Boulder County

Boulder County Public Health OWTS Inspection Results

BOULDER COUNTY PUBLIC HEALTH

OPEN HOLE ☐ FINAL INSPECTION ☒

Property Owner MURPHY

Location 7503 HIGHWAY 7 32-3N-72W

(Legal and Property Address)

Approved ____ Pending ✓ Not Approved ____

Comments Final approval pending engineer approval letter.

Environmental Health Specialist Wy Bell Date 7/10/18 Time 2:15pm

Boulder County

Boulder County Public Health OWTS Inspection Results

BOULDER COUNTY PUBLIC HEALTH

OPEN HOLE [X] FINAL INSPECTION [ ]

Property Owner MURPHY

Location 17503 Highway 7 32.3N-72W
(Legal and Property Address)

Approved ✓ Pending _____ Not Approved _____

Comments Do not install deeper than 2 ft below existing grade on downhill side

Environmental Health Specialist WJ Bell Date 7/3/18 Time 10 AM

Boulder County Public Health

3450 Broadway, Boulder, CO 80304
(303) 441-1564

PERMIT TO INSTALL, CONSTRUCT, ALTER, OR REPAIR ONSITE WASTEWATER SYSTEM(OWS).

Permit Type: OWTS MAJOR REPAIR (FULL FEE) Permit # ON0050954 Application Date 05/08/2018
Site Address 17503 HWY 7 Lyons, CO 80540
Legal Description (short) 323N72W Parcel # 119932000004

Owner GENNA MURPHY & SHAUNA RIES Phone (Home) (303) 747-8887
Mailing Address 17503 HWY 7 (Cell Phone) (303) 862-0289
City/State/Zip Lyons, CO 80540

Agent Not Specified Phone (Work)
Mailing Address Not Specified
City/State/Zip Not Specified
Engineer VAN HORN ENGINEERING & SURVEY Installer: T&G ENTERPRISES (DBA ACKERMAN EX

Site Information

1. Proposed Building(s) Primary Dwelling/Structure
2. Area of Lot (Acres) 60.64
3. Type of System Requested
   Sand Filter
4. Water Supply Well
5. Slope ☐ 30% ☐ 45%
6. Floodplain N

System Design Parameters

1. Soil Type 1- Sandy, Loamy Sand
2. Soil Percolation Rate NA Minutes/Inch
3. LTAR 1.00
4. Seasonal Groundwater >3 Feet
5. Bedrock Depth 3
6. Unsuitable Soil Depth 1.5 Feet
7. Electrical Inspection Required N
8. Sized for 3 bedrooms (2 persons/bedroom)
9. Design Flow 450

Installation Instructions

Type of System: Sand Filter
1. Minimum septic tank/vault 1,000 gallons.

Type of System 2: Lift Station
2. Minimum absorption/evaporation area 450 square feet.

INSTALL SYSTEM PER VAN HORN ENGINEERING AND SURVEYING, PROJECT NO. 2016-04-16 DATED 6/22/16 AND STAMPED 6/27/16, AND REVISION DATED AND STAMPED ON 6/22/18, AND PER ALL BOULDER COUNTY PUBLIC HEALTH (BCPH) ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) REGULATIONS. SYSTEM MUST BE INSTALLED IN THE AREA OF SOIL TEST PITS BY A CONTRACTOR LICENSED BY BCPH.

PER ENGINEER REVISION DATED 6/22/18, RIP AND REMOVE ALL EXISTING SOIL DOWN TO 3-FEET BELOW EXISTING GRADE AND REPLACE WITH ASTM-33 SAND APPROVED BY ENGINEER. INFILTRATIVE SURFACE (BOTTOM OF GRAVEL LAYER) MUST BE INSTALLED AT EXISTING GRADE. INSPECTION PORTS ACCESSIBLE FROM GRADE MUST BE INSTALLED AT THE TERMINAL END OF EACH DISTRIBUTION LINE AND MUST EXTEND DOWN TO INFILTRATIVE SURFACE. FLUSHING VALVES MUST BE INSTALLED AT THE END OF EACH DISTRIBUTION LINE AND BE ACCESSIBLE FROM GRADE. A MINIMUM 3:1 SLOPE MUST BE CONSTRUCTED TO ENGINEER'S SPECIFICATIONS ALONG ALL SIDES OF THE STA. FINAL GRADING MUST DIVERT SURFACE WATER RUNOFF AWAY FROM STA. MAINTAIN MINIMUM REQUIRED SETBACKS OF 10' TO PROPERTY LINES, 20' TO OCCUPIED BUILDINGS, 25' TO WATERLINES, 50' TO WATERWAYS, 100' TO ALL WELLS. CISTERN ON SITE IS NON-POTABLE – NO SETBACK.

