

APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____ A/P _____

AGENCY REVIEW: _____ DATE _____

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO

CHECK AS NEEDED:

- CONSTRUCT NEW SEPTIC SYSTEM(S)
- REPAIR/ADD TO AN EXISTING SEPTIC SYSTEM
- REPLACE AN EXISTING SEPTIC SYSTEM

CHECK AS NEEDED:

- NEW STRUCTURE(S)
- ADDITION TO AN EXISTING STRUCTURE
- REPLACE AN EXISTING STRUCTURE

CHECK ONE:

- CREATE NEW LOT(S)
- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH _____ PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE **UNKNOWN** IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) _____

DAYTIME PHONE _____ CELL _____ FAX _____

MAILING ADDRESS _____
STREET CITY/TOWN STATE ZIP

APPLICANT Wilson Hobbs

DAYTIME PHONE _____ CELL _____ FAX _____

MAILING ADDRESS 12160 Hall Shop Road
STREET CITY/TOWN STATE ZIP

APPLICANT'S ROLE: DEVELOPER BUILDER BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME _____ LOT NO. _____

PROPERTY ADDRESS _____
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) _____ GRID _____ PARCEL(S) _____ PROPOSED LOT SIZE _____

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN.

TEST RESULTS WILL BE MAILED TO APPLICANT. _____
SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
3525-H ELLICOTT MILLS DRIVE, ELLICOTT CITY, MARYLAND 21043-4544 (410) 313-1771 FAX (410) 313-2648
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

AP

(F)

1-1.5' Br Loam
25-30% Rock
Or Br Sa Cl Loam
Pockets of Close to 50% Rock Below 3.5'
Mottles Below 2.5"
Hard Bottom

5.5'

(G)

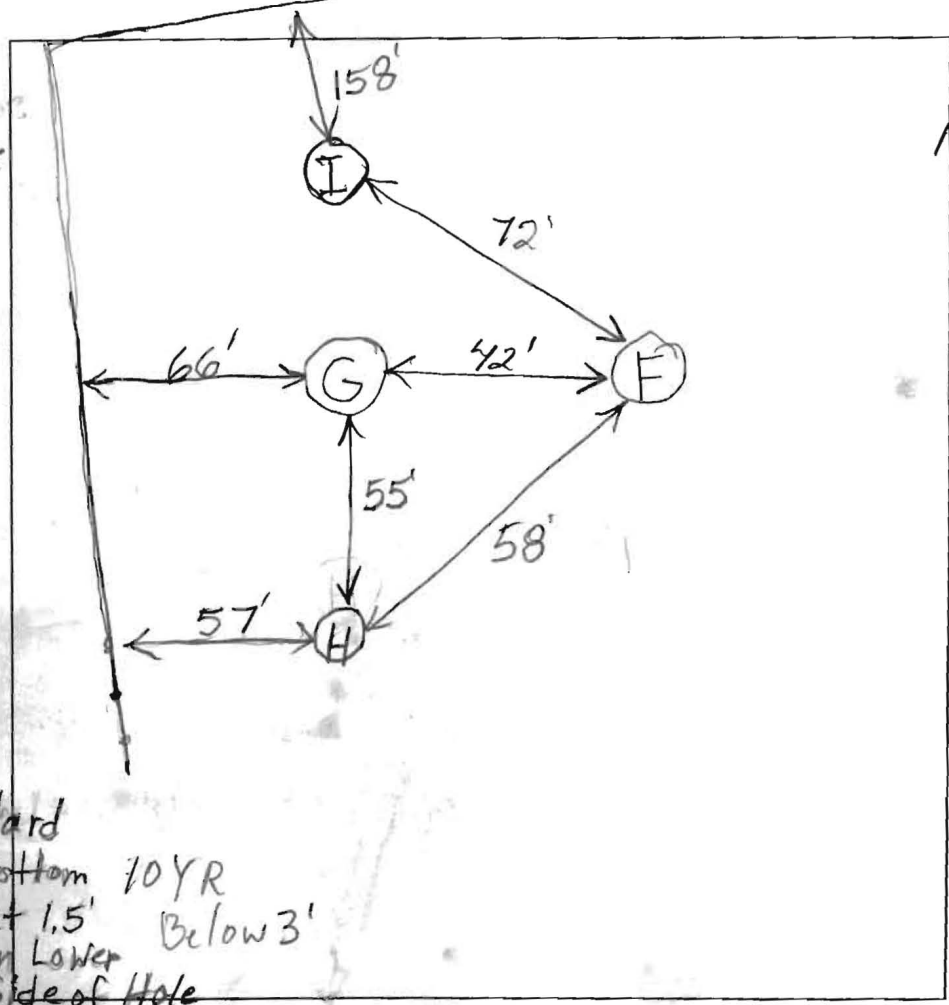
2' Br Loam 40-50% Rock
Or Br Sa Cl Loam
40-50% Rock
Beige Gravelly Loam 15-20% Rock

Hard Bottom 10 YR at 1.5' Below 3' on Lower Side of Hole

10.5'

(H)

Mottling at 2.5' and Deeper
Hard Bottom Between 3' and 5'



(I)

2' Br Loam
Moist Or Br Sa Cl Loam
Mottled Si Loam Mottling
at 2'-2.5' Water Seepage and Caving at 6.5'
Mottled Si Loam
Water at 9'

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
6/8/07	F	21" 7'V	11:18:15	11:45:15	1:03:15	78	
	G	2' 10.5'V	11:57:30	12:18	~7/8" after 1 Hour		
		8"	12:29:30	12:42:14	32		
	H	5'V					
	I	10'V					

REMARKS _____

SANITARIAN B. Baker BACKHOE Whitworth OTHERS _____

TEST HOLES USED IN SDA _____ AVG. PERC TIME _____ SQ. FT/BR _____

TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____

A/P (A)

Or Br and White Heavy Cl Loam, Mottles Throughout Some Quartzite

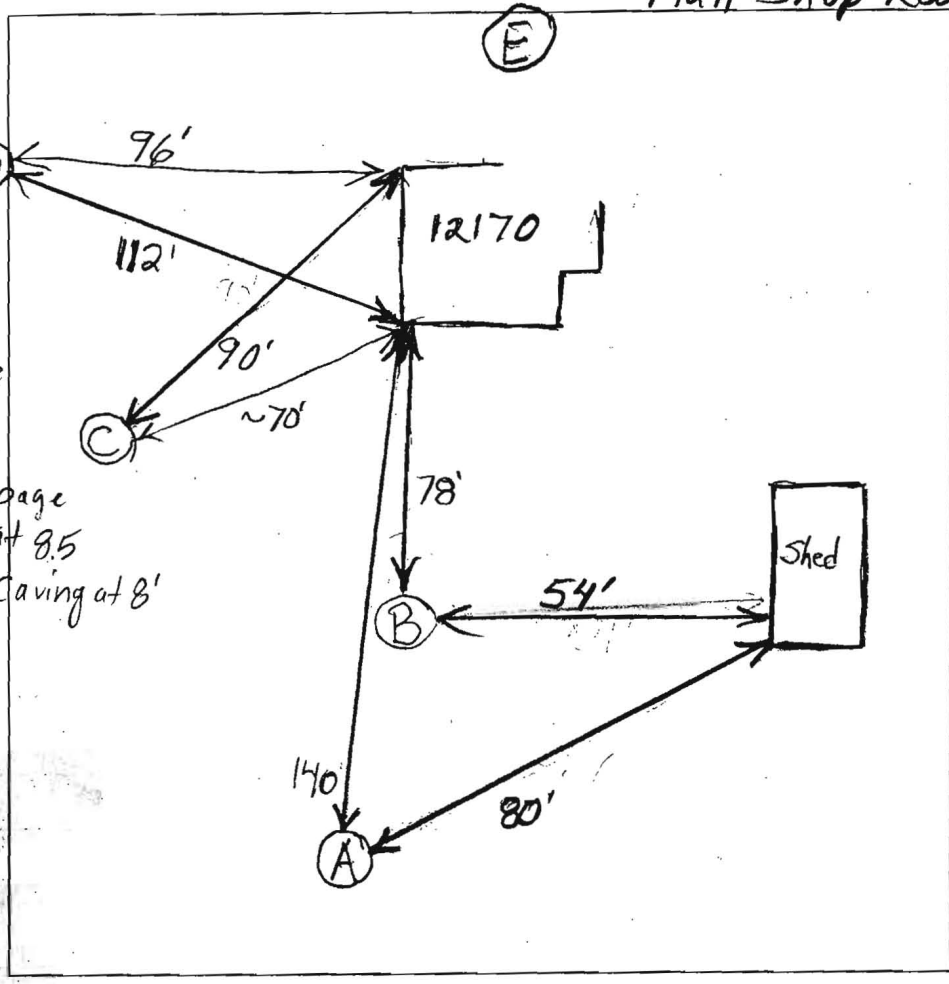
d-10.5 Damp Water Or Br Sa Seepage Loam and Mottled Silt Caving at 8' Trace Rock

