Request for Bids
Sewer Lift Station Maintenance and Repair
RFB (2022-007)
Town of Salem NH

SALEM PURCHASING

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Christopher Dillon, Town Manager

Prepared for and in coordination with

SALEM MUNICIPAL SERVICES

ENGINEERING ♦ PUBLIC WORKS ♦ UTILITIES

GENERAL TERMS AND CONDITIONS

PREPARATIONS OF BIDS/PROPOSALS: Proposals shall be submitted on the forms provided and must be signed by the Bidder or his authorized representative. The person signing the proposal shall initial any corrections to entries made on the attached forms.

Vendors must provide pricing on all items appearing on the bid forms unless specific directions in the advertisement, on the bid form or in the special provisions allowed for partial bids. Failure to provide pricing on all items may disqualify the bid. Alternative bids will be considered, unless otherwise stated, only if the alternate is described completely, including, but not limited to, sample, if requested and specifications sufficient so that a comparison to the request can be made.

Any questions or inquiries must be submitted in writing, and must be received by the Purchasing Department no later than seven (7) calendar days before the Request for Proposal due date to be considered. Any changes to the Request for Proposal will be provided to all bidders of record.

The name of manufacturer, trade name, or catalog number mentioned in this request for bid description is for the purpose of designating a minimum standard of quality and type. Such references are not intended to be restrictive, although specified color, type of material and specified measurements may be mandatory.

Proposals will be considered for any brand that meets or exceeds the quality of the specifications listed. On all such proposals, the bidder shall specify the product they are proposing and shall supply sufficient data to enable a comparison to be made with the particular brand or manufacturer specified. Failure to submit the above may be sufficient grounds for rejection of the proposal.

SUBMITED BIDS/PROPOSALS: Proposals must be submitted as directed in the Notice to Qualified Firms, and on the forms provided unless otherwise specified. Proposals must be typewritten or printed in ink. Proposals must be mailed or delivered in person. Proposals that are faxed or emailed will not be accepted.

WITHDRAWING BIDS/PROPOSALS: Proposals may be withdrawn prior to the opening date and time upon written request of the Proposer. Negligence on the part of the Proposer in preparing his/her proposal shall not constitute a right to withdraw a proposal subsequent to the proposal opening.

PROPOSAL EVALUATION:

The Town reserves the right to reject any and all proposals received for the following reasons including but not limited to:

- Fails to adhere to one or more of the provisions established in the proposal.
- Fails to submit its proposal at the time or in the format specified herein or to supply the minimum information requested herein.
- Fails to meet the minimum evaluation criteria specified in this proposal.
- Fails to submit its proposal to the required address on or before the deadline date established by the Town.
- Misrepresents its services, experience and personnel by providing demonstrably false information in its proposal or fails to provide material information.
- Fails to submit its cost on the enclosed bid form.
- Refuses a reasonable request for an interview.
- Refuses to provide clarification requested by the Town.

RECEIPT AND OPENING OF PROPOSALS:

Proposals shall be submitted prior to the time fixed in the Request for Sealed Bids/RFP. Proposals received after the time so indicated shall be returned unopened.

PROPOSAL RESULTS:
All sealed bids received will be considered confidential and not available for public review until after the bid opening is conducted. Bid and RFP openings will be scheduled and opened accordingly. Results will not be given over the phone. Please send your request in writing or send an email to gfaccadio@salemnh.gov to receive sealed bid results after the public opening. All Bids, RFP's, and RFQ's will remain unofficial and if applicable confidential until the award has been posted on the Town website.

KNOWLEDGE AND EXPERIENCE: If and as requested per document, provide a description of the firm's knowledge and experience in the industry. Highlight your company's experience to provide the highest quality and effective product and reliable service and support.

REFERENCES: If and as requested per document, projects within the past ten years best illustrating current qualifications for this project.

AWARD OF CONTRACT; It is the policy of the Town of Salem, NH that contracts are awarded only to responsible bidders. In order to qualify as responsible, a prospective vendor must meet the following standards as they relate to this request:

- Have adequate financial resources for performance or have the ability to obtain such resources asrequired during performance.
- Have the necessary experience, organization, technical and professional qualifications, skills and facilities.
- Be able to comply with the proposed or required time of completion or performance schedule; and
- Have a demonstrated satisfactory record of performance.
- Adhere to the specifications of this bid and provide all documentation required of this bid.

The contract will be awarded to the most responsive & responsible bidder based on the best cost, qualifications, and experience, including, the quality of the equipment / product / materials / services to be provided and the support that the bidder offers during the duration of the contract terms. The selected bidder will always be utilized first however should any scheduling conflicts occur the Town, at its discretion, reserves the right to use the second selected bidder as applicable to immediate and scheduled operations. Bid Proposal evaluation will be done by the Utility Division of Municipal Services and as guided in the document and in the best interest of the Town.

EXECUTION OF AGREEMENT:
The successful proposer shall sign (execute) the necessary agreements for entering into the contract and return such signed agreements to the town within ten (10) calendar days from the date mailed or otherwise delivered to the successful Proposer.

APPROVAL OF AGREEMENT:
Upon receipt of the agreement that has been fully executed by the proposer, the owner will complete the execution of the agreement and return the agreement to the contractor. The Agreement accompanied by a Town issued purchase order will be delivered to the contractor and will constitute a mutual approval and agreement by both parties to abide by the terms and conditions of the agreement.

FAILURE TO EXECUTE AGREEMENT:
Failure of the successful proposer to execute the agreement at the date and time agreed upon by the Town and the successful Proposer shall be just cause for cancellation of the award and forfeiture of all deposits.

CONTRACT TERMINATION:
If at any time the proposer fails to provide proper services during the contract period, the Town of Salem, NH will have the option to terminate the contract at any time without notice.

RIGHT TO REJECT BIDS: The Town reserves the right to reject any and all sealed bids, should the Town deem it to be in the best interest of the public.

INSURANCE CERTIFICATES:

Prior to award of this contract, the Contractor shall submit insurance certificates indicating coverage for all vehicles, public liability and property damage in the following amounts:

Comprehensive General Liability	$1,000,000/$ 1,000,000
Auto Liability: Property Damage	$1,000,000/$ 1,000,000
Personal Injury	$ 1,000,000/$ 1,000,000
Workmen's Compensation	as required by the State of New Hampshire

PRICING: Unless otherwise specified all prices listed are firm for the term of the contract. All prices should include all labor and material costs, and any discounts offered. All fuel surcharges, delivery charges and miscellaneous charges that are not part of the terms and conditions of this contract will only hold up payment if they are added to the submitted invoice.

INVOICING:

Invoices must be physically mailed and/or submitted (emailed invoices unacceptable) to Accounts Payable at:

Town of Salem
c/o Accounts Payable
33 Geremonty Drive
Salem NH 03079.

The invoice must include an itemization of all items, supplies, repairs, labor furnished, including unit list pricing, and net pricing, as identified in the bid award. The total amount due shall be clear and apparent on the invoice for proper payment. Payment terms are net thirty (30) days from the date of the invoice. General terms as allowable: Invoices received before the twentieth of each month should get processed for said month with payment available through said month check disbursement.

TAX:

The Town is exempt from all sales and federal excise taxes. Our exemption number is 026000817 Please Invoice less these taxes.

DELIVERY: Deliveries are to be made only to the department or division indicated on the order and in accordance with accepted commercial practices, without extra charge for packing or containers.

GUARANTEES AND WARRANTIES: All parts and labor related to agreements must be guaranteed and include a warranty. If any work is unable to be guaranteed, the contractor must inform the Town, in writing, prior to the delivery of an item or any work being performed.

FORCE MAJEURE: Neither party shall be liable for any inability to perform its' obligations under any subsequent agreement due to war, riot, insurrection, civil commotion, fire, flood, earthquake, storm or any other act of God.

POLICE DETAILS: Police Details shall be scheduled as required for safety, by and as required by Town, and will be paid by the Municipal Services Department. The Contractor shall coordinate and confirm work schedule with the Municipal Services Department, or the designee, discuss Police Detail, if approved, and if applicable, provide detail slips back to Municipal Services.

