURANCE (COI) – to be provided to City by insurance carrier prior to Firm beginning any work/services or taking occupancy and, if the insurance expires prior to completion of the work or services or Agreement term (as may be extended), a renewal COI at least 30 days before expiration to the above address(es). COIs shall specifically identify the Agreement and its subject (project, lease, etc.), shall be sufficiently comprehensive to insure City (named as additional insured) and Firm and to certify that coverage extends to subcontractors' acts or omissions, and as to permit the City to determine the required coverages are in place without the responsibility of examining individual policies. **Certificate Holder must be The City of Tampa, Florida.**

CLAIMS MADE – **If** any liability insurance is issued on a claims made form, Firm agrees to maintain such coverage uninterrupted for at least 3 years following completion and acceptance of the work either through purchase of an extended reporting provision or purchase of successive renewals. The Retroactive Date must be shown and be a date not later than the earlier of the Agreement date or the date performance/occupancy began thereunder.

DEDUCTIBLES/ SELF-INSURED RETENTIONS (SIR) – must be disclosed to City and, if over $500,000, approved by the City in advance and in writing, including at City's option being guaranteed, reduced, or eliminated (additionally if a SIR provides a financial guarantee guaranteeing payment of losses and related investigations, claim administration, and defense expenses). Firm shall be fully responsible for any deductible or SIR (without limiting the foregoing a policy with a SIR shall provide or be endorsed to provide that the SIR may be satisfied by either the City or named insured). In the event of loss which would have been covered but for a deductible or SIR, City may withhold from any payment due Firm, under any agreement with the City, an amount equal to same to cover such loss should full recovery not be obtained under the policy.

PERFORMANCE- All insurance policies shall be fully performable in Hillsborough County, Florida (the County), and construed in accordance with Florida law. Further, all insurance policies must expressly state that the insurance company will accept service of process in the County and that the exclusive venue for any action concerning any matter under those policies shall be in the appropriate state court of the County.

PRIMARY POLICIES - Firm's insurance coverage shall be primary insurance coverage at least as broad as ISO CG 20 01 04 13 as to the City, its elected officials, departments, officers, employees, and volunteers. Any insurance or self-insurance maintained by the City, its elected officials, departments, officers, employees, and volunteers shall be excess of the Firm's insurance and shall not contribute with it.

SUBCONTRACTORS/INDEPENDENT ASSOCIATES/CONSULTANTS/SUBTENANTS/SUBLICENSEE - **Firm shall require and verify that all such entities maintain insurance meeting all requirements stated herein with the City as an additional insured** by endorsement (ISO FORM CG 20 38, or broader) or otherwise include such entities within Firm's insurance policies. Upon City's request, Firm shall furnish complete and certified copies of copies of such entities' insurance policies, forms, and endorsements.

SUBCONTRACTOR DEFAULT INSURANCE CONTROLLED INSURANCE PROGRAM, WRAP-UP. Use requires express prior written consent of City Risk Manager.

UNAVAILABILTIY- To the fullest extent permitted by law, if Firm is out of business or otherwise unavailable at the time a claim is presented to City, Firm hereby assigns to the City all of its right, title and interest (but not any liabilities or obligations) under any applicable policies of insurance.

WAIVER OF SUBROGATION – With regard to any policy of insurance that would pay third party losses, Firm hereby grants City a waiver of any right to subrogation which any insurer of Firm may acquire against the City by virtue of the payment of any loss under such insurance. Firm agrees to obtain any endorsement that may be necessary to affect such waiver, but this provision shall apply to such policies regardless.

WAIVER/RELEASE AGREEMENT – Where Firm has a defined group of persons who might be exposed to harm (e.g. participants in an athletic event/program, volunteers) any waiver or release agreement used by Firm whereby such persons (and their parent/guardian as applicable) discharge Firm from claims and liabilities, shall include the City, its elected officials, departments, officers, officials, employees, and volunteers to the same extent as Firm.