EXISTING TANK MAY BE USED IF VERIFIED WATERTIGHT AND IN GOOD CONDITION. REPLACE TEES IF NEEDED, INSTALL RISERS EXTENDING ABOVE FINAL GRADE OVER EACH ACCESS MANHOLE, AND ADD AN EFFLUENT FILTER TO THE TANK OUTLET PRIOR TO SIPHON DOSING STATION. INSTALL A 400-GALLON SIPHON DOSING STATION FOLLOWING THE EXISTING 1000 GALLON TANK. THERE MUST BE A 25-FOOT ELEVATION DIFFERENCE FROM SIPHON OUTLET TO STA MANIFOLD, PER ENGINEER DESIGN.

FINAL INSPECTION BY BCPH AND DESIGN ENGINEER AND ENGINEER APPROVAL LETTER IS REQUIRED PRIOR TO FINAL APPROVAL OF THIS SYSTEM. AS-BUILT DRAWING SUBMITTAL IS REQUIRED.

Permission is hereby granted to the owner or the owner's agent to perform the work indicated on this permit in accordance with the Boulder County OWS regulations. This permit is reviewable on an annual basis and is valid for 5 years provided that the conditions of the permit do not change, unless revoked for non-compliance.

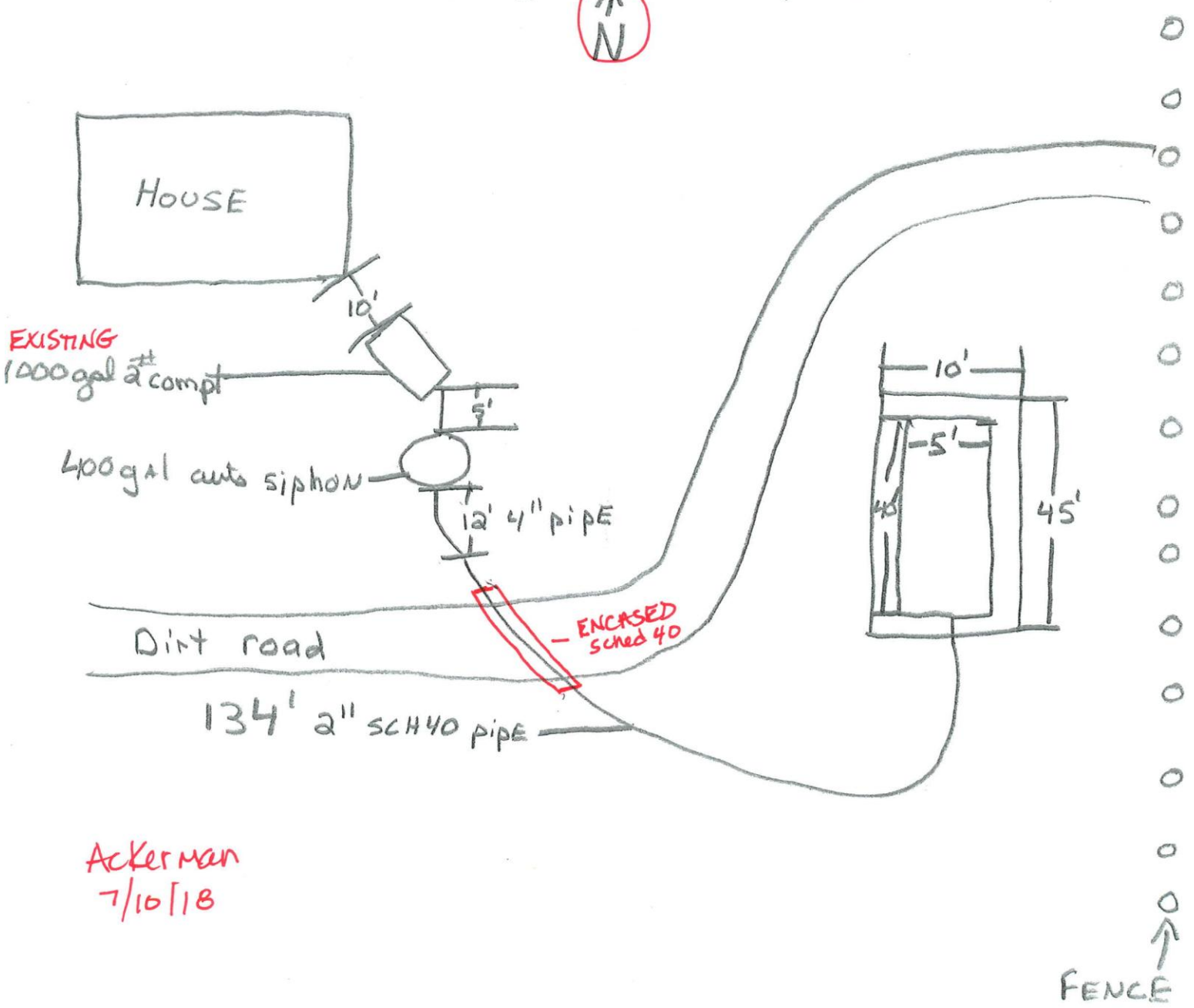
TO THE OWNER OR AGENT: Leave entire OWS uncovered for final inspection. A final inspection is required for all system installations. BOULDER COUNTY PUBLIC HEALTH AND ITS REPRESENTATIVES SHALL ASSUME NO RESPONSIBILITY IN CASE OF FAILURE OR INADEQUACY OF AN OWS BEYOND CONSULTING IN GOOD FAITH WITH THE PROPERTY OWNER OR AGENT.