(B) Br Cl Loam With Mottling ~10% Rock
3-4' Red or + White Mottled Sa Cl Loam and Loamy Sa Trace Rock
7' Water seeping in water at 9.5' caving at 8' Red Loamy Sa

13.5 (C) ~15% Saprolite

(D) Br Cl Loam
3' Beige Sa Loam to Sa Cl Loam

4'4.5' Red Loamy Sa, ~25% Saprolite
Caving at 5.5' Water Seepage at 7'



(D) Br Loam 1'
Light Br and Beige Sa Cl Loam, and Heavily Mottled Cl Loam 4'
Beige Loamy Sa Turning to Dark Br 6' Seepage 6.5' Caving ~35% Saprolite 12'

(E) Br Sa Cl Loam 1-1.5'
Dense Br Sa Cl Loam 3.5'
Or Br Sa Cl Loam 5.5'
Dense Mottled Si Loam to at least 9' Seepage at 9.5' 12.5'

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
6/7/07	A	14.5' V					
	B	13.5' V					
	C	4.5' / 13' V	12:11:30	12:25:30	12:39:30	14	
	D	3' / 12' V	12:52	1/8" - 3/16" in 25 minutes			
	C	34"	1:44	~1/8" in 15 minutes			
	C	22"	2:09:45	Almost to 1st Peg			
			After 1 Hour				
	E	3.5' / 12.5' V	3:12:30	~1/4" in 20 min			
		4.5'	3:36:30	~1/4" in 15 minutes			

REMARKS _____

SANITARIAN B. Baker BACKHOE Whitworth OTHERS _____

TEST HOLES USED IN SDA _____ AVG. PERC TIME _____ SQ. FT/BR _____

TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____

d-10.5
14.5
3-4'
7'
13.5
3'
4'4.5'
13

6/7/07 11:49



APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____ A/P _____

AGENCY REVIEW: _____ DATE _____

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

CHECK AS NEEDED:

- CONSTRUCT NEW SEPTIC SYSTEM(S)
- REPAIR/ADD TO AN EXISTING SEPTIC SYSTEM
- REPLACE AN EXISTING SEPTIC SYSTEM

CHECK AS NEEDED:

- NEW STRUCTURE(S)
- ADDITION TO AN EXISTING STRUCTURE
- REPLACE AN EXISTING STRUCTURE

CHECK ONE:

- CREATE NEW LOT(S)
- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH _____ PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE **UNKNOWN** IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) _____

DAYTIME PHONE _____ CELL _____ FAX _____

MAILING ADDRESS _____
STREET CITY/TOWN STATE ZIP

APPLICANT _____

DAYTIME PHONE _____ CELL _____ FAX _____

MAILING ADDRESS _____
STREET CITY/TOWN STATE ZIP

APPLICANT'S ROLE: DEVELOPER BUILDER BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME _____ LOT NO. _____

PROPERTY ADDRESS _____
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) _____ GRID _____ PARCEL(S) _____ PROPOSED LOT SIZE _____

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN.

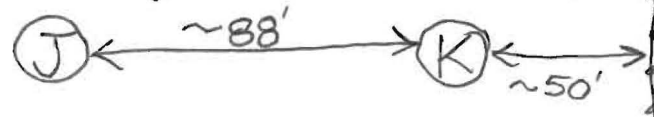
TEST RESULTS WILL BE MAILED TO APPLICANT. _____
SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
3525-H ELLICOTT MILLS DRIVE, ELLICOTT CITY, MARYLAND 21043-4544 (410) 313-1771 FAX (410) 313-2648
TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

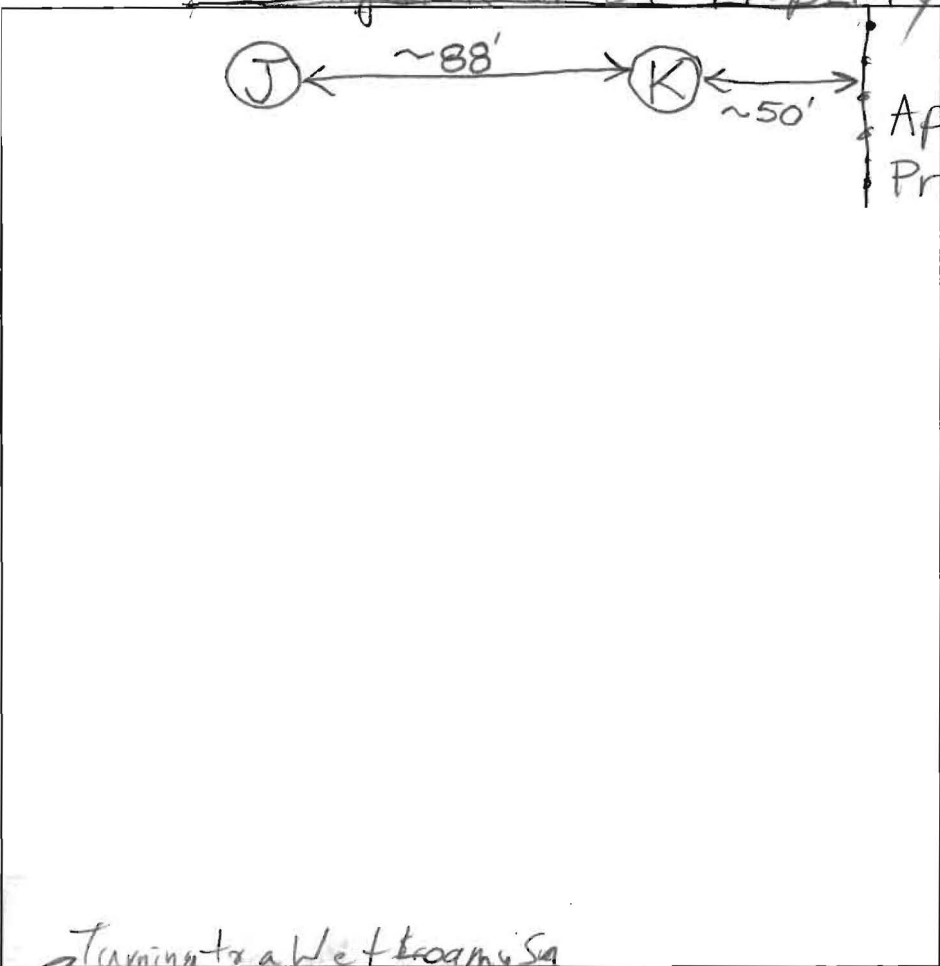
Right Rear of Property

AP (J)

1.5-2' BrLoam
 Mottled
 Or Br Dense
 SaCl Loam
 10yr
 chroma
 2+3
 5.5-6' 10yr 4/1
 Mottling
 8' Water Seepage
 8.5' Water



Approximate Property Line



(K)
 BrLoam
 2' Br SaCl
 Loam
 3.5' Wet Br
 Very Micaceous
 SaCl Loam
 Dark Mottling
 10yr Below
 3/4 6'
 8' Caving
 7.5' Water
 Seepage
 10'

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H
6/8/07	J	10' V					
	K	25/10' V	3:40	4:00	~1/2" in 30 minutes		
		4'	3:45:30	4:19:30			
		7"	4:08	4:10	4:19	9	

REMARKS _____
 SANITARIAN B. Baker BACKHOE Whitworth OTHERS _____
 TEST HOLES USED IN SDA _____ AVG. PERC TIME _____ SQ. FT/BR _____
 TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____

INFORMATION FORM - SEPTIC SYSTEM REPAIR / UPGRADE / EVALUATION

For internal office use only

Reason for Request:

- Failing System (includes surface discharge or inadequate treatment zone) X
- Has the contractor verified through excavation/pumping evaluation, that there are no pipe blockages? _____
- *System relocation for proposed addition for setback compliance _____
- *Verification of adequate system capacity per COMAR 26.04.02.02D (4) _____
- To replace collapsed septic tank _____
- To replace collapsed drywell _____

Septic Contractor: Whitworth Excavating Inc.
Contractor's Address: 12680 Clarksville Pike
Clarksville Md 21029
Contractor's Phone #: 410 531 5033
Property Address: 12160 Hall shop rd
Property (Subdivision) & Lot # _____
County file number if known: _____
Owner's Name: William Hobbs (301 854 2941)
Is public sewer available/nearby: No
If public sewer may be close, mention further research will be performed to verify availability
Names of Any Previous Owners: _____
Year House Built: 1948
of Existing Bedrooms: 3 Bedroom
of Bedrooms after completion of addition: 0
Has this request been discussed previously with another Sanitarian: No
If yes, then with whom and when: _____

A Sanitarian will be in contact within three business days depending upon the urgency of the situation to coordinate the scheduling of the repair / upgrade / evaluation. No inspection will be performed without fee collection at the office.