Document updated and approved by Legal and Risk Management as of 08/16/2016

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 4/21/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Acrisure P.O. Box 510187 New Berlin WI 53151	**CONTACT NAME:** Angela Andrew **PHONE (A/C, No, Ext):** 262-641-5800 **FAX (A/C, No):** **E-MAIL ADDRESS:** certs@hni.com
INSURED 5983 Vogel Bros. Building Co. 4223 S Pipkin Rd Lakeland FL 33811	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** **INSURER A :** NATIONAL FIRE INS CO OF HARTFORD — 20478 **INSURER B :** Travelers Property Casualty — 25674 **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** 1284304398 **REVISION NUMBER:** 24-25 FL Main Ce

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X **COMMERCIAL GENERAL LIABILITY** CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	Y	Y	6080288790	5/1/2024	5/1/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 15,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY	Y	Y	BUA6080288806	5/1/2024	5/1/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) PIP-Florida	$ 1,000,000 $ $ $ $ 10,000
A	X **UMBRELLA LIAB** X OCCUR **EXCESS LIAB** CLAIMS-MADE DED X RETENTION $ 10,000	Y	Y	CUE6080288837	5/1/2024	5/1/2025	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000 $
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N: N **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	Y	WC680288823	5/1/2024	5/1/2025	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 500,000 $ 500,000 $ 500,000
B A	Excess Liability Leased/Rented Equip			EX-4T015785-24-NF 6080288790	5/1/2024 5/1/2024	5/1/2025 5/1/2025	Per Occ/Agg Per Item/Per Occ	$10M/$10M $500K/$2M

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Sulphur Springs PS Design Build.
City of Tampa, its elected officials, departments, officers, officials, employees, and volunteers together with, as applicable, any associated lender of the City are included as Additional Insureds on the General Liability (ongoing & completed ops), Auto Liability and Umbrella Liability on a primary & non-contributory basis. A waiver of subrogation applies in favor of the additional insureds on General Liability, Auto, Umbrella and Work Comp. Notice of Cancellation applies with respects to all line of coverages.

CERTIFICATE HOLDER

City of Tampa
306 E Jackson Street
Tampa FL 33602

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Nicole Cutraro

Exhibit E

Tampa's Equal Business Opportunity Program Procedures for GMP Contracts

- The City of Tampa's Equal Business Opportunity Program (EBO) requires setting a construction subcontract goal on each GMP under the CM /or D-Build delivery system.

- Prior to the time construction subcontract goals are set, the Construction Manager (CM) or the Design-Builder (D-B) provides information on subcontract packages planned for the construction phase(s) and their sequencing.
  (Ref: use **Detailed GMP Estimate and MBD Form-80 PTW)**

- The CM (or D-B) participates in a meeting wherein the City will establish narrowly-tailored project goals for SLBE and/or W/MBE subcontractor participation on the project.
  (Ref: use **MBD Form-70)**

- For each subcontracting package to be bid, the CM (or D-B) confirms with the MBD Office, the City's minimum contact list of available SLBE and/or W/MBE firms to be solicited. Note: strategic, extensive outreach is the CM/DB's responsibility (i.e. GFECP)
  (Ref: use **Minimum Contact List provided w/final Project EBO Determination Goal)**

- The CM (or D-B) documents the notification of **all** potential subcontractors, including the SLBE or W/MBE firms identified above, i.e. minimum contact list of certified firms.
  (Ref: use **DMI 10-20 for construction phase Solicitation/Utilization outcomes)**

- The CM (or D-B) receives, opens, and tabulates subcontract bid results. The City, including representatives of the managing department and the MBD Office, may be present for the bid openings or to review the bids submitted.
  (Ref: use **MBD Form-50 GFECP outreach w/documentation)**

- The CM (or D-B) provides to the City, a tabulation of all bids received and its determination of the lowest responsive/responsible bidder. If bids received exceed contracted Guaranteed Maximum Price, CM (or D-B) advises City as to how they will proceed. If re-bidding is selected, notification at least equal to the original solicitation will occur. **(Ref: Reaffirm EBO Outreach)**

- As all subcontracts are executed, final copies are provided to the City. Where participation is achieved via sub-subcontractors and/or suppliers, the CM (or D-B) provides the City and MBD with copy of executed agreement or purchase order as documentation. **(Ref:** use **MBD Form-40 LOIs execute "Letters-of-Intent")**

- During construction, monitoring activities may including but may not be limited to, subcontractor payment reports to be submitted with pay requests, prior approval by the MBD Office and the managing departments, of any replacement of SLBE or W/MBE subcontractors, and a report of final amounts paid to all subcontractors.
  (Ref: use **#1-DMI 30 Form w/Pay Applications; #2-Prime & Subs must log into Diversity Mgt. Compliance System to report payment activity)**

