SEWAGE TREATMENT SYSTEM (STS) DESIGN PROPOSAL NOTES AND SPECIFICATIONS

When referring to codes cited in this proposal, use HCPH Resolution A-2015: Policies and Standard Pursuant to Ohio Administrative Code Section 3701-29; Household Sewage Disposal Systems.

This proposal has been designed in accordance with guidelines provided by Ohio Administrative Code Section 3701-29 and local public health regulations. HCPH Installation Manual shall be used for procedures and to supplement information not otherwise specified in these plans. Additional information regarding installation instructions, materials, system devices, components and products specified in this STS proposal can be found by consulting manufacturer resources. For all further guidance or services such as change requests, or where conflicts exist, please consult Phenide for clarification before proceeding. It is highly recommended to have a copy of the Hamilton County Installation Manual during installation.

Definitions:
"3701-29-# #" refers to the Ohio Administrative Code.
"HCPH" = Hamilton County Public Health.
"IBI" = The Inspection Bureau, Inc. Required for Electrical inspection.
"ODH" = Ohio Department of Health.
"Section" refers to the HCPH Installer's Manual.
"STS" = Sewage Treatment System.

System Proposal Details:
This design is for a Existing 3 bedroom home with a Daily Design Peak Flow of 360 GPD. The peak flow should not be reached on a routine basis. Average flows of 216 GPD can be accommodated routinely with typical residential wastewater strength as specified in Ohio Administrative Code (OAC) 3701-29 for households.
The seasonal water table is at 8" and flow restrictive layer is 26" from the ground's surface.
Conditions require a 24" Vertical Separation Distance with 8" In Situ Soil. (see attached calculation sheet)
Owner chose an Jet J500-PLT pretreatment system with aeration which supplies 1' Soil Depth Credit and an Infiltrator IM1530 Single Compartment Dosing Tank with a time-dosed Control Panel to a Stacked OSU Sloping Site Split Mound with upslope interceptor drain, middle interceptor drain and downslope perimeter drain. The DDF of the system will be split equally between both mounds, which each will accomodate 180 GPD.
The split zone sand mound minimum design length and width are calculated based on the worst soil conditions under the soil absorption system using OSU Bulletins 813 and 829. The Soil Loading rate for silt loam with strong granular structure is 0.8 GPD/sq.ft for pretreated effluent. The Linear Loading Rate for silt loam with strong granular structure with an infiltrative distance of 8-12" and 7% slope (as determined on-site) is 3.0 GPD/ln.ft.
The split zone sand mound minimum design length is 180 GPD / 3.0 Gal/ln.ft.= 60 feet long (each mound). Total mound dimensions for both mounds, including soil cover, are 16.7 feet wide by 71.6 feet long. Total sand / basal area is 6.9 feet wide by 65.6 feet long.

Changes and Use of This 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 of the installer and property owner to inform the designer of any conditions on the site, or otherwise, 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. The designer will be available to make adjustments.

System Protection
Property owner and installer are responsible to protect the soil absorption areas from disturbance. Keep wheeled traffic off the soil absorption area. It is the owner and installing contractor's responsibility to locate underground utilities. If utilities interfere with installation of the approved STS design proposal, construction shall not proceed without documented approval from both Phenide and the authority responsible for approval of the STS proposal.

System Cost Information
The property owner has been informed of system options and has been briefed on cost factors. According to 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. Phenide estimates the costs associated with this STS design proposal as follows :
$38,500 +/- $7,000 Installation cost*
$1,000 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.

Design Statements
1) Phenide Limited is available to make adjustments and address concerns, as needed.
2) O&M requirements: All system devices and components must be operated and maintained in accordance with the ODH product approval and Hamilton County Public Health Operation Permit Terms and Conditions. System devices and components must be installed per ODH product approval, Hamilton County Public Health Standards and this design. Where conflicts exist, consult Phenide Limited for guidance before proceeding. See reference section on this sheet for information to obtain O&M Instructions. Means of O&M is accessible via the driveway and is within a reasonable distance for a standard truck.
3) Obstructions (if any) will be marked on site plan with the word "obstructions", and will have notes describing the obstructions and the proper way to avoid them.
4) This plan is the sole ownership of the designer and the homeowner at time of payment. This design may not be altered, changed, used or manipulated without approval of Phenide Limited. Contact Phenide Limited if changes are needed.
5) For further information not shown in these plans, refer to reference section on this sheet for web-sites and contact information. Be sure to address any other questions to HCPH during pre-construction meeting.
6) No unapproved connections or clear water connections (downspouts, pool/spa water, footer tiles, cisterns, etc) shall be connected to this STS.
7) This design is for a non-discharging system.
8) STS is sited on lot, with 10' and 50' isolation distances marked on scaled drawing as per 3701-29-06. STS is not in a floodway, wetland or within 100 year flood plain and sanitary sewers are not accessible.
9) Soil test provided by Dan Michael, Clear Creek Environmental.
10) Soil report describes the limiting condition and is noted.
11) STS was designed with adequate depth to limiting layer.
12) STS was designed with adequate depth to restrictive layer.
13) Soil test indicates soil horizons and depths.
14) Soil test indicates soil texture and structure of each horizon.
15) Soil test indicates estimated slope. Vertical scale shows actual slope.
16) Basal rate and linear loading rate are based off soil report and are appropriate for soils utilized.
17) Soil classifications are noted on report.
18) If there is highly permeable soil present in report, it will be noted in design. Otherwise N/A.

STS PLANS APPROVED AS REVISED MAR 28 2022

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 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 further approval is granted.

References for Sewage Treatment System Design, Installation, Materials and O&M:
- Dan Michael, Clear Creek Environmental. 513-934-1040
- Dan Brennan, SCS Engineers. 513-826-4174.
- Jet J500-J800 Installation Manuals: https://bit.ly/2ZPS90Z
- Jet ODH Product O&M: https://bit.ly/3GDORJE
- Infiltrator. 1-800-221-4436. www.infiltratorwater.com
- Hamilton County. 513-946-7800. www.hamiltoncountyhealth.org
- Electric Inspections. IBI. 513-381-6080
- Ohio Department of Health. 614-644-7551. www.odh.ohio.gov
- Orenco. (800) 348-9843. www.orenco.com
- Polylok - www.polylok.com - (888) 284-8514
- SIM/TECH Filter. 888-999-3290. wwwsimtechfilter.com

Designed By:
Phenide Limited
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513.903.0089

811 Know what's below. Call before you dig.

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Client:	Campbell, Gary	Phone:	513-312-2181	
Address:	8574 Mount Hope Road, Harrison, OH 45030			
County:	Hamilton	Township:	Crosby	
Parcel #:			530-0111-0077-00	
Acreage:	1.060	Basis:	Replacement; Split Mound	

Project Number: S8574MHR
Version Number: 10b
Scale: As Noted
Release Date: 2022/03/25
Sheet Plot Date: 2022/03/25
Sheet Number: 1 of 11

Property Overview

NOTE:
This drawing is intended to be an accurate approximation (per 3701-29-10 Paragraph (C) Section 9c) of the noted site at the time of plan development. It is intended solely to aid in acquisition of a permit for septic system installation. It is NOT intended for use legally as representation in place of a binding document or survey of the property. The proposed system has been designed to meet the rules and limitations implemented by the Ohio Administrative Code Section 3701-29. The designer is not to be held responsible for any reason due to system expectations not being met. The information presented in this design is the property of Phenide Limited and shall not be used without expressed written consent stating as such.