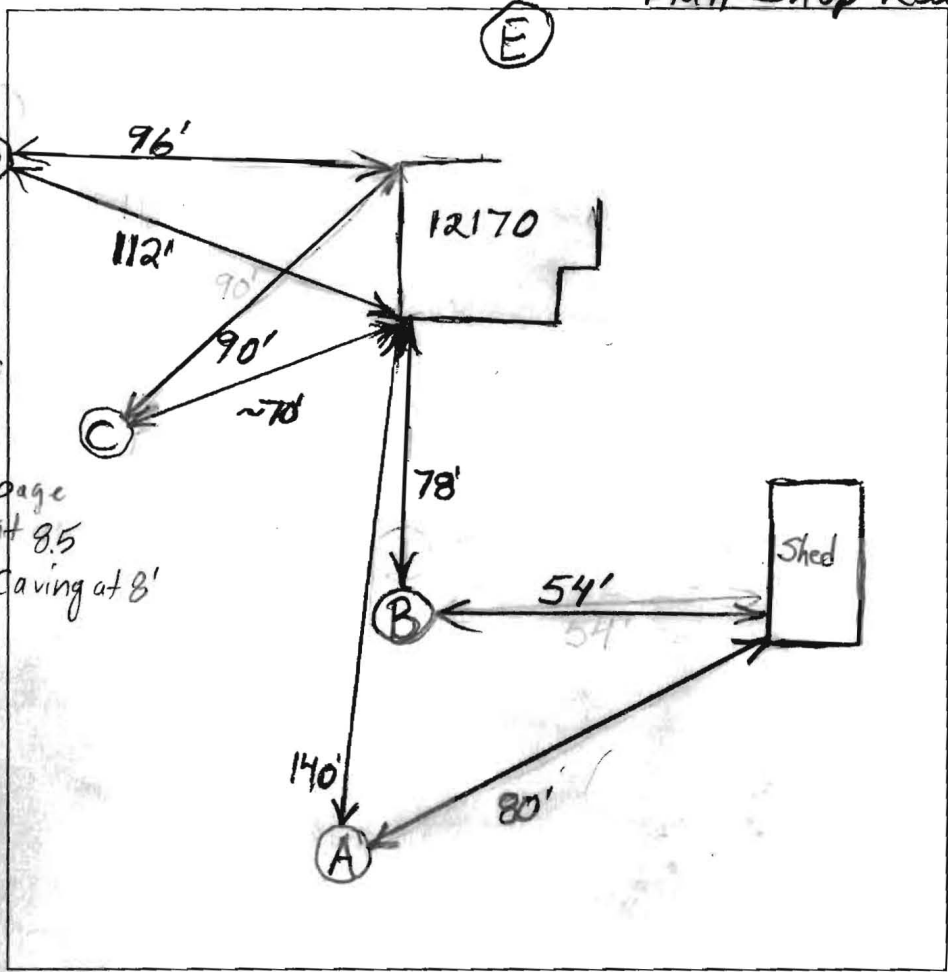
Print out copy of Real Property Data via Dept. of Taxation website _____ Indexed file found _____

*Prior to scheduling inspections, scaled plans should be submitted to clarify the nature of the addition.

If public sewer may be nearby, verify whether the sewer is technically "available" (defined as abutting or within the property), through the Bureau of Engineering (Diane Nason x 3372 or Jean Reed x 3362). If sewer is available, verify whether the property is within the Metropolitan District (Finance x 2061). If sewer is available, and property is within the Metropolitan District, connection to sewer is required. If owner believes reasons for exemptions exist, owner should justify request in writing. If soil/site conditions are limiting and sewer and/or Metro District status not conducive to connection, sanitarian may recommend pursuit of Emergency Sewer Extension or Emergency Metro District Inclusion. Owner should contact Charlotte Dryden at x 4419 for further detail.

Environmental Sanitarian tentatively assigned per rotating index card box: _____
Date of request: _____ (Clerical staff to update scheduling card with date of request/property address)

Septic permit to be typed by clerical staff after instruction from scheduling sanitarian.



AP (A)
 Or Br and White Heavy Cl Loam, Mottles Throughout Some Quartzite
 10-10.5 Damp Water Or Br Sa Seepage Loam and Mottled Silt Trace Rock Caving at 8'
 14.5 (B) Br Cl Loam With Mottling ~10% Rock
 3-4' Red ort White Mottled Sa Cl Loam and Loamy Sa Trace Rock
 7' Water Seeping In Water at 9.5' Caving at 8' Red Loamy Sa
 13.5 ~15% Saprolite (C) Br Cl Loam
 3' Beige Sa Loam to Sa Cl Loam
 4.4.5 Red Loamy Sa, ~25% Saprolite Caving at 5.5 Water Seepage at 7'
 13

(12) Br Loam 1'
 Light Br and Beige Sa Cl Loam and Heavily Mottled Cl Loam 4'
 Beige Loamy Sa Turning to Dark Br 6 Seepage 6.5' Caving ~35% Saprolite 12'
 (E) Br Sa Cl Loam 1-1.5
 Dense Br Sa Cl Loam 3.5'
 Or Br Sa Cl Loam 5.5'
 Dense Mottled Si Loam to at least 9' Seepage at 9.5'
 12.5

DATE	TEST #	DEPTH	START	BREAK 1" DROP	STOP 2" DROP	TIME OF 2nd INCH	P/F/H	
6/7/07	A	14.5' V						
	B	13.5' V						
	C	4.5' / 13' V	12:11:30	12:25:30	12:39:30	14		
	D	3' / 12' V	12:52	1/8 - 3/16" in 25 minutes				
	C	34"	1:44	~1/8" in 15 minutes				
	C	2'	2:09:45	Almost to 1st Peg				
			After 1 Hour					
	E	3.5' / 12.5' V	3:12:30	~1/4" in 20 min				
		4.5'	3:36:30	~1/4" in 15 minutes				

REMARKS _____
 SANITARIAN B. Baker BACKHOE Whitworth OTHERS _____
 TEST HOLES USED IN SDA _____ AVG. PERC TIME _____ SQ. FT/BR _____
 TRENCH WIDTH _____ INLET DEPTH _____ MAX. BOT DEPTH _____ EFFECTIVE SW _____



APPLICATION

FOR PERCOLATION TESTING AND SITE EVALUATION

TEST DATE(S) _____ TEST TIME _____

AP 526743

AGENCY REVIEW: _____

DATE 6/1/07

DO NOT WRITE ABOVE THIS LINE

I HEREBY APPLY FOR THE NECESSARY TESTING/EVALUATION PRIOR TO ISSUANCE OF SEWAGE DISPOSAL SYSTEM PERMIT(S) TO:

CHECK AS NEEDED:

- CONSTRUCT NEW SEPTIC SYSTEM(S)
- REPAIR/ADD TO AN EXISTING SEPTIC SYSTEM
- REPLACE AN EXISTING SEPTIC SYSTEM

CHECK AS NEEDED:

- NEW STRUCTURE(S)
- ADDITION TO AN EXISTING STRUCTURE
- REPLACE AN EXISTING STRUCTURE

CHECK ONE:

- CREATE NEW LOT(S)
- BUILD ON AN EXISTING LOT IN A SUBDIVISION
- BUILD ON AN EXISTING PARCEL OF RECORD

IS THE PROPERTY WITHIN 2500' OF ANY RESERVOIR?