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

Page 1 of 4 – DMI Solicited/Utilized Schedules
City of Tampa – Schedule of All Solicited Sub-(Contractors/Consultants/Suppliers)
(FORM MBD-10)

Contract No.: 25-C-00001 Contract Name: Sulphur Springs Pump Station Rehabilitation Design-Build
Company Name: Vogel Bros. Building Co. Address: 4223 S Pipkin Rd, Lakeland FL 33811
Federal ID: 39-0679620 Phone: 863-646-5708 Fax: 863-644-5107 Email: darrenvogel@vogelbldg.com

Check applicable box(es). Detailed Instructions for completing this form are on page 2 of 4.
[ ] No Firms were contacted or solicited for this contract.
[ ] No Firms were contacted because:
[X] See attached list of additional Firms solicited and all supplemental information (List must comply to this form)
Note: Form MBD-10 must list ALL subcontractors solicited including Non-minority/small businesses

NIGP Code Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

S = SLBE W=WMBE O = Neither / Federal ID	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade or Services NIGP Code (listed above)	Contact Method L=Letter F=Fax E=Email P=Phone	Quote or Response Received Y/N
S and W 20-0552998	Anderson Lesniak Limited, Inc. 15085 Dusky Warbler Road, Weeki Wachee, FL 34614 T: (813) 831-9595 | F: (813) 831-5484 | E: alyson@andersonlesniak.net	CF	NAICS 541320 NIGP 906-56-00	E	Y
W 26-3947444	Arehna Engineering, Inc. 5012 W. Lemon Street, Tampa, FL 33609 T: (813) 944-3464 | F: (813) 944-4959 | E: jmcrory@arehna.com	CF	NIGP 925	P	Y
S 22-3851104	Biller Reinhart Engineering Group, Inc. 3434 Colwell Ave, Suite 100, Tampa, FL 33614 T: (813) 908-7203 | F: (813) 931-5200 | E: rreinhart@billerreinhart.com	CM	92588, 92533, 92556, 92519, 92596	E	Y
W 65-0868970	Electrical Design Associates, Inc. 3001 N. Rocky Point Drive E, STE 200, Tampa, FL 33607 T: (813) 367-3536 | F: (561) 819-5557 | E: wnelson@goeda.com	BM	NIGP 925	P	Y
W 03-0476653	Hyatt Survey Services, Inc. 1767 Lakewood Ranch Blvd #378, Bradenton, FL 34211 T: (941) 748-4693 | E: pam@hyattsurvey.com	CF	92586, 96252, 95960	P	Y
S and W 27-1558886	Jerel McCants Architecture, Inc. DBA JMA, Inc. 1210 East Columbus Drive, Tampa, FL 33605 T: (813) 812-9120 | E: jerel@jmccants.com	BM	NIGP 90607	P	Y
W 59-2314222	OHC Environmental Engineering, Inc. 101 S. Hoover Blvd., Suite 101, Tampa, FL 33609 T: (813) 626-8156 | F: (813) 435-2389 | E: jrizk@ohcnet.com	BM	NAICS 562910 NIGP 34505	P	Y

It is hereby certified that the information provided is an accurate and true account of contacts and solicitations for sub–contracting opportunities on this contract.

Signed: _____ Name/Title: Darren Vogel, Vice President of Operations Date: April 21, 2025

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive
Forms must be included with Bid / Proposal

MBD 10 rev./effective 02/2016

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

Page 1 of 4 – DMI Solicited/Utilized Schedules
City of Tampa – Schedule of All Solicited Sub-(Contractors/Consultants/Suppliers)
(FORM MBD-10)

Contract No.: 25-C-00001 Contract Name: Sulphur Springs Pump Station Rehabilitation Design-Build
Company Name: Vogel Bros. Building Co. Address: 4223 S Pipkin Rd, Lakeland FL 33811
Federal ID: 39-0679620 Phone: 863-646-5708 Fax: 863-644-5107 Email: darrenvogel@vogelbldg.com