PLEASE BE ADVISED that issuing this onsite water system (OWS) permit is dependent of other reviews and approvals that may be required by the County Land Use or Building Departments. Because a variety of factors may influence placement of an OWS on a lot, IT IS STRONGLY RECOMMENDED that you contact these departments regarding their requirements prior to installing this OWS.

Environmental Health Specialist WJ Bell Permit Date 06/26/2018
Owner or Agent GENNA MURPHY & SHAUNA RIES

Final Inspection Date 7/10/18 Engineer Approval Date 7/31/18
Environmental Health Specialist WJ Bell Final Approval Date 8/8/18

17503 Highway 7, Lyons, CO



Ackerman
7/10/18

50954

BOULDER COUNTY PUBLIC HEALTH
ONSITE WASTEWATER SYSTEM
3450 Broadway Boulder, CO 80304
(303)441-1564

BOULDER COUNTY PUBLIC HEALTH
Opportunity for a healthy life

FINAL INSPECTION

Property Owner: MURPHY Installer: ACKERMAN

Location: 17503 HIGHWAY 7 32-3N-72W
(Property and Legal)

Installed in Area of Tests: YES At Depth of Tests: YES Adequate Sewer Line Fall: yes - PREVIOUSLY Approved

Septic Tank/Lift Station/ATU Size: EXISTING (1000 gallon)

Company: _____ Type: _____ Risers: Added to outlet manhole Effluent Screen: ☑ Added to siphon tank INLET

Pump/Siphon: _____ Warning Device Operating: — Location: — Type: —

BP #: — Minimum Area Required: 450 ☐ Area Installed: 539 ☐ (43' x 11')

Soil Treatment Description/Media: ASTM-33 SAND

Distribution Box: ☐ Riser: ☐ Flow Equalizers: ☐ Equal Distribution: ☐

Distribution Lines: 2 (looped) Size of Pipe: 2" Level: ☑ Monitor Pipes: ☑ Flushing Valves: ☑

Depth of Gravel: 10" Depth of System: 4' uphill Depth of Fill: 3' Cover: FABRIC

Distance to Wells: >100' Distance to Waterways: N/A E & M Agreement: ☐

Other: Siphon tank is FLXX concrete 400-gallon
EXISTING 1000gal tank had existing riser to grade over inlet manhole.
Effluent Line encased in sched 40 under drive way