- YES
- NO

THE TYPE OF STRUCTURE IS:

- RESIDENTIAL WITH 3 Bedrooms PROPOSED BEDROOMS IN THE COMPLETED STRUCTURE (NOTE **UNKNOWN** IF APPROPRIATE)
- COMMERCIAL (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/ CUSTOMERS ON ACCOMPANYING PLAN)
- INSTITUTIONAL/GOVERNMENT (PROVIDE DETAIL OF NUMBERS AND TYPES OF EMPLOYEES/USERS ON ACCOMPANYING PLAN)

PROPERTY OWNER(S) William Hobbs

DAYTIME PHONE 301 854 2941 CELL _____ FAX _____

MAILING ADDRESS 12160 Wall Shop Rd Clarksville MD 21029
STREET CITY/TOWN STATE ZIP

APPLICANT Alan Whitworth, Whitworth Excavating Inc

DAYTIME PHONE 410 531 5033 CELL 410 365 6590 FAX 301 854 9483

MAILING ADDRESS 12680 Clarksville Pike Clarksville MD 21029
STREET CITY/TOWN STATE ZIP

APPLICANT'S ROLE: DEVELOPER BUILDER BUYER RELATIVE/FRIEND REALTOR CONSULTANT

PROPERTY LOCATION
SUBDIVISION/PROPERTY NAME _____ LOT NO. _____

PROPERTY ADDRESS 12160 Wall Shop Rd Clarksville MD 21029
STREET TOWN/POST OFFICE

TAX MAP PAGE(S) _____ GRID _____ PARCEL(S) _____ PROPOSED LOT SIZE _____

AS APPLICANT, I UNDERSTAND THE FOLLOWING: THE SYSTEM INSTALLED SUBSEQUENT TO THIS APPLICATION IS ACCEPTABLE ONLY UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS APPLICATION IS COMPLETE WHEN ALL APPLICABLE FEES AND A SUITABLE SITE PLAN HAVE BEEN RECEIVED. I ACCEPT THE RESPONSIBILITY FOR COMPLIANCE WITH ALL M.O.S.H.A. AND "MISS UTILITY" REQUIREMENTS. APPROVAL IS BASED UPON SATISFACTORY REVIEW OF A PERC CERTIFICATION PLAN. TEST RESULTS WILL BE MAILED TO APPLICANT.

[Signature]
SIGNATURE OF APPLICANT

HOWARD COUNTY HEALTH DEPARTMENT, BUREAU OF ENVIRONMENTAL HEALTH, WELL AND SEPTIC PROGRAM
 3525-H ELLICOTT MILLS DRIVE, ELLICOTT CITY, MARYLAND 21043-4544 (410) 313-1771 FAX (410) 313-2648
 TDD (410) 313-2323 TOLL FREE 1-877-4MD-DHMH

MOUND TEST DATA SHEETS

Property I.D. 12170 Hall Shop Rd, Lot #

Date 6/26/07

Sanitarian B. Baker

Landscape Position Front Yard

% Slope Slight

Soil Type _____

Contractor _____

HOLE # Upper DEPTH OF TEST 15"

START TIME 1:28

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate	% Change
19"	0	0	0	
18"	10	1"		
17 1/2"	10	1/2"		
17 1/16"	10	7/16"		
16 3/4"	10	5/16"		
16 7/16"	10	5/16"		
15 15/16"	25	8/16"		
15 11/16"	15	4/16"		
15 9/16"	10	2/16"		Added
18 14/16"	10	2/16"		~2" of water and set back to 19"

18 11/16" 10 3/16"
 18 17/32" 10 5/32"
 18 6/16" 10 5/32"
 18 7/32" 10 5/32"

HOLE # Lower DEPTH OF TEST 15"

START TIME 1:22

Hook Gauge Reading	Elapsed Time (min)	Measured Drop	Estimated Rate	% Change
43"	0	0	0	0
42 10/16"	10	6/16"		
42 6/16"	10	4/16"		
42 3/16"	10	3/16"		
42 1/16"	10	2/16"		
41 15/16"	10	2/16"		
41 14/16"	10	1/16"		
41 9/16"	30	5/16"		
41 8/16"	10	1/16"		
41 7/16"	10	1/16"		

41 6/16" 10 1/16" 41 3/32" 10 1/16"
 41 4/16" 10 2/16" 41 1/16" 10 1/32"
 41 3/16" 10 1/16"
 41 5/32" 10 1/32"

ADVANCE SYSTEMS

INNOVATIVE ONSITE WASTEWATER SOLUTIONS

A Division of DTD, Inc.

37 York Street

Taneytown, MD 21787

TOLL FREE 800-838-3534

email – dduree@earthlink.net

OFFICE 410-756-3331

FAX 410-756-1700

July 19, 2010

Steven R. Krieg, RS/REHS
Regional Consultant
On-site Systems Division
Wastewater Permits Program
Maryland Department of Environment
1800 Washington Boulevard, Suite 455
Baltimore, Md 21230-1708

**Re: Geoflow Drip Distribution System Certification: Wilson Hobbs Property
12170 Hall Shop Road, Clarksville, Md 21029**

Dear Mr. Krieg,

On July 9, 2010; I met with you and Mr. Barry Glotfelty, Division Chief of MDE's Onsite Systems Division, for a final inspection and start up procedure for the Geoflow Drip Dispersal system installed at the above listed address.

I hereby certify that the Geoflow Drip Dispersal System has been installed and completed in accordance with the design (dated 6-1-2009) by Mr. Dale Grey, President, Innova, Ltd. P.O. Box 363, New Windsor, Md 21776 and reviewed by the approving authority with the following primary exceptions:

1. The sand mounds were installed on actual contour determined in the field.
2. Woven geotextile fabric was used instead of spun.
3. The pretreatment unit, pump chamber, headworks (field control unit) and zone supply boxes are installed in different locations than shown on the plan and piped/plumbed differently.
4. The FM pulsemeter was not installed per plan due to design/install complications and its proposed new location was revised on 9/28/09 by Dale Grey, and installed. It was later removed due to compatibility with the new control panel and replaced with a Geoflow FM-DDS-075 digital flowmeter.
5. The Biotube EasyPak Pump Package by Orenco was installed.
6. The Geo TS Controller was installed, removed and replaced with a Geoflow 9115-S-2-4RL (mfg. date 3/10/10 Serial # 62645)

This certification pertains to the following: The proper components were used as specified in the design (unless noted above) and the components were installed and functioning properly in accordance with the design. Startup parameters are attached. If you have any questions, please do not hesitate to contact me.

Sincerely,


David Duree

Advance Systems
Geoflow Products Distributor

cc: Howard County Bureau of Environmental Health (Brian Baker)
Farm and Home Excavating (Bill Ingram)
Geoflow (Karen Ferguson)

9001-4
1 to 4 Fields
PLC PARAMETERS

* Settings Adjusted

<u>BLOCK</u>	<u>DESCRIPTION</u>	<u>FACTORY SETTING</u>	<u>PLC NOMENCLATURE</u>
B01	Normal off time	2 hours 2:50 *	02:00h
B02	Off time during override period	1 Hour 1:25 *	01:00h
B03	Filter flush time after pump turns on	1 minute	01:00m
B04	Filter drain time after pump turns off	2 Minutes	02:00m
B05	Field flush time normal operation	2 Minutes 7 min *	02:00m
B06	Field drain time after pump turns off	2 Minutes	02:00m
B07	Number of fields	4 2 *	ON = 4 OFF = 4
B08	Number of cycles until 1st field flush	84 50	ON = 84 OFF = 84
B09	Field flush time after pressing field flush switch	1 Minute 2	01:00m
B101	Field 1 dose time	12 Minutes 7	12:00m
B102	Field 2 dose time	12 Minutes 7	12:00m
B103	Field 3 dose time	12 Minutes 0	12:00m
B104	Field 4 dose time	12 Minutes 0	12:00m
B113	Field 1 drain time after pump turns off	2 Minutes	02:00m
B114	Field 2 drain time after pump turns off	2 Minutes	02:00m
B115	Field 3 drain time after pump turns off	2 Minutes	02:00m
B116	Field 4 drain time after pump turns off	2 Minutes	02:00m
B150	Field 1 in service/ out of service switch	ON	ON
B151	Field 2 in service/ out of service switch	ON	ON
B152	Field 3 in service/ out of service switch	ON OFF	ON
B153	Field 4 in service/ out of service switch	ON OFF	ON

In addition to the settings above, various other parameters can be viewed as follows :

- Pump run time hours
- Pump start counts
- Level override counts
- High level counts
- Switch to hand counts

Note: Minute settings are in minutes and seconds. For example 02:00m is 2 minutes, 02:10m is 2 minutes and 10 seconds. Hour settings are in hours and minutes. For example 02:00h is 2 hours and no minutes, 02:10h is 2 hours and 10 minutes, and 00:12h is 12 minutes.