REQUEST FOR BIDS
SEWER LIFT STATIONS
MAINTENANCE AND REPAIR

You are cordially invited to submit a proposal for Sewer Lift Station Maintenance and Repair in accordance with the attached specifications, terms, and conditions listed in RFB 2022-007 Sewer Lift Station Maintenance and Repair which can be obtained at https://www.townofsalemnh.org/purchasing. The Town of Salem NH is requesting qualifications from a Contractor for professional services to provide maintenance and repair of Sewer Lift Stations town wide. There are currently ten (10) Sewer Lift Stations located throughout the town. The work includes the furnishing of all materials, labor, equipment, fuel, tools, transportation, and services for the successful redevelopment, rehabilitation, and repair of a wastewater lift station; and includes scheduled rehabilitation and maintenance as well as emergency repair services. The Contractor will also be retained for any general services related thereof that are applicable to other similar facilities and equipment as needed, i.e., pumps and motors for utility stations. This will be a three (3) year contract, 2022 – 2024. **All proposals/bids must be received by February 21, 2022, at 11:00 AM EST. *Two (2)* copies of the BID package must be submitted in a sealed envelope, plainly marked:**

RFB 2022-007
Sewer Lift Station
Maintenance and Repair
Town of Salem
Purchasing Office
33 Geremonty Drive
Salem NH 03079

INTRODUCTION

The Town of Salem NH, through the Municipal Services Department, is soliciting proposals for qualifications to provide scheduled preventative mechanical maintenance and emergency repairs to the Town's wastewater pump stations and related facilities. The Contractor must be able to respond to emergency repairs within 24 hours and within 48 hours for non-emergency repairs. The work includes, but is not limited to, all labor and equipment to repair, replace, retrofit, adjust, and maintain pumps, motors, and related mechanical systems; inspection; testing; and emergency response. Primary work will be at the ten (10) wastewater pump stations listed in Appendix A. The Contractor will also be retained for any general services related thereof that are applicable to other similar facilities and equipment as needed, i.e., pumps and motors for utility stations.

The Town reserves the right to negotiate with the selected Contractor regarding variation to the original Scope and Bid request thereof, if deemed to be in the best interest of the Town to do so. The Town reserves the right to waive any item and accept or reject any or all aspects of bid, in whole or in part, if it is deemed to be in the Town's interest to do so.

SCOPE OF SERVICES

The intent of this Contract is to rehabilitate, restore, and/or maintain production to the Town of Salem NH municipal wastewater lift stations and related facilities utilizing materials and methods as herein specified. The work includes the furnishing of all materials, labor, equipment, fuel, tools, transportation, and services for the successful redevelopment, rehabilitation, and repair of a wastewater lift station; and includes scheduled rehabilitation and maintenance as well as emergency repair services. The Contractor is free to propose modifications to the scope that may result in cost savings and/or a better product.

The general work and requirements for this Contract include, but not limited to, the following:

A. Pump Station Maintenance and Repair

Comprehensive pump station, pump, and motor repair and maintenance at the Town's ten (10) wastewater pump stations and related facilities as needed.

Work may include the following but not limited to:

1. Mobilize equipment and materials and prepare job site
2. Remove existing pump, motor, and related equipment, and transport andstore at the Contractor's Yard and/or Town Yard
3. Disassemble the surface plumbing
4. Pump repair and reassembly, or full replacement, as needed
5. Motor repair and reassembly, or full replacement, as needed
6. Reinstall the existing pump assembly and reconnect motor
7. Pipe, valve, control repair and reassembly, or full replacement, as needed
8. Furnish logs, daily records, and other items requested by the Town

B. Equipment Types

Troubleshoot and work on multiple types of pumps and motors, to include, but not limitedto the following pumps and motors:

1. Pumps: Fairbanks Morse, Gormann Rupp, Smith and Loveless, Yeoman
2. Motors: Fairbanks Morse, Gormann Rupp, Smith and Loveless, Yeoman Marathon Electric

REFERENCE: Appendix A for specifications and details

C. Facility Types

Primary work for this contract is at the Town's ten (10) wastewater pump stations, with possible secondary work at other facilities with similar equipment as needed.

D. Response Time

Able to respond to emergency repairs within 24 hours and within 48 hours for non-emergency repairs.

E. Contractor Service Responsibilities

The Contractor shall provide all labor, tools, equipment and all incidentals required and/or implied for the complete and satisfactory performance of the maintenance, and repair of Town pumps.

F. Personnel Requirement

Personnel used for the performance of this work shall be properly trained and qualified to perform pump or motor work on the variety and complexity of the systems in the Town facilities. The Town reserves the right to refuse to accept and authorize payment for services from any personnel deemed by the Town to be unqualified, disorderly, or otherwise unable to perform assigned work. The Contractor shall provide and keep up to date a list of all personnel performing work under this contract with classifications denoted, as well as written evidence of the personnel's qualifications for those classifications.

G. Project Cost Estimates

Estimates of individual project work requests shall be provided in writing to the Town via email, fax, or mail with adequate plans and specifications or written directions. The estimate should include all labor, equipment, parts and/or materials required to perform the work specified under this contract. This, or any work under this contract, shall only be performed with the Town's consent. Upon authorization, actual work shall not exceed the Contractor's estimate without the Town's approval.

H. Quality of Work

1. All work shall be quality work, performed according to the standards of the industry and to the complete satisfaction of the Town. All parts used for repair and in reassembly of equipment (example: pumps) shall be themanufacturer's authorized parts or specifically approved by the Town priorto installation.

2. Unsatisfactory work shall be immediately corrected by the Contractor at no additional cost to the Town.

3. All work shall be performed in accordance with the plans, drawings or instructions provided by the Town for each project or work assignment. Any discrepancies or previously unknown field conditions shall be brought to the attention of the Town and resolved before continuing the work.

4. All work shall be performed in accordance with Town code.

I. Provide All Work Tools & Equipment

The Contractor shall provide each crew and personnel ALL of the hand tools, power tools, truck, and equipment necessary for the performance of the work.

J. Removing and Returning Completed Repaired Equipment

Contractor shall provide service to load and pick-up pumps, motors, and related equipment for repairs within three (3) business days of being contacted by the City and return and

unload repaired pumps and motors to the Town within three (3) business days after completion of repairs. Pickups and returns may be at the Town Water Treatment Plant Yard, well, or pump station location as identified by the Town.

K. Capital Improvement Replacement Items

Capital Items may be for any work exceeding $20,000 dollars but not more than $75,000. Absolute Emergency Work would be all-inclusive and not subject to the cost implication range suggested here. Therefore, if a major component or piece of equipment has a fatal failure and needs to be replaced, the Contractor will have first right of refusal for said work, but must clearly demonstrate proposals thereof under the following conditions:

1. Contractor is willing to provide options such as rebuilds for replacement that may offset costs.
2. Contractor will not mark up costs of supplies by any amount of the items needed bymore than ten percent. The Contractor will need to provide specific cost back-up.
3. Contractor is willing to provide and/or negotiate cost of any items they may have readily available in their inventory that would be needed.
4. If applicable and needed, Contractor will complete a new design for a minimal charge
5. Contractor can guarantee timely delivery of services and products

BID PROPOSAL – Six (6) page(s) packet:

A. Cover Letter

Describe your company's interest and commitment in providing repair and maintenance services for the Town. An officer of the company who is authorized to contractually bind the firm and to negotiate a contract with the Town shall sign the letter. Provide name, title, address, email, and telephone number of this officer.

B. Knowledge and Experience

Includes a summary of experience that pertains to the disciplines described in the Scope of Services. Provide summaries of the location and scope of similar recent projects, contracts, or accounts, that show experience applicable to this Scope of Services.

C. Key Personnel Background

Name, position, summary of qualifications, resumes, training, licenses, certifications, and related experience and responsibilities of key personnel assigned to this work.