Approved: ☑ Pending: ☑ Not Approved: ☐

See Attached Inspection Slip

Environmental Health Specialist: Wy Blunt

Date 7/10/18

50954

BOULDER COUNTY PUBLIC HEALTH
ONSITE WASTEWATER TREATMENT SYSTEM
3450 Broadway Boulder, CO 80304
441-1564

OPEN HOLE INSPECTION WORK SHEET

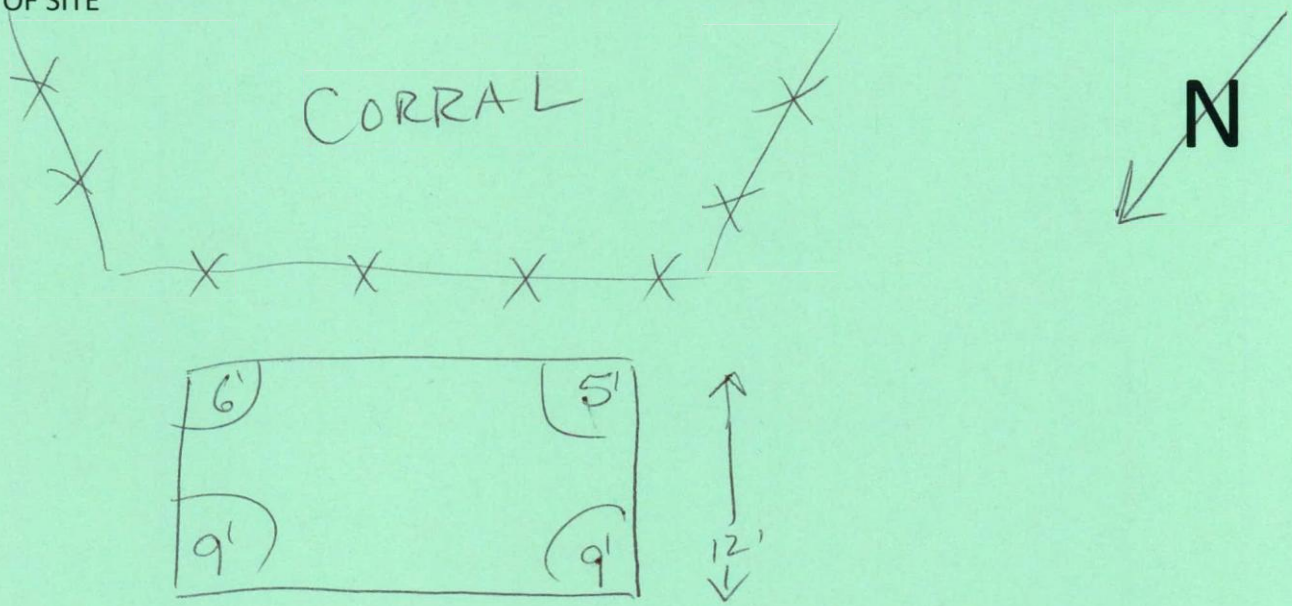
PROPERTY OWNER MURPHY

LOCATION 17503 HIGHWAY 7 32-3N-72W
(Legal and Property Address)

Dimensions of Excavation _____

Total Area Required 450 ft Total Area Provided _____
Maximum Depth of Final Installation on Uphill Side _____
Excavation distance to:
Water Lines _____ Wells _____ Springs _____
Property Lines _____ Road Cuts _____ Waterways _____
Jointed or Fractured Bedrock Observed _____
Other NO GW / NO REDOX / SAME SOIL TO BOTTOM

PLOT OF SITE



Approved ✓ **Pending** _____ **Not Approved** _____
See Attached Inspection Slip

Environmental Health Specialist: Wendy Bell MA

Date: 7/3/18

50954

BOULDER COUNTY PUBLIC HEALTH
ONSITE WASTEWATER TREATMENT SYSTEM
3450 Broadway Boulder, CO 80304
303-441-1564

BOULDER COUNTY PUBLIC HEALTH
Opportunity for a healthy life.