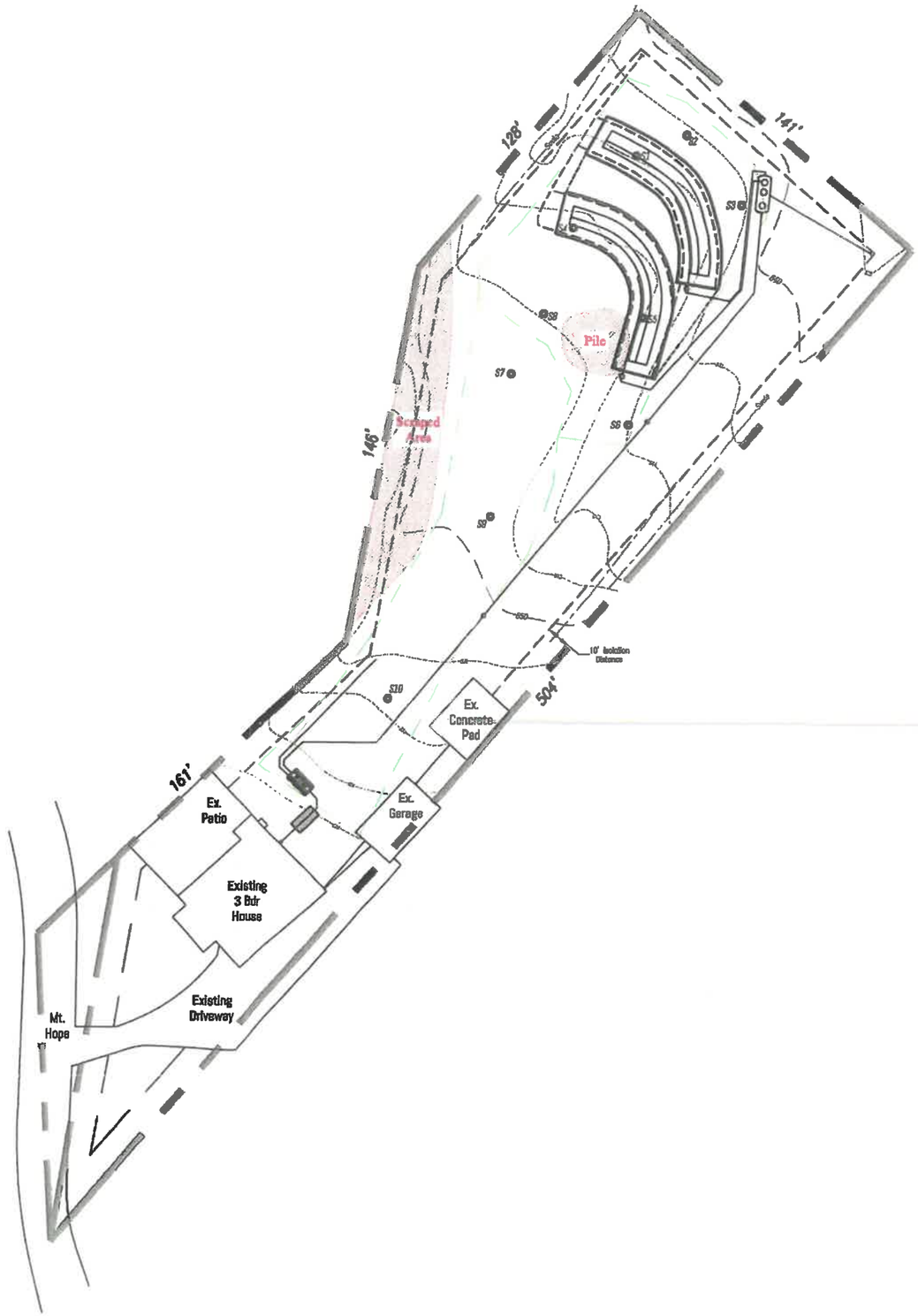
Legend

- Jet J-500 PLT ATU
- IM-1530 Dose Tank
- Soil Sample Site
- Property Line
- 10 ft Contours
- 2 ft Contours

Contours shown are from County Auditor's website or previous plot plans and may deviate from current conditions. Installer should verify field conditions in order to install system per guidelines in this design and per ODH specifications.

0 25 50

ORIGINAL SCALE: 1" = 50'



SR PLANS APPROVED AS REDLINED MAR 28 2022 Public Water Quality Division

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Oxford, OH 45056
PH: 513.903.0083

Client:	Campbell, Gary
Address:	8574 Mount Hope Road, Harrison, OH 45030
County:	Hamilton
Parcel #:	Township: Crosby
	530-0111-0077-00
Acreage:	1.080
Basis:	Replacement; Split Mound
Phone:	513-312-2181

Project Number: S8574MHR

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Scale: As Noted

Release Date: 2022/03/25

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Sheet Number: 2 of 11

Legend

- Jet J-500 PLT ATU
- IM-1530 Dose Tank
- Soil Sample Site
- Property Line
- 10 ft Contours
- 2 ft Contours

0 20 40

ORIGINAL SCALE: 1" = 40'

Proposed System Details

NOTE:
Physical marking flags may be placed on-site as necessary to mark critical system locations. It is the responsibility of the property owner to ensure any and all marking flags placed on-site, if applicable, remain in their proper location. Marking flags placed on-site will be noted in this proposal. The installing contractor **MUST** verify all marking flag locations as noted in accordance with the approved STS proposal prior to beginning the installation. If marking flags are not present in accordance with the approved STS proposal, the installing contractor **MUST** call to have marking flags replaced. Additional fees may apply. For more information regarding the system layout, please contact Phenide at 513-903-0089.

A) New 4" SCH 40 PVC Sewer line from house to ~~Aqua-Safe~~ Jet Aeration Treatment System. Standard cleanout outside house. Distance between cleanouts shall be a maximum of 75' or as noted on plan. Refer to 3701-29-12.

B) **Jet J500 PLT Aerobic Treatment Unit.**
B)A) 4" PVC SCH 40 outlet pipe from ATU to IM-1530

C) Infiltrator IM-1530 Single Compartment Dosing Tank with AquaWorx Pressure Bell Assembly and 2 x Orenco PF3005 Pump. Refer to 3701-29-12 (J) and (K).

D) AquaWorx IPC-DCB Control Panel mounted at tank. Mounds will be TIME DOSED. See 3701-28-12 (M) and 3701-29-15 (A)(2)(a)(b), (A)(5).
D)A) Jet Model 191B and AquaWorx Remote Alarm at House.

E) 1.25" Sch 40 PVC Force Mains from each pump. Buried at least 24 inches in depth. Refer to Section 5.6.

F) Trap w/ air release valve. Refer to Section 5.11. See page 4, 5 for Details.

G) OSU Sloping Site Mound. Refer to OSU Bulletins 813 and 829. 3 Sets of Flags for each mound represent the laterals, upper and lower sand widths.

H) Interceptor Drain. Refer to 3701-29-16.

I) Perimeter drain. Refer to 3701-29-16.

J) Perimeter/ Interceptor drain outlet pipe with animal guard. Must meet requirements of OAC 3701-29-16.

K) Abandon Existing Septic tank, and STS Components. Will require inspection by Hamilton County Public Health on proper STS abandonment. Refer to 3701-29-21 and www.Hamiltoncountyhealth.org (Search for "abandon existing septic system" on website for details.)

L) Toe of Upper Mound may extend to Upslope Drain of Lower Mound. May be filled using soil / topsoil to combine into one structure. NOTE: No sand may be placed over drains.

M) Anti-Buoyancy Drains.

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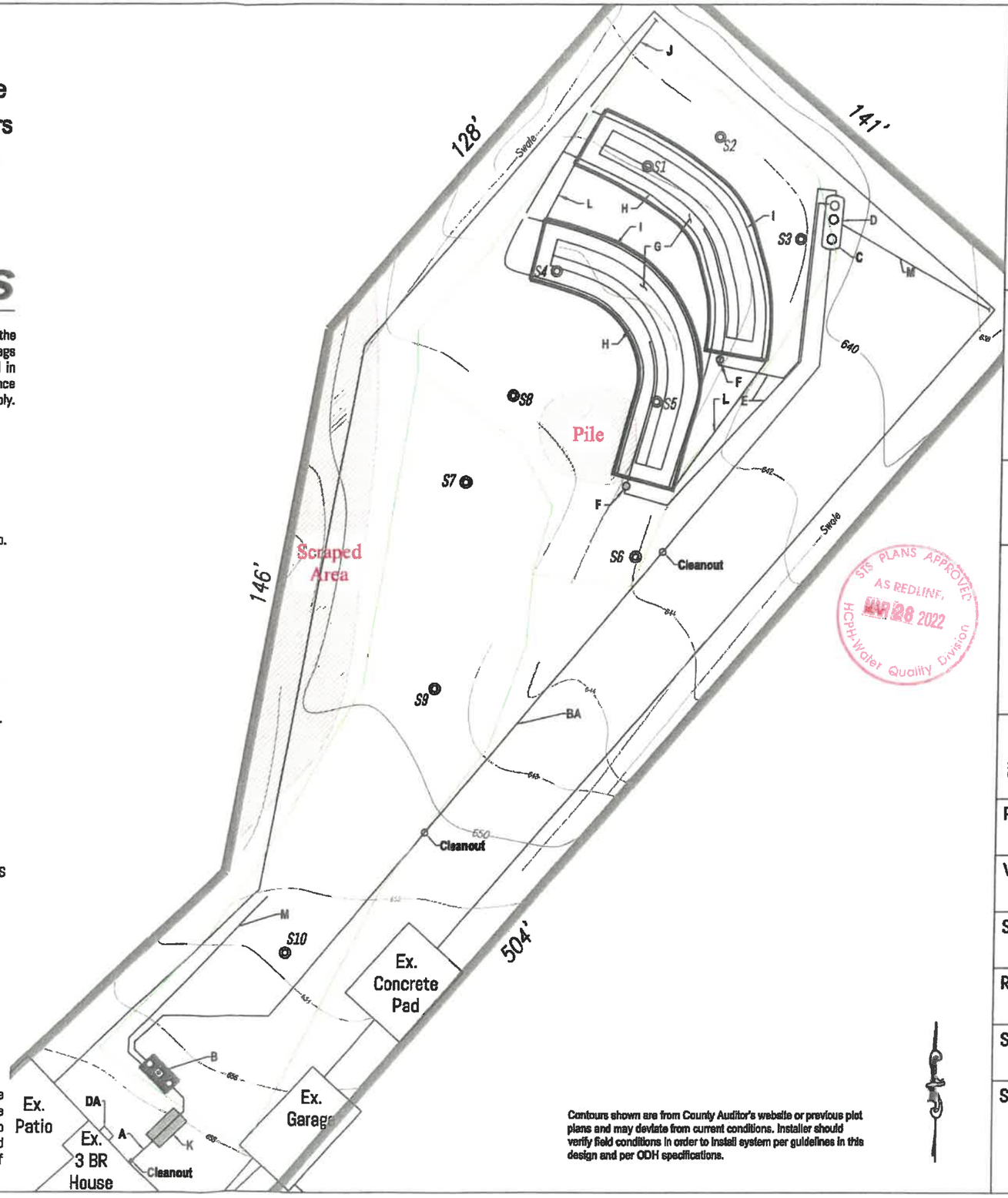