D. Facilities Description

Provide a detailed summary describing your repair shop and/or headquarters, storage facilities, any or additional facility locations, facility size, a list of activities that will take place at the facilities, support equipment/services i.e., applicable inventory on hand, etc.

E. References

Provide at least three (3) references including: Project Name/Description, Company/Agency Name, Key Contact Name, Address, Email, and Telephone Number).

Note: References from public agencies preferred.

F. Proposal Rate Sheet

1. Provide a comprehensive **Rate Sheet** with Unit Rates which shall include: labor, equipment, and any related costs to complete work in strict compliance with the specifications, terms, and conditions set forth in Scope of Services.
2. Provide an **Active Account/Contract** maintenance agreement similar to this request.
3. Include both **Straight Time** and **Overtime** rates per hour.
4. **Emergency Rates** and **Minimums** if applicable
5. Include an expected **Materials Markup Percentage** (Actual Cost Plus) for standard work.

BID DELIVERABLES EXPECTED

A. BID Proposal Packet: Six pages or less specific to request in BID PROPOSAL listed in previous section.

B. Acknowledgement Forms from Appendix B completed and signed accordingly.

C. All proposals/bids must be received by February 21, 2022, at 11:00 AM EST.:

***Two (2)* copies of the BID package must be submitted in a sealed envelope, plainly marked:**

RFB 2022-007
Sewer Lift Station
Maintenance and Repair
Town of Salem
Purchasing Office
33 Geremonty Drive
Salem NH 03079

APPENDIX A: SEWER LIFT STATION INFORMATION

FROM 2017 SEWER MASTER PLAN REPORT
GENERAL INFORMATION:
SOME STATIONS HAVE BEEN UPGRADED SINCE

BROOKDALE ROAD

Wastewater Pumping Station Inspection

Town of Salem, New Hampshire

Station Name: Brookdale Road

Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	

General	
Location	Brookdale Road
Type (circle one)	duplex flooded suction, can type
Installation date	1998
Design Capacity (gpm)	120
Collects flow from	Brookdale Road
Transfers flow to	North Policy Street
General condition	good
O&M, record drawings?	O&M and manufacturer design dwg
Site	
Owner	Town of Salem / Canobie Lake Realty Corp
Map/Lot number	Part of 80/3771
Easement?	Yes
Lot size, acres	30' x 60' Permanent Easement
Fence	Yes, wooden stockade, decent condition
Driveway	paved drive
Landscaping	no
Access to wetwell by truck?	yes, 10 ft. gate entrance
Neighborhood description	residential
Structural	
Structure description	underground, can style, wet well/dry pit
Dimensions	8' dia x 9' high inside, floor about 19' below EG per design dwg
Accessiblility	ladder
Confined space issues?	yes
Condition	overall good, light deterioration of paint on floor

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Brookdale Road**	
Wetwell	
Dimensions	6 ft. dia.
Material	precast concrete, 3 sections, bituminous coating
Condition	good
Access and size	manhole; 3' x3' hatch
Steps	yes
Pump slide rails	N/A
Influent tee	no
Vent	yes, charcoal odor control, original media
Condition	good
Foam, odor, grease, grit?	grease observed on sides
Date/frequency cleaned	annually
Emergency storage?	no
Pumps	
Design flow, gpm	120 gpm each
Design TDH, ft	70
Observed pump rate, gpm	P1: 97 GPM, P2: 88 GPM
Observed TDH ft or discharge psi	no gauge
Number of pumps	2
Pump model	Fairbanks Morse 5432C
Pump type	Dry pit submersible
Pump serial numbers	P1: 1193799, P2: 1193802
Motor HP, voltage, # phases	Marathon Electric, 10 HP, 208-230/460V, 3 ph, Model CVD215TTDW7043
Motor speed, rpm	1750
Date last overhauled	10 YR Ago replaced by United Pump Compressor
Does capacity meet peak flow?	
100% redundancy?	
	Pump seal system with domestic water supply with backflow preventer
Controls	
Control panel description	
Condition/age	1998
Location (indoor/outdoor etc)	outdoor enclosure
Lead/lag controls?	yes
Auto alternation?	yes
Soft starters?	Yes
Variable frequency drives?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Brookdale Road**	
Instrumentation	
Level control type	pressure trandsucer
Level indicator	pressure trandsucer
Flowmeter type/size	no
Flow totalizer or recorder	pump runtime meter
Last calibration date	
Chart Recorder	no
SCADA RTU	no
Security system	no. lock on door
Runtime meter	yes
Alarms	
Alarm panel/display	
Alarm telemetry	cell phone based mission dialer
Local alarm light, horn?	no
Alarms tested?	anually, weekly generator excersize
Independent high level alarm?	yes, independent float for high level
Piping and valves	
Air release valves	no
Discharge check valves	yes, 4"
Isolation valves	yes, 4" GVs suction and discharge
Valve pit	no
Force main size, length, material	4" steel discharge
Pump station bypass?	no
Force main drain?	no
Condition	minor cracking of paint on piping, valves
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	100 amp breaker
Main disconnect	yes
Surge protection?	
Intrinsically safe barriers?	no
Code issues? (e.g. panel clearance?)	
Backup power	
Generator make/model	Generac CD015, Model 98A059645
Generator fuel	Diesel
Generator KW, voltage	15kw, 120/208V
Transfer switch	ATS Asco series 300
Condition/age	12/4/1998
Exercise schedule?	weekly
Capacity to run both pump?	yes
Portable generator connection?	no, permanent
Generator Serial Number	2044585

Wastewater Pumping Station Inspection Town of Salem, New Hampshire	
Station Name: Brookdale Road	
Mechanical	
Heating	Dayton unit heater (1500 Watts)
Ventilation	Dayton Blower (387 cfm)
Plumbing	ABS sump pump (25 gpm), 115V, 1/2 Hp
Dehumidifier	Dayton 1DGX4
	space heater in control panel
Key Elevations	
Invert in elevation, ft MSL	197.3 (cenerline of 4" suction)
Wetwell operating band, ft	1.3' noted, set at level 3 ft.
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance rec	O&M's in control panel
Operating Concerns; Deficiencies; Improvements and Further Investigation	
	high levels of grease in wetwell, unusual for residential neighborhood
	No groundwater in dry pit, stays dry
	No pressure gauge on discharge in dry pit

Additional photos/sketches

BUTLER STREET

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Butler Street (formerly Tyler St)**	
Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	
General	
Location	Butler Street
Type (circle one)	wet pit/dry pit; submersible; suction lift; ejector
Installation date	station moved from another location
Design Capacity (gpm)	
Collects flow from	Butler/Wheeler intersection
Transfers flow to	Butler Street
General condition	
O&M, record drawings?	
Site	
Owner	Town of Salem
Map/Lot number	
Easement?	Assumed
Lot size, acres	
Fence	Behind guardrail to NE Rehab at intersection of Butler St./Wheeler Ave.
Driveway	No
Landscaping	Grass. Trees around for buffer by NE Rehab
Access to wetwell by truck?	Yes
Neighborhood description	Residential and rehab facility
Structural	
Structure description	Gormann Rupp package station
Dimensions	6' x 6'
Accessiblility	N/A
Confined space issues?	No
Condition	Fair

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Butler Street (formerly Tyler St)**	
Wetwell	
Dimensions	6' ID
Material	Precast concrete
Condition	Good condition, no aggregate exposed
Access and size	Manhole, 32"
Steps	No
Pump slide rails	No
Influent tee	No
Vent	No
Condition	Overall okay
Foam, odor, grease, grit?	Floatables, grease minor
Date/frequency cleaned	Annually
Emergency storage?	No
	Leaky gusher 5gpm at FM exit to structure - GW
Pumps	
Design flow, gpm	400 gpm
Design TDH, ft	71'
Observed pump rate, gpm	P1: 115 gpm, P2: 118 gpm
Observed TDH ft or discharge psi	no gauge
Number of pumps	2
Pump model	Gormann Rupp T4A3-B
Pump type	
Pump serial numbers	814644, 814645 - not visible to field verify
Motor HP, voltage, # phases	200V, 600Hz, 3 PH, 20 HP
Motor speed, rpm	1750 RPM on tag
Date last overhauled	Annually
Does capacity meet peak flow?	Assumed
100% redundancy?	Assumed
	4" pump inlet/outlet
Controls	
Control panel description	Bulldog 100 pump controller,Gormann Rupp control panel 208V, 3PH, 60M, 160Amp
Condition/age	
Location (indoor/outdoor etc)	Enclosure
Lead/lag controls?	Yes
Auto alternation?	Yes
Soft starters?	No
Variable frequency drives?	No

