



PREVENT. PROMOTE. PROTECT.

250 William Howard Taft Road  
Cincinnati, OH 45219  
Phone: 513.946.7800 Fax: 513.946.7890  
hcph.org

February 23, 2021

Dear Property Owner,

Hamilton County Public Health (HCPH) previously pre-approved you at 85% grant funding through the Water Pollution Control Loan Fund (WPCLF) to help in the sewage treatment system (STS) replacement project at your primary residence. The WPCLF requires at least three quotes be submitted to Hamilton County Public Health for each eligible project. HCPH previously reviewed and approved the STS replacement plan for your property. Attached you will find a copy of the approved plan which you will need to use in order to solicit quotes on behalf of HCPH.

Using the attached forms, sample contract, approved STS design plan for your property and the guidance provided in this letter, you will need to contact registered STS installers individually for quotes. Attached is a list of registered STS installers you may contact. Any contractors interested in your project must be given a copy of this letter with all attachments. Interested contractors will need to provide a quote for the total cost for all work needed to install the approved STS using the form provided. This will include all items specified on the approved STS design plan, any needed connection of plumbing into the building sewer, disconnection and re-routing of any clear water from the plumbing system or STS, any needed electrical service upgrade if required to accommodate the replacement STS components, any other eligible and justified items, finished grading, seed and straw, and proper abandonment of the existing STS components.

To keep the process moving forward at least three quotes must be obtained by you on behalf of HCPH. All quotes must be collected by you and submitted at one time to HCPH by 04/30/2021. Keep in mind that returning all quotes sooner will be better to help your chances of receiving the WPCLF funding. Quotes will be reviewed by a team of individuals at HCPH. The contract will be awarded to the qualified applicant based on the lowest and best bid and will be dependent upon bidder's availability to complete the requested work in a timely fashion. Awarded contracts are strictly between HCPH and the selected contractor. Any attempt to enter into separate contract, addendum, modification, invoice or other contractual agreement, except for the property owner's matching percentage to be paid directly by the owner to the contractor, without prior approval by HCPH may disqualify the bidder.

If selected to complete the STS installation, the contractor will be contacted directly by HCPH. At that time, they will be required to sign a site specific version of the attached contract and submit all required contract paperwork to HCPH. Once verified, a Notice-to-Proceed will be issued to the contractor by HCPH allowing the selected contractor to begin the installation. All work required must be completed (including final inspection) by December 15, 2021 and following receipt of the Notice-to-Proceed.

It should be noted that any unexpected changes and/or alterations needed during the performance of work, requires a Contract Change Order (see Contract - Attachment B). Payment for any changed or extra services will not occur without pre-approval using this method. Also note that the contract has special insurance and bid bonding/financial guarantee requirements that must be followed.



Healthy choices. Healthy lives. Healthy communities.



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For the WPCLF portion of the payment to occur, HCPH must approve the final STS installation. After which, the contractor must submit to HCPH an invoice, by December 17, 2021, to document the incurred costs for the repair/replacement along with an approval certificate issued by HCPH. Upon verification of this information, HCPH will send a request to Ohio EPA for reimbursement of the eligible system repair/replacement costs. After confirmation by Ohio EPA, the Ohio Water Development Authority will distribute the funding to HCPH, who will then pay the contractor the approved amount. Any portion of the approved bid amount not covered by the WPCLF must be paid directly by the property owner to the contractor.

At this time, if you would like to remain eligible for the WPCLF, you must solicit quotes, on behalf of HCPH, for your STS replacement project. When submitting each quote to you, the contractor must include a completed, signed and dated copy of the following attachments:

- i Hamilton County Bid Proposal Form
- i Contractor Equal Employment Opportunity (EEO) Certification Form
- i Certification Regarding Debarment, Suspension, and Other Responsibility Matters Form
- i American Iron and Steel (AIS) Form

At least three quotes must be collected by you, then be submitted together to HCPH with the items listed above, on or before April 30, 2021 to:

Hamilton County Public Health  
Attn: Chris Griffith  
250 William Howard Taft  
Cincinnati, OH 45219

If you have any questions concerning this program, please feel free to contact me directly at 946-7866.

Sincerely,

A handwritten signature in black ink that reads "Chris Griffith" followed by the initials "RS".

Christopher M. Griffith, RS  
Director of Water Quality

Hamilton County Bid Proposal Form

Contractor Name: \_\_\_\_\_

Contractor Address: \_\_\_\_\_

Contractor Phone(s): \_\_\_\_\_

Project Address: \_\_\_\_\_

Bid Due Date: \_\_\_\_\_

Total Amount of Bid: \_\_\_\_\_

Total Amount in Written Words: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Signature, Printed Name, Contractor

\_\_\_\_\_  
Date

I will begin the work within upon receipt of the written Design Contract and Notice to Proceed Order, and will complete the work within 45 days, unless otherwise agreed to by Hamilton County Public Health.

The above total price includes all materials, labor and other costs such as overhead, permits, sales tax and profit. This bid is valid for a period of 30 days after the date this proposal is received by Hamilton County Public Health.

Mail Bid Packet to: Hamilton County Public Health

Attn: Chris Griffith  
250 William Howard Taft  
Cincinnati, OH 45219

## Contractor Equal Employment Opportunity Certification

During the performance of this contract, the undersigned agrees as follows:

1. The undersigned will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The undersigned will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The undersigned agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this equal opportunity (federally assisted construction) clause.
2. The undersigned will, in all solicitations or advertisements for employees placed by or on behalf of the undersigned, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
3. The undersigned will send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the undersigned's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The undersigned will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The undersigned will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the undersigned's non compliance with the equal opportunity (federally assisted construction) clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part, and the undersigned may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No 11246 of September 24, 1965, or by rules, regulations, or order of the Secretary of Labor, or as provided by law.
7. The undersigned will include this equal opportunity (federally assisted construction) clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No 11246 of September 24, 1965, so that such provision will be binding upon each subcontract or vendor. The undersigned will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the administering agency the undersigned may request the United States to enter into such litigation to protect the interest of the United States.

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(Signature)

(Date)

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(Name and Title of Signer, Please type)

(Firm Name)

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification;
- (d) Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or local) terminated for cause or default; and
- (e) Will not utilize a subcontractor or supplier who is unable to certify (a) through (d) above.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

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Type Name & Title of Authorized Representative

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Signature of Authorized Representative

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Date

I am unable to certify to the above statements. My explanation is attached.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters  
INSTRUCTIONS

Under Executive Order 12549 an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program or a subagreement thereunder for \$25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or subagreement participant thereunder must complete the attached certification provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants' responsibilities, in the attached regulation.

Go to <https://www.sam.gov/portal/SAM/##11> to access the Excluded Parties List System (EPLS). The EPLS includes information regarding entities debarred, suspended, proposed for debarment, excluded or disqualified under the nonprocurement common rule, or otherwise declared ineligible from receiving Federal contracts, certain subcontracts, and certain Federal assistance and benefits. This information may include names, addresses, DUNS numbers, Social Security Numbers, Employer Identification Numbers or other Taxpayer Identification Numbers, if available and deemed appropriate and permissible to publish by the agency taking the action.

Where To Submit

The prospective EPA grant, loan, or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters, Regional office, or Ohio EPA, as required in the applications.

A prospective prime contractor must submit a complete certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a complete certification or explanation to the prime contractor for the project.

Applicants may reproduce these materials as needed and provide them to their prospective prime contractor, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies / assistance may be requested from:

Ohio EPA  
Division of Environmental and Financial Assistance  
P.O. Box 1049  
Columbus, Ohio  
43216 1049 (614)  
644 2798

<http://epa.ohio.gov/defa/EnvironmentalandFinancialAssistance.aspx>

American Iron and Steel Acknowledgement

The Contractor acknowledges to and for the benefit of \_\_\_\_\_ (“Purchaser”) and the State of Ohio (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Name and Title of Authorized Signatory, Please Print or Type \_\_\_\_\_

Bidder’s Firm \_\_\_\_\_

Check here if the WPCLF or WSRLA applicant will be requesting an individual waiver for non-American made iron and steel products. Please note that the waiver box does not need to be marked for nationwide waivers.

CONSTRUCTION CONTRACT  
HAMILTON COUNTY PUBLIC HEALTH  
With Herrmann Services  
For the Property at xxxxx Road  
Dated xx xx, 2021

PROJECT: HOUSEHOLD SEWAGE TREATMENT SYSTEM REPAIR/REPLACEMENT PROJECT

This CONTRACT, made and entered into at HAMILTON COUNTY, Ohio, on xxxx xx, 2021 by the HAMILTON COUNTY PUBLIC HEALTH, hereinafter referred to as "HCPH"); and xxxxxxxx (hereinafter referred to as "CONTRACTOR").

WITNESSETH, the HCPH and the CONTRACTOR hereby agree as follows:

1. CONTRACT DOCUMENTS

The Contract consists of this document, the Contractor's Bond, the Contractor's Bid, the Design Drawings, the Design Specifications, all Addenda issued prior to execution of this Contract, the Notice To Proceed (Attachment A), all Change Orders (Attachment B) issued subsequent thereto and Federal, State, and/or Local Regulations; and when specified: Labor and Material Bond, Affirmative Action and Equal Opportunity Requirements, Contractor Equal Employment Opportunity Certification Form (Attachment C), Certification Regarding Debarment, Suspension and Other Responsibility Matters Form (Attachment D), and American Iron and Steel Acknowledgement Form (Attachment E).

2. CONTRACT REGULATIONS

Terms and conditions of this Contract shall be governed by the provisions of Chapters 153 and 4115 and Section 149.53 of the Ohio Revised Code, and all applicable local, State and Federal Ordinances, Statutes and Regulations.

The CONTRACTOR agrees not to discriminate against any employee or applicant for employment because of race, creed, sex, handicap, or color, including, but not limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training, including apprenticeship. All records, manuals, forms, drawings, schedules, lists, surveys, specifications, designs, and other data pertaining to the work specified in this contract are and shall remain the sole property of the HCPH. The use of any Subcontractor must be reported to the HCPH and they shall be bound by the same requirements as the CONTRACTOR.



3. BONDING

A bond or other form of financial guarantee shall be submitted by the CONTRACTOR in accordance with Sections 153.54/307.89 of the Ohio Revised Code and Section 3.4 of the Water Pollution Control Loan Agreement for the full amount of the Contractor's Bid.

4. THE WORK

The CONTRACTOR shall perform and complete all work of the Project required by the Contract Documents for xxxxxx Road, supplying all the labor, materials, supervision, tools and equipment necessary and required for the proper abandonment of the existing sewage treatment system (tanks and drywells, if present) and replacement of the sewage treatment system in accordance with the Installation Permit, Design, Project and Contract Documents; shall proceed in a prompt and diligent manner, and shall do the several parts thereof at such times and in such order as the HCPH may direct, and shall execute, construct, finish, and test when required, the Project in an expeditious, substantial and workmanlike manner to the satisfaction of HCPH, and to the final acceptance of the Project by HCPH.

5. TIME OF COMMENCEMENT AND COMPLETION

The CONTRACTOR shall commence work upon receipt of the written Notice To Proceed (Attachment A) issued by HCPH. The CONTRACTOR shall complete the Project work by December 15, 2021 and following the Notice To Proceed.

6. RIGHTS OF ACCESS

The signatories agree to ensure that the Director or its duly authorized agents shall have the right at all reasonable times to enter upon the Project Site(s) and Project Facilities, and to examine and inspect the same and to exercise the Director's rights pursuant to the WPCLF Assistance Agreement.

7. CONTRACT CONFLICTS

In the event of a conflict between the contract and the WPCLF Assistance Agreement, the provisions of the WPCLF Agreement shall prevail.

8. CONTRACT SUM

Hamilton County Public Health, utilizing OHIO EPA funding, shall pay the CONTRACTOR for the performance of the Work, up to the sum of \$xx,xxxx.xx (xx% of eligible costs paid by HCPH with \$x,xxx.xx - xx%

covered by the property owner) subject to additions and deductions by Change Orders (Attachment B) properly approved and executed. All properly approved and executed Change Orders for increases will be paid by HCPH, utilizing OHIO EPA funding, and/or homeowner contribution. Neither HCPH nor OHIO EPA will be responsible for additional reinspection fees.

9. PAYMENTS

Based upon Applications for Payment submitted to the HCPH by the CONTRACTOR, and after installation approval by HCPH, the contractor shall submit an invoice that documents costs all incurred to HCPH. The invoice shall detail the services rendered, including charge rates, number of hours, materials or supplies consumed, and other information needed to support the invoice to HCPH. Upon verification of this information, HCPH will send a request to Ohio EPA for reimbursement of the eligible costs. After confirmation by Ohio EPA, the Ohio Water Development Authority will distribute the funding to HCPH, who will then pay the Contract Sum to the CONTRACTOR as provided in Chapter 153 of the Ohio Revised Code and after payment is received from the Ohio EPA.