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Address:	8574 Mount Hope Road, Harrison, OH 45030
County:	Hamilton
Parcel #:	530-0111-0077-00
Acreage:	1.080
Phone:	513-312-2181
Township:	Crosby
Basis:	Replacement; Split Mound

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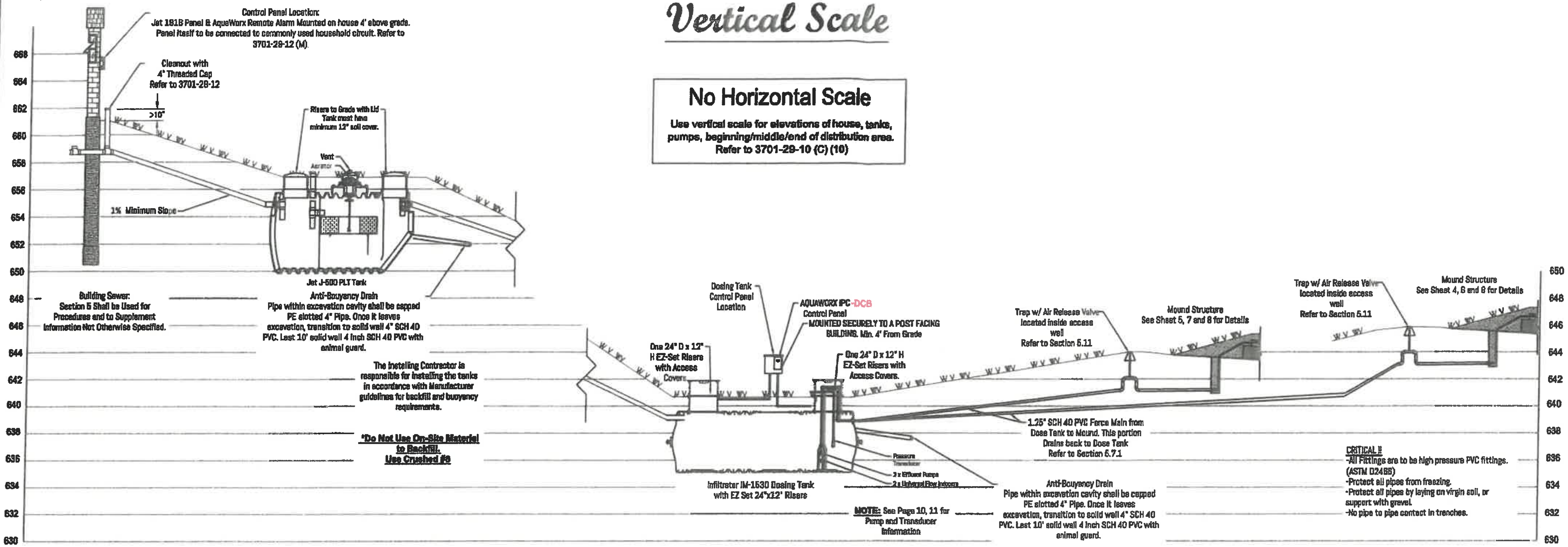
Sheet Plot Date: 2022/03/25

Sheet Number: 3 of 11

Vertical Scale

No Horizontal Scale

Use vertical scale for elevations of house, tanks, pumps, beginning/middle/end of distribution area. Refer to 3701-29-10 (C) (10)



Pre-tank and Treatment System Information

Jet J-500 PLT Aerobic Treatment Unit

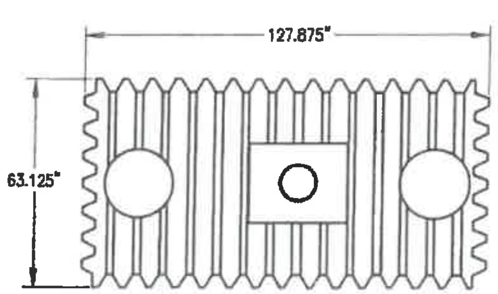
500 GPD Treatment Unit with Aeration
Pretreatment System and Components Approved By ODH

Overall height = 70.25" + Risers
Bottom of Inlet to bottom of tank = 59"
Bottom of outlet to bottom of tank = 56"
Total length = 123"
Total width = 62"

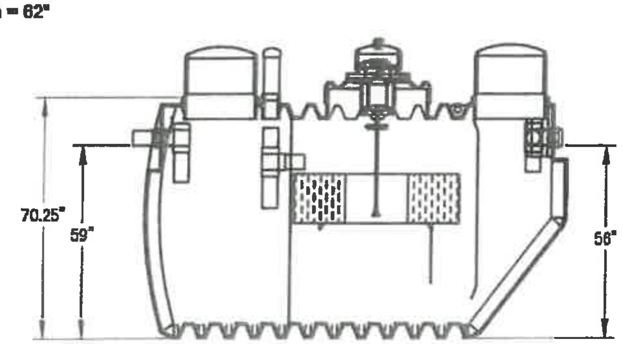
Treatment train must be installed per manufacturer's specifications

Infiltrator IM-1530 Dose Tank

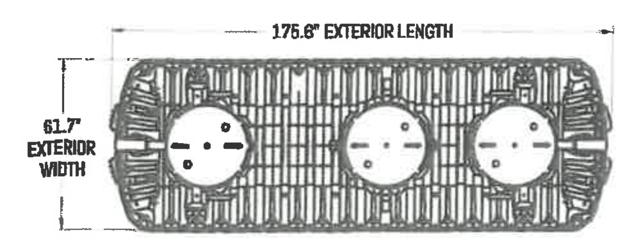
Single Compartment Dosing Tank
Tank and Components are Approved by ODH
Overall height = 54.5"
Bottom of Inlet to bottom of tank = 47"
Bottom of outlet to bottom of tank = 44"
Total length = 175.6"
Total width = 61.7"