Check applicable box(es). Detailed Instructions for completing this form are on page 2 of 4.
[ ] No Firms were contacted or solicited for this contract.
[ ] No Firms were contacted because:
[X] See attached list of additional Firms solicited and all supplemental information (List must comply to this form)
Note: Form MBD-10 must list ALL subcontractors solicited including Non-minority/small businesses

NIGP Code Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

S = SLBE W=WMBE O = Neither Federal ID	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade or Services NIGP Code (listed above)	Contact Method L=Letter F=Fax E=Email P=Phone	Quote or Response Received Y/N
W 94-2995304	V&A Consulting Engineers, Inc. 8600 Hidden River Parkway, Suite 550 T: (941) 928-0453 | E: vharshman@vaengineering.com	CF	NIGP 925	E	Y
O 95-2661922	AECOM 7650 W. Courtney Campbell Cswy, Tampa, FL 33607 T: (813) 636-2198 | E: david.wilcox@aecom.com	CF	NIGP 925	E	Y
O 39-0793822	Mead & Hunt, Inc. 4010 W. Boy Scout Blvd., Tampa, FL 33607 T: (813) 210-38743710 | E: kris.samples@meadhunt.com	CM	NIGP 925	E	Y
O 59-2417170	Wade Trim, Inc. 201N Franklin Street, Suite 1350, Tampa, FL 33602 T: (813) 882-4373 | E: dprevo@wadetrim.com	CF	NIGP 925	E	Y
O 16-0810270	Kimmins Contracting Corporation 1501 E. 2nd Avenue, Tampa, FL 33605 T: (813) 247-0147 | E: csimon@kimmons.com	CF	NIGP 961-85	E	Y
S and W 33-1142500	The Valerin Group, Inc. 3903 Northdale Blvd., Tampa, FL 33624 T: (813) 751-0478 | F: (813) 925-4205 | E: valeriec@valerin-group.com	CF	NIGP 912	E	Y

It is hereby certified that the information provided is an accurate and true account of contacts and solicitations for sub–contracting opportunities on this contract.

Signed: Name/Title: Darren Vogel, Vice President of Operations Date: April 21, 2025

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive
Forms must be included with Bid / Proposal

MBD 10 rev./effective 02/2016

Instructions for completing The Sub-(Contractors/Consultants/ Suppliers) Solicited Form (Form MBD-10)

This form must be submitted with all bids or proposals. **All** subcontractors (regardless of ownership or size) solicited and subcontractors from whom unsolicited quotations were received must be included on this form. The instructions that follow correspond to the headings on the form required to be completed. Note: Ability or desire to self-perform all work shall not exempt the prime from Good Faith Efforts to achieve participation.

- **Contract No.** This is the number assigned by the City of Tampa for the bid or proposal.
- **Contract Name.** This is the name of the contract assigned by the City of Tampa for the bid or proposal.
- **Contractor Name.** The name of your business and/or doing business as (dba) if applicable.
- **Address.** The physical address of your business.
- **Federal ID.** FIN. A number assigned to your business for tax reporting purposes.
- **Phone.** Telephone number to contact business.
- **Fax.** Fax number for business.
- **Email.** Provide email address for electronic correspondence.
- **No Firms were contacted or solicited for this contract.** Checking the box indicates that a pre-determined Subcontract Goal or Participation Plan Requirement was not set by the City resulting in your business not using subcontractors and will self-perform all work. If during the performance of the contract you employ subcontractors, the City must pre-approve subcontractors. Use of the "Sub-(Contractors/Consultants/Suppliers) Payments" form (MBD Form-30) must be submitted with every pay application and invoice. Note: Certified SLBE or WMBE firms bidding as Primes are not exempt from outreach and solicitation of subcontractors.
- **No Firms were contacted because.** Provide brief explanation why no firms were contacted or solicited.
- **See attached documents.** Check box, if after you have completed the DMI Form in its entirety, you need more space to list additional firms and/or if you have supplemental information/documentation relating to the form. All DMI data not submitted on the MBD Form-10 must be in the same format and have all requested data from MBD Form-10 included.

The following instructions are for information of any and all subcontractors solicited.