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Butler Street (formerly Tyler St)**	
Instrumentation	
Level control type	Pressure transducer
Level indicator	Pressure transducer
Flowmeter type/size	No
Flow totalizer or recorder	No
Last calibration date	No
Chart Recorder	No
SCADA RTU	No
Security system	No
Runtime meter	yes
Alarms	
Alarm panel/display	Bulldog 100 pump contoller
Alarm telemetry	cell based Mission dialer
Local alarm light, horn?	no
Alarms tested?	no
Independent high level alarm?	yes
Piping and valves	
Air release valves	no, ball valves only
Discharge check valves	yes
Isolation valves	3 way plug valve like Stiles Road
Valve pit	no. ball valves only
Force main size, length, material	4" estimated per Town
Pump station bypass?	no
Force main drain?	no
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	3 PH, 208 V, 60 Hz
Main disconnect	
Surge protection?	
Intrinsically safe barriers?	no
Code issues? (e.g. panel clearance?)	
Backup power	
Generator make/model	Kohler Model 60REOZJB SN: 2122476
Generator fuel	diesel
Generator KW, voltage	60 Hz, 1800 RPM, 62 KW, 78 KVA
Transfer switch	auto
Condition/age	estimate circa 2006
Exercise schedule?	weekly if possible
Capacity to run both pump?	yes
Portable generator connection?	no
	leaves, bees nest inside generator enclosure, rust on top of diesal tank

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Butler Street (formerly Tyler St)**	
Mechanical	
Heating	portable space heater
Ventilation	blower inside enclosure
Plumbing	no
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	2.5' ???
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	
	Pump design flow 400 gpm from record info does not appear to be accurate
	based on pump rates observed during draw down test.

Additional photos/sketches

COMMERCIAL DRIVE

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Commercial Drive**	
Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	
General	
Location	Commercial Drive
Type (circle one)	wet pit/dry pit; submersible; suction lift; ejector
Installation date	1987 vintage
Design Capacity (gpm)	
Collects flow from	Commercial Drive area
Transfers flow to	Pelham Road
General condition	
O&M, record drawings?	
Site	
Owner	Town of Salem
Map/Lot number	
Easement?	yes, from 4 Commercial Drive
Lot size, acres	
Fence	no
Driveway	paved, poor condition, steep
Landscaping	no, only grass
Access to wetwell by truck?	yes
Neighborhood description	Industrial Park
Structural	
Structure description	dry pit, precast building on slab, wood panels inside
Dimensions	building: 10' x 12' x 7.2' H
Accessiblility	6' door on building, no WW access
Confined space issues?	
Condition	entry door in poor condition

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Commercial Drive**	
Wetwell	
Dimensions	6' diameter round, may be 7' (difficult to measure)
Material	precast concrete
Condition	fair, light hyd. Sulfide deterioration, no aggregates present
Access and size	manhole, hatch, 32" sewer cover
Steps	no
Pump slide rails	no
Influent tee	no
Vent	no
Condition	
Foam, odor, grease, grit?	clean, some floatables
Date/frequency cleaned	annually (typical for all stations)
Emergency storage?	no
	cracked mortar on frame concrete
Pumps	
Design flow, gpm	250 gpm
Design TDH, ft	51'
Observed pump rate, gpm	P1: 195 GPM, P2: 176 GPM
Observed TDH ft or discharge psi	
Number of pumps	2
Pump model	Gorman Rupp T6A3-B
Pump type	self priming
Pump serial numbers	P1 (1st from door): 835815, P2: not legible
Motor HP, voltage, # phases	Type T1KK SN 6400657 MI, 20 HP, 208V, 3 PH, 60 Hz, 230/460 V, 208 V
Motor speed, rpm	1050 (1750 at full load)
Date last overhauled	annually
Does capacity meet peak flow?	
100% redundancy?	
	P1 motor SN: 6400657
Controls	
Control panel description	Bulldog 100 pump controller (same as Brookdale)
Condition/age	estimate 1998
Location (indoor/outdoor etc)	indoor
Lead/lag controls?	yes
Auto alternation?	yes
Soft starters?	no
Variable frequency drives?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Commercial Drive**	
Instrumentation	
Level control type	pressure transducer
Level indicator	pressure transducer
Flowmeter type/size	no, run hours
Flow totalizer or recorder	run hours
Last calibration date	estimate annually
Chart Recorder	no
SCADA RTU	no
Security system	no
Runtime meter	yes
Alarms	
Alarm panel/display	yes, alarms on panel, display defunct
Alarm telemetry	cell based Mission control dialer
Local alarm light, horn?	no, no
Alarms tested?	
Independent high level alarm?	yes, float
Alarms on panel	engine overcrank, overspeed, low oil, high temp. P1/P1 high temp high water alarm, silence alarm
Piping and valves	
Air release valves	1 1/4"ball valves in lieu of air release
Discharge check valves	yes
Isolation valves	6" tee valve in common header Dezurik 6"
Valve pit	no
Force main size, length, material	6" out of station
Pump station bypass?	no. pump from WW
Force main drain?	no
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	150 amp, 3 PH, 60 Hz, 208 V
Main disconnect	200 amp
Surge protection?	estimate yes
Intrinsically safe barriers?	estimate no
Code issues? (e.g. panel clearance?)	
	4 - 20 amp breakers
Backup power	
Generator make/model	backup motor: Wisconsin Propane Powers P2 operated by bubbler
Generator fuel	propane
Generator KW, voltage	auxiliary motor
Transfer switch	backup bubbler
Condition/age	estimated 80's
Exercise schedule?	weekly
Capacity to run both pump?	no
Portable generator connection?	no
Auxiliary motor	Gormann Rupp Watchdog 20 Hp, 3 PH, 20 V, SN: 86249-AX
	Wisconsin Model VG4DG SN: 6127710 run hours 23.6
	DC bubbler system turns on backup motor

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Commercial Drive**	
Mechanical	
Heating	propane heater Dayton 3E238, not used - defunct, 1500 W Intertec Portable
Ventilation	louvers, temperature operated solenoids
Plumbing	
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	
	would like backup generator
	concern bubbler system will not work to operate backup motor when needed
	plugged air release valves

Additional photos/sketches

COPPER BEECH

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Copper Beech**	
Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch: Note: See report by Underwood Engineers dated February 2014	
General	
Location	Copper Beech Road
Type (circle one)	wet pit/dry pit; submersible; suction lift; ejector
Installation date	
Design Capacity (gpm)	120 gpm (currently at 250 gpm)
Collects flow from	Copper Beech Road
Transfers flow to	Pond Street
General condition	Poor, not up to code
O&M, record drawings?	Available
Site	
Owner	Town of Salem
Map/Lot number	
Easement?	assumed
Lot size, acres	
Fence	no
Driveway	paved, poor codition, rutting
Landscaping	no
Access to wetwell by truck?	yes
Neighborhood description	residential, large homes
Structural	
Structure description	building; wet well
Dimensions	12' x 15.5' vinyl siding, asphalt shingles
Accessiblility	
Confined space issues?	yes
Condition	building in poor condition, gable roof, asphalt shingles. Wood insect damage, trim rotted, drainage issues at face of building, 5' door for pump room, 3' door wet well. Building built on top of Smith & Loveless wet well, door to enter wet well infested with mice. Building built on top of existing pumps skid S&L
	sheet rock in wet well, wood panel in pump room