To skip a field set its respective soft switch B150-B153 to OFF. The clock does not need to be set for the system to operate.

(410) 875-9370 Office

(410) 635-2883 Fax
H. Dale Gray, Principal

INNOVA, LTD
INNOVATIVE WASTEWATER TREATMENT SYSTEMS
P.O. BOX 363, NEW WINDSOR, MD 21776

12170



PLAN VIEW CELL #1 (NOT TO SCALE)

- A - Manifold Width
- B - Bed Width
- C - Basal Area Width
- D - Basal Area Length
- E - Bed Length
- F - Lateral (s) Length
- G - Side Area Set Back
- H - Upper Set Back
- J - Lower Set Back
- K - Manifold inset from Bed Ends (6")
- L - Lateral inset from Bed Edges (6")

HALL SHOP ROAD

HOBBS PROPERTY
12170 HALL SHOP RD.
CLARKVILLE, MD

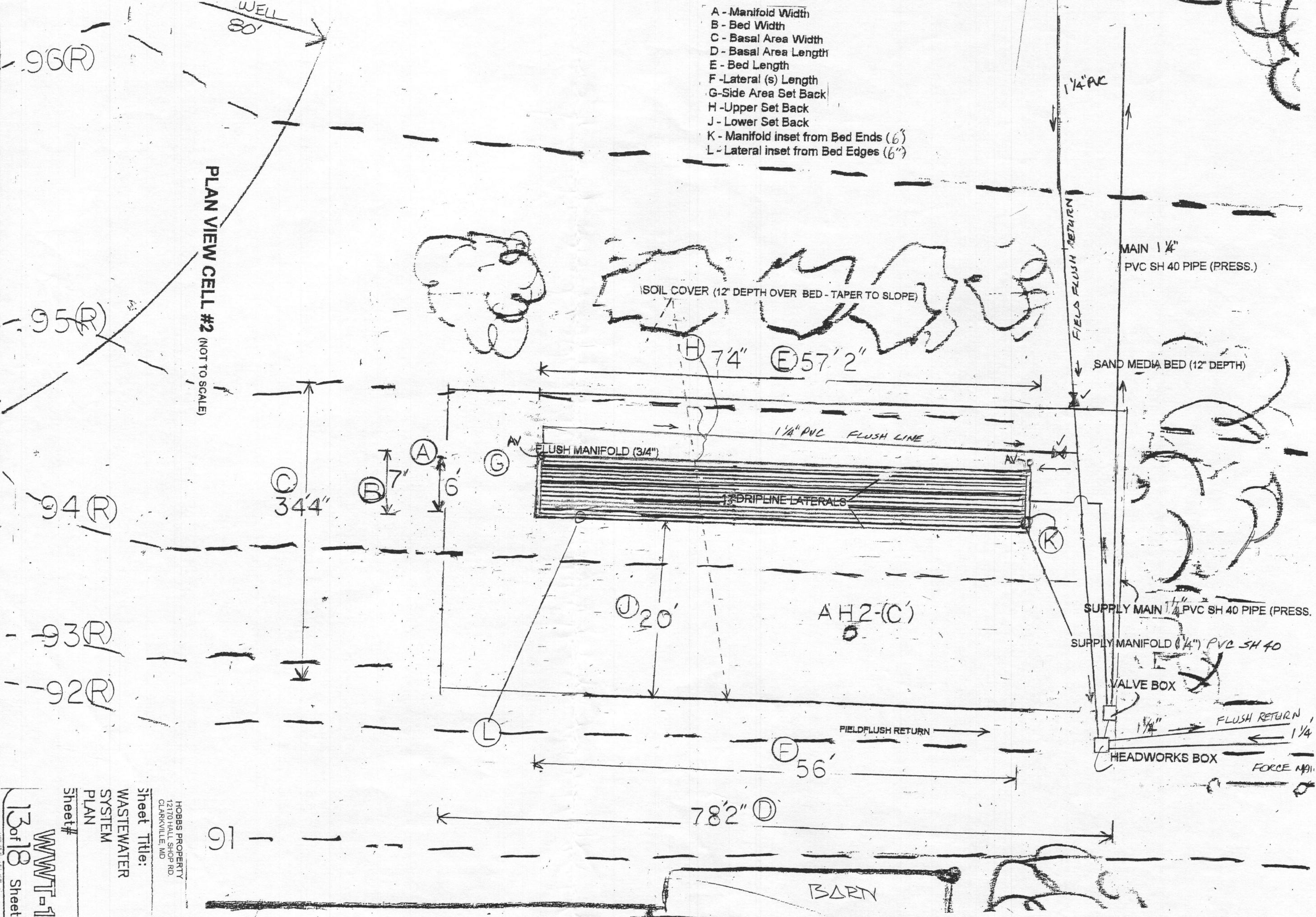
Sheet Title:
WASTEWATER
SYSTEM
PLAN

Sheet #
WWWT-1
12 of 18 Sheets

(410) 875-9370 Office



INNOVATIVE WASTEWATER TREATMENT SYSTEMS
P.O. BOX 363, NEW WINDSOR, MD 21776
(410) 635-2883 Fax
H. Dale Gray, Principal

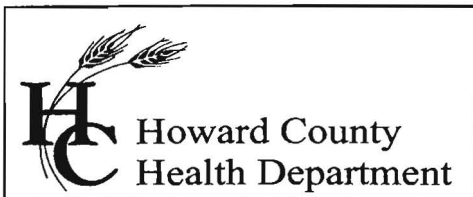


- A - Manifold Width
- B - Bed Width
- C - Basal Area Width
- D - Basal Area Length
- E - Bed Length
- F - Lateral (s) Length
- G - Side Area Set Back
- H - Upper Set Back
- J - Lower Set Back
- K - Manifold inset from Bed Ends (6")
- L - Lateral inset from Bed Edges (6")

Sheet Title:
WASTEWATER
SYSTEM
PLAN

Sheet #
WWT-1
13 of 18 Sheets

HOBBS PROPERTY
12170 HALL SHOP RD.
CLARKVILLE, MD



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

Peter L. Beilenson, M.D., M.P.H., Health Officer

August 12, 2009

Wilson Hobbs
12160 Hall Shop Road
Clarksville, MD 21029

RE: Variance Request
TM 41, Grid 1, Parcel 132
12170 Hall Shop Road
Clarksville, MD 21029

Dear Mr. Hobbs,

The Health Department has received your variance request for the above referenced property. A variance is required to allow the On Site Disposal System (OSDS) to be located less than the required setback distance of 100 feet to a private well water supply located on your property which serves as your primary residence (12160 Hall Shop Road). You've requested the distance of approximately 65 feet be granted between the dripdound system on 12170 and your water well.

The Maryland Department of the Environment (MDE) has accepted our recommendation for approval, and approved the variance request to allow for reduced setbacks specified in COMAR 26.04.02 to an OSDS subject to the following condition(s):

- The property will be served by an advanced pretreatment unit that removes nitrogen, followed by a pump chamber to time dose an innovative dripdound dispersal system. The Health Department requires you to continuously maintain an Operation and Maintenance contract (after the initial Bay Restoration Fund's 5 year manufacturer's service contract has expired), with a qualified service provider/technician, for as long as you own the property. If the property should be sold, this information along with any recorded agreements, must be disclosed.

The approval of this OSDS, is for the sewage flow from the existing house only and is not suitable for any expansion of the dwelling that increases potential living space. The system mentioned is designed for a four bedroom home or a maximum daily waste flow of 600 gallons/day with aggressive water conservation measures such as low flow fixtures, front loading washing machines, and composting toilets etc. If you have any questions regarding this letter, please contact me at the above address or by calling (410)313-1771.