10. NEGLECT, DEFAULT, DELAY, ETC.

Hamilton County Public Health or Hamilton County Board of Health shall not be liable to the CONTRACTOR for any neglect, default, delay, or interference of or by another contractor, nor shall any such neglect, default, delay, or interference of or by another contractor, or alteration which may be required in said Work within the time aforesaid, or from the damage to be paid in default thereof. The CONTRACTOR shall pay HCPH \$200.00 for each and every calendar day of completion the Project is delayed beyond the date fixed for completion in Section 3 herein.

11. INSURANCE

The Insurance Specifications for Contractors and their subcontractors are as follows:

- A. All insurance required herein shall be issued by companies licensed to do business in Ohio, and which are rated not less than A: VII by A. M. Best.
- B. Commercial General Liability insurance with commercial general liability form GC 00 01 or its equivalent, with limits of at least \$1,000,000 per occurrence and \$1,000,000 in the aggregate covering death, bodily injury, and property damage. Coverage must include premise and

operations, contractual liability, third party property damage, severability of interest, completed operations coverage, maintained for at least three years beyond the date of the contractor's completion of the work, waiver of subrogation, and waiver of "cross claim exclusion between insured's".

- C. Business auto liability insurance of at least \$1,000,000 combined single limit, on all owned and non-owned leased and hired automobiles.
- D. Umbrella and excess liability policies of at least \$1,000,000, per occurrence and in the aggregate, above the underlying General Liability and business auto policies. Coverage must include drop down features, concurrency of effective dates; aggregates in the primary apply in the Umbrella, waiver of subrogation.
- E. The Commercial General Liability and business auto policies must endorse the Board of Health of Hamilton County, Ohio, their employees, officials, agents and volunteers as additional insureds. Further these policies must waive subrogation claims against the aforesaid individuals.
- F. Owner shall require its contractors and subcontractors to provide Workers' Compensation Insurance coverage at the statutory limits required by the Ohio Revised Code. The Contractor shall provide Workers Compensation Insurance for all employees engaged in Work who may come within the protection of the workers compensation law, and, where applicable, employer's General Liability Insurances for employees not so protected and shall require all Subcontractors to provide corresponding insurance. The Contractor shall indemnify the Owner, Hamilton County Board of Health, their employees, officials, agents and volunteers and the Consulting Engineer against any and all liabilities, cost and expenses due to accidents or other occurrences covered by the workers compensation law.
- G. Each policy required herein may not be canceled or materially changed except upon thirty days prior written notice given to: Hamilton County Public Health, 250 William Howard Taft, Cincinnati, Ohio 45219.

- H. Maintenance of the insurance required hereunder is a material element of this Agreement. Material changes of the required coverage or cancellation of the coverage in violation of subsection G, above, is a material breach of this Agreement.
- I. Builders Risk: In addition to such fire and other physical damage insurances as the Contractors elects to carry for his own protection, he shall also secure and maintain in the name of the Owner, the government agency sponsoring the Project, Subcontractors, the Consulting Engineer and any other parties having an interest in the Project, as named insured as their interest may appear; a builders' risk policy for fire, extended coverage, vandalism and malicious mischief in the amount of one hundred (100) percent of the value of the complete parts of the Project and Materials in storage, except that such coverage shall not be required in connection with sewer, water main or paving construction. Pump or lift station construction shall not be considered sewer or water main construction for purposes of this paragraph.
- J. Contractor's Public Liability and Property Damage Liability Insurance:  
Contractor's Public Liability Insurance providing a limit of not less than \$500,000 for all damages arising out of bodily injuries, including accidental death to one person, and a total limit of 1,000,000 for all damages arising out of bodily injuries, including accidental death, to two or more persons in any one occurrence. Contractor's Property Damage Liability Insurance providing for a limit on not less than \$500,000 for all damages to or destruction of property.  
Coverage under this policy shall include, to the limits indicated above, the collapse or damage to any structure, building or its contents, public or private utility, or pavement during construction and for two (2) years thereafter.  
Whenever Work under the Contract is to be done in the vicinity of existing underground utilities or structures, coverage under the policy shall also include, to the limits indicated, all damages to said underground utilities or structures during construction and for a period of two (2) years thereafter. Whenever Work under the Contract is to be done by blasting, coverage under the policy shall also include, to the limits indicated above, all damages of any kind whatsoever caused by blasting.

K. Contractor's Protective Public Liability and Property Damage Liability

Insurance: Contractor's Protective Public Liability and Property Damage Liability Insurance for operations performed by Subcontractors providing for coverage and limits corresponding to those described in subparagraph J.

L. Owner's (HCPH) Protective Public Liability and Property Damage Liability

Insurance: Regular Owner's Protective Public Liability and Property Damage Liability Insurance for operations performed by the Contractor or any Sub-contractor providing for coverage and limits corresponding to those specified elsewhere herein.

M. Railroad Protective Liability Insurance: In any of the Work under this Contract is on railroad R/W, the Contractor shall at its sole cost and expense, procure and provide, for and in behalf of each railroad company. Protective Liability Insurance (AARAASHO form) with minimum limits per occurrence of not less than \$2,000,000 for bodily injury, death and/or property damage, subject to an aggregate limit of \$6,000,000 per annum. The policy shall name each railroad company as the insured and be issued to the Contractor. Each railroad company shall be provided with a copy of each policy of insurance prior to commencement of any work.

#### Certificates of Insurance

The Contractor shall file a Certificate of Insurance for all coverage required in these Insurance Specifications on the ACORD 25 Form (preferred), and a copy of his current Worker's Compensation Certificate, with the Hamilton County Public Health before starting work on the project, and shall keep such Certificates current and on file with the County for the life of this Contract.

#### Indemnification Clause

The Contractor agrees to indemnify and save The Board of County Commissioners, Hamilton County Ohio, Hamilton County Board of Health, HCPH, their officials, officers, agents, and employees harmless from any and all losses, claims, actions, costs, expenses, judgments, subrogation's, or other damages resulting from injury to any person (including injury resulting in death), or damage (including loss or destruction) to property of whatsoever nature of any person, firm, or corporation arising out of the errors, omissions or negligent acts of the Contractor in the performance of the terms of this Contract by the Contractor, including but not limited to the Contractor's

employees, agents, subcontractors, sub-subcontractors, and others designated by the Contractor to perform work or services in, about, or attendant to, the work and services under the terms of this contract.

#### Notice To Proceed

The Contractor shall not commence work under this contract until he has obtained all the insurance required herein, has submitted appropriate Certificates of Insurance to and received approval of the County as evidenced by a Notice to Proceed (Attachment A).

#### Subcontractors

The Insurance Specifications apply equally to all subcontractors and sub-subcontractors at any tier during the period of their work on the project. The Prime Contractor shall be solely responsible for his subcontractor's liability if he permits the Sub to work on the project without the Sub having been issued a Notice to Proceed by the County.

#### 12. FAILURE TO COMPLY

If the CONTRACTOR shall fail to comply with any of the terms, conditions, provisions or stipulations of this Contract, HCPH may avail itself of any and all remedies provided in their behalf in the Contract, and shall have the right and power to proceed in accordance with the provisions thereof.

#### 13. RESOLUTION OF DISPUTES

In the event of a dispute covering additional costs, claims and any other matter arising out of or relating to this Contract, or the breach thereof, such disputes shall be decided by submission to a court of competent jurisdiction within one (1) year of the date upon which HCPH accepts and approves the project for use. The CONTRACTOR hereby waives any right to rely upon the statute of limitations for actions on contracts.

Failure to bring an action within one year of the above date shall constitute a bar to such action. If, however, within ten (10) days of the specific event giving rise to the disputed matter, the CONTRACTOR gives HCPH, by written notice, a request to submit the matter to arbitration, HCPH and the CONTRACTOR may agree, within sixty (60) Days of receipt of the above notice, to submit the matter to arbitration as set forth below.

If the parties agree, by written change order signed by HCPH, the Ohio EPA, and the CONTRACTOR, to submit such dispute to arbitration, all proceedings shall be according to Ohio

Revised Code Chapter 2711, and, unless waived, the Ohio Rules of Civil Procedure and the Ohio Rules of Evidence. HCPH and the CONTRACTOR shall each choose one arbitrator. The two arbitrators shall agree upon and choose a third arbitrator, who shall preside over the proceedings.

Compensation of the arbitrators shall be as agreed upon by HCPH, the CONTRACTOR and the arbitrators. Payment for the arbitrators shall be shared equally by HCPH and the CONTRACTOR. The CONTRACTOR shall deposit, as a precondition to commencement of the hearing, its equal share of the compensation of the arbitrators with HCPH to be placed in an account for that purpose, or with an escrow agent suitable to both parties. The hearing or the arbitration shall commence within sixty (60) days of the agreement to arbitrate. If the hearing is not commenced within sixty (60) days of the agreement to arbitrate, said agreement shall be void and the dispute shall be resolved by submission to a court of competent jurisdiction as herein before specified. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction thereof. All questions with regard to the rights and authority of the arbitration panel shall be resolved pursuant to Chapter 2711, of the Ohio Revised Code.

14. IN FORCE AND EFFECT

Subject to the applicable provisions of law, this contract shall be in full force and effect from and after the date when a fully executed and approved counterpart hereof is forwarded to the CONTRACTOR, but the CONTRACTOR shall not start work on the Project until written notification to proceed is received from HCPH.

15. Executive Order 11246 Sec.202

Except in contracts exempted in accordance with Section 204 of this Order, all Government contracting agencies shall include in every Government contract hereafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- A. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment, or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and

selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the nondiscrimination clause.

- B. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- C. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of this notice in conspicuous places available to employees and applicants for employment.
- D. The contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- E. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- F. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, or by rule regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- G. The contractor will include the provisions of Paragraphs (A) through (G) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued



pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

16. Violating Facilities Clause

The Contractor agrees to comply with all applicable standards, orders or requirements under Section 306 of the Clean Air Act, 42 USC 1857 (h), Section 508 of the Clean Water Act, 33 USC 1368, Executive Order 11738, and EPA regulations, 40 CFR Part 32, which prohibits the use under non-exempt Federal contracts, grants, or loans of facilities included on the EPA List of Violating Facilities.

17. Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The Contractor certifies to the best of its knowledge and belief that it and its principles:

- A. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or Agency;
- B. Have not within a year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- C. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (B) of this certification;

- D. Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or Local) terminated for cause or default' and
- E. Will not utilize a subcontractor or supplier who is unable to certify (A) through (D) above.

IN WITNESS WHEREOF, the County and the Contractor affix their signatures:

WITNESS: HAMILTON COUNTY PUBLIC HEALTH

\_\_\_\_\_ Health Commissioner

\_\_\_\_\_ Date

WITNESS: CONTRACTOR: \_\_\_\_\_

\_\_\_\_\_ By: \_\_\_\_\_

\_\_\_\_\_ Title

Contractor to complete applicable paragraph below:

\_\_\_\_\_ A Corporation organized under the Laws of \_\_\_\_\_ and qualified to do business in the State of Ohio.

\_\_\_\_\_ Co-partners trading and doing business under the firm name and style of

\_\_\_\_\_

\_\_\_\_\_ List names of all Partners \_\_\_\_\_

Or Joint Venture Participants \_\_\_\_\_

\_\_\_\_\_ An individual doing business under the firm name and style of

\_\_\_\_\_

ATTACHMENT A  
HAMILTON COUNTY PUBLIC HEALTH  
NOTICE TO PROCEED

Date \_\_\_\_\_  
Contractor Name  
Street Address  
City, State, Zip Code

Notice To Proceed With: \_\_\_\_\_

Enclosed is your copy of the completely executed contract in the amount of \$\_\_\_\_\_ to be paid from the \_\_\_\_\_ fund.

You are hereby authorized and notified to PROCEED with the repair or replacement of the household sewage treatment system located at \_\_\_\_\_ in accordance with all terms and conditions of your contract with HCPH. This includes by reference the specifications upon which you bid.

Sincerely,

Greg Kesterman  
Health Commissioner, Hamilton County Public Health

ATTACHMENT B  
*State of Ohio*  
 WATER POLLUTION CONTROL LOAN FUND (WPCLF/SRF) HSTS

**CONTRACT CHANGE ORDER**

RECIPIENT \_\_\_\_\_ CHANGE ORDER NBR \_\_\_\_\_

LOAN NUMBER \_\_\_\_\_ CONTRACT \_\_\_\_\_

OWDA PROJECT No. \_\_\_\_\_ DATE \_\_\_\_\_

---

Description of Change  
 (include address):

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 (Health Department Representative)

ACCEPTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 (Contractor)

\_\_\_\_\_ (Company)

|                           |      |  |
|---------------------------|------|--|
| Original Contract Amt     |      |  |
| Previous Changes (+ / --) |      |  |
| This Change (+ / --)      |      |  |
| Adjusted Contract Amt     |      |  |
|                           |      |  |
| Ohio EPA Acceptance       | Date |  |

## ATTACHMENT B

### CHANGE ORDER INSTRUCTIONS:

All Change Orders for this work, regardless of costs, must be submitted to Ohio EPA for review.