Wastewater Pumping Station Inspection	
Town of Salem, New Hampshire	
Station Name: Copper Beech	
Wetwell	
Dimensions	5' diameter
Material	precast concrete, bitumin seal at joints
Condition	exposed sealant at joints, light spalling, good condition
Access and size	hatch 2' x 2.3'
Steps	yes, not usable
Pump slide rails	no
Influent tee	no
Vent	no
Condition	
Foam, odor, grease, grit?	not observed
Date/frequency cleaned	annually
Emergency storage?	
	low flow at this station
Pumps	
Design flow, gpm	120 GPM
Design TDH, ft	35 TDH
Observed pump rate, gpm	P1: 108 GPM, P2: 86 GPM
Observed TDH ft or discharge psi	
Number of pumps	2
Pump model	Smith & Loveless
Pump type	centrifugal, vacuum assist to prime pumps
Pump serial numbers	P2: 8908105, P1: 8908106
Motor HP, voltage, # phases	5 HP, 230/460 V, 3 PH
Motor speed, rpm	1165 RPM
Date last overhauled	annually
Does capacity meet peak flow?	
100% redundancy?	
Controls	
Control panel description	Bulldog 100 pump controller, SN: 16-4008, 240V, 3PH, 60 Hz
Condition/age	fair, servicable
Location (indoor/outdoor etc)	indoor
Lead/lag controls?	yes
Auto alternation?	yes
Soft starters?	no
Variable frequency drives?	yes, Yaskawa V1000 VFDS, 2 years old

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Copper Beech**	
Instrumentation	
Level control type	pressure transducer
Level indicator	pressure transducer
Flowmeter type/size	no
Flow totalizer or recorder	no
Last calibration date	
Chart Recorder	no
SCADA RTU	no
Security system	no
Runtime meter	yes
Alarms	
Alarm panel/display	on Bulldog 100
Alarm telemetry	cell based Mission dialer
Local alarm light, horn?	yes, alarm and horn, both defunct
Alarms tested?	no
Independent high level alarm?	yes
Piping and valves	
Air release valves	no
Discharge check valves	yes
Isolation valves	plug valves on discharge, check valves on discharge
Valve pit	no
Force main size, length, material	4"
Pump station bypass?	no
Force main drain?	no
	pvc piping for pump intake 4"
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	
Main disconnect	
Surge protection?	
Intrinsically safe barriers?	no
Code issues? (e.g. panel clearance?)	clearance issues
	XFMR for VFDS
Backup power	
Generator make/model	Onan
Generator fuel	natural gas
Generator KW, voltage	20 Kw, 20 KVA, 60 Hz, 1800 RPM
Transfer switch	auto
Condition/age	
Exercise schedule?	weekly if possible
Capacity to run both pump?	yes
Portable generator connection?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Copper Beech**	
Mechanical	
Heating	wall mounted heater, 1500 W portable
Ventilation	generator louvers, no other
Plumbing	no sump pump
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	
	new VFDs and lights within last year or two
	wet well area is Class 3, non-conforming

Additional photos/sketches

FREEDOM DRIVE

Wastewater Pumping Station Inspection

Town of Salem, New Hampshire

Station Name: Freedom Drive

Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	

General	
Location	Freedom Drive
Type (circle one)	ejector station
Installation date	This station (can) relocated from another location in Town
Design Capacity (gpm)	
Collects flow from	Freedom Drive neighborhood
Transfers flow to	Veteran's Memorial Parkway
General condition	servicable
O&M, record drawings?	no
Site	
Owner	Town of Salem
Map/Lot number	
Easement?	
Lot size, acres	
Fence	6.5' chain link fence w/barbed wire, 8' gate
Driveway	yes, paved, fair condition
Landscaping	no
Access to wetwell by truck?	
Neighborhood description	residential elderly housing
Structural	
Structure description	4" slab top building, 12'x15', exposed aggregate finish. Precast concrete walls, flat roof
Dimensions	12 x 15 x 7
Accessiblility	ladder; stairs
Confined space issues?	
Condition	building fair, entry door corroded, floor coating deteriorating
	this station moved from another location, 5' diameter steel can

Wastewater Pumping Station Inspection Town of Salem, New Hampshire	
Station Name: Freedom Drive	
Wetwell - N/A	
Dimensions	
Material	
Condition	
Access and size	
Steps	
Pump slide rails	
Influent tee	
Vent	
Condition	
Foam, odor, grease, grit?	
Date/frequency cleaned	
Emergency storage?	
Ejector Compressors	
Design flow, gpm	100
Design TDH, ft	15
Observed pump rate, gpm	
Observed TDH ft or discharge psi	
Number of compressors	2 by Quincy Compressor
Model	#2 230-56, #1 230-36
Type	size 3.5 x 3
Serial numbers	#2 303384, #1 589298L
Motor HP, voltage, # phases	#1: leeson - info not legible
Motor speed, rpm	
Date last overhauled	annually
Does capacity meet peak flow?	
100% redundancy?	
	Motor model #21, C182C170BBA, 60 Hz, 1740 RPM, 2 Hp, 1 PH
Controls	
Control panel description	Smith and Loveless control panel
Condition/age	
Location (indoor/outdoor etc)	indoor
	pods alternate
Auto alternation?	yes
Soft starters?	n/a
Variable frequency drives?	n/a
	ejector count: Pot 1: 2315, Pot 2: 158

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Freedom Drive**	
Instrumentation	
Level control type	n/a
Level indicator	
Flowmeter type/size	
Flow totalizer or recorder	
Last calibration date	
Chart Recorder	
SCADA RTU	
Security system	
Runtime meter	compressor hours, ejector pot count (resetable)
Alarms	
Alarm panel/display	
Alarm telemetry	cell based mission control
Local alarm light, horn?	
Alarms tested?	
Alarm	power fail only alarm, no compressor fail
Piping and valves	
Air release valves	
Discharge check valves	
Isolation valves	
Valve pit	
Force main size, length, material	
Pump station bypass?	compressors and motors removed from can and installed in building
Force main drain?	
	5' diameter steel can transferred from other location
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	
Main disconnect	100 Amp, 240 V
Surge protection?	
Intrinsically safe barriers?	
Code issues? (e.g. panel clearance?)	
Backup power	
Generator make/model	Kohler w/GM vortec, Kohler 15RYG
Generator fuel	LPG
Generator KW, voltage	15 kW, 15 KVA
Transfer switch	ATS, Kohler RDT-CFNA-0100-A
Condition/age	2005
Exercise schedule?	weekly
Capacity to run both pump?	yes
Portable generator connection?	
	SN: 2060327 manufactured 9/05

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Freedom Drive**	
Mechanical	
Heating	electric wall mounted UH
Ventilation	louvers electronically activated, 2.5' x 2.5'
Plumbing	domestic water service
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	
	Ejector pot count indicates alternation not always successful.

Additional photos/sketches

HAIGH AVENUE

Wastewater Pumping Station Inspection

Town of Salem, New Hampshire

Station Name: Haigh Avenue

Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	

General	
Location	Haigh Ave
Type (circle one)	wet pit/dry pit
Installation date	1972 vintage
Design Capacity (gpm)	
Collects flow from	Haigh Ave.
Transfers flow to	So. Broadway
General condition	aged
O&M, record drawings?	

Site	
Owner	Town of Salem
Map/Lot number	
Easement?	
Lot size, acres	
Fence	concrete flood wall CIP concrete - 4' high, 5' chain link fence w/barbed wire, 3.5' entryway gate
Driveway	paved drive, good condition
Landscaping	no, grass only
Access to wetwell by truck?	through 3.5' gate
Neighborhood description	residential, also serves mall?