- **"S" = SLBE, "W" = WMBE.** Enter "**S**" for firms Certified by the City as Small Local Business Enterprises and/or "**W**" for firms Certified by the City as either Women/Minority Business Enterprise; **"O" = Non-certified others**.
- **Federal ID.** FIN. A number assigned to a business for tax reporting purposes. This information is critical in proper identification and payment of the contractor/subcontractor.
- **Company Name, Address, Phone & Fax**. Provide company information for verification of payments.
- **Type of Ownership.** Indicate the Ethnicity and Gender of the owner of the subcontracting business.
- **Trade, Services, or Materials** indicate the trade, service, or materials provided by the subcontractor. NIGP codes aka "National Institute of Governmental Purchasing" are listed at top section of document.
- **Contact Method L=letter, F=fax, E=Email, P=Phone.** Indicate with letter the method(s) of soliciting for bid.
- **Quote or Resp. (response) Rec'd (received) Y/N**. Indicate "Y" Yes if you received a quotation or if you received a response to your solicitation. Indicate "N" No if you received no response to your solicitation from the subcontractor. Must keep records: log, ledger, documentation, etc. that can validate/verify.

If additional information is required or you have questions, please contact the Equal Business Opportunity Program - Office of Equal Business Opportunity at (813) 274-5522.

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

Page 3 of 4 – DMI Solicited/Utilized Schedules
City of Tampa – Schedule of All To-Be-Utilized Sub-(Contractors/Consultants/Suppliers)
(FORM MBD-20)

Contract No.: 25-C-00001 Contract Name: Sulphur Springs Pump Station Rehabilitation Design-Build
Company Name: Vogel Bros. Building Co. Address: 4223 S Pipkin Rd, Lakeland FL 33811
Federal ID: 39-0679620 Phone: 863-646-5708 Fax: 863-644-5107 Email: darrenvogel@vogelbldg.com

Check applicable box(es). Detailed Instructions for completing this form are on page 4 of 4.
[X] See attached list of additional Firms Utilized and all supplemental information (List must comply to this form)
Note: Form MBD-20 must list ALL subcontractors To-Be-Utilized including Non-minority/small businesses
[ ] No Subcontracting/consulting (of any kind) will be performed on this contract.
[ ] No Firms are listed to be utilized because: _____

NIGP Code General Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

Enter "S" for firms Certified as Small Local Business Enterprises, "W" for firms Certified as Women/Minority Business Enterprise, "O" for Other Non-Certified

S = SLBE W=WMBE O =Neither / Federal ID	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic Am. AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade, Services, or Materials NIGP Code Listed above	$ Amount of Quote. Letter of Intent (LOI) if available	Percent of Scope or Contract %
S and W 20-0552998	Anderson Lesniak Limited, Inc. 15085 Dusky Warbler Road, Weeki Wachee, FL 34614 T: (813) 831-9595 | F: (813) 831-5484 | E: alyson@andersonlesniak.net	CF	NAICS 541320 NIGP 906-56-00	10,800	0.2%
W 26-3947444	Arehna Engineering, Inc. 5012 W. Lemon Street, Tampa, FL 33609 T: (813) 944-3464 | F: (813) 944-4959 | E: jmcrory@arehna.com	CF	NIGP 925	TBD	TBD
S 22-3851104	Biller Reinhart Engineering Group, Inc. 3434 Colwell Ave, Suite 100, Tampa, FL 33614 T: (813) 908-7203 | F: (813) 931-5200 | E: rreinhart@billerreinhart.com	CM	92588, 92533 92556, 92519, 92596	36,325	0.6%
W 65-0868970	Electrical Design Associates, Inc. 3001 N. Rocky Point Drive E, STE 200, Tampa, FL 33607 T: (813) 367-3536 | F: (561) 819-5557 | E: wnelson@goeda.com	BM	NIGP 925	235,959	4.1%
W 03-0476653	Hyatt Survey Services, Inc. 1767 Lakewood Ranch Blvd #378, Bradenton, FL 34211 T: (941) 748-4693 | E: pam@hyattsurvey.com	CF	92586, 96252, 95960	TBD	TBD
S and W 27-1558886	Jerel McCants Architecture, Inc. DBA JMA, Inc. 1210 East Columbus Drive, Tampa, FL 33605 T: (813) 812-9120 | E: jerel@jmccants.com	BM	NIGP 90607	23,030	0.4%
W 59-2314222	OHC Environmental Engineering, Inc. 101 S. Hoover Blvd., Suite 101, Tampa, FL 33609 T: (813) 626-8156 | F: (813) 435-2389 | E: jrizk@ohcnet.com	BM	NAICS 562910 NIGP 34505	6,705	0.1%

Total ALL Subcontract / Supplier Utilization $ _____
Total SLBE Utilization $ _____ (see following page)
Total WMBE Utilization $ _____
Percent SLBE Utilization of Total Bid/Proposal Amt. ____% Percent WMBE Utilization of Total Bid/Proposal Amt. ____%

It is hereby certified that the following information is a true and accurate account of utilization for sub-contracting opportunities on this Contract.