#### Changes Requiring Prior Approval

Any change which substantially modifies the Project Facilities as specified in the Ohio EPA approved Facilities Plan and Final Permit to Install or Final Plan Approval (when applicable) or alters the direct or indirect impact of the Project Facilities upon the environment must be incorporated into a Change Order. One copy of the Change Order prior to execution is to be submitted to Ohio EPA for review and prior approval of the acceptability of the change. "Prior to execution" means before the Change Order is signed by the Owner.

Ohio EPA will review the Change Order and inform the Owner of the technical, environmental and operational acceptability of the change, and give the Owner permission to proceed with the proposed work.

#### All Other Changes

Change Orders not requiring prior approval as described above must be submitted to Ohio EPA within one (1) month of the time at which they are approved by the Owner. Change Orders for WPCLF projects should be submitted to the Division of Environmental and Financial Assistance (DEFA).

#### Change Order Approval Process

After the Change Order is executed, one (1) copy of the Change Order, including the supporting documentation, is to be sent to Ohio EPA for final review. The HSTS Change Order form must have original signatures.

Health Departments should submit change orders electronically to the DEFA Engineer who reviewed and approved their project.

After the Change Order is accepted and eligible costs determined, Ohio EPA will return a signed copy of the HSTS Change Order form.

#### Payments for Change Order Work

The Owner is precluded from submitting to the OWDA payment requests for Eligible Project Costs associated with the Change Orders until the Ohio EPA's approval of the Change Orders has been obtained.

ATTACHMENT C  
Contractor Equal Employment Opportunity Certification

During the performance of this contract, the undersigned agrees as follows:

1. The undersigned will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The undersigned will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The undersigned agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this equal opportunity (federally assisted construction) clause.
2. The undersigned will, in all solicitations or advertisements for employees placed by or on behalf of the undersigned, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
3. The undersigned will send to each labor union or representative of workers, with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the undersigned's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The undersigned will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The undersigned will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and relevant orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency of the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the undersigned's non compliance with the equal opportunity (federally assisted construction) clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part, and the undersigned may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rules, regulations, or order of the Secretary of Labor, or as provided by law.
7. The undersigned will include this equal opportunity (federally assisted construction) clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provision will be binding upon each subcontract or vendor. The undersigned will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non compliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor, as a result of such direction by the administering agency the undersigned may request the United States to enter into such litigation to protect the interest of the United States.

---

(Signature)

(Date)

---

(Name and Title of Signer, Please type)

---

(Firm Name)

ATTACHMENT D

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal of State antitrust statues or commission if embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification;
- (d) Have not within a three year period preceding this application / proposal had one or more public transactions (Federal, State, or local) terminated for cause or default; and
- (e) Will not utilize a subcontractor or supplier who is unable to certify (a) through (d) above.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

---

Type Name & Title of Authorized Representative

---

Signature of Authorized Representative

---

Date

I am unable to certify to the above statements. My explanation is attached.

ATTACHMENT D  
Certification Regarding Debarment, Suspension, and Other Responsibility Matters  
INSTRUCTIONS

Under Executive Order 12549 an individual or organization debarred or excluded from participation in Federal assistance or benefit programs may not receive any assistance award under a Federal program or a subagreement thereunder for \$25,000 or more.

Accordingly, each prospective recipient of an EPA grant, loan, or cooperative agreement and any contract or subagreement participant thereunder must complete the attached certification provide an explanation why they cannot. For further details, see 40 CFR 32.510, Participants' responsibilities, in the attached regulation.

Go to <https://www.sam.gov/portal/SAM/##11> to access the Excluded Parties List System (EPLS). The EPLS includes information regarding entities debarred, suspended, proposed for debarment, excluded or disqualified under the nonprocurement common rule, or otherwise declared ineligible from receiving Federal contracts, certain subcontracts, and certain Federal assistance and benefits. This information may include names, addresses, DUNS numbers, Social Security Numbers, Employer Identification Numbers or other Taxpayer Identification Numbers, if available and deemed appropriate and permissible to publish by the agency taking the action.

Where To Submit

The prospective EPA grant, loan, or cooperative agreement recipient must return the signed certification or explanation with its application to the appropriate EPA Headquarters, Regional office, or Ohio EPA, as required in the applications.

A prospective prime contractor must submit a complete certification or explanation to the individual or organization awarding the contract.

Each prospective subcontractor must submit a complete certification or explanation to the prime contractor for the project.

Applicants may reproduce these materials as needed and provide them to their prospective prime contractor, who, in turn, may reproduce and provide them to prospective subcontractors.

Additional copies / assistance may be requested from: Ohio EPA  
Division of Environmental and Financial Assistance  
P.P. Box 1049  
Columbus, Ohio 43216 1049  
(614) 644 2798

<http://epa.ohio.gov/defa/EnvironmentalandFinancialAssistance.aspx>



ATTACHMENT E

American Iron and Steel Acknowledgement

The Contractor acknowledges to and for the benefit of \_\_\_\_\_ (“Purchaser”) and the State of Ohio (the “State”) that it understands the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund and/or Drinking Water State Revolving Fund that have statutory requirements commonly known as “American Iron and Steel;” that requires all of the iron and steel products used in the project to be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the State that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the State. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or State to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney’s fees) incurred by the Purchaser or State resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the State or any damages owed to the State by the Purchaser). While the Contractor has no direct contractual privity with the State, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the State is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the State.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and Title of Authorized Signatory, Please Print or Type

\_\_\_\_\_  
Bidder’s Firm

Check here if the WPCLF or WSRLA applicant will be requesting an individual waiver for non-American made iron and steel products. Please note that the waiver box does not need to be marked for nationwide waivers.

# SEWAGE TREATMENT SYSTEM (STS) DESIGN FOR:

**Paul Halas**  
**4519 Poole Rd.**  
**Cincinnati, OH 45251**  
**Par# 510-0202-0006-00**  
**0.922 Acres**

*Designed By:*  
*Areawide Septic*  
*1170 Thorpe Road*  
*Sabina OH 45169*  
*937-313-8287*  
*Design Date: Sept. 8, 2019*  
*Site Visited in Aug.30, 2019*

## Design Details:

- Jet J-500 PLT with Jet 952 UV
- Jet 197 control panel for J-500 PLT
- Roth RMT-1060 dose tank with 2 risers and (2) 4" outlet boots. Side outlet boot for the 2nd supply main from second pump.
- AquaWorx IPC D time dose control panel with pressure transducer control
- (2) 4" sand depth, time dosed, stacked Mounds
- Upslope interceptor drain- gravel to surface
- Downslope perimeter drain- gravel to within 6" of surface
- Pumped outlet for drains
- Mounds covered with soil and finished as separate structures

Design Rationale: Attached

## AGGREGATE SPECIFICATION

### Drains:

ODOT #57 clean, washed, natural, rounded or clean washed cut angular  
ODOT #8 clean, washed, natural, rounded or clean washed cut angular.

### Distribution Gravel Criteria:

Use only clean, washed, natural  
ODOT #8 stone (rounded)  
meeting graduation requirements of ODOT 703.01

### Sand:

Use sand in Mound or LPP Structure meeting requirements stated in 3701-29-15 Appendix B III.  
III. (1), (2), (3)

### Other

Follow manufacturer guidance for any aggregates specified in the installation of proprietary equipment used in this design.

## System Installation, Operation And Maintenance (O&M)

*All system devices and components must be operated and maintained in accordance with the Ohio Department of Health (ODH) product approval, Hamilton County Public Health Operation Permit Terms and Conditions. System devices and components must be installed per ODH product approval, Hamilton County Installation Manual and this design. Where conflicts exist, consult designer for guidance before proceeding. For guidance see:*

<http://areawidesepticswoh.com/index.php/resources>

*click on proper link for more information*

This installation will require an electrical inspection(s) and approval by IBI (513) 381-6080, <http://www.inspectionbureau.com/>  
Means for O&M is provided by the driveway which is within standard distances and elevations for a service truck.

## Changes and Use of This Design

This plan is the sole ownership of the designer and may not be altered, changed, used or manipulated without approval of the designer. The designer is available to make adjustments and address questions about the system design.  
It is the responsibility of the contractor to verify that the system can be installed as designed, based on their preliminary lay-out of the job. It is the responsibility the installer and property owner to inform the designer of any field or other conditions that may affect the installation, operation or maintenance of the STS, including site disturbances that may affect the performance of a soil absorption component. If design changes are needed, redesign fees may apply.

## System Protection

Property owner and installer are responsible to protect the basal areas from disturbance. Only excavate basal areas when soil is dry and friable to a depth of 12" and in compliance with Hamilton County Installation Manual requirements. Keep wheeled traffic off the soil absorption area. The soil absorption ( basal) areas are to remain undisturbed and no permanent structures or hardscapes are to be erected in these areas.

It is the owner and installation contractors responsibility to locate underground utilities. If utilities interfere with the designed system, construction shall not proceed without approval from Areawide Septic and HCPH.

No clearwater connections (downspouts, pool/spa water, footer tiles, cisterns, etc) shall be connected to this STS.

All system components must meet the horizontal isolation distances specified in OAC 3701-29-06(G)(3).



## System Cost Information

The property owner has been informed of system options and briefed on cost factors. According to OAC 3701-29-10(B)(5), designers of STS systems must include approximate installation costs and operational costs of STS options to assist the homeowner in the selection of the STS options. Areawide Septic estimates costs as follows :

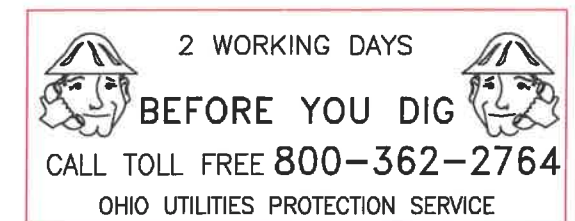
\$34,000 Installation cost\*

\$900 annual operational cost\*

\*This is a general estimate of costs for this system. It is not a bid to install or service the STS. Contact a licensed installer and service provider or distributor for actual bids.

## Disclaimer

This plan set is not a site plan to be used for constructing anything other than the Sewage Treatment System. If an accurate legal site plan is required, contact a professional surveyor. This plan offers no guarantee as to the accuracy of information provided. This plan offers no guarantees for site stability. If site stability may be an issue, a geotechnical engineer should be consulted. Plan is only as accurate as the information provided by the property owner to the designer. Easements, right-of-ways, hidden objects or information not communicated to the designer invalidates the design. It is the property owner's responsibility to review this plan and information provided to verify all site conditions and design assumptions are correct. If conflicts are found or additional information must be supplied, the owner shall contact the designer and installation shall not proceed until the approval is granted. This design shall in no way be taken as guarantee that the system will function in a satisfactory manner for any given period of time.



|  |                 |
|--|-----------------|
| Areawide Septic<br>1170 Thorpe Road<br>Sabina Ohio |                 |
| DATE<br>Sept. 2019                                 | SCALE<br>N.T.S. |

|   |
|---|
| <b>Sheet 1</b><br>General Notes and Specifications of Materials<br>Halas Residence 4519 Poole Road<br>Par# 510-0202-0006-00<br>Hamilton County Ohio- .922 Acres |
|---|

Slight location changes of tankage or drain outlets can be field adjusted by the installer. Minor location changes are considered to not affect the overall effectiveness of this system. All Ohio Administrative and County regulations must be followed. Installer also is to follow the manufacturer's guidelines for installing every component of this system. If in question, contact the local health department.

This is not a site plan. If an accurate, legal site plan is required, contact a professional surveyor.

Poole Rd

Contour lines shown are for general representation only, Contours are NOT exact. Follow actual grade shots shown on elevation plan.

It is the responsibility of the contractor to verify that the system can be installed as designed, based on their preliminary lay-out of the job. It is the responsibility to inform the designer of any field conditions that may effect the installation, especially site disturbance that may affect the performance of a soil absorption component.

\* Length of pipe on this sheet refers to trench length. For brevity of textual callouts on this sheet, all details are not listed. Installer to comply with ODH and local regulations when installing. See details see Sheet 3 A1-M.

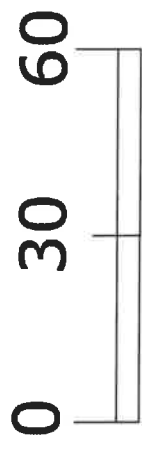
2 WORKING DAYS  
BEFORE YOU DIG  
CALL TOLL FREE 800-362-2764  
OHIO UTILITIES PROTECTION SERVICE

All tanks must pass a watertightness test in the presence of a health department inspector.  
PROCEDURE: Fill tanks 2" above riser connection. Tanks must hold this level for 1 hour. Precast tanks must be filled for 24 hrs. prior to testing.