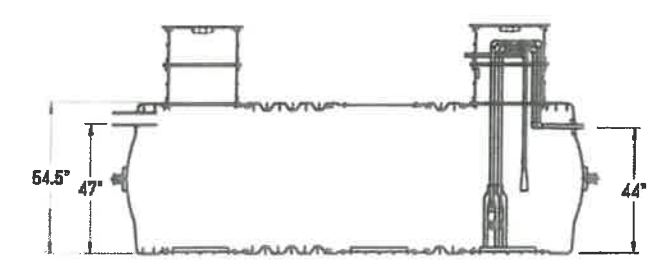
TOP VIEW



SIDE VIEW



TOP VIEW



SIDE VIEW

STS PLANS APPROVED AS REDLINED MAR 28 2022 HCPH Water Quality

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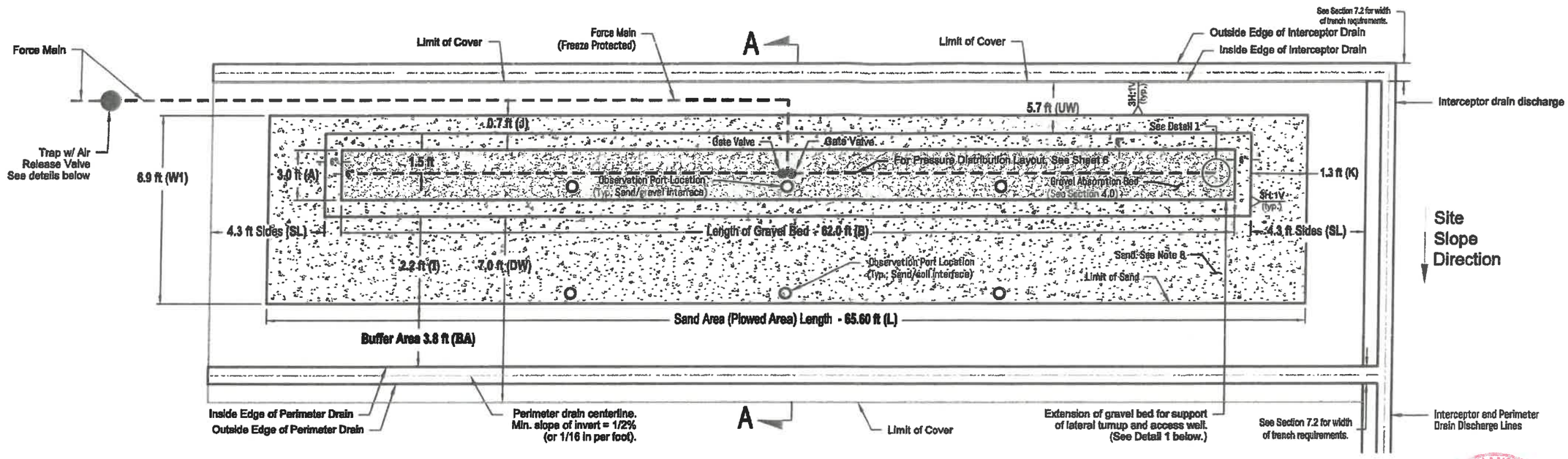
Client:	Campbell, Gary
Phone:	513-312-2181
Address:	8574 Mount Hope Road, Harrison, OH 45030
County:	Hamilton
Township:	Crosby
Parcel #:	530-0111-0077-00
Acreage:	1.080
Basis:	Replacement; Split Mound

Project Number: S8574MHR
Version Number: 10b
Scale: As Noted
Release Date: 2022/03/25
Sheet Plot Date: 2022/03/25
Sheet Number: 4 of 11

MOUND DETAIL IS NOT TO SCALE - FOR ILLUSTRATION PURPOSES ONLY. CONTRACTOR SHALL FOLLOW THE ACTUAL DIMENSIONS SHOWN ON THE DETAIL FOR CONSTRUCTION OF THE MOUND.

Mound 1 - UPPER MOUND



SYS PLANS APPROVED AS REDLINED MAR 28 2022 HCPH-Water Quality Division

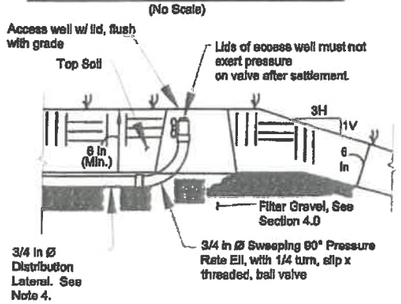
Sloping Site Mound & Modified Mound Structure - General Plan

(No Scale)

Details

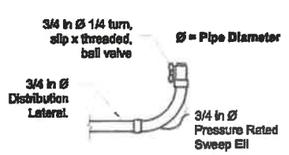
Detail 1 - Lateral Cleanout

(No Scale)



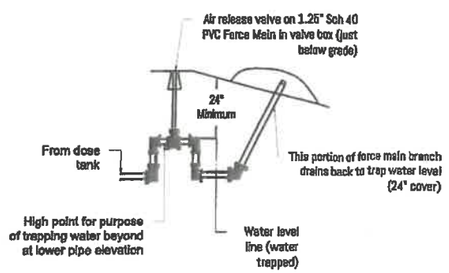
Lateral Cleanout Setup

(No Scale)



Trap With Air Release Valve

(No Scale)



Notes:

1) Observation ports to be installed per Detail 1 & 2, Sheet 7, 8.
2) See Approved Plan for dimensions of various mound components.
3) Buffer area to be protected (area between basal/sand area and interceptor or perimeter drains). Compaction, excavation, or plowing in this area is NOT permitted.
4) Orifices are set at the 6 O'Clock position (down) except first and last orifice on the laterals which face up. See Sheet 9 for the Pressure Distribution layout detail.
5) Interceptor Drain and Perimeter Drain share a common discharge line.
6) Interceptor Drains do not share a trench with pressure mains. Isolation distance is 3' minimum. If they must cross as part of an approved plan, then the drain is hard piped to 5' on either side of the pressure main and backfilled with tamped dirt. Interceptor drain maintains 6' from any distribution lateral. Perimeter Drain maintains 8' from any distribution lateral. Both drain types maintain at least 12" from any basal area sand fill.
7) Sand type complies with Section 4 (Table 4.2). Sand thickness is dependent on Approved Plan. Minimum sand thickness is based on the highest contour elevation on upslope side of the basal area under the gravel area. Top of sand area is to be level.

ALL SECTION NOTATIONS REFERENCE THE HAMILTON COUNTY INSTALLER'S MANUAL

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Address:	8574 Mount Hope Road, Harrison, OH 45030			
County:	Hamilton	Township:	Crosby	
Parcel #:	530-0111-0077-00			
Acreage:	1.080	Basis:	Replacement; Split Mound	

Project Number: S8574MHR

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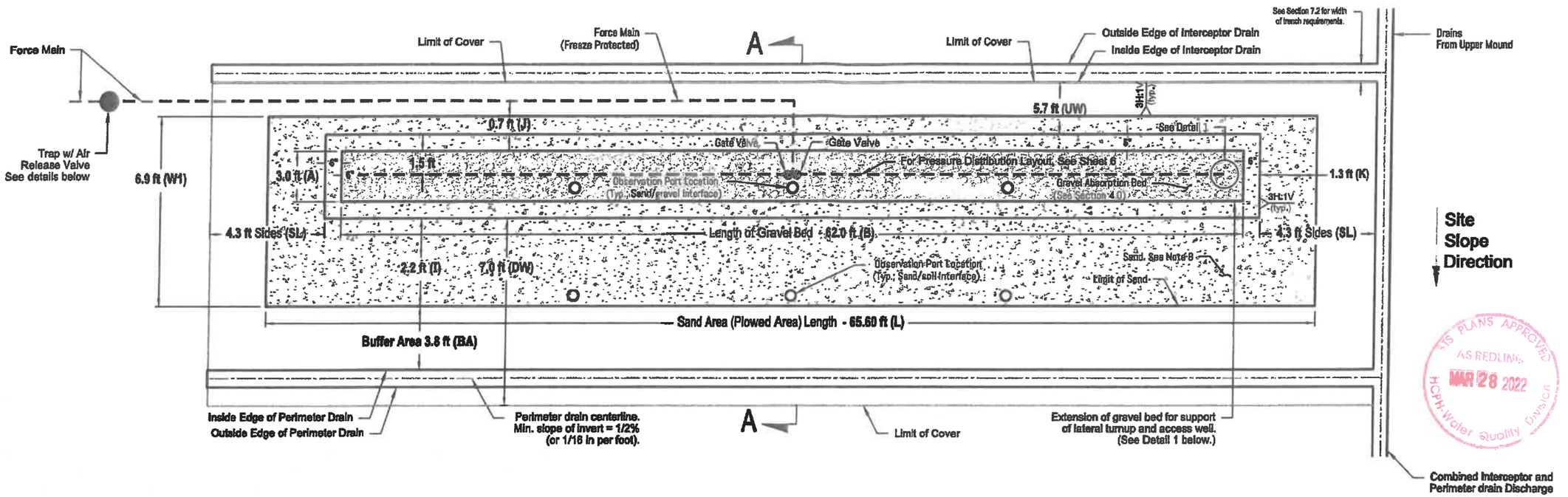
Release Date: 2022/03/25

Sheet Plot Date: 2022/03/25

Sheet Number: 5 of 11

MOUND DETAIL IS NOT TO SCALE - FOR ILLUSTRATION PURPOSES ONLY. CONTRACTOR SHALL FOLLOW THE ACTUAL DIMENSIONS SHOWN ON THE DETAIL FOR CONSTRUCTION OF THE MOUND.