Structural	
Structure description	building; dry pit, well well
Dimensions	8', 3' manway
Accessiblility	dry pit - elevator with stairs, 8'
Confined space issues?	yes
Condition	dry pit - fair, limited leakage/deterioration, floor beneath P-2 epoxy coating peeling, metal rusting
	building - ceiling leaking by vent, brick façade, asphalt shingle - good shape, wood gable ends and trim, louvers

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Haigh Avenue**	
Wetwell	
Dimensions	6' estimate
Material	precast concrete
Condition	good
Access and size	manhole
Steps	yes
Pump slide rails	no
Influent tee	yes
Vent	no, flood protection cover on MH
Condition	
Foam, odor, grease, grit?	high grease levels, pumped monthly
Date/frequency cleaned	monthly grease, washed annually by Roto Rooter
Emergency storage?	no
Pumps	
Design flow, gpm	240 gpm at 38' TDH
Design TDH, ft	38'
Observed pump rate, gpm	
Observed TDH ft or discharge psi	
Number of pumps	2
Pump model	Smith & Loveless 4B3
Pump type	
Pump serial numbers	P1: 040623, P2: 040624
Motor HP, voltage, # phases	7.5 HP, 230 V, 3PH
Motor speed, rpm	1200
Date last overhauled	
Does capacity meet peak flow?	
100% redundancy?	
Motor serial number	M2: 04-0391 B-1, M1: can't read, seal water system with non domestic
Controls	
Control panel description	Bulldog 100
Condition/age	estimate 1998
Location (indoor/outdoor etc)	indoor in building
Lead/lag controls?	yes
Auto alternation?	yes
Soft starters?	not observed
Variable frequency drives?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Haigh Avenue**	
Instrumentation	
Level control type	pressure transducer, high level float
Level indicator	pressure transducer
Flowmeter type/size	no
Flow totalizer or recorder	no, run hours
Last calibration date	annual
Chart Recorder	no
SCADA RTU	no
Security system	no
Runtime meter	Yes
Alarms	
Alarm panel/display	no
Alarm telemetry	cell based mission alarm
Local alarm light, horn?	no
Alarms tested?	no
Independent high level alarm?	yes, assumed
Piping and valves	
Air release valves	no
Discharge check valves	4", yes on each SL
Isolation valves	yes, plug valves either side, both pumps
Valve pit	no
Force main size, length, material	estimate 6"
Pump station bypass?	no
Force main drain?	no
Electrical	see electrical review by Lee Carroll, P.E.
Service rating, voltage	
Main disconnect	
Surge protection?	
Intrinsically safe barriers?	
Code issues? (e.g. panel clearance?)	
Backup power	
Generator make/model	Onan 45EM, Ford Motor Model 300GF-6005-A-50-31
Generator fuel	propane
Generator KW, voltage	45 Kw, 56 KVA for 3 PH/ 30Kw, 37.5 KVA for 1 PH
Transfer switch	auto
Condition/age	1998 vintage
Exercise schedule?	weekly assumed
Capacity to run both pump?	yes, assumed
Portable generator connection?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Haigh Avenue**	
Mechanical	
Heating	portable electric space heater, 1500 watt 12.5 amp
Ventilation	no
Plumbing	sump pump
Dehumidifier	Dayton 3UF75, 2.2/3 Kw
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	
	Lots of grease

Additional photos/sketches

KEEWAYDIN DRIVE

Wastewater Pumping Station Inspection

Town of Salem, New Hampshire

Station Name: Keewaydin

Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	

General	
Location	Keewaydin Drive
Type (circle one)	wet pit/dry pit; submersible; suction lift; ejector
Installation date	
Design Capacity (gpm)	
Collects flow from	Commercial and Stiles Road pump stations
Transfers flow to	Main Street
General condition	
O&M, record drawings?	

Site	
Owner	Town of Salem
Map/Lot number	
Easement?	
Lot size, acres	
Fence	6' high chain link and barbed wire, 12' gate
Driveway	paved, good condition
Landscaping	no
Access to wetwell by truck?	yes
Neighborhood description	industrial park

Structural	
Structure description	wood siding, cedar clapboards
Dimensions	16' x 14' x 10'+ high
Accessiblility	7' door
Confined space issues?	
Condition	trim needs replacing, rot, insect damage on fascia, asphalt shingle roof, good condition, gable vents, exterior alarm lights active by door
	two windows both 2.2' x 1.1'

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Keewaydin**	
Wetwell	
Dimensions	Est. 10' ID
Material	precast concrete
Condition	good, no signs of hyd sulfide corrosion
Access and size	hatch, 2.5' x 2.5'
Steps	no
Pump slide rails	no
Influent tee	no
Vent	no
Condition	
Foam, odor, grease, grit?	minor grease
Date/frequency cleaned	annually
Emergency storage?	no
Pumps	
Design flow, gpm	650 gpm
Design TDH, ft	82'
Observed pump rate, gpm	
Observed TDH ft or discharge psi	
Number of pumps	2
Pump model	Gorman Rupp T8A3-B
Pump type	self priming centrifugal
Pump serial numbers	P1: 937960 (2nd from door), P2: 987961
Motor HP, voltage, # phases	50 HP, 230/460 V, 3 PH, 126/63 Amp, Type TIKK, 4 poles, 60 Hz
Motor speed, rpm	1765
Date last overhauled	annually
Does capacity meet peak flow?	
100% redundancy?	
Motor model #	M1: B0504VLF1UK, M2: B0504VLF10K
Controls	
Control panel description	Bulldog 100 pump controller, SN 90-827-LE
Condition/age	estimate 1990
Location (indoor/outdoor etc)	indoor 480 V, 3 PH, 60 Hz, 155 Amp
Lead/lag controls?	no
Auto alternation?	yes
Soft starters?	yes
Variable frequency drives?	no
Motor	M1 SN: 90602531, M2 SN: 90602534

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Keewaydin**	
Instrumentation	
Level control type	float switches, pressure transducer
Level indicator	pressure transducer
Flowmeter type/size	no
Flow totalizer or recorder	no
Last calibration date	annually
Chart Recorder	no
SCADA RTU	no
Security system	no
Runtime meter	yes
Alarms	
Alarm panel/display	GR panel with lights
Alarm telemetry	cell based mission dialer
Local alarm light, horn?	yes light, no horn
Alarms tested?	
Independent high level alarm?	yes
Piping and valves	
Air release valves	yes
Discharge check valves	yes, swing check valves with arms
Isolation valves	tee valve
Valve pit	no
Force main size, length, material	8" pump suction and discharge
Pump station bypass?	no
Force main drain?	no
	flapper on inlet of GR pump
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	
Main disconnect	200 Amp, 600 VAC
Surge protection?	
Intrinsically safe barriers?	
Code issues? (e.g. panel clearance?)	
Backup power	
Generator make/model	outdoor generator Kohler 125ROZP71 SN: 366957
Generator fuel	diesel, tank below
Generator KW, voltage	3 PH, 125 Kw, 156 KVA
Transfer switch	Kohler ATS
Condition/age	estimate 1990
Exercise schedule?	weekly
Capacity to run both pump?	yes
Portable generator connection?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire	
Station Name: Keewaydin	
Mechanical	
Heating	Qmark electric heater 480 V/3 PH, thermostat, 5 Kw
Ventilation	
Plumbing	no
Other	sump pump, dehumidifier
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	

Additional photos/sketches

SOUTH POLICY STREET

Wastewater Pumping Station Inspection

Town of Salem, New Hampshire

Station Name: South Policy Street

Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	

General	
Location	South Policy Street
Type (circle one)	flooded suction
Installation date	built 1991
Design Capacity (gpm)	
Collects flow from	mall only
Transfers flow to	So. Policy gravity
General condition	good
O&M, record drawings?	