SITE INSPECTION WORK SHEET

Property Owner: MURPHY

Location: 17503 Highway 7 (32-3N-72W)
(Property Address and Legal)

Type of System Requested	EXISTING TANK - ADD SIPHON LIFT STN, AND MOUNDED STA	Water Supply	WELL
Proposed Structure	EXISTING 3-BDRM	Lot Size	60.64 ACRES
Floodplain	NO	Density	LOW
Slope	~ 13%	Area for Expansion	YES
Groundwater Depth	> 3'	Max. Seasonal Groundwater Depth	> 3'
Bedrock Depth	3'	Bedrock Type	GRANITE
Limiting Soil Type (unsuitable)	Type Ø > 35% ROCK	Limiting Soil depth(s) (unsuitable)	18"
Perc Rate	———	Depth of Perc Holes	———
LTAR	~~.80~~ 1.00 SAND FILTER		

Minimum Required Setbacks:

Water Lines	25'	~~Springs~~ OCCUPIED STRUCTURES	20'
Wells	100'	Waterways	50'
Property Lines	10'	Municipal Sewer Available	> 1 MILE

Comments: USING EXISTING APPROVED TANK
ADD SIPHON LIFT STATION
ABANDON OLD STA
INSTALL MOUNDED STA
1'½' Type 1 + 1'½' ASTM-33 SAND
↳ Remove organic matter

Siphon outlet to STA ± 25' elevation diff.

3:1 side slopes

6/22 - RPE Revision SAND FILTER

*CISTERN - Fire Non-potable

Direct surface run-off away from STA.

APPROVAL: ✓

DENIAL: _____ REASON(S) _____

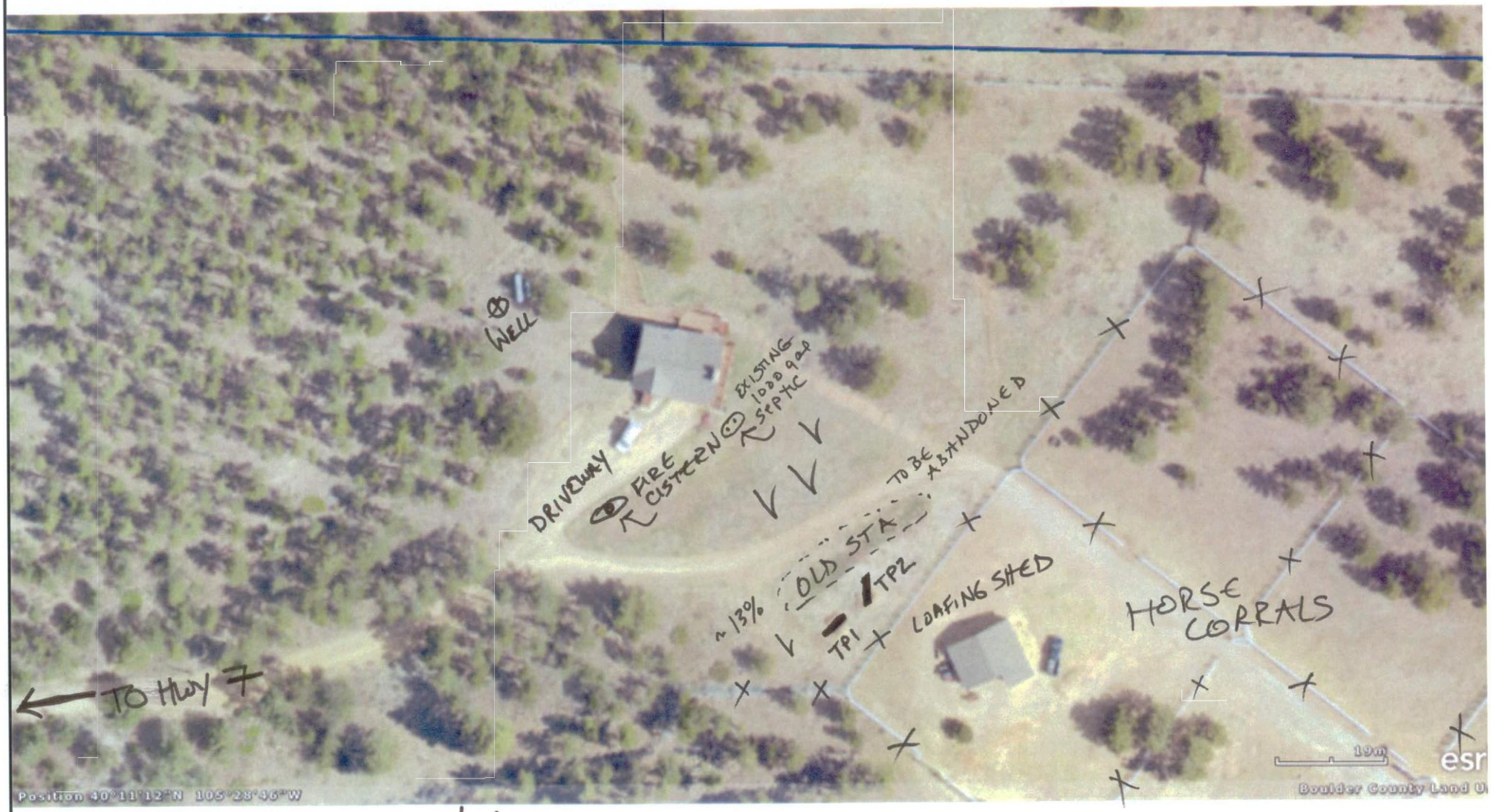
Environmental Health Specialist: WJB Date: 5/9/18