Signed: _____ Name/Title: Darren Vogel, Vice President of Operations Date: April 21, 2025

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive
Forms must be included with Bid / Proposal

MBD 20 rev./effective 01/2021

Failure to Complete, Sign and Submit Both Forms 10 & 20 SHALL render the Bid or Proposal Non-Responsive

Page 3 of 4 – DMI Solicited/Utilized Schedules
City of Tampa – Schedule of All To-Be-Utilized Sub-(Contractors/Consultants/Suppliers)
(FORM MBD-20)

Contract No.: 25-C-00001 Contract Name: Sulphur Springs Pump Station Rehabilitation Design-Build
Company Name: Vogel Bros. Building Co. Address: 4223 S Pipkin Rd, Lakeland FL 33811
Federal ID: 39-0679620 Phone: 863-646-5708 Fax: 863-644-5107 Email: darrenvogel@vogelbldg.com

Check applicable box(es). Detailed Instructions for completing this form are on page 4 of 4.
[X] See attached list of additional Firms Utilized and all supplemental information (List must comply to this form)
Note: Form MBD-20 must list ALL subcontractors To-Be-Utilized including Non-minority/small businesses
[ ] No Subcontracting/consulting (of any kind) will be performed on this contract.
[ ] No Firms are listed to be utilized because: _____

NIGP Code General Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

Enter "S" for firms Certified as Small Local Business Enterprises, "W" for firms Certified as Women/Minority Business Enterprise, "O" for Other Non-Certified

S = SLBE W=WMBE O =Neither / Federal ID	Company Name Address Phone, Fax, Email	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic Am. AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade, Services, or Materials NIGP Code Listed above	$ Amount of Quote. Letter of Intent (LOI) if available	Percent of Scope or Contract %
W / 94-2995304	V&A Consulting Engineers, Inc. 8600 Hidden River Parkway, Suite 550 T: (941) 928-0453 | E: vharshman@vaengineering.com	CF	NIGP 925	182,980	3.2%
O / 95-2661922	AECOM 7650 W. Courtney Campbell Cswy, Tampa, FL 33607 T: (813) 636-2198 | E: david.wilcox@aecom.com	CF	NIGP 925	428,000	7.4%
O / 39-0793822	Mead & Hunt, Inc. 4010 W. Boy Scout Blvd., Tampa, FL 33607 T: (813) 210-38743710 | E: kris.samples@meadhunt.com	CF	NIGP 925	769,002	13.4%
O / 59-2417170	Wade Trim, Inc. 201 N Franklin Street, Suite 1350, Tampa, FL 33602 T: (813) 882-4373 | E: dprevo@wadetrim.com	CM	NIGP 925	135,000	2.4%
O / 16-0810270	Kimmins Contracting Corporation 1501 E. 2nd Avenue, Tampa, FL 33605 T: (813) 247-0147 | E: csimon@kimmons.com	CF	NIGP 961-85	TBD	TBD
S and W / 33-1142500	The Valerin Group, Inc. 3903 Northdale Blvd., Tampa, FL 33624 T: (813) 751-0478 | F: (813) 925-4205 | E: valeriec@valerin-group.com	CF	NIGP 912	51,144	0.9%

Total ALL Subcontract / Supplier Utilization $ 1,878,945
Total SLBE Utilization $ 121,299
Total WMBE Utilization $ 425,644
Percent SLBE Utilization of Total Bid/Proposal Amt. 2 % Percent WMBE Utilization of Total Bid/Proposal Amt. 7 %

It is hereby certified that the following information is a true and accurate account of utilization for sub-contracting opportunities on this Contract.

Signed: _____ Name/Title: Darren Vogel, Vice President of Operations Date: April 21, 2025

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Forms must be included with Bid / Proposal

MBD 20 rev./effective 01/2021