Site	
Owner	Town of Salem
Map/Lot number	
Easement?	
Lot size, acres	
Fence	6' high chain link with barbed wire
Driveway	paved drive, good condition, not enough room to open gate with vehicle outside
Landscaping	arbovitaes buffer outside fence, some small (2) plants, (2) trees
Access to wetwell by truck?	yes, through 15' gate
Neighborhood description	at rear of mall parking lot

Structural	
Structure description	building, 3 stories, wet well
Dimensions	12' x 18' building
Accessiblility	wet well hatch 3.3' x 2.8'
Confined space issues?	
Condition	building good condition, split face CMU veneer, flat roof, precast panels
	leaking bitumastic sealant at precast section joints in lowest level of pump room likely from installation, coating on floor showing signs of wear, exterior scuppers for roof

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: South Policy Street**	
Wetwell	
Dimensions	estimate 8' x 10' ID
Material	precast square shape, 1 wet well divided
Condition	decent, no exposed aggregate observed
Access and size	hatch, ladder
Steps	yes
Pump slide rails	no
Influent	pipe enters to channel, can split between wet wells
Vent	yes, fan with controls
Condition	
Foam, odor, grease, grit?	odor, grease, muffin monster has worn teeth and needs replacement
Date/frequency cleaned	monthly grease by mall, annual by Town
Emergency storage?	
	mechanical equipment inside showing corrosion, bubbler lines not used, WW cleaned once per month by mall, lights, electrical, water pipe in WW, run one side at a time, switch annually, ISO valve in middle
Pumps	
Design flow, gpm	400 gpm
Design TDH, ft	37.5 TDH
Observed pump rate, gpm	
Observed TDH ft or discharge psi	
Number of pumps	2
Pump model	Yeoman dated May 2007 on tag
Pump type	P1: Model 4310LC-3C, P2: Model 4310LC-3C
Pump serial numbers	P1: 9811253, P2: 9811253
Motor HP, voltage, # phases	10 HP, 230/460 V, 3 PH, 60 Hz
Motor speed, rpm	1145
Date last overhauled	annually
Does capacity meet peak flow?	
100% redundancy?	
	domestic seal water system, pressure gauges in/out
Controls	
Control panel description	annunciator panel upper level, Bulldog 100 pump controller
Condition/age	1991
Location (indoor/outdoor etc)	indoor
Lead/lag controls?	yes
Auto alternation?	yes
Soft starters?	no
Variable frequency drives?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: South Policy Street**	
Instrumentation	
Level control type	pressure transducer, air bubbler disconnected
Level indicator	pressure transducer
Flowmeter type/size	4" flow meter doesn't work, Foxboro flowtube 8000 series, magnetic
Flow totalizer or recorder	chart recorder
Last calibration date	
Chart Recorder	yes, but likely defunct, not used
SCADA RTU	no
Security system	no
Runtime meter	Yes, P1 9721.5 hours, P2: 9773.6 hours, these hours were not reset when pumps replaced 2007
Alarms	
Alarm panel/display	annunciator panel upper level
Alarm telemetry	cell based mission dialer, annunciator panel
Local alarm light, horn?	no
Alarms tested?	no
Independent high level alarm?	yes, high float
	low/high WW P1/P2 fail, compressor fail, flood sta alarm, seal water fail, gen fail, grinder fail, power fail
Piping and valves	
Air release valves	yes mid level at FM exit
Discharge check valves	yes 6", 4" pump inlet/outlet
Isolation valves	yes, all valves and piping 6"
Valve pit	no, reduces down to 4" FM at exit of building
Force main size, length, material	4"
Pump station bypass?	isolation of valves, 7 plug valves, 2 check valves, all 6"
Force main drain?	no
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	225 Amp main breaker, 20BY/120, 240/120 V
Main disconnect	400 Amp, 3 PH, 240 VAC
Surge protection?	
Intrinsically safe barriers?	
Code issues? (e.g. panel clearance?)	
	explosion proof lighting
Backup power	
Generator make/model	Generac 90A04066-S
Generator fuel	diesel
Generator KW, voltage	50 Kw, 120/208 V. 62.5 KVA, 60 Hz, 173.4 Amps
Transfer switch	auto, general ATS
Condition/age	good condition, fairly new?
Exercise schedule?	weekly if possible
Capacity to run both pump?	yes, will run everything in station
Portable generator connection?	
Generator SN	994439

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: South Policy Street**	
Mechanical	
Heating	electric UH TPI Corp, 2000/1500 W (2) upstairs and lowest
Ventilation	HVAC system
Plumbing	domestic water service
Other	dehumidifier
	louvers for generator
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	
	exhaust fan recently added as safety upgrade but it is very loud when operating, this was a recent addition safety
	muffin monster and lots of debris in wet well from the mall
	wants new muffin monster quotes for $30K, muffin monster is cemented in channel in wet well, hard to replace
	Difficult access to site. Swap entrance gate to mall parking lot side

Additional photos/sketches

STILES ROAD

Wastewater Pumping Station Inspection

Town of Salem, New Hampshire

Station Name: Stiles Road

Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	

General	
Location	Stiles Road
Type (circle one)	wet pit/dry pit; submersible; suction lift; ejector
Installation date	1987 vintage
Design Capacity (gpm)	
Collects flow from	Stiles Road area
Transfers flow to	Pelham Road
General condition	
O&M, record drawings?	

Site	
Owner	Town of Salem
Map/Lot number	
Easement?	
Lot size, acres	
Fence	5' chain link, poor condition, bent, weak, 12' gate
Driveway	yes, paved, fair condition
Landscaping	no
Access to wetwell by truck?	yes, through gates
Neighborhood description	professional offices, industrial

Structural	
Structure description	fiberglass enclosure, wet well
Dimensions	6' x 6' Gorman Rupp fiberglass enclosure
Accessiblility	above ground, 2 doors either side
Confined space issues?	no
Condition	acceptable

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Stiles Road**	
Wetwell	
Dimensions	8'
Material	precast concrete
Condition	fair, mineral deposits at joints, no obvious signs of hyd. Sulfide corrosion
Access and size	manhole
Steps	no
Pump slide rails	no
Influent tee	no
Vent	passive (candy cane)
Condition	
Foam, odor, grease, grit?	no grease, no acid
Date/frequency cleaned	cleaned annually
Emergency storage?	no
Pumps	
Design flow, gpm	260 gpm
Design TDH, ft	50'
Observed pump rate, gpm	P1: 92 gpm, P2: 76 gpm
Observed TDH ft or discharge psi	
Number of pumps	2
Pump model	Gormann Rupp T4A3-B
Pump type	name plate info not visible
Pump serial numbers	861542, 861543 (from O&M)
Motor HP, voltage, # phases	20 HP, 200 V, 3 PH
Motor speed, rpm	1350 (1750 at full load)
Date last overhauled	original, 1987
Does capacity meet peak flow?	
100% redundancy?	
	P1 hours: 8302.4, P2 hours: 7605.5
Controls	
Control panel description	GR control panel
Condition/age	estimate 1987
Location (indoor/outdoor etc)	in fiberglass enclosure
Lead/lag controls?	yes
Auto alternation?	yes
Soft starters?	no
Variable frequency drives?	no
	208 V, 3 PH, 60 Hz
Station SN	87-2581-AM

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Stiles Road**	
Instrumentation	
Level control type	pressure transducer
Level indicator	pressure transducer
Flowmeter type/size	no
Flow totalizer or recorder	run hour meter
Last calibration date	annual
Chart Recorder	no
SCADA RTU	no
Security system	no
Runtime meter	yes
Alarms	
Alarm panel/display	GR lights
Alarm telemetry	cell based mission dialer
Local alarm light, horn?	alarm light but not active
Alarms tested?	
Independent high level alarm?	yes
Piping and valves	
Air release valves	yes, factory GR spring activated 3 way plug
Discharge check valves	yes, wafer check valves plus flapper on pump
Isolation valves	3 way plug on common header
Valve pit	no
Force main size, length, material	6" suction reduced to 4" pump intake, 4" discharge on pumps to tee valve expanded to 6" discharge
Pump station bypass?	no
Force main drain?	no
Electrical	see site review by Lee Carroll, P.E.
Service rating, voltage	3 PH, 60 HZ, 208 A
Main disconnect	200 Amp
Surge protection?	
Intrinsically safe barriers?	no
Code issues? (e.g. panel clearance?)	
Backup power	
Generator make/model	International Diesel Electric Co model 60 H339LPG
Generator fuel	diesel
Generator KW, voltage	60 KW, 75 KVA, 3 PH, 60 Hz, 120/208 V
Transfer switch	auto
Condition/age	estimate 1987
Exercise schedule?	weekly
Capacity to run both pump?	yes
Portable generator connection?	no
Breaker	225 Amp
Serial number	87221
	run hours 387.1, enclosure in poor condition, generator leaking oil

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Stiles Road**	
Mechanical	
Heating	space heater
Ventilation	yes, fan for fiberglass enclosure
Plumbing	
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	

Additional photos/sketches

TWINBROOK AVENUE

Wastewater Pumping Station Inspection

Town of Salem, New Hampshire

Station Name: Twinbrook Ave (formerly Carol St.)