Mound 2 - LOWER MOUND



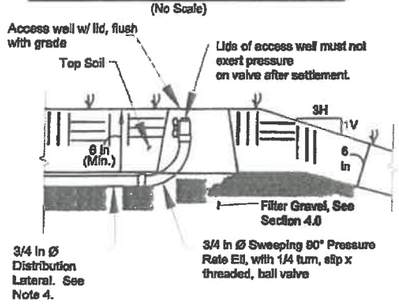
Sloping Site Mound & Modified Mound Structure - General Plan

(No Scale)

Details

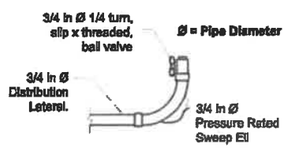
Detail 1 - Lateral Cleanout

(No Scale)



Lateral Cleanout Setup

(No Scale)



Trap With Air Release Valve

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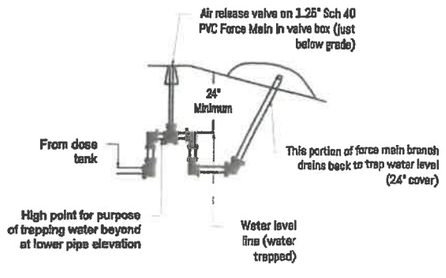

Notes:

1) Observation ports to be installed per Detail 1 & 2, Sheet 7, 8.
2) See Approved Plan for dimensions of various mound components.
3) Buffer area to be protected (area between basal/sand area and interceptor or perimeter drains). Compaction, excavation, or plowing in this area is NOT permitted.
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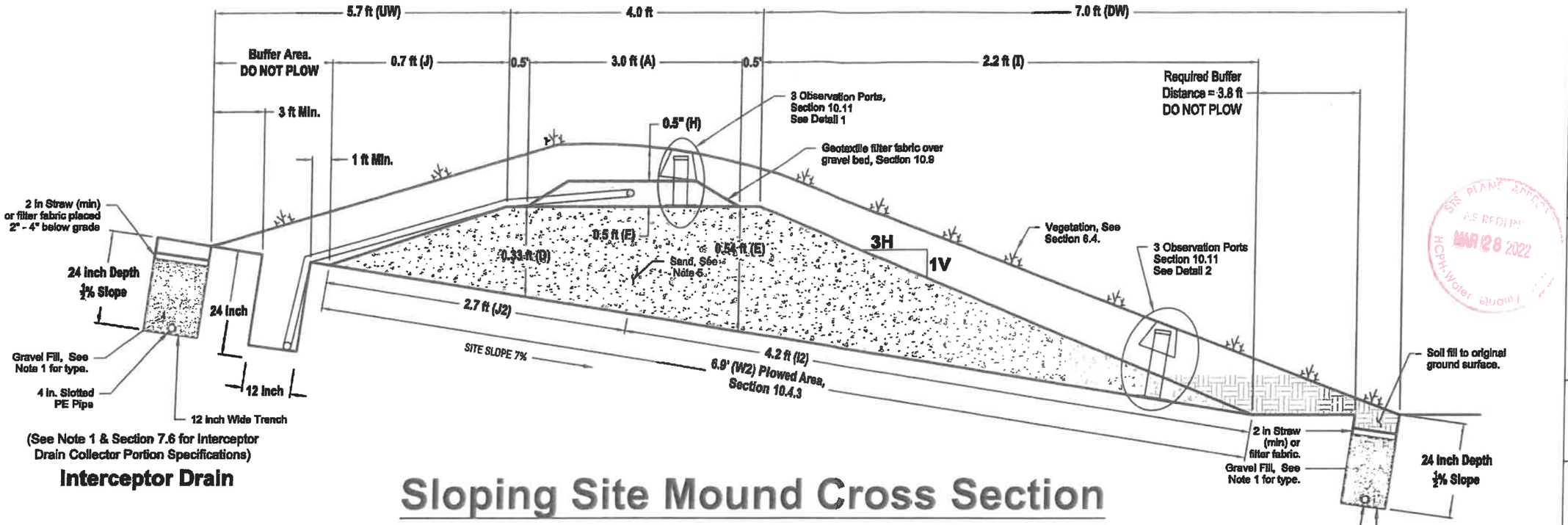
Sheet Number:	6 of 11

Mound 1 - UPPER MOUND



(See Note 1 & Section 7.6 for Interceptor Drain Collector Portion Specifications)

Interceptor Drain

(See Note 1 & Section 7.2 for Perimeter Drain Collector Portion Specifications). Exception to 7.2, gravel shall be minimum 10 inches

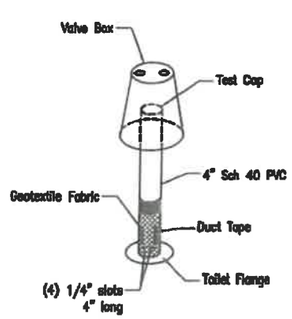
Perimeter Drain

Sloping Site Mound Cross Section A-A

(Not to Scale)

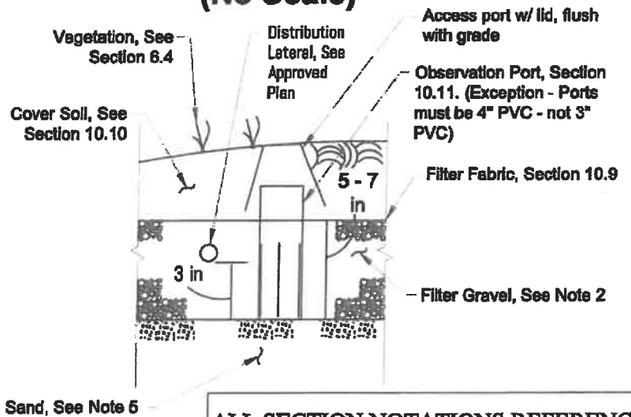
Observation Port

(No Scale)



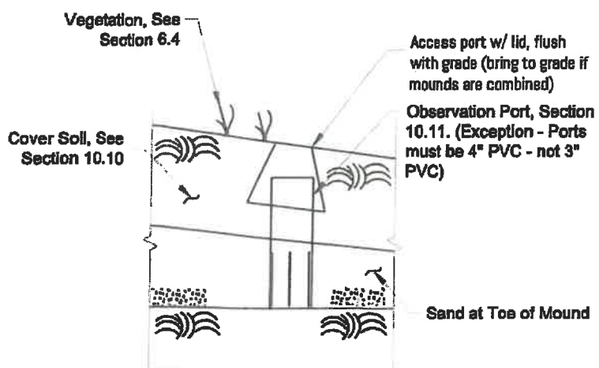
Detail 1

(No Scale)



Detail 2

(No Scale)



ALL SECTION NOTATIONS REFERENCE THE HAMILTON COUNTY INSTALLER'S MANUAL

Notes:

1) The required aggregate backfill varies with the width of the excavated trench, See Section 7.2 & 7.5 for requirements. For aggregate specifications, See Section(s) 4.5, 4.6 or 4.7. If aggregate specified in Section 4.7 is used, then the requirements of Section 4.9 apply. This section requires special marking to allow for confirmation of pipe invert slope.
2) The specified aggregate(s) in this component are summarized in Table 4.1. See Sections 4.5, 4.6 or 4.7 for individual aggregate type specifications.
3) The force main must be sloped to allow drainback to the point where two (2) feet of cover over the mains is maintained. The minimum slope of the force main for drainback is 1% (1/8 inch per foot). All mains must not penetrate the basal area.
4) The thickness of gravel above the lateral depends upon the orientation of the orifices. If the orifices are required to be at the 6 O'Clock position (Down), the laterals are to be installed flat. The gravel thickness is to be such that the distribution lateral is covered, but no more than 1 inch below the surface of the gravel. If the orifices are required to be at the 12 O'Clock position (Up), the laterals are to be installed at a minimum slope of 0.83% (1 in per 10 ft) sloping back (draining back) to the manifold. The thickness of gravel over the top of the lateral will vary, but the minimum thickness below the manifold (lowest point) is 3 inches.
5) Sand type complies with Section 4 (Table 4.2). Sand thickness is dependent on Approved Plan. Minimum sand thickness is based on the highest contour elevation on upslope side of basal under the gravel area. Top of sand area is to be level.