Sincerely,

Brian Baker, R.S.
Howard County Environmental Health

Steven R. Krieg, R.S.
Maryland Department of the Environment



MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230

410-537-3000 • 1-800-633-6101

Martin O'Malley
Governor

Shari T. Wilson
Secretary

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Deputy Secretary

June 9, 2009

Mr. Bert Nixon, Director
Bureau of Environmental Health
Howard County Health Department
7178 Columbia Gateway Drive
Columbia, MD 21046

RE: Wilson Hobbs Property, 12170 Hall Shop Road, Clarksville, MD 21029

Dear Mr. Nixon:

We have reviewed and approved the design plans which are dated 6/1/09 prepared by Dale Gray of Innova, Ltd. for an innovative drip mound dispersal system with advanced pretreatment to serve the above referenced property. Revisions to the plan as discussed with the designer, include clarification of the flushing velocity to be 15.14 gpm (6.43 gpm dose+ 8.71 gpm flush) and location of the installation of the flowmeter to be installed in a separate zone supply valve box as per sheet 11 instead of in the headworks box (filter control unit) as incorrectly shown (pg 15).

Prior to septic permit issuance and the start of construction, an innovative agreement and easement must be signed by all parties, recorded in the land records and returned to your office and MDE before permits to construct can be issued. A combined BRF and Innovative/Alternative agreement is preferred if BRF funding is obtained.

As mentioned in the MDE site evaluation letter dated 7/16/07, this property will require a variance to allow less than the required setback distances in COMAR 26.04.02. As a result of the fact that this is an existing improved property with limited conditions, variances will likely be granted by MDE if recommended by your office. Ideally, the property owner should send a simple request for these variances in writing to your office and we can discuss them. This process should not hold up the system installation, but is a matter of formality.

Also, as per the policy of MDE's Onsite systems division, please have your designated field inspector contact my office 48-hours prior to the anticipated start of system installation so that I may be present for a preconstruction meeting during which a field stakeout can be performed by the designer with the contractor and your county field inspector also present. If you have any questions, please contact me at (410) 537-3680.

Sincerely,

Steven R. Krieg, R.S.

Steven R. Krieg, R.S.
Regional Consultant, On-Site Systems Division

Cc: John Boris
Mike Davis
Stuart Oster
Dale Gray



9/29/2009

Innova Ltd.
Mr. Dale Grey
PO Box 363
New Windsor, MD 21776

Re: Lockslip bonding


Dear Dale:

Per your phone call from this morning, we conducted a test gluing two batches of our lockslip adapters, model LTSLIP 600, to standard Spears Schedule 40 PVC ¾ socket elbows, Spears part #409-007. These adapters are being sent out to Mr. Bill Angle along with 100x replacement lockslip adapters via UPS Next Day Air for installation replacement.

Our test utilized two (2) adapters from a manufacturing batch received 08/26/2009 and marked as #2 on the glued components, and two adapters (2) from a manufacturing batch received 09/16/2009 and marked as #1 on the glued components. The adapters and Spears elbows were primed using IPS Weld-On (<http://www.ipscorp.com/weldon>) Primer model P-70 and glued using PVC 2705 (or 705 equivalent) clear medium-bodied Plastic Pipe Cement. After being set for an hour, we attempted to separate the glued parts and were unable to achieve any separation using physical force.

Prior to installation of the replacement lockslip, kindly verify that they do physically bear the same physical qualities as the materials on hand. Additionally, please verify that the primer and cement being used are of equivalent properties. We hope that these replacements assist in your installation and look forward to diagnosing the issue you are experiencing in the field.

Sincerely,


Mikhail Kiselgof
Office Administrator
Geoflow, Inc.

cc: ~~Mr. Bill Angle~~ c/o Mr. Wilson Hobbs



Freemire & Associates, Inc.

Manufacturers' Representative

BRF

Bio-Microbics Start-Up & Product Registration

Owner		Installer	Farm & Home Excess	Consult Engineer	
Owner's Name	Wilson Hobbs	Name (Person)	Bill Ingram	Phone #	
Lot #		Phone #	410-984-0189	Fax #	
Address (City, State & Zip)	12170 Hall Shop Rd Clarksville MD	Address (City, State & Zip)		Original Purchaser from Freemire	
County	Howard	Fax #		Order #	92326

The Unit is installed per Manufacturers Instruction? Yes No

Date of Inspection: 11/11/09 Date Shipped to User: _____ Serial #: 0.5202394

In addition to proper installation, I have specifically verified that the following tasks are complete:

ELECTRICAL PANEL(S)

- Proper voltage to electrical panel(s), mounted correct & secure
- Visual alarm operating
- Audio alarm operating (if present)

BLOWERS

- Wired for correct voltage
- Inlet/Outlet piped correctly
- Filter element installed
- Blower hood secure
- Blower works correctly
- Blower located within 100 feet of treatment unit
- Air line clean
- Air inlet screen clear
- Blower hood vents clear

TREATMENT UNIT(S)

- Clean outs to grade and accessible
- Air vent clear
- Septic tank is level & will drain properly
- Septic tank meets minimum size
- Septic tank filled to operating level with water
- Air lift operation
- Recirculation tube in place
- Fasteners tight

Comments: _____

Start-Up Scheduled for: <u>11/11/09</u>	Restart Date: _____	Restart Paid: <input type="checkbox"/> Yes <input type="checkbox"/> No
Your Signature: <u>Steve Hudson</u>	Title: <u>Service Tech</u>	
Print Name: <u>Steve Hudson</u>	Date: <u>11/11/09</u>	

SEND TO: MDE DNREC BIOMICROBICS

SYSTEM MAINTENANCE

The best way to assure years of trouble free life from your system is to continuously monitor the system and to perform regular maintenance functions. For large systems or systems with a BOD > 30 mg/l automation of maintenance is essential. For smaller systems with a BOD < 30 mg/l inspection and maintenance should be performed every six months.

ROUTINE AND PREVENTATIVE MAINTENANCE

- 1) Clean the filter cartridge. This may be done with a pressure hose. The screen filter cartridge should be cleaned from the outside inwards, while the discs in the disc filter cartridge should be separated and then cleaned. If bacteria buildup is a problem, we advise first trying lye, and if the problem persists, soak the filter cartridge in a chlorine bath - a mixture of 50% bleach and 50% water.
- 2) Open the field flush valve and flush the field for 3-5 minutes by activating the pump in "manual" position. Close the flush valve. On automatic solenoid valves the manual bleed lever should always be in the closed position and the dial on top should be free spinning. This allows it to open when pulsed electrically. Clockwise rotation closes valve.
- 3) With the pump in the "manual" position, check the pressure in the drip field by using a pressure gauge on the schrader valve located on the air vents and by reading the pressure gauge located in the Wasteflow Headworks box. The pressure should be the same as shown on the initial installation records. On systems with manual flush valves, close the field flush valve completely and then open the valve slightly until there is a 1-2 psi drop or design pressure is reached. This will allow the field to drain after each dose to prevent the manifold lines from freezing.
- 4) Remove the lids on the vacuum breaker and check for proper operation. If water is seen leaking from the top of the vacuum breaker, remove the cap of the vacuum breaker and press down on the ball to allow any debris to be flushed out. Be careful not to come in contact with the effluent.
- 5) Turn off the pump and reset the controller for auto mode.
- 6) Periodically remove and clean the air vents, field flush and filter flush valves.
- 7) Visually check and report the condition of the drip field, including any noticeable wetness.
- 8) Treatment and distribution tanks are to be inspected routinely and maintained when necessary in accordance with their approvals.
- 9) Record the elapsed time meter, pump counter, override counter, high-level alarm and power failures. This information can be obtained from the controller.

HOME OWNERS GUIDE FOR CARE AND MAINTENANCE OF GEOPLOW DRIP DISPERSAL FIELD

A drip dispersal system has been installed on your property for the subsurface dispersal of the effluent from your home.

The drip dispersal system consists of a series of 1/2" diameter drip tubing installed at a shallow depth of 6-10" below the ground surface. It is designed to effectively disperse the treated effluent in the ground with a combination of soil absorption and plant uptake. Your drip dispersal system will function for many years with only minimal maintenance being required, provided the following recommendations are followed:

- Establish landscaping (preferably a grass cover) immediately. This will stabilize the soil and allow for the grass to take up the water.
- Do not discharge sump pumps, footing drains or other sources of clear water to the system, except for the effluent discharge from your treatment system.
- Maintain all plumbing fixtures to prevent excess water from entering the dispersal system.
- Do not drive cars, trucks or other heavy equipment over the drip dispersal field. This can damage the drip components or the soil and cause the system to malfunction. Lawn mowers, rubber wheeled garden tractors and light equipment can be driven over the drip field.
- Do not drive tent stakes, golf putting holes, croquet hoops etc., into the dispersal field.
- Contact your service company if your high water alarm should sound. The pump chamber is sized to allow additional storage after the high water alarm sounds but you should refrain from excessive water usage (i.e., laundry) until the system has been checked.
- After a temporary shut down due to a vacation or other reason, the treatment plant ahead of the drip field filter initially may not function effectively, resulting in the filter blocking. Refer to maintenance guidelines above to clean the filter.