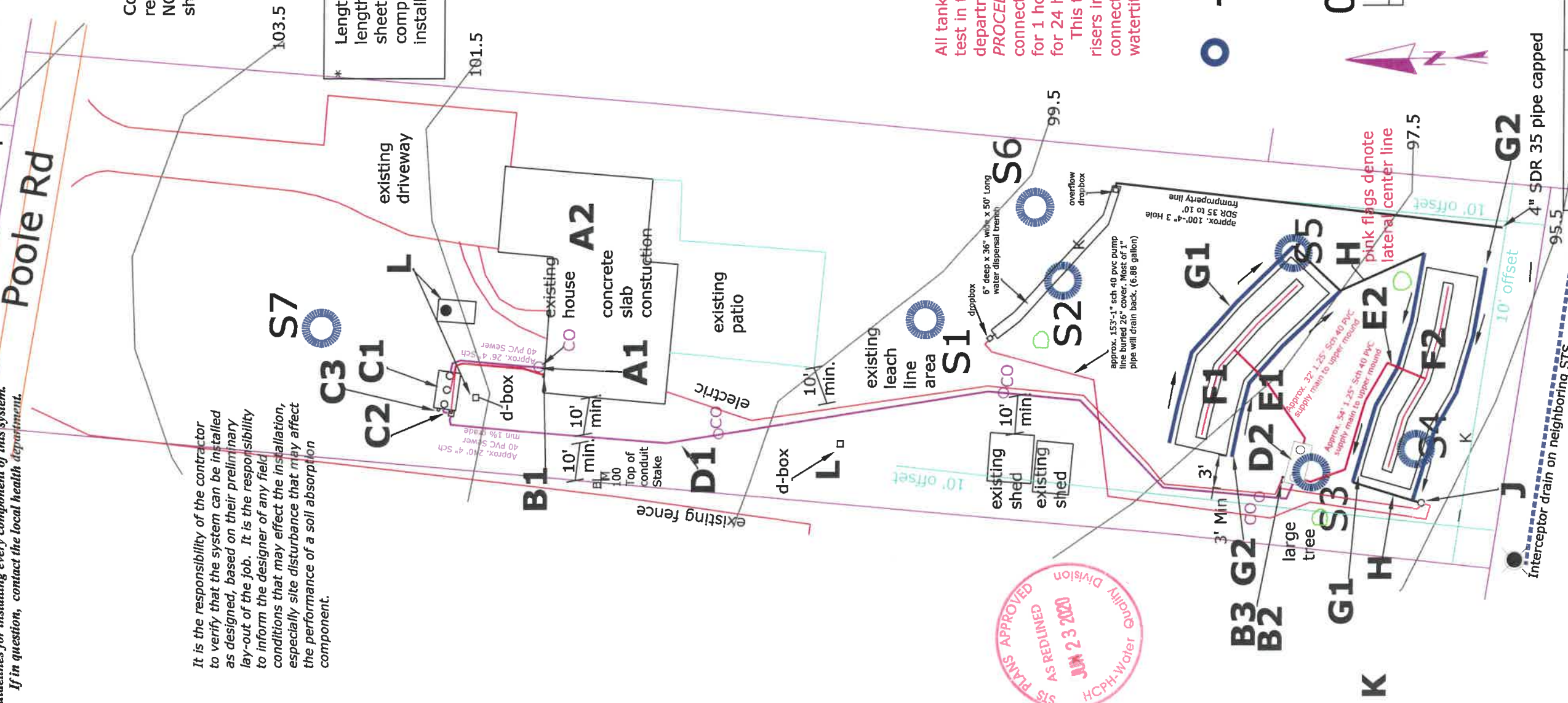
This test assures the tank(s) with risers in place and with pipe connections installed are completely watertite.

**Legend**  
○ - Soil Sample Site

**Scale**



Original Drawing  
1" = 30'



Designer has not located underground utilities.

|   |                    |
|---|--------------------|
| <b>Sheet 2</b><br>STS Site Plan Layout of Components<br>Halas Residence 4519 Poole Road<br>Par# 510-0202-0006-00<br>Hamilton County Ohio - .922 Acres |                    |
| Areawide Septic<br>1170 Thorpe Road<br>Sabina Ohio  | DATE<br>Sept. 2019 |
| SCALE<br>1 : 30   | DATE<br>Sept. 2019 |

**A1** -Uncover old sewer line at edge of foundation. Inspect sewer line back into house as far as can be seen. If existing sewer line shows degradation, Homeowner will be a camera investigation may be warranted. Homeowner can make the determination on what to do about replacing sewer line inside home. If plumbing inside home needs replaced, a plumbing permit will have to be obtained for the work inside the home.

\*If existing sewer line is deemed in good condition and is Sch 40 PVC, new 4" Sch 40 PVC sewer line can be connected at that point with a 4" SCH 40 glue-on coupling. Install a cleanout at the edge of foundation.

\*If existing sewer line within home is in good condition but made of some other material, use a fernco 4" flex coupling with stainless steel bands to connect the new 4" Sch 40 PVC sewer line. Install a cleanout at the edge of foundation.

Install new 4" Sch 40 PVC sewer line to the Jet J-500 PLT ATU. ( 500 GPD) tank. Sewer line minimum grade to tank is 1%.

**A2** - Any internal household floor drains from house will need to be checked to see if connected to sewer. If not connected, they will need to be connected to sewer.

**CONTROL PANELS**

**B1**- Install Jet 197 Control Panel

**B2**- Install - Aquaworx IPC D time dose control panel for the mounds.  
 - Pressure Transducer wire run from panel to dose tank in separate .5" Sch 40 PVC conduit. Do not share conduit with any electrical conductors.  
 (2)circuits from the Aquaworx IPC D panel for the mound dose pumps.  
 Electric Supply to Panel on a frequently used interior lighting circuit.  
 Mount control panel on treated wood pedestal near dose tank 4-5 ft off the ground facing the house.

**B3** - Install CSI CS-2004 Sump Alarm Panel  
 Mount control panel on treated wood pedestal near dose tank 4-5 ft off the ground facing the house.

**C1** - Jet J-500 PLT ATU. ( 500 GPD)

**C2** - Jet 952 UV attached by manufacturer at outlet. Protect control head with Polylok or Tuff-tite 20" Distribution box over control head.

**C3**- Authorized Jet Dealer Tri State Jet requests Installer choose to install the Jet J-500PLT unit with 1 of 2 options:  
 1) Jet approved Jet anti-buoyancy concrete curbs with stainless steel cables. (available from Tri-State Jet)  
 2) Ground Water Monitoring Well installed to bottom of Jet tank excavation.

The monitoring well is a piece of 6" Dia. SDR 35 with a series of 1/4" holes in bottom 18" of pipe. Drill a row of holes every 90 degrees around pipe.  
 Cover bottom of pipe with 24" of filter fabric.  
 Cap the monitoring well with -Threaded SDR 35 endcap

**D1** - 4" SCH 40 PVC at 1% minimum grade to dose tank.  
 Install 4" SCH 40 PVC cleanouts in effluent pipe no further than 75' apart.  
 Install Roth RMT-1060 dose tank.

Tank contains:  
 Pump 1 ( upper mound) Clarus 5030-0005 or equivalent  
 Pump 2 (lower mound) Clarus 5030-0005 or equivalent  
 Dose tank will require 36" tall risers.

*D2- Roth RMT-1060 Dosing TANK w/ Clarus 5030-0005 pump in overco UFI-4 Flow inducer*

**E1**- Effluent pumped through a 1.25" SCH 40 PVC supply main to upper mound. Install supply main with >24" soil cover except for supply main sloping up mound.

**E2**- Effluent pumped through a 1.25" SCH 40 PVC supply main to lower mound. Install supply main with >24" soil cover except for supply main sloping up mound.

**F1** - 4" depth sand mound with (2) .75 x 24' laterals.

**F2**- 4" depth sand mound with (2) .75 x 24' laterals.

**G1**- Install the Interceptor drain at an minimum initial depth of 24" deep. Slope 4" slotted corrugated PE drain tile @ 0.1% (minimum), to a sump basin. Fill trench with #57 or #8 gravel to within 6" of surface, place 2" straw or geotextile fabric, then fill #57 gravel to surface.

**G2**- Install the lower perimeter drain at a minimum initial depth of 24" deep. Slope 4" slotted corrugated PE drain tile @ 0.1% (minimum), to a sump basin. Fill trench with #57 gravel to within 6" of surface, place straw or landscape fabric. Back fill with onsite soils to surface.

**H**- Interceptor / Perimeter drains discharge to a sump. Use solid 4" SDR 35 pipe from gravelled portion of drains to the drain sump. Last 5' (min.) of pipe shall be 4" sch 40 pvc.

**J**- Install 24" diameter x 6' height sump crock with Champion CPS3 pump - 120 v, 20 amp circuit required -CSI CS 2004 alarm panel or equivalent on treated wood pedestal at sump. Panel 4-5 ft off ground and facing house. -Install 1" sch 40 pvc pump discharge line >26" soil cover

**K**- Sump is discharging to a water dispersion trench detailed on sheet 7 of this design (See Detail 1&2). Overflow from this trench is carried by 3 hole 4" SDR 35 pipe to within 10' of the southern property line.

**L**- Properly abandon the old septic tank and distribution boxes according to OAC 3701-29-21 and in accordance with HCPH permitting and reporting requirements.

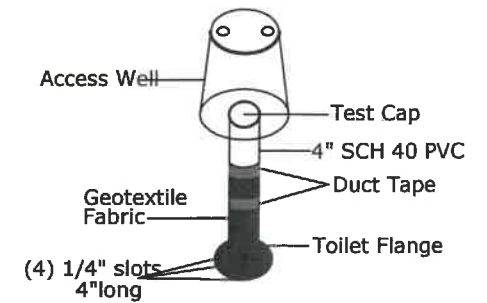
**ELECTRICAL FROM HOUSE**

- (1) 120 v 15 amp shared lighting circuit for control panel power (can be shared with both control panels)
- (1) 120 v 20 amp circuit for areator motor (run #12 AWG wire from house)
- (1) 120v 20 amp designated circuits for mound pump (run #12 AWG wire from house)
- (1) 120v 20 amp designated circuit for sump lift pump ( #12 AWG wire )

**FROM CONTROL PANEL(S) TO**

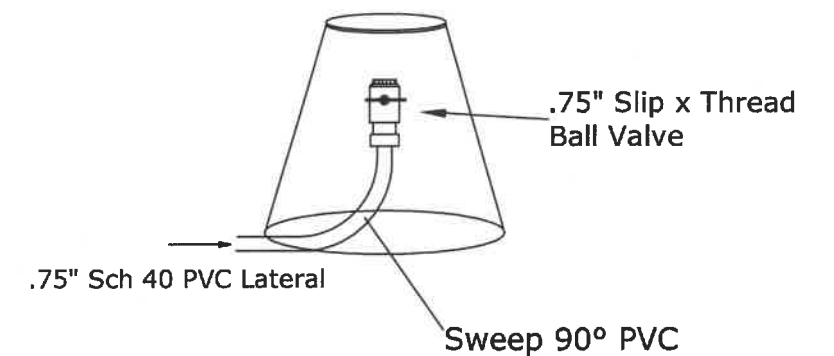
- Aerator-- .75" pvc electrical conduit (3) #12 awg THHN stranded conductors
- each Mound Pump-- .75 pvc electrical conduit (3) # 12 awg THHN stranded conductors
- .5" pvc electrical conduit with transducer wire from transducer to Aquaworx panel (do not share conduit with any electrical conductors)
- CSI CS-2004-- .75" pvc electrical conduit (3) #12 awg THHN stranded conductors
- (4) #14awg THHN stranded conductors for float operation

**Mound Observation Port Detail**

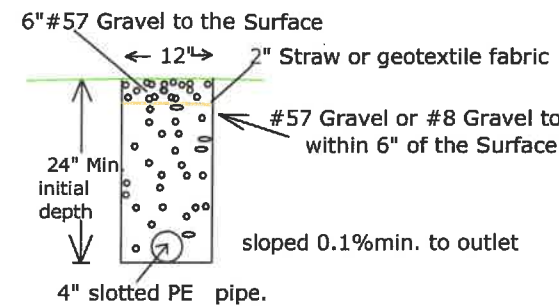


all ports constucted same, except for height

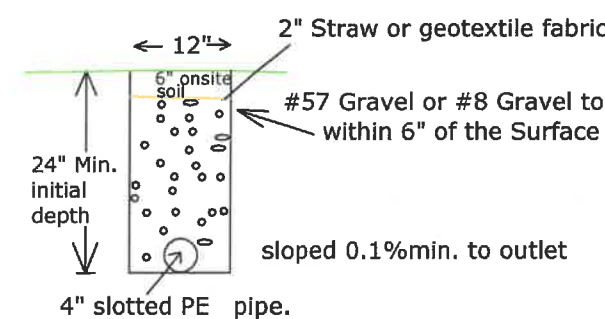
**Cleanout Port (at end of each lateral) not to scale**



**Interceptor Drain**



**Lower Perimeter Drain**



Areawide Septic  
 1170 Thorpe Road  
 Sabina Ohio

DATE: Sept. 2019  
 SCALE: N.T.S.