Phenide
Innovation ♦ design ♦ excellence
5141 Red Cloud Court
Oxford, OH 45056
PH: 513.312.0055

Client:	Campbell, Gary
Address:	8574 Mount Hope Road, Harrison, OH 45030
County:	Hamilton
Parcel #:	530-0111-0077-00
Acreage:	1.080
Phone:	513-312-2181
Township:	Crosby
Basis:	Replacement; Split Mound

Project Number: S8574MHR

Version Number: 10b

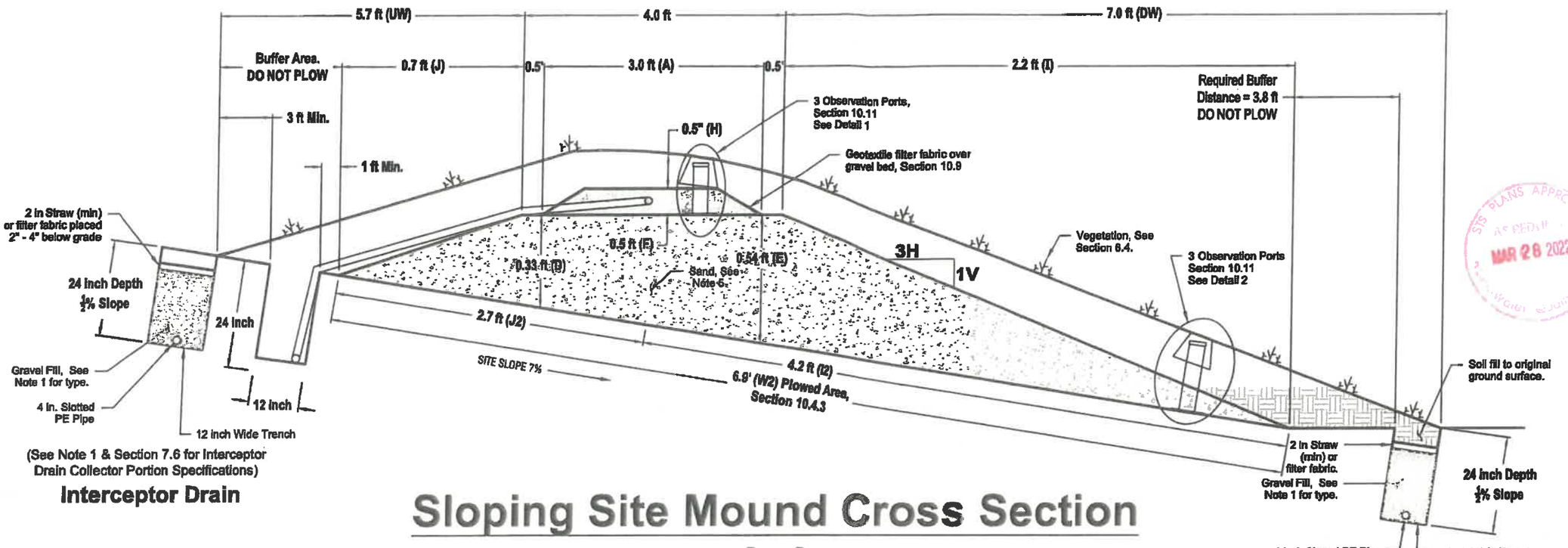
Scale: As Noted

Release Date: 2022/03/25

Sheet Plot Date: 2022/03/25

Sheet Number: 7 of 11

Mound 2 - LOWER MOUND



(See Note 1 & Section 7.6 for Interceptor Drain Collector Portion Specifications)

Interceptor Drain

Sloping Site Mound Cross Section A-A

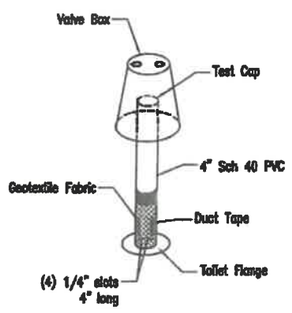
(Not to Scale)

(See Note 1 & Section 7.2 for Perimeter Drain Collector Portion Specifications). Exception to 7.2, gravel shall be minimum 10 inches

Perimeter Drain

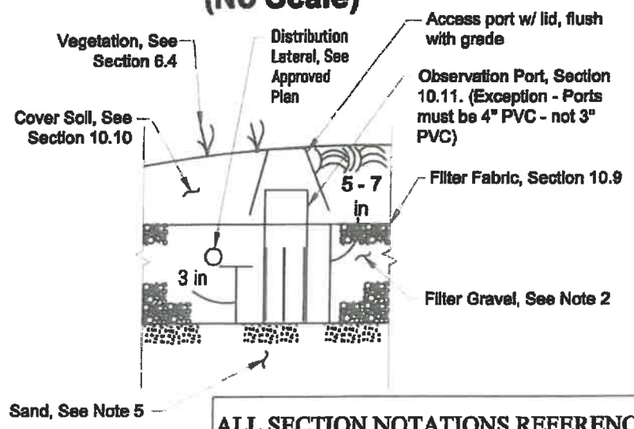
Observation Port

(No Scale)



Detail 1

(No Scale)



Detail 2

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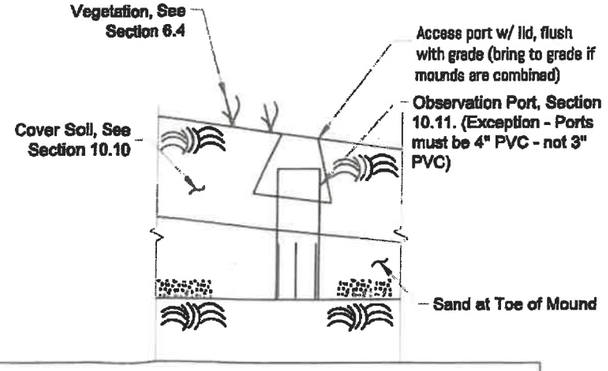

ALL SECTION NOTATIONS REFERENCE THE HAMILTON COUNTY INSTALLER'S MANUAL

Notes:

1) The required aggregate backfill varies with the width of the excavated trench, See Section 7.2 & 7.6 for requirements. For aggregate specifications, See Section(s) 4.5, 4.6 or 4.7. If aggregate specified in Section 4.7 is used, then the requirements of Section 4.9 apply. This section requires special marking to allow for confirmation of pipe invert slope.
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5) Sand type complies with Section 4 (Table 4.2). Sand thickness is dependent on Approved Plan. Minimum sand thickness is based on the highest contour elevation on upslope side of basal under the gravel area. Top of sand area is to be level.

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6141 Red Cloud Court
Oxford, OH 45056
PH: 513.805.0065

Client:	Campbell, Gary
Address:	8574 Mount Hope Road, Harrison, OH 45030
County:	Hamilton
Parcel #:	530-0111-0077-00
Acreage:	1.080
Phone:	513-312-2181
Township:	Crosby
Basis:	Replacement; Split Mound

Project Number: S8574MHR

Version Number: 10b

Scale: As Noted

Release Date: 2022/03/25

Sheet Plot Date: 2022/03/25

Sheet Number: 8 of 11

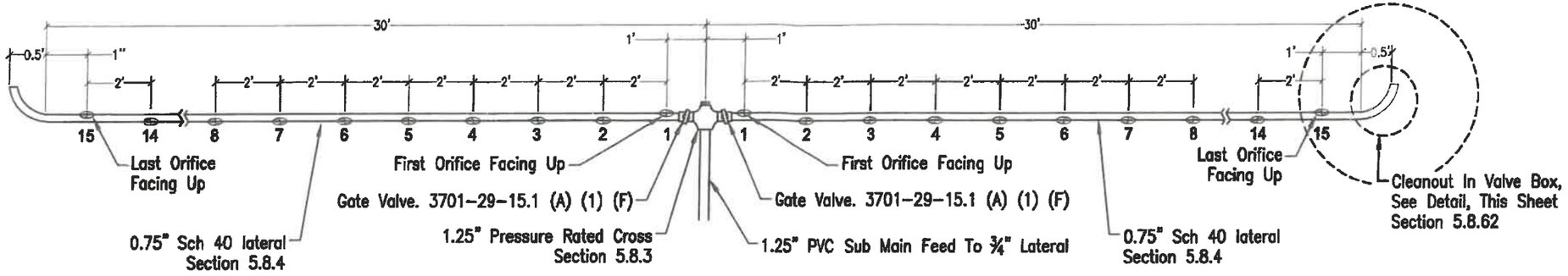
Overall Gravel Length: 62.0 Feet

Upper and Lower Mounds

Typical Lateral Detail (2 laterals shown) Showing 1 of 1 Lateral Set (Per Mound)