Contact your service company if you notice any areas of excessive wetness in the field. In most cases, this is usually caused by a loose fitting or a nicked dripline and can be easily repaired. Note: There may be some initial wetness over the dripline following the system's installation. This should cease once the ground has settled and a grass cover is established.

LAUREL SAND & GRAVEL, INC. T/A
S.W. Barrick & Sons

Barrick Quarry

Address: P.O. Box 88
Woodsboro, MD 21798
Sales Office: (301) 845-8341
Fax Number: (301) 845-2396
Orders & Dispatch: (301) 845-8343
Toll Free: (800) 546-5343



Finksburg Terminal

Address: 2700 Emory Road
Finksburg, MD 21048
Sales /Dispatch: (410) 833-4400
Fax Number: (410) 833-4909

546-5343

September 24, 2009

Farm & Home Excavating Inc
901 Driver Road
Marriottsville, MD 21104

(301) 845-8341

Attn: Bill Ingram

Re: Material Certification
Sand Mound Sand

Gentlemen:

This letter certifies that the Sand Mound Sand (natural washed Concrete Sand), shipped by S.W. Barrick & Sons through our Woodsboro facility, meets the material specifications for ASTM C-33, the Maryland Department of Transportation - State Highway Administration - Standard Specifications For Construction And Materials - Section 901, and the requirements for the "Wisconsin Mound Soil Absorption System: Siting, Design, and Construction Manual, January 2000."

The following sieve analysis is an average gradation of our Sand Mound Sand.

Sieve Size	Percent Passing	ASTM C-33 Specifications
3/8"	100.0	100
No. 4	97.9	95-100
No. 8	83.0	80-100
No. 16	67.4	50-85
No. 30	51.9	25-60
No. 50	27.1	5-30
No. 100	5.0	0-10
No. 200	0.7	

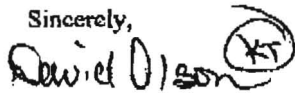
Uniformity Coefficient (CU) = 4.49

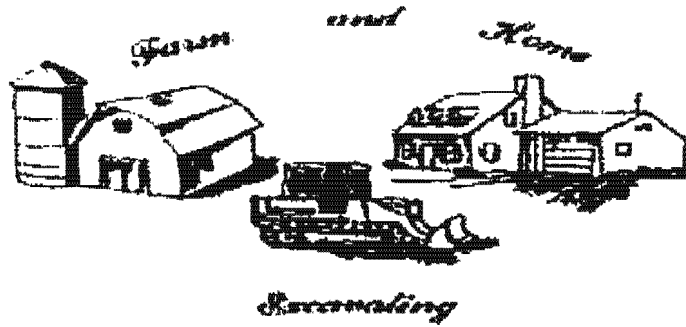
Effective Size = 0.185 mm

2

Note: Specifications for CU (4 - 6) and Effective Size (0.15 - 0.30 mm) are presented in "Wisconsin Mound Soil Absorption System: Siting, Design, and Construction Manual, January 2000."

Thank you for your interest in our products. If you have any questions or require additional information, please contact the lab at 301-845-6302, or Jerry Blank at 301-845-6341.

Sincerely,

David Olson
Quality Control Manager



Fax Cover Sheet

Date: 9/23/09 Time: _____

Name: Brian B.

Firm: Howard County Health

Fax: 4-313-2648 Phone: _____

From: Bill Ingram

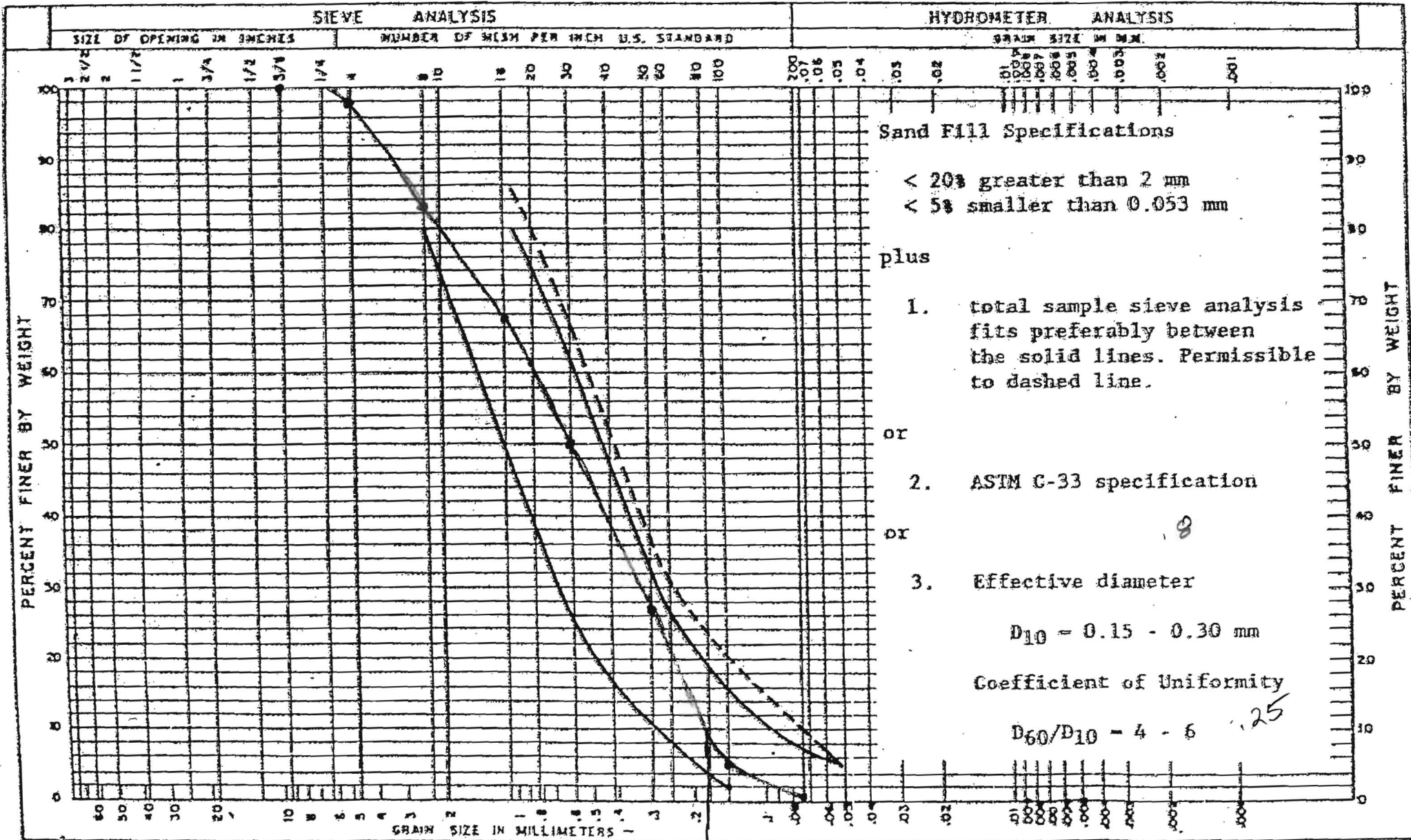
Number Of Pages Including Cover Page: 2

Comments: Brian check out analysis for
alternative, give me a call today
would like to start Thursday - Friday
4-984-0189

Thb Bill

If You Have Any Questions Or Problems, Please Call Bill Ingram At 410-442-2139 Phone
Fax Number 410-442-3280

901 Driver Road Marriottsville Md 21104



(410) 875-9370 Office

(410) 635-2883 Fax
H. Dale Gray, Principal

INNOVA, LTD
INNOVATIVE WASTEWATER TREATMENT SYSTEMS
P.O. BOX 363, NEW WINDSOR, MD 21776

12170



PLAN VIEW CELL #1 (NOT TO SCALE)