**Sheet 3**

STS Component Description  
 Halas Residence 4519 Poole Road  
 Par# 510-0202-0006-00  
 Hamilton County Ohio- .922 Acres

# Side View (Upper Mound)

Soil cover over the gravel beds should be quality topsoil, < 27% clay. Do not cover distribution gravel with more than 12" of soil. Use of poor cover or too much cover can cause an anaerobic environment at the lateral area.

Filter fabric Only use quality filter fabric over gravel bed from Eco-System Supply (513) 769-4900 Wiseway Supply (513) 576-1111 or Winnelson (513) 576-1888

**Distribution Gravel Criteria:**  
 Use only clean, washed, natural ODOT #8 stone (rounded) meeting gradation requirements of ODOT 703.01 in gravel.  
 \* Critical : Maintain level surface between sand and distribution gravel.  
 \* 6" total gravel thickness  
 3" below lateral pipes  
 1" above lateral pipes  
 2" pipe thickness (O.D.)+ orifice shield  
 Sim /Tech .75" orifice shields or equivalent

60" distal height

Use sand in mound meeting requirements stated in 3701-29-15 Appendix B III. (1), (2), (3)

Orifices are to be 1/8" Diameter drilled with black oxide drill bit Perform drilling on steady shop drill press. Protect all pipes from freezing. Protect all pipes by laying them on virgin soil / gravel. No pipe to pipe contact in trenches

Critical: Use only high pressure fittings. All pipes Sch 40 PVC Supply Main: Diameter: 1.25"

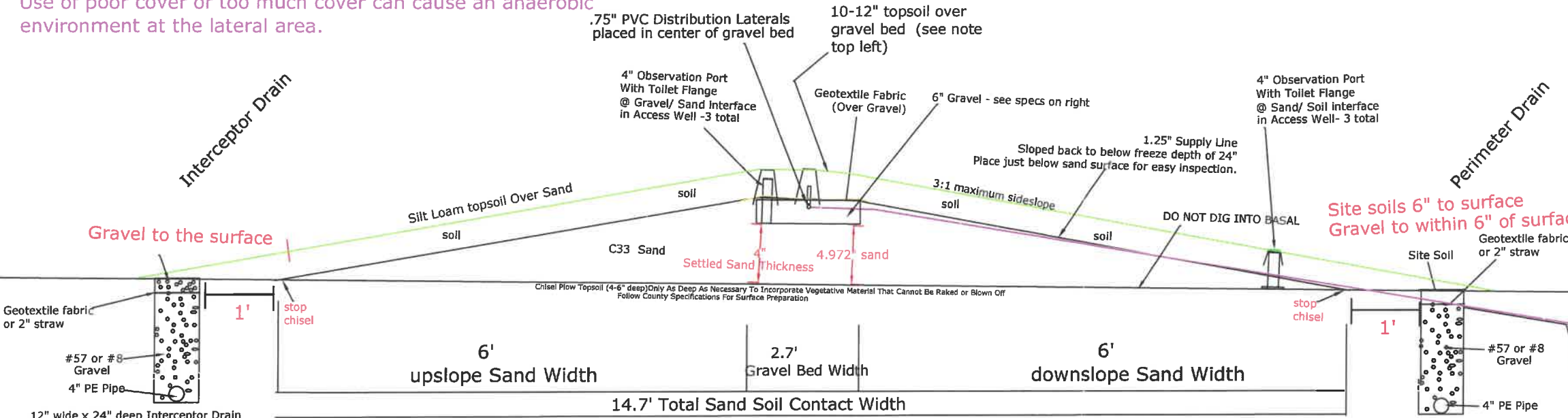
Laterals: Diameter: .75" Mound Lat. Length: 24' Total Laterals: 2

Orifices: Diameter: 1/8" Spacing: 24" Orifices Per Lateral: 12 Total Orifices: 24

Orifices Down except for first and last orifice on each lateral, Orifices Up Orifice Shield on each orifice

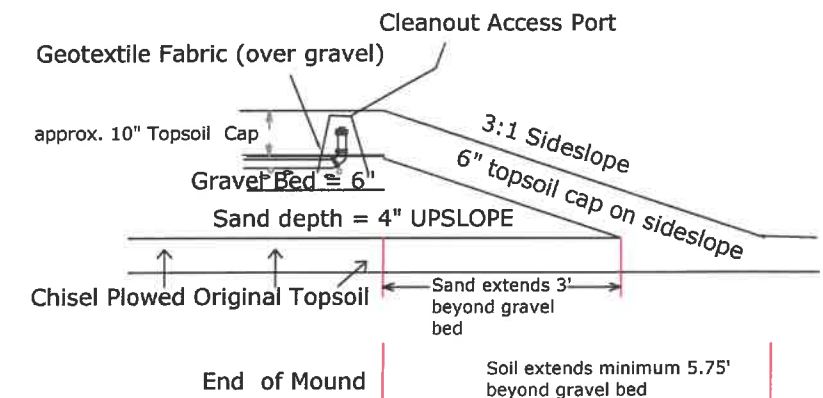
### Dosage to Mounds

mound dose: 6.72 Gallons + Drainback



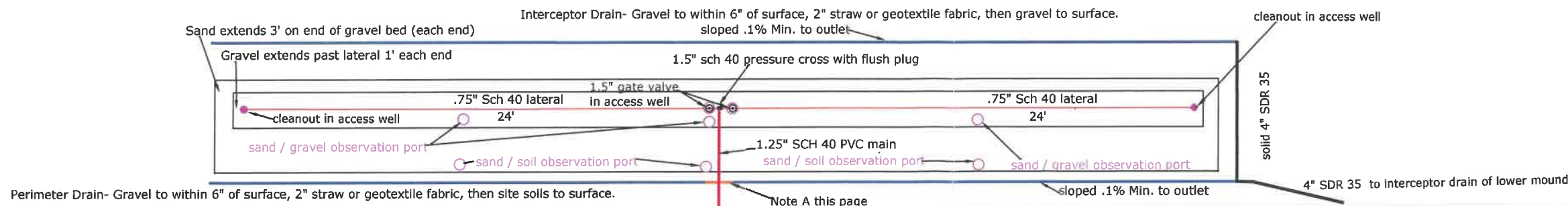
Overall sand mound dimension: 14.7' x 56'  
 Gravel Distribution bed: 2.7' x 50'

2-3% → dose tank

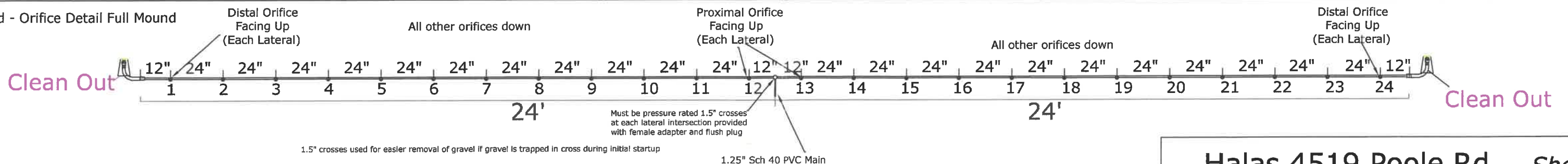


No scale Note A: Where main crosses the drain, Install solid 4" PE Pipe or 4" solid SDR 35 Pipe 5' on each side of the main and fill trench 5' on each side of the main with compacted clay

No scale



### Mound - Orifice Detail Full Mound



# Side View (LOWER Mound)

Soil cover over the gravel beds should be quality topsoil, < 27% clay. Do not cover distribution gravel with more than 12" of soil. Use of poor cover or too much cover can cause an anaerobic environment at the lateral area.

Filter fabric Only use quality filter fabric over gravel bed from Eco-System Supply (513) 769-4900 Wiseway Supply (513) 576-1111 or Winnelson (513) 576-1888

**Distribution Gravel Criteria:**  
 Use only clean, washed, natural ODOT #8 stone (rounded) meeting graduation requirements of ODOT 703.01 in gravel.  
 \* Critical : Maintain level surface between sand and distribution gravel.  
 \* 6" total gravel thickness  
 3" below lateral pipes  
 1" above lateral pipes  
 2" pipe thickness (O.D.)+ orifice shield  
 Sim /Tech 1" orifice shields or equivalent

60" distal height

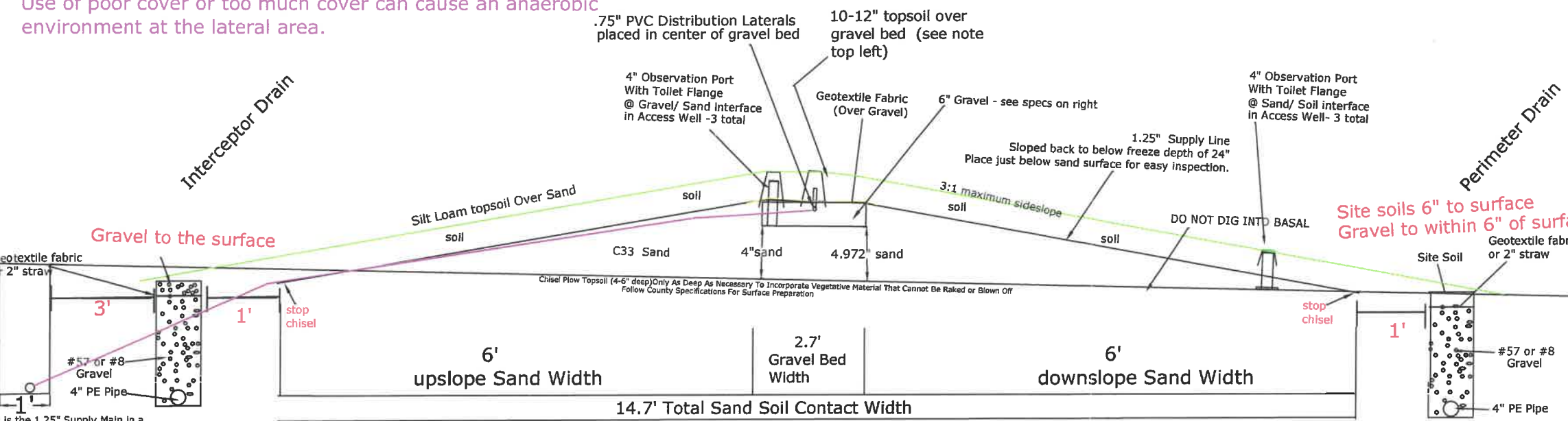
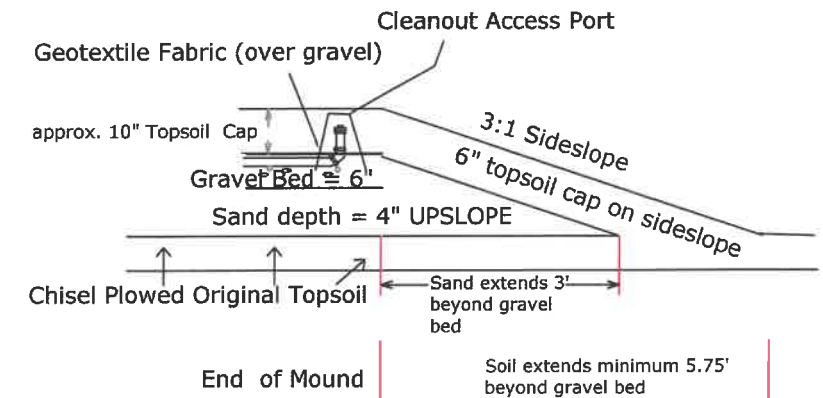
Use sand in mound meeting requirements stated in 3701-29-15 Appendix B III. (1), (2), (3)

Orifices are to be 1/8" Diameter drilled with black oxide drill bit Perform drilling on steady shop drill press. Protect all pipes from freezing. Protect all pipes by laying them on virgin soil / gravel. No pipe to pipe contact in trenches  
 Critical: Use only high pressure fittings. All pipes Sch 40 PVC  
 Supply Main: Diameter: 1.25"

Laterals: Diameter: .75"  
 Mound Lat. Length: 24'  
 Total Laterals: 2  
 Orifices: Diameter: 1/8"  
 Spacing: 24"  
 Orifices Per Lateral: 12  
 Total Orifices: 24  
 Orifices Down except for first and last orifice on each lateral, Orifices Up  
 Orifice Shield on each orifice