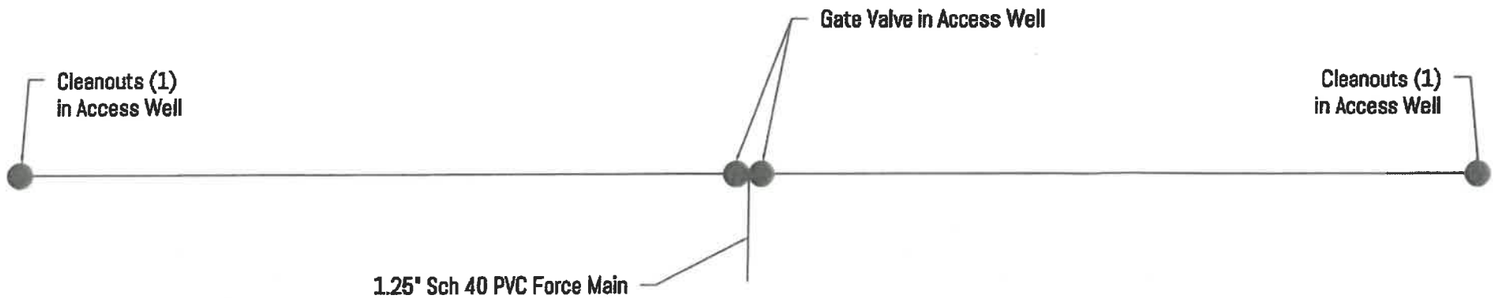
15 Orifices (1/8" Orifice Diameter) Per 30' Lateral

Not To Scale

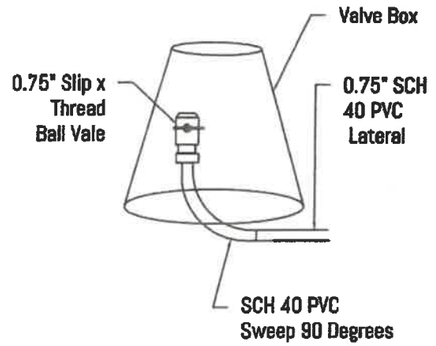


Note: Orifices to be shielded by Sim/Tech Orifice Shields or equivalent

Note:
All pipe shall be schedule 40 PVC meeting ASTM D1785. All fittings and gate valves shall be pressure-rated meeting ASTM D2466.



Detail A



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Innovation + design + excellence
5141 Red Chisel Court
Oxford, OH 45056
PH: 513.305.0088

Client:	Campbell, Gary
Address:	8574 Mount Hope Road, Harrison, OH 45030
County:	Hamilton
Parcel #:	530-0111-0077-00
Acreage:	1.080
Phone:	513-312-2181
Township:	Crosby
Basis:	Replacement; Split Mound

Project Number: S8574MHR

Version Number: 10b

Scale: As Noted

Release Date: 2022/03/25

Sheet Plot Date: 2022/03/25

Sheet Number: 9 of 11

Pump Selection for a Pressurized System - Single Family Residence Project

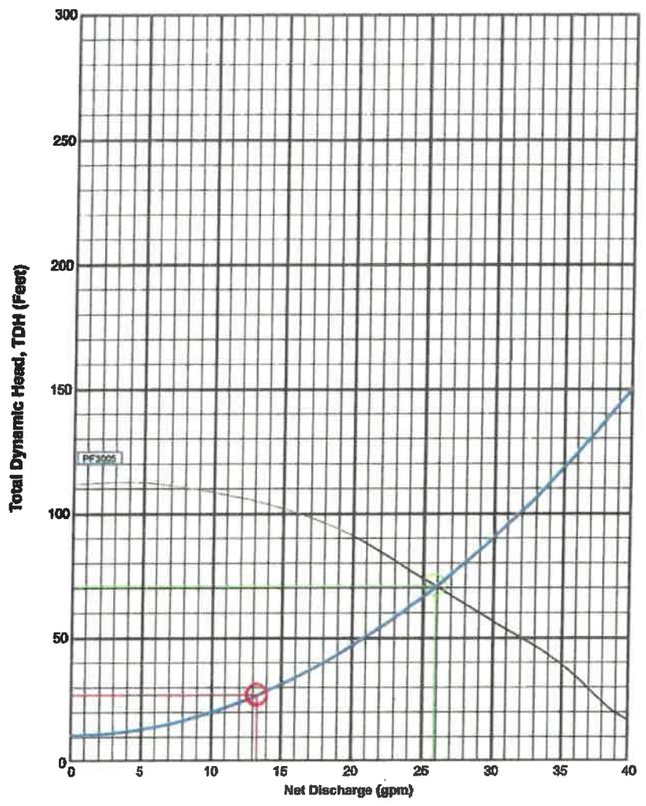
Parameters		
Discharge Assembly Size	2.00	inches
Transport Length	165	feet
Transport Pipe Class	40	
Transport Line Size	1.25	inches
Distributing Valve Model	None	
Max Elevation Lift	11	feet
Manifold Length	0	feet
Manifold Pipe Class	40	
Manifold Pipe Size	1.00	inches
Number of Laterals per Cell	2	
Lateral Length	30	feet
Lateral Pipe Class	40	
Lateral Pipe Size	0.75	inches
Orifice Size	1/8	inches
Orifice Spacing	2.00	feet
Residual Head	5	feet
Flow Meter	None	inches
'Add-on' Friction Losses	5	feet

Calculations		
Minimum Flow Rate per Orifice	0.43	gpm
Number of Orifices per Zone	30	
Total Flow Rate per Zone	13.3	gpm
Number of Laterals per Zone	2	
% Flow Differential 1st/Last Orifice	7.5	%
Transport Velocity	2.9	fps

Frictional Head Losses		
Loss through Discharge	0.4	feet
Loss in Transport	4.0	feet
Loss through Valve	0.0	feet
Loss in Manifold	0.0	feet
Loss in Laterals	0.9	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	5.0	feet

Pipe Volumes		
Vol of Transport Line	12.8	gals
Vol of Manifold	0.0	gals
Vol of Laterals per Zone	1.7	gals
Total Volume	14.5	gals

Minimum Pump Requirements		
Design Flow Rate	13.3	gpm
Total Dynamic Head	26.3	feet



PumpData

PF3005 High Head Effluent Pump
30 GPM, 1/2HP
115/230V 1Ø 60Hz, 200V 3Ø 60Hz

Legend

System Curve:
Pump Curve:
Pump Optimal Range:
Operating Point:
Design Point:

Orenco SYSTEMS

Mound 1 - UPPER MOUND

Pump Selected: Orenco PF 3005 High Head

PF3005 High Head Effluent Pump Technical Details

- Minimum 24-Hour Run-Dry Capability with No Deterioration in Pump Life or Performance
- Liquid End Repair Kits Available for Better Long-Term Cost of Ownership
- Super Stainless Franklin Electric Motor, Rated for Continuous use and Frequent Cycling
- Type SOOW 600-V Motor Cable (suitable for Class I, Division 1 and Division 2 applications)
- Five-Year Warranty on Pump or Retrofit Liquid End from Date of Manufacture Against Defects in Materials or Workmanship
- 0.5 HP, 120 VAC, Single Phase, 10 FLA, 1.5" FPT Discharge
- Min. Liquid Level of 24"

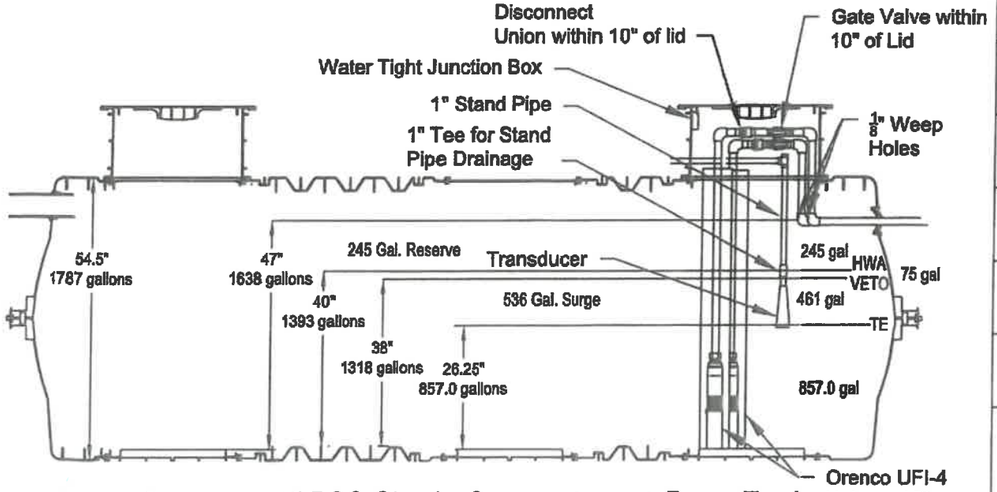
Tank Settings:

Transducer: 26" from Bottom
Timer Enable: $\frac{1}{4}$" (26.25" from Bottom of Tank)
Veto: 12" (38" from Bottom of Tank)
High Water Alarm: 14" (40" from Bottom of Tank)
Reserve Volume: 245 gallons
Surge Volume: 536 gallons

Dose Volume: 8.4 gallons plus Field Verified Drainback

Notes:

1. Actual dose volume will be determined after time drawdown is completed and total drainback is calculated. Control panel timer settings are to be set at this time.
2. Pumps may be substituted with an equivalent model meeting design specifications.
3. Pumps may also be installed under separate riser access wells if desired.
4. May install $\frac{1}{4}$ turn ball valve on each main to expedite drainback for startup.



Infiltrator IM1530 Single Compartment Dose Tank

PLANS APPROVED AS REVISED MAR 28 2022 Water Quality Division

Phenide
Innovation • design • excellence
5141 Red Cloud Court
Oxford, OH 45056
PH: 513.909.0089

Client:	Campbell, Gary	Phone:	513-312-2181		
Address:	8574 Mount Hope Road, Harrison, OH 45030				
County:	Hamilton	Township:	Crosby		
Parcel #:		530-0111-0077-00			
Acreage:	1.080	Basis:	Replacement; Split Mound		

Project Number: S8574MHR
Version Number: 10b
Scale: As Noted
Release Date: 2022/03/25
Sheet Plot Date: 2022/03/25
Sheet Number: 10 of 11

Pump Selection for a Pressurized System - Single Family Residence Project

Parameters		
Discharge Assembly Size	2.00	Inches
Transport Length	165	feet
Transport Pipe Class	40	
Transport Line Size	1.25	Inches
Distributing Valve Model	None	
Max Elevation Lift	11	feet
Manifold Length	0	feet
Manifold Pipe Class	40	
Manifold Pipe Size	1.00	Inches
Number of Laterals per Cell	2	
Lateral Length	30	feet
Lateral Pipe Class	40	
Lateral Pipe Size	0.75	Inches
Orifice Size	1/8	Inches
Orifice Spacing	2.00	feet
Residual Head	5	feet
Flow Meter	None	Inches
'Add-on' Friction Losses	5	feet

Calculations		
Minimum Flow Rate per Orifice	0.43	gpm
Number of Orifices per Zone	30	
Total Flow Rate per Zone	13.3	gpm
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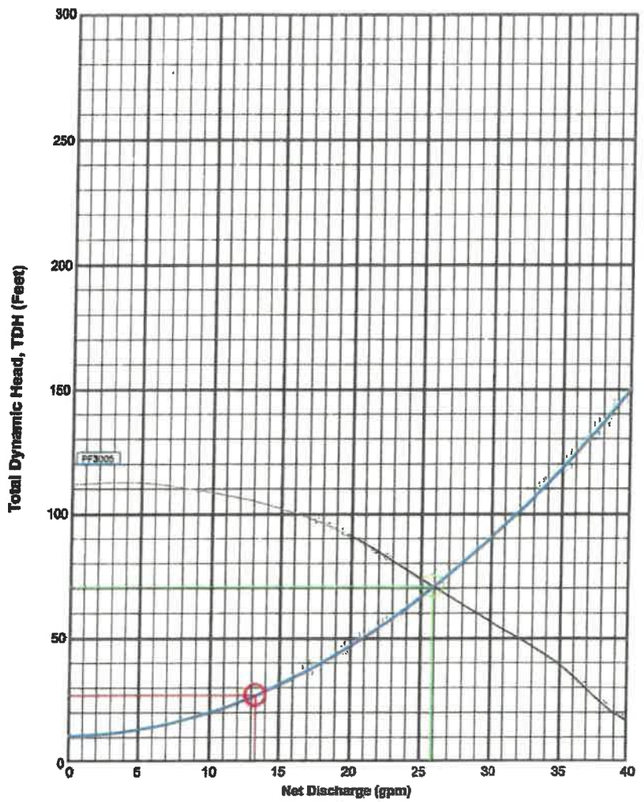
'Add-on' Friction Losses	5.0	feet

Pipe Volumes		
Vol of Transport Line	12.8	gals
Vol of Manifold	0.0	gals
Vol of Laterals per Zone	1.7	gals
Total Volume	14.5	gals

Minimum Pump Requirements		
Design Flow Rate	13.3	gpm
Total Dynamic Head	29.3	feet



PumpData

PF3005 High Head Effluent Pump
30 GPM, 1/2HP
115/230V 1Ø 60Hz, 200V 3Ø 60Hz

Legend

System Curve:
Pump Curve:
Pump Optimal Range:
Operating Point:
Design Point:

Orenco SYSTEMS

Mound 2 - LOWER MOUND

Pump Selected: Orenco PF 3005 High Head

PF3005 High Head Effluent Pump Technical Details

- Minimum 24-Hour Run-Dry Capability with No Deterioration in Pump Life or Performance
- Liquid End Repair Kits Available for Better Long-Term Cost of Ownership
- Super Stainless Franklin Electric Motor, Rated for Continuous use and Frequent Cycling
- Type SOOW 600-V Motor Cable (suitable for Class I, Division 1 and Division 2 applications)
- Five-Year Warranty on Pump or Retrofit Liquid End from Date of Manufacture Against Defects in Materials or Workmanship
- 0.5 HP, 120 VAC, Single Phase, 10 FLA, 1.5" FPT Discharge
- Min. Liquid Level of 24"

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3. Pumps may also be installed under separate riser access wells if desired.
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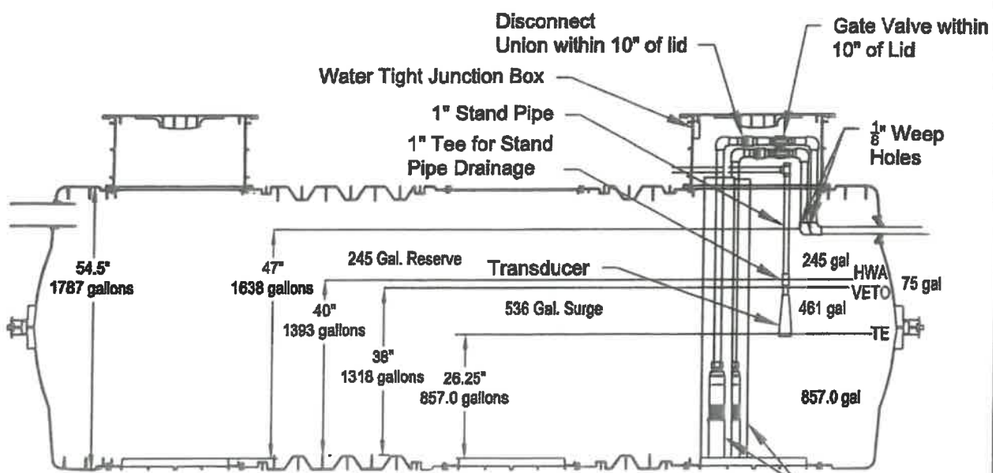

Infiltrator IM1530 Single Compartment Dose Tank

Phenide
Innovation + design + excellence
5141 Red Clover Court
Oxford, OH 45056
PH: 513.315.0088

Client:	Campbell, Gary	Phone:	513-312-2181	Basis:	Replacement; Split Mound
Address:	8574 Mount Hope Road, Harrison, OH 45030				
County:	Hamilton	Township:	Crosby		
Parcel #:			530-0111-0077-00		
Acreage:	1.080				

Project Number:	S8574MHR
Version Number:	10b
Scale:	As Noted
Release Date:	2022/03/25
Sheet Plot Date:	2022/03/25
Sheet Number:	11 of 11