Date:	Inspected by: JMC/CSM, Ron Benjamin (Town)
photos/sketch:	

General	
Location	Twinbrook Ave
Type (circle one)	wet pit/dry pit; submersible; suction lift; ejector
Installation date	1972 vintage
Design Capacity (gpm)	
Collects flow from	residential neighborhood, high I/I
Transfers flow to	
General condition	
O&M, record drawings?	

Site	
Owner	Town of Salem
Map/Lot number	
Easement?	
Lot size, acres	
Fence	13.5' gate, 5' gate, 7' chain link with barbed wire
Driveway	paved, minor cracking, good condition
Landscaping	no, grass only
Access to wetwell by truck?	yes, through 13.5' gate
Neighborhood description	residential

Structural	
Structure description	14' x 16' building, brick veneer, gable roof, wooden trim, asphalt shingles
Dimensions	8' dia. dry pit
Accessiblility	ladder in dry pit
Confined space issues?	yes
Condition	
	wet well dry pit 8' can

Wastewater Pumping Station Inspection Town of Salem, New Hampshire	
Station Name: Twinbrook Ave (formerly Carol St.)	
Wetwell	
Dimensions	6' ID
Material	precast concrete
Condition	good, no aggregates
Access and size	manhole
Steps	1 step
Pump slide rails	no
Influent tee	no
Vent	no
Condition	
Foam, odor, grease, grit?	grease debris present in wet well
Date/frequency cleaned	annually
Emergency storage?	no
Pumps	
Design flow, gpm	250
Design TDH, ft	42
Observed pump rate, gpm	P1: 257 gpm, P2: 288 gpm
Observed TDH ft or discharge psi	
Number of pumps	2
Pump model	Smith & Loveless 4B2
Pump type	Dry pit vertical close coupled
Pump serial numbers	P1: 750158216, motor sn: 741884A-15
Motor HP, voltage, # phases	5 HP, 230 V, 3 PH
Motor speed, rpm	1200 RPM
Date last overhauled	annual
Does capacity meet peak flow?	
100% redundancy?	assumed
	P2 motor model #2: FL8264-XX2574 (same as M1)
	recycle system for seal water
Controls	
Control panel description	Smith & Loveless CP, bubbler defunct
Condition/age	fair, servicable, old
Location (indoor/outdoor etc)	dry pit
Lead/lag controls?	yes
Auto alternation?	yes
Soft starters?	no
Variable frequency drives?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Twinbrook Ave (formerly Carol St.)**	
Instrumentation	
Level control type	pressure transducer
Level indicator	pressure transducer
Flowmeter type/size	no
Flow totalizer or recorder	no, run hours
Last calibration date	annual
Chart Recorder	no
SCADA RTU	no
Security system	no
Runtime meter	yes
Alarms	
Alarm panel/display	cell based mission dialer
Alarm telemetry	dialer
Local alarm light, horn?	no
Alarms tested?	no
Independent high level alarm?	yes
Piping and valves	
Air release valves	no
Discharge check valves	yes
Isolation valves	yes, 4"
Valve pit	no
Force main size, length, material	6"
Pump station bypass?	no
Force main drain?	no
	lifting crane hoist in dry pit
Electrical	see electrical review by Lee Carroll, P.E.
Service rating, voltage	
Main disconnect	
Surge protection?	
Intrinsically safe barriers?	
Code issues? (e.g. panel clearance?)	
Backup Power	
Generator make/model	Onan (Ford) engine, similar to Haigh Ave., model 30.0 EK-15R/1786C
Generator fuel	propane
Generator KW, voltage	3 PH, 30 KW, 37.5 KVA, 254/440 & 277/480 V/1 PH, 20 KW, 25 KVA, 139/240 V & 120/240 & 240/416
Transfer switch	auto
Condition/age	
Exercise schedule?	weekly
Capacity to run both pump?	yes
Portable generator connection?	no

Wastewater Pumping Station Inspection Town of Salem, New Hampshire **Station Name: Twinbrook Ave (formerly Carol St.)**	
Mechanical	
Heating	Dayton space heater 1500 W
Ventilation	yes in dry pit
Plumbing	1/2 HP sump pump, dehumidifier
Other	Sump pump, dehumidifier
	XFMr in dry pit, not sure what for?
Key Elevations	
Invert in elevation, ft MSL	
Wetwell operating band, ft	
Force main discharge elevation, ft MSL	
Pump run time per cycle	
Pump station logs, maintenance records	
Operating Concerns; Deficiencies; Improvements and Further Investigation	

Additional photos/sketches

APPENDIX B: ACKNOWLEDGEMENT FORMS

SIGNATORY DECLARATION

I, the undersigned, acknowledge completion and receipt of the Authorized Signatory Declaration Form, and fully understand my responsibility as an Authorized Signatory on this document and all subsequent forms thereof requiring signature. In particular I understand rules regarding the referencing, checking, and verification as necessary for disclosure to award this bid or proposal as requested and defined within this document. The bid document as submitted has not been altered knowing all information must be filled out correctly for consideration. It is hereby understood that the Town of Salem reserves the right to reject any and all proposals or parts of proposals; to waive any defects, information, and minor irregularities; to accept exceptions to these specifications; to award contracts, or to cancel this request, if it is in the Town's best interest to do so.

Written Name of Authorized Signatory: _____

Title: _____

Signature: _____

Date: _____

Company: _____

Address: _____

_____

Phone: _____

Email: _____

NON-COLLUSION STATEMENT

By Submission of the Bid or Proposal, the Bidder Certifies that:

1. This bid or proposal has been independently arrived at without collusion with any other competitor or potential competitor;

2. This bid proposal has not been knowingly disclosed and will not be knowingly disclosed prior to the opening of bids or proposals for this project, to any other bidder, competitor, or potential competitor;

3. No attempt has been made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal;

4. The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing in its behalf;

5. That attached hereto (if a corporate bidder) is a certified copy of a resolution authorizing the execution of the certificate by the signatory of this bid or proposal on behalf of the corporate bidder.

Signature: _____

Date: _____

INDEMNIFICATION AGREEMENT

The successful vendor agrees to indemnify, investigate, protect, defend, and save harmless the Town of Salem, NH, it's officials, officers, agents, and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, suppliers, laborers and any other person, firm or corporation furnishing or supplying work, services, materials, equipment or supplies in connection with the performance of this contract and from any and all claims and losses accruing or resulting to any person, firm or corporation which may be injured or damaged by the vendor in the performance of this contract. In any case, the forgoing provisions concerning indemnification shall not be construed to indemnify the Town for damage arising out of bodily injury to persons or damage to property caused by or resulting from the sole negligence of the Town or its employees. This indemnification shall survive the expiration or early termination of this contract.

Signature: _____

Date: _____

NO BID QUESTIONNAIRE

If you choose not to bid, please complete the questionnaire below and return it with your response by the bid opening date. Your assistance in helping us to analyze no bid rationale is very much appreciated.

A no bid is submitted in reply to the Town of Salem, NH invitation in reference to:

_____

Given the following:

_____Item not supplied by our company
_____Bid Specification (Provide reason)

_____

_____Profit Margin too low
_____Past experience with the Town of Salem (Provide reason)

_____

_____Insufficient time allowed to prepare and respond to bid request
_____Bid requirements (Provide reason)

_____

_____Priority of other business opportunities limits time.
_____Other reason(s): _____

_____

_____

Signature: _____

Date: _____

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▸ **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

Give Form to the requester. Do not send to the IRS.

Print or type. See **Specific Instructions** on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▸ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▸

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–		–				

or

Employer identification number

		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	**Signature of U.S. person** ▸	**Date** ▸

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*