### Dosage to Mounds

mound dose: 6.72 Gallons + Drainback



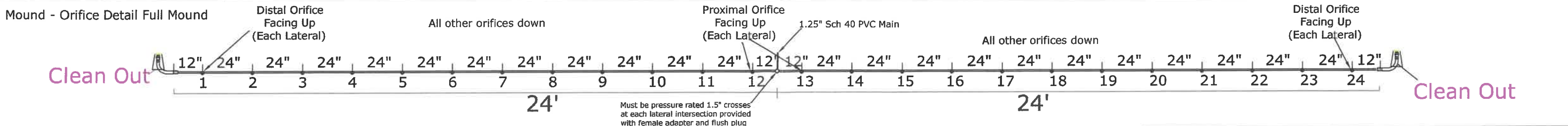
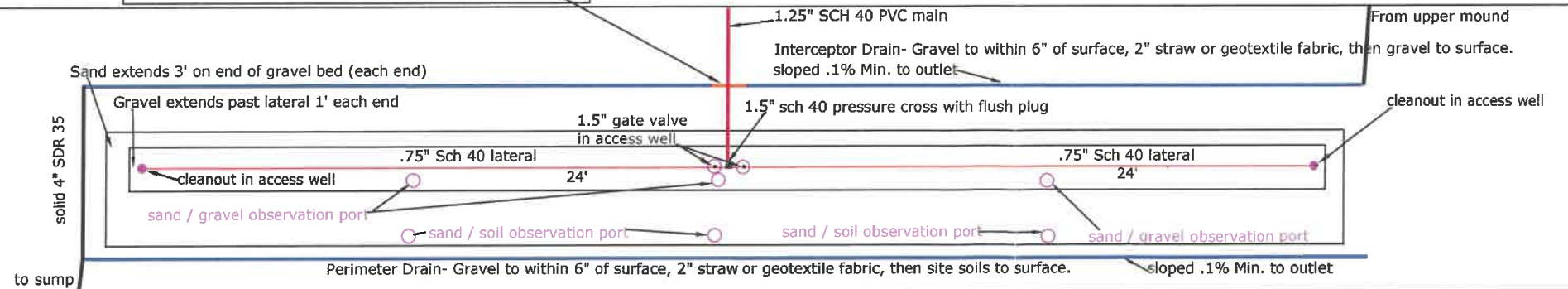
Overall sand mound dimension: 14.7' x 56'  
 Gravel Distribution bed: 2.7' x 50'

**Note A:**  
 Where sub main crosses the drain, Install solid 4" PE Pipe or 4" solid SDR 35 Pipe 5' on each side of the sub main and fill trench 5' on each side of the sub main with compacted clay

2-3% → dose tank

No scale

No scale



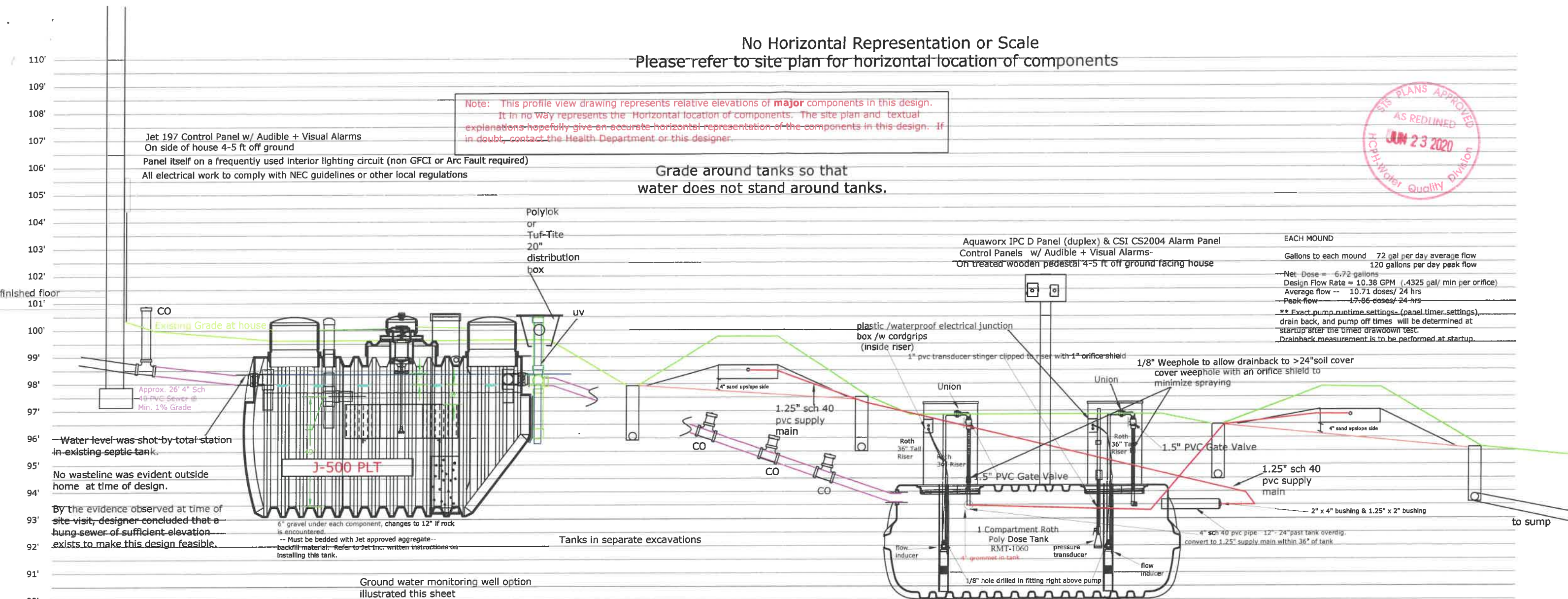
1.5" crosses used for easier removal of gravel if gravel is trapped in cross during initial startup

No Horizontal Representation or Scale  
Please refer to site plan for horizontal location of components



Note: This profile view drawing represents relative elevations of major components in this design. It in no way represents the horizontal location of components. The site plan and textual explanations hopefully give an accurate horizontal representation of the components in this design. If in doubt, contact the Health Department or this designer.

Grade around tanks so that water does not stand around tanks.



EACH MOUND  
Gallons to each mound 72 gal per day average flow  
120 gallons per day peak flow  
Net Dose = 6.72 gallons  
Design Flow Rate = 10.38 GPM (.4325 gal/ min per orifice)  
Average flow -- 10.71 doses/ 24 hrs  
Peak flow -- 17.86 doses/ 24 hrs  
\*\* Exact pump runtime settings (panel timer settings), drain back, and pump off times will be determined at startup after the timed drawdown test. Drainback measurement is to be performed at startup.

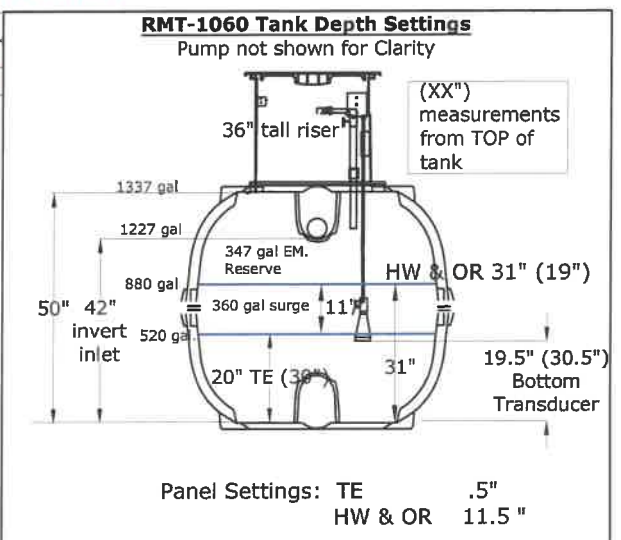
Water level was shot by total station in existing septic tank.  
No wasteline was evident outside home at time of design.  
By the evidence observed at time of site visit, designer concluded that a hung sewer of sufficient elevation exists to make this design feasible.

Authorized Jet Dealer Tri State Jet requests Installer choose to install the Jet J-500PLT unit with 1 of 2 options:  
1) Jet approved Jet anti-buoyancy concrete curbs with stainless steel cables (available from Tri-State-Jet)  
2) Ground Water Monitoring Well installed to bottom of Jet tank excavation.  
The monitoring well is a piece of 6" Dia. SDR 35 with a series of 1/4" holes in bottom 18" of pipe. Drill a row of holes every 90 degrees around pipe. Cover bottom of pipe with 24" of filter fabric. Cap the monitoring well with -Threaded SDR 35 endcap

Clarus 5030-0005 120v 12 amp 11 GPM 1/2 hp pump - see pump curve  
Housed inside Orenco UFI-4 Flow Inducer or field manufactured flow inducer as per detail Sheet 7  
attached to wall of riser with with non corrosive stainless steel screws  
10.3 GPM @ 13.1' TDH Needed  
Minimum depth for pump cover 18" water

Clarus 5030-0005 120v 12 amp 11 GPM 1/2 hp pump - see pump curve  
Housed inside Orenco UFI-4 Flow Inducer or field manufactured flow inducer as per detail Sheet 7  
attached to wall of riser with with non corrosive stainless steel screws  
10.3 GPM @ 14.5' TDH Needed  
Minimum depth for pump cover 18" water

6" gravel under tank-- Must be bedded with Roth approved aggregate-- ODOT #8 natural (rounded) gravel spec. changes to 12" under tank if rock is encountered  
Backfill all Roth tanks according to their written installation guidance.



Visit our website:  
<http://areawidesepticswoh.com/index.php/resources>  
dose worksheet for startup

|   |       |
|---|-------|
| Maximum Static Lift (Upper mound) ..... | 7.5'  |
| Maximum Static Lift (Lower mound) ..... | 5.66' |

Areawide Septic  
1170 Thorpe Road  
Sabina Ohio

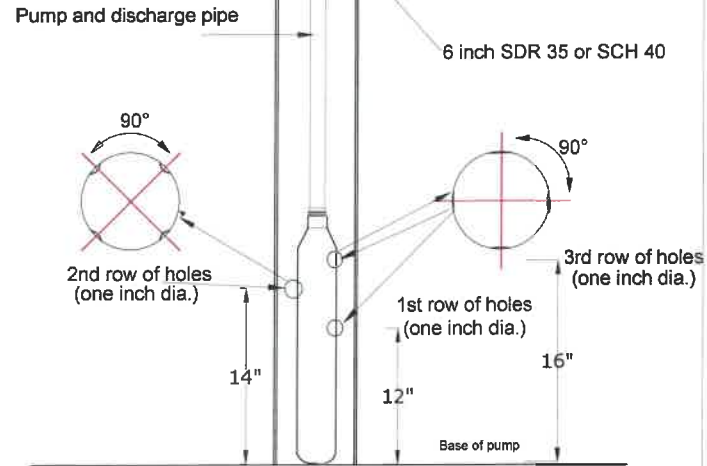
|            |          |
|------------|----------|
| DATE       | SCALE    |
| Sept. 2019 | As Shown |

Sheet 6  
Hydraulic Profile  
Halas Residence 4519 Poole Road  
Par# 510-0202-0006-00  
Hamilton County Ohio- .922 Acres

**Use Orenco UFI-4 FLOW INDUCER or field manufacture**  
**FLOW INDUCER FOR TURBINE PUMP** **DETAIL C**

ADJUST FOR SYSTEM FLOW RATE.  
 Drill four holes for every 20 GPM system flow rate.  
 (minimum 4 holes)