HALL SHOP ROAD

HOBBS PROPERTY
12170 HALL SHOP RD.
CLARKVILLE, MD

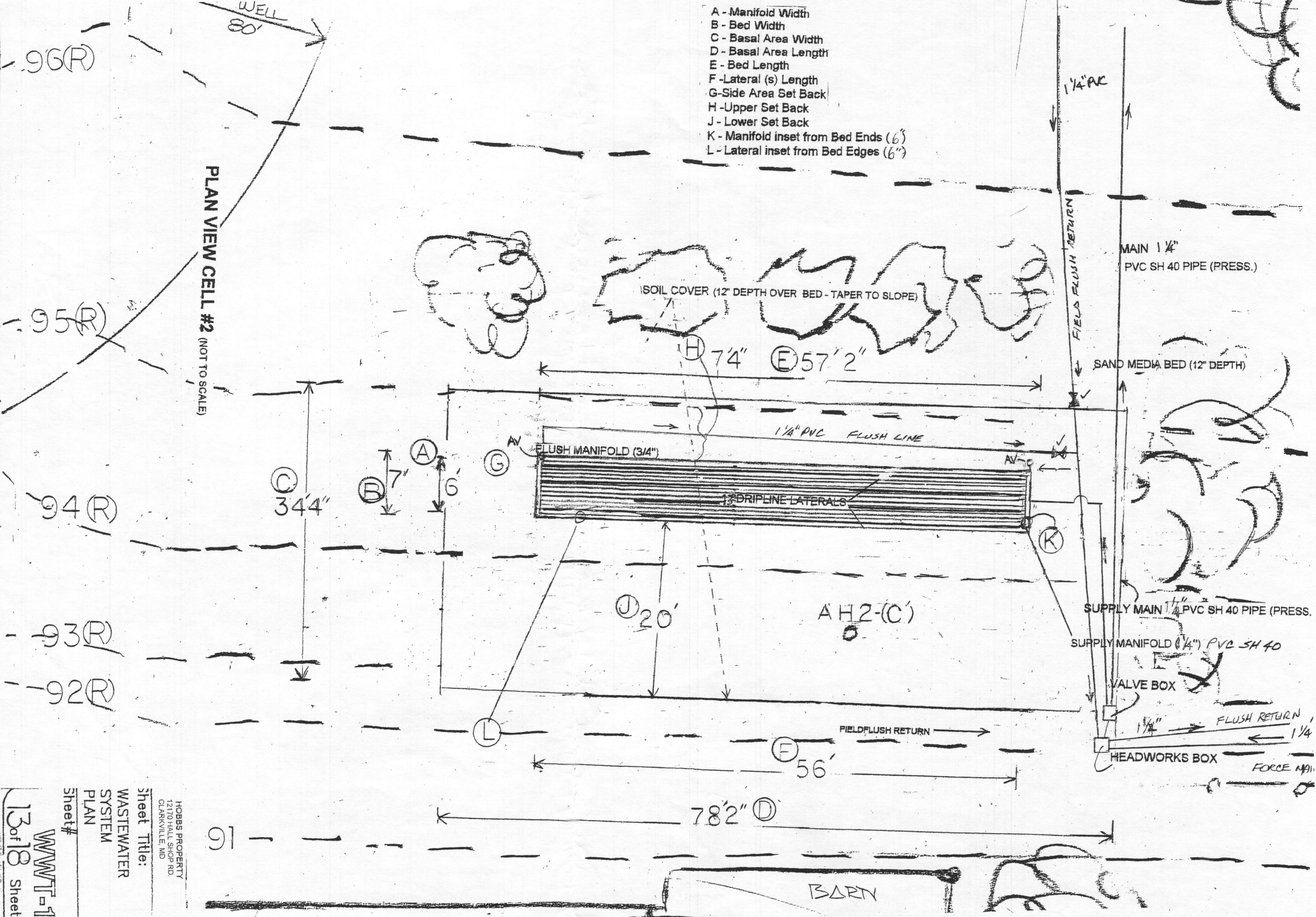
Sheet Title:
WASTEWATER
SYSTEM
PLAN

Sheet #
WWWT-1
12 of 18 Sheets

(410) 875-9370 Office



INNOVATIVE WASTEWATER TREATMENT SYSTEMS
P.O. BOX 363, NEW WINDSOR, MD 21776
(410) 635-2883 Fax
H. Dale Gray, Principal



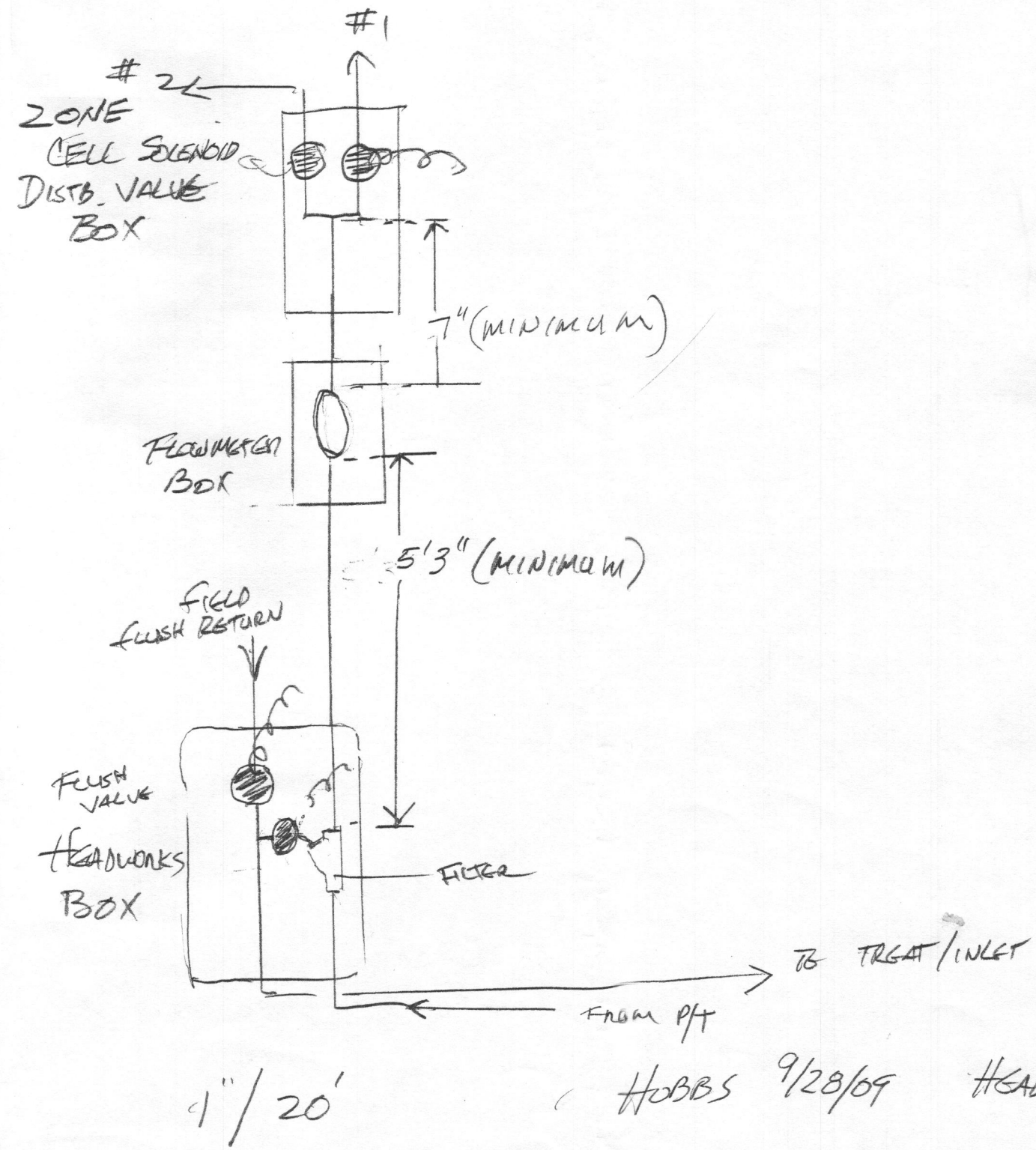
- A - Manifold Width
- B - Bed Width
- C - Basal Area Width
- D - Basal Area Length
- E - Bed Length
- F - Lateral (s) Length
- G - Side Area Set Back
- H - Upper Set Back
- J - Lower Set Back
- K - Manifold inset from Bed Ends (6")
- L - Lateral inset from Bed Edges (6")

Sheet Title:
WASTEWATER
SYSTEM
PLAN

Sheet #
WWT-1
13 of 18 Sheets

HOBBS PROPERTY
12170 HALL SHOP RD.
CLARKVILLE, MD

PG 13A



1" / 20'

HOBBS 9/28/09 HEADWORKS / ZONE VALVE ARRANG.