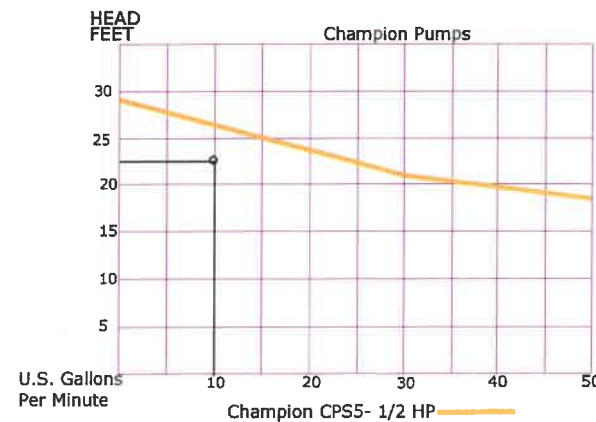
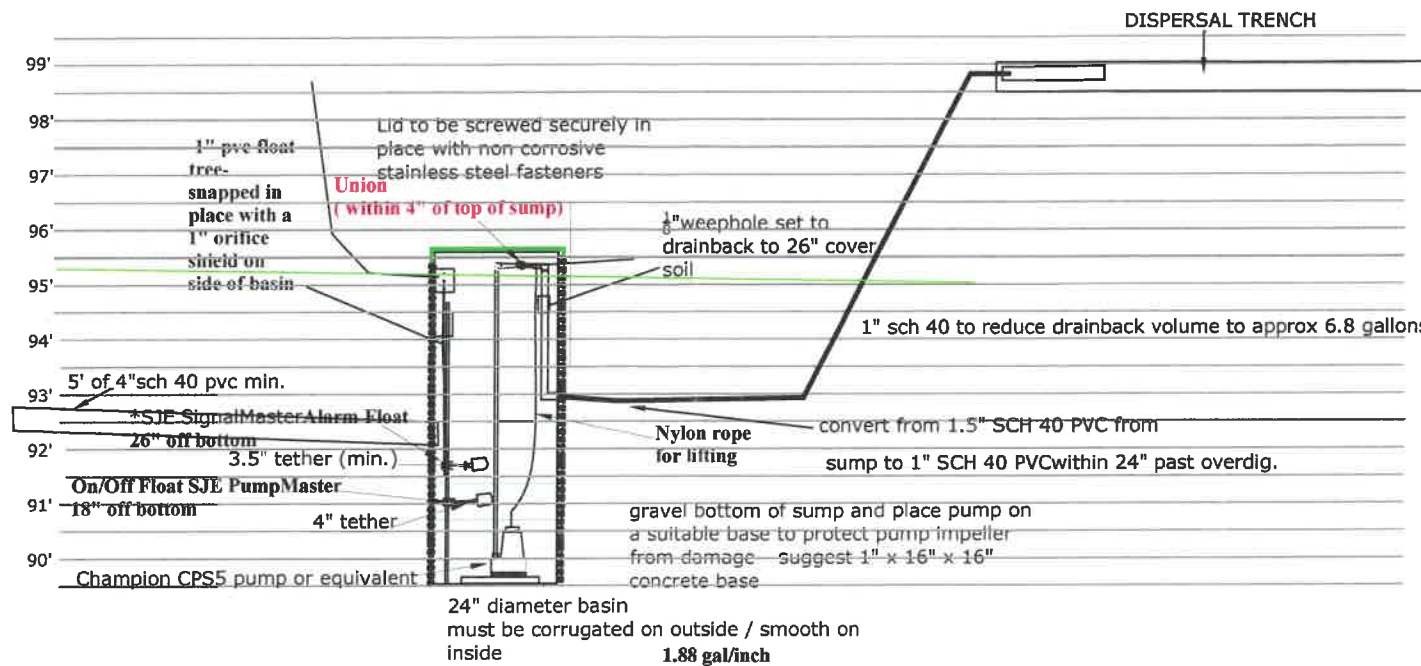
Top of flow inducer pipe within 8" of the top of the riser. Stabilize the inducer pipe without compromising the watertightness of the tank or riser. Attach to wall of riser with non-corrosive stainless steel # 12 screws and apply ADH 100 sealant over heads to guarantee watertight seal



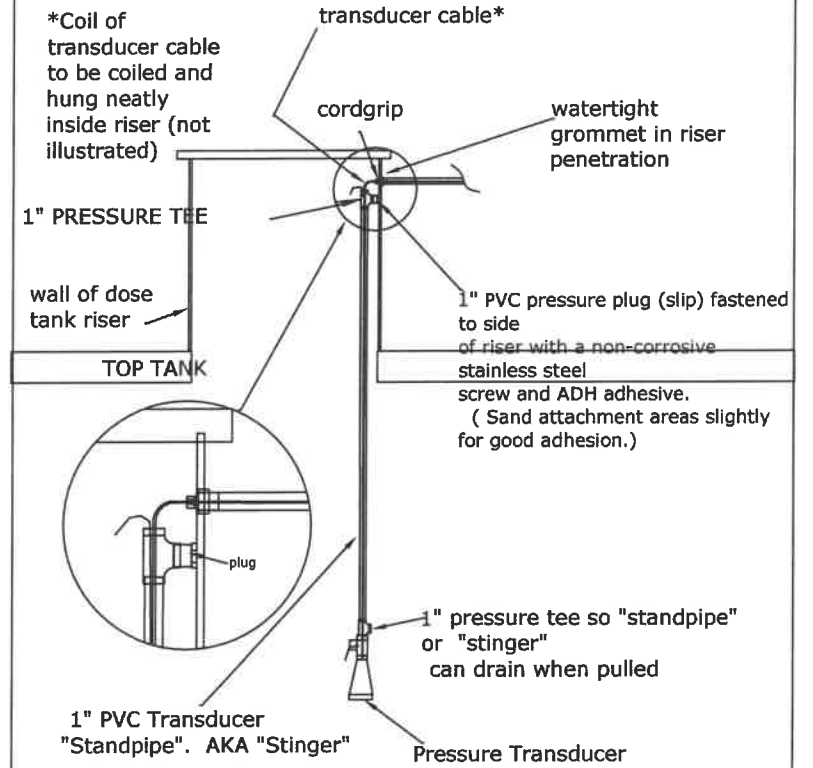
**Interceptor & Perimeter drain sump pump and discharge**

To minimize pump cycling, set dose to approx. 15 gallon/dose 4" long tethered SJE PumpMaster float (4" tether = approx. 7-8" pumping range)  
 \*or installer can use a float extension kit such as Zoeller adjustable long cycle kit 10-0001\*

plastic watertight electrical junction box with proper cord grips at penetrations inside sump



**INSTALLATION OF PRESSURE TRANSDUCER**

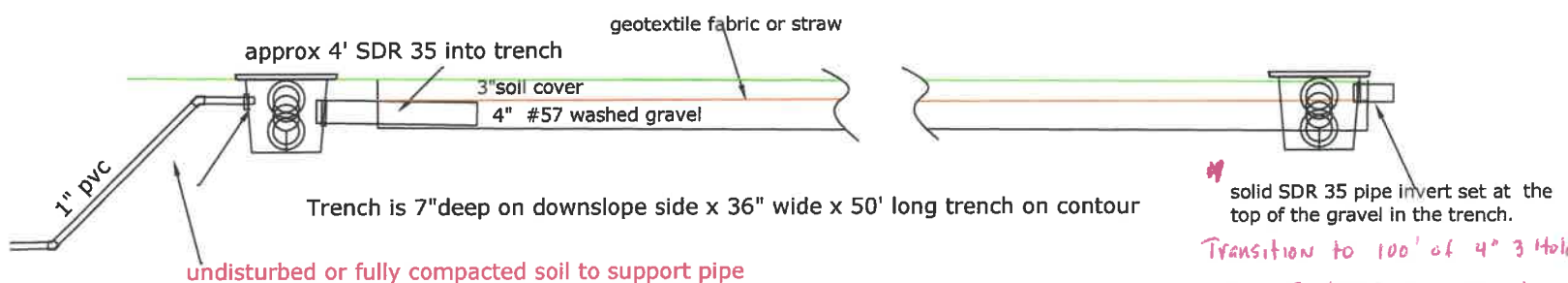


**NO SCALE**



**DETAIL 2**

**PLUMBING INTO DISPERSAL TRENCH**



\* solid SDR 35 pipe invert set at the top of the gravel in the trench.  
 Transition to 100' of 4" 3 Hole SDR 35 ~~1000~~ per sheet 2+3

|  |       |   |  |
|--|-------|---|--|
| Areawide Septic<br>1170 Thorpe Road<br>Sabina Ohio |       | <b>Sheet 7</b><br>Interceptor / Perimeter Drain Sump Detail<br>Halas Residence 4519 Poole Road<br>Par# 510-0202-0006-00<br>Hamilton County Ohio- .922 Acres |  |
| DATE   | SCALE |   |  |
| Sept. 2019   | None  |   |  |



# Tables 2 & 3



## Determining HLLR

### Synopsis of soil evaluation by Soil Scientist

| Limiting Conditions                 | Depth to (in.) | Grade | Class           |
|-------------------------------------|----------------|-------|-----------------|
| Perched Seasonal Water Table        | 6-14"          | 3     | Silt Loam       |
| Ground Water/ Aquifer               | >50            | 1     | Silt Loam       |
| Highly Permeable Material (range)   | >50            | 1     | Silty Clay Loam |
| Bedrock                             | >50            | 2     | Clay Loam       |
| Flow Restrictive Layer              | 30"            | 2     | Clay Loam       |
| Highly Weathered Soil               | 30"            |       |                 |
| Fractured Glacial Till              | >50            |       |                 |
| Other High Risk Limiting Conditions | >50            |       |                 |

| SOIL PROFILE | Depth (inches) | Depth (inches) Effluent Applied | Depth (inches) Limiting Layer | Infiltrative Distance |
|--------------|----------------|---------------------------------|-------------------------------|-----------------------|
|              | 0-6            | 0"                              |                               |                       |
|              | 6-10           |                                 |                               |                       |
|              | 10-22          |                                 |                               |                       |
|              | 22-30          |                                 |                               |                       |
|              | 30-+           |                                 |                               |                       |

NOTE: DESIGNER DISCRETION FOR A MORE CONSERVATIVE LOADING RATE  
 Designer, upon advice from the Soils Scientist, has chosen to use the more conservative Basal Loading Rate for computations for this design. This is because of the Soil Grade change from Grade 2 to Grade 1 Soil at 6" below the infiltrative surface.

## Determining BLR

| Depth (inches) Effluent Applied | Soil Class | Grade | CBOD5                          |
|---------------------------------|------------|-------|--------------------------------|
| 0" (mound)                      | Silt Loam  | 1     | <=25mg/L (pretreated effluent) |

Table 3. Soil Infiltration Loading Rates.

| Soil Characteristics | Soil Infiltration Loading RRate (gpd/ft2) |       |                                |                                |    |
|----------------------|---|-------|--------------------------------|--------------------------------|----|
|                      | Structure                                 | Grade | CBOD5                          |                                |    |
|                      |   |       | >25mg/L (septic tank effluent) | <=25mg/L (pretreated effluent) |    |
| Texture              | Shape                                     | Grade | Row                            | Row                            |    |
| COS, S, LCOS,LS      | --  | OSG   | 0.8                            | 1.6                            | 1  |
| FS, VFS, LFS, LVFS   | --  | OSG   | 0.4                            | 1                              | 2  |
| CSL, SL              | PL  | OM    | 0.2                            | 0.6                            | 3  |
|                      |   | 1     | 0.2                            | 0.5                            | 4  |
|                      | PR/BK/GR                                  | 2, 3  | 0                              | 0                              | 5  |
|                      |   | 1     | 0.4                            | 0.7                            | 6  |
|                      |   | 2, 3  | 0.6                            | 1                              | 7  |
| FSL, VFSL            | --  | OM    | 0.2                            | 0.5                            | 8  |
|                      | PL  | 1,2,3 | 0                              | 0                              | 9  |
|                      | PR/BK/GR                                  | 1     | 0.2                            | 0.6                            | 10 |
| 2,3                  |   | 0.4   | 0.8                            | 11                             |    |
| L                    | --  | OM    | 0.2                            | 0.5                            | 12 |
|                      | PL  | 1,2,3 | 0                              | 0                              | 13 |
|                      | PR/BK/GR                                  | 1     | 0.4                            | 0.6                            | 14 |
| 2,3                  |   | 0.6   | 0.8                            | 15                             |    |
| SIL                  | --  | OM    | 0                              | 0                              | 16 |
|                      | PL  | 1,2,3 | 0                              | 0                              | 17 |
|                      | PR/BK/GR                                  | 1     | 0.4                            | 0.6                            | 18 |
| 2,3                  |   | 0.6   | 0.8                            | 19                             |    |
| SCL, CL, SICL        | --  | OM    | 0                              | 0                              | 20 |
|                      | PL  | 1,2,3 | 0                              | 0                              | 21 |
|                      | PR/BK/GR                                  | 1     | 0.2                            | 0.3                            | 22 |
| 2,3                  |   | 0.4   | 0.6                            | 23                             |    |
| SC, C, SIC           | --  | OM    | 0                              | 0                              | 24 |
|                      | PL  | 1,2,3 | 0                              | 0                              | 25 |
|                      | PR/BK/GR                                  | 1     | 0                              | 0                              | 26 |
| 2,3                  |   | 0.2   | 0.3                            | 27                             |    |

| Soil Characteristics |           | Hydraulic Linear Loading Rate (gpd/ft) |       |        |                                 |        |        |                                 |        |        | Row    |        |   |
|----------------------|-----------|--|-------|--------|---------------------------------|--------|--------|---------------------------------|--------|--------|--------|--------|---|
|                      |           | Slope 0-4%                             |       |        | Slope 5-9%                      |        |        | Slope >10%                      |        |        |        |        |   |
|                      |           | Infiltrative Distance, (Inches)        |       |        | Infiltrative Distance, (Inches) |        |        | Infiltrative Distance, (Inches) |        |        |        |        |   |
| Texture              | Structure | Shape                                  | Grade | 8 - 12 | 12- 24                          | 24- 48 | 8 - 12 | 12- 24                          | 24- 48 | 8 - 12 | 12- 24 | 24- 48 |   |
| COS, S, LCOS,LS      | --        | OSG                                    | 4,0   | 5.0    | 6.0                             | 5.0    | 6.0    | 7.0                             | 6.0    | 7.0    | 8.0    | 1      |   |
| FS, VFS, LFS, LVFS   | --        | OSG                                    | 3,5   | 4.5    | 5.5                             | 4.0    | 5.0    | 6.0                             | 5.0    | 6.0    | 7.0    | 2      |   |
| CSL, SL              | PL        | OM                                     | 3.0   | 3.5    | 4.0                             | 3.6    | 4.1    | 4.6                             | 5.0    | 6.0    | 7.0    | 3      |   |
|                      |           | 1                                      | 3.0   | 3.5    | 4.0                             | 3.6    | 4.1    | 4.6                             | 4.0    | 5.0    | 6.0    | 4      |   |
|                      | PR/BK/GR  | 2, 3                                   |       |        |                                 |        |        |                                 |        |        |        |        | 5 |
|                      |           | 1                                      | 3.5   | 4.5    | 5.5                             | 4.0    | 5.0    | 6.0                             | 5.0    | 6.0    | 7.0    | 6      |   |
|                      |           | 2, 3                                   | 3.5   | 4.5    | 5.5                             | 4.0    | 5.0    | 6.0                             | 5.0    | 6.0    | 7.0    | 7      |   |
| FSL, VFSL            | --        | OM                                     | 2.0   | 2.3    | 2.6                             | 2.4    | 2.7    | 3.0                             | 2.7    | 3.2    | 3.7    | 8      |   |
|                      | PL        | 1,2,3                                  |       |        |                                 |        |        |                                 |        |        |        | 9      |   |
|                      | PR/BK/GR  | 1                                      | 3.0   | 3.5    | 4.0                             | 3.3    | 3.8    | 4.3                             | 3.6    | 4.1    | 4.6    | 10     |   |
| 2,3                  |           | 3.3                                    | 3.8   | 4.3    | 3.6                             | 4.1    | 4.6    | 3.9                             | 4.4    | 4.9    | 11     |        |   |
| L                    | --        | OM                                     | 2.0   | 2.3    | 2.6                             | 2.4    | 2.7    | 3.0                             | 3.2    | 3.2    | 3.7    | 12     |   |
|                      | PL        | 1,2,3                                  | -     | -      | -                               | -      | -      | -                               | -      | -      | -      | 13     |   |
|                      | PR/BK/GR  | 1                                      | 3.0   | 3.5    | 4.0                             | 3.3    | 3.8    | 4.3                             | 3.6    | 4.1    | 4.6    | 14     |   |
| 2,3                  |           | 3.3                                    | 3.8   | 4.3    | 3.6                             | 4.1    | 4.6    | 3.9                             | 4.4    | 4.9    | 15     |        |   |
| SIL                  | --        | OM                                     | 2.0   | 2.5    | 3.0                             | 2.2    | 2.7    | 3.2                             | 2.4    | 2.9    | 3.4    | 16     |   |
|                      | PL        | 1,2,3                                  |       |        |                                 |        |        |                                 |        |        |        | 17     |   |
|                      | PR/BK/GR  | 1                                      | 2.4   | 2.7    | 3.0                             | 2.7    | 3.0    | 3.3                             | 3.0    | 3.5    | 4.0    | 18     |   |
| 2,3                  |           | 2.7                                    | 3.0   | 3.3    | 3.0                             | 3.5    | 4.0    | 3.3                             | 3.8    | 4.3    | 19     |        |   |
| SCL, CL, SICL        | --        | OM                                     |       |        |                                 |        |        |                                 |        |        |        | 20     |   |
|                      | PL        | 1,2,3                                  |       |        |                                 |        |        |                                 |        |        |        | 21     |   |
|                      | PR/BK/GR  | 1                                      | 2.0   | 2.5    | 3.0                             | 2.2    | 2.7    | 3.2                             | 2.4    | 2.9    | 3.4    | 22     |   |
|                      |           | 2,3                                    | 2.4   | 2.9    | 3.2                             | 2.7    | 3.0    | 3.3                             | 3.0    | 3.5    | 4.0    | 23     |   |
| SC, C, SIC           | --        | OM                                     |       |        |                                 |        |        |                                 |        |        |        | 24     |   |
|                      | PL        | 1,2,3                                  |       |        |                                 |        |        |                                 |        |        |        | 25     |   |
|                      | PR/BK/GR  | 1                                      | 2.0   | 2.5    | 3.0                             | 2.2    | 2.7    | 3.2                             | 2.4    | 2.9    | 3.4    | 26     |   |
|                      |           | 2,3                                    | 2.0   | 2.5    | 3.0                             | 2.2    | 2.7    | 3.2                             | 2.4    | 2.9    | 3.4    | 27     |   |

Length Calculation: 240 DDF / 2.7 HLLR = 88.88' long mound needed (min.)  
 88.88' / 2 = 44.44' split mound minimum

Area Calculation: 240 GPD / .6 = 400 ft<sup>2</sup> minimum area

Areawide Septic  
 1170 Thorpe Road  
 Sabina Ohio  
 DATE SCALE

Sheet 8  
 Determining HLLR & BLR Tables 2 & 3  
 Halas Residence 4519 Poole Road  
 Par# 510-0202-0006-00

|          |                                 |                                     |
|----------|---------------------------------|-------------------------------------|
| <b>X</b> | Replacement STS                 | Single Mound or Structure           |
|          | New STS                         | <b>X</b> Split Mounds or Structures |
| 2        | Bedroom Home (120 gal/bedroom)  |                                     |
| 240      | GPD Peak flows                  |                                     |
| 144      | GPD Average flows (60% of peak) |                                     |
| 0        | gallons added flows             |                                     |
| 240      | Total GPD This Design           |                                     |

|                        |   |                        |   |
|------------------------|---|------------------------|---|
| <b>Halas</b>           |   | <b>Halas</b>           |   |
| <b>4519 Poole Road</b> |   | <b>4519 Poole Road</b> |   |
| <b>Parameters</b>      |   | <b>Parameters</b>      |   |
| 8                      | inches of unsaturated in-situ soil depth min. or effluent will need to be pretreated to <1000 fecal coliform / 100ml (24" soil depth) | 8                      | Treatment minimums (in.)  |
| 18                     | inches of total vertical treatment distance required (VSD) to Glacial Till  | 18                     | inches of total vertical treatment distance required (VSD) to Glacial Till                    |
| 36                     | inches to highly permeable material   | 36                     | inches to highly permeable material   |
| 36                     | inches to Bedrock   | 36                     | inches to Bedrock   |
| 24                     | inches of total vertical treatment distance required (VSD) this design (see design rationale)   | 24                     | inches of total vertical treatment distance required (VSD) this design (see design rationale) |
| 6                      | inches of unsaturated in-situ soil present in this design   | 6                      | Treatment this design   |
| 12                     | inches of soil depth credit   | 12                     | inches of soil depth credit   |
| 4                      | inches of Sand treatment this design  | 4                      | inches of Sand treatment this design  |
| 12                     | inches from other treatment   | 12                     | inches from other treatment   |
| 34                     | VSD THIS DESIGN (inches)  | 34                     | VSD THIS DESIGN (inches)  |

24" pretreatment required  
Jet ATU  
Jet UV

**Halas**  
**4519 Poole Road**  
**Calculations**

|                                      |                                    |     |                                       |                                 |
|--------------------------------------|------------------------------------|-----|---------------------------------------|---------------------------------|
| Min. Length of treatment needed (ft) | GPD                                | HLR | required total length (ft)            | Length for even laterals (ft)   |
| 120                                  | 120                                | 2.7 | 44.44444444                           | 48                              |
| Gravel Distribution Bed Width        | HLR                                | 1   | Min. Width Needed (Ft.)               | Design Width of gravel bed (ft) |
| 2.7                                  | 2.7                                | 1   | 2.7                                   | 2.7                             |
| Gravel Distribution Bed Length       | Length Laterals                    | 1.5 | Length gravel (ft)                    | width (in.)                     |
| 48                                   | 48                                 | 1.5 | 51                                    | 32.4                            |
| Sand Mound Total Length (ft)         | sand length of 1 end of mound (ft) | +   | total length of sand ends ft          | Total Mound Sand length ft.     |
| 3                                    | 51                                 | +   | 6                                     | 57                              |
| Minimum Basal Width                  | Soil design loading (HLR)          | /   | soil basal loading rate (gal/sq ft)   | Min. Basal Width (ft.)          |
| 2.7                                  | 2.7                                | /   | 0.6                                   | 4.5                             |
| Minimum Basal Area (sq ft)           | GPD this mound                     | /   | Soil Basal Loading Rate (gal/sq. ft.) | Area sand in sq ft.             |
| 120                                  | 120                                | /   | 0.6                                   | 200                             |

| Minimum Sand Width and Length to achieve maximum 3:1 slope                        | Sand (in.) | Gravel (in.) | Height (ft)          | Conversion Factor | In. of sand | / | min. sand (ft.)          | Actual Design (ft.) |
|---|------------|--------------|----------------------|-------------------|-------------|---|--------------------------|---------------------|
| Downslope   | 4          | 6            | 10                   | 1.00              | 30          | / | 2.5                      | 6                   |
| Upslope   | 4.972      | 6            | 10.972               | 1.10              | 36.2076     | / | 3.0173                   | 6                   |
| Endslope  | 4.972      | 6            | 10.972               | 1                 | 32.916      | / | 2.743                    | 3                   |
| Minimum Soil Width and Length for Mound to achieve the Maximum 3:1 Finished Slope | Sand       | Gravel       | soil cap depth (in.) | Height *          | Conversion  | / | Soil width for 3:1 (ft.) | Actual Design (ft.) |
| Lateral   | 4          | 6            | 10                   | 10                | 1.00        | / | 5                        | 8.35                |
| Downslope   | 4.972      | 6            | 10.972               | 10                | 1.10        | / | 5.7673                   | 9.5                 |
| Endslope  | 4.972      | 6            | 10.972               | 10                | 1           | / | 5.243                    | 5.75                |

**SAND DEPTH & SLOPE**

|   |                                    |                     |                          |
|---|------------------------------------|---------------------|--------------------------|
| Sand Depth under Gravel Distribution Bed-downslope side | Width of Distribution Gravel (in.) | Percentage of Slope | Sand upslope depth (in.) |
| 32.4  | 3%                                 | 4                   | 4.972                    |

**SAND EFFLUENT TREATMENT AREA (width of sand from lateral to toe of mound)**

|  |                                |                              |  |   |
|--|--------------------------------|------------------------------|--|---|
| Actual Mound Sand treatment area (sq ft) | Length sand under laterals(ft) | width of upslope sand (ft)   | upslope sand area under laterals sq ft   | sq ft   |
| 48                                       | 48                             | 7.35                         | 352.8                                    | 1411.2  |
| Actual Mound Sand treatment area (sq ft) | Length sand under laterals(ft) | width of downslope sand (ft) | downslope sand area under laterals sq ft | upslope and downslope treatment sand area sq ft |
| 48                                       | 48                             | 7.35                         | 352.8                                    | 705.6   |

**OVERALL SAND DIMENSIONS**

|                                |                             |                                     |                      |                       |
|--------------------------------|-----------------------------|-------------------------------------|----------------------|-----------------------|
| width sand under gravel bed ft | width upslope sand ft       | width downslope sand ft             | length sand on 1 end | length sand both ends |
| 2.7                            | 6                           | 6                                   | 51                   | 6                     |
| Total Mound Width (ft)         | Length Sand end to end (ft) | Total mound sand coverage area SCLF |                      |                       |
| 14.7                           | 57                          | 837.9                               |                      |                       |

|                          |                                    |                           |                    |               |                       |                         |
|--------------------------|------------------------------------|---------------------------|--------------------|---------------|-----------------------|-------------------------|
| Office # and design flow | width obs bed gravel x Lat. Length | Sand loading (sq. ft.)    | min. orifice count | Actual Design | Flow per 1/8" orifice | Design Flow in Gal/min. |
|                          | 129.6                              | 6                         | 21.6               | 24            | X                     | 10.38                   |
| Dose                     | Length of Laterals (ft.)           | gallon capacity per. foot | =                  | Void Gallons  | X                     | Dose (gal )             |
| 1" pipe                  | 0                                  | 0.045                     | =                  | 0             | X                     | 0                       |
| 3/4" pipe                | 48                                 | 0.028                     | =                  | 1.344         | X                     | 6.72                    |

|  |                          |                    |                         |                 |                             |                                     |
|--|--------------------------|--------------------|-------------------------|-----------------|-----------------------------|-------------------------------------|
| Velocity of effluent through main, submains, & sub sub mains | I.D. PVC Pipe Size (in.) | Flow Rate gal/min. | Pipe Size (in. squared) | Velocity ft/sec | Sub Main Vel. if applicable | Sub-Sub Main Velocity if applicable |
| 2"sch 40 pvc   | 2.067                    | 10.38              | 4.272489                | 0.99            | 0.408                       |                                     |
| 1.5"sch 40 pvc   | 1.61                     | 10.38              | 2.5921                  | 1.63            | 0.408                       | 0.82                                |
| 1.25"sch 40 pvc  | 1.38                     | 10.38              | 1.9044                  | 2.22            | 0.408                       | 1.11                                |
| 1"sch 40 pvc   | 1.049                    | 10.38              | 1.100401                | 3.85            | 0.408                       | 1.92                                |