**** See Other Side For Plot Of Site and Soil Profile Log.****

Boulder County Land Use Department

2045 13th Street, Boulder, Co 80304 303-441-3930 www.bouldercounty.org

17503 HIGHWAY 7



Wendy Blanchard 5/9/18

1 inch = 60 feet

Printed: 5/10/2018
Printed by Gblanchard

17503 HIGHWAY 7 5/9/18 WB

Soil Profile Log

Test Pit #

	Depth	USDA Soil Texture
0-18"	1	LOAMY
	2	SAND
	3	ROCKS
	4	
	5	
	6	
	7	
	8	

Pit ends @ 3'

Ball when tossed
No Ribbon

Engineer Report		BCPH Site Eval	
Soil Type	① LOAMY SAND	Soil Type	① LOAMY SAND
Redoxy features present? Depth?	NO	Redoxy features present? Depth?	NO
% Rock	0-18" < 35% 18"-3' > 35%	% Rock	0-18" < 35% 18"-3' ~ 50%
USDA Soil Structure/Grade	SINGLE GRAIN	USDA Soil Structure/Grade	SINGLE GRAIN
Limiting condition?* Depth?	Type Ø 18"-3'+	Limiting condition?* Depth?	Type Ø 18"-3'+
General site features (swales, ponds, creeks, drainage)	Well	General site features (swales, ponds, creeks, drainage)	Well

*Limiting condition = bedrock, low permeability

Test Pit #

	Depth	USDA Soil Texture
0-2'	1	LOAMY
	2	SAND
2'-3'	3	ROCKS
	4	
	5	
	6	
	7	
	8	

Pit ends @ 3.5'

Ball when tossed
No Ribbon

Engineer Report		BCPH Site Eval	
Soil Type	① LOAMY SAND	Soil Type	① LOAMY SAND
Redoxy features present? Depth?	NO	Redoxy features present? Depth?	NO
% Rock	0-2½' < 35% 2½'-4½' > 35%	% Rock	0-2' < 35% 2'+ ~ 50%
USDA Soil Structure/Grade	SINGLE GRAIN	USDA Soil Structure/Grade	SINGLE GRAIN
Limiting condition?* Depth?	Type Ø 2½'-4½'+	Limiting condition?* Depth?	Type Ø 2'-3½'+
General site features (swales, ponds, creeks, drainage)	Well	General site features (swales, ponds, creeks, drainage)	Well

Area 1
ON50954

RECEIVED
MAY 08 2018
ENVIRONMENTAL HEALTH

Boulder County Public Health
Application for Permit to Install, Construct, Alter or Repair an Onsite Wastewater Treatment System (OWTS)

3450 Broadway – Boulder – CO- 80304 Ph: 303-441-1564 Fax: 303-441-1468

KEY OWTS Major Repair
FEE $1023.00 LC

Type of Permit:

Application Date: 05/08/18

☒ Major Repair ($1,023.00)
☐ Minor Repair ($1,023.00)
☐ New – ONLY use if property never had a structure ($1,023.00)

Excavation Test Pit Dug: ☒ YES ☐ NO

Reason for applying:

☐ Buying a house/property	☐ Failed Property Transfer Inspection	☐ Selling my house/property
☒ My system was failing	☐ My system is not approved	☐ Rebuilding my house
☐ Land Use / Building Referral	☐ Upgrading my system	☐ High Risk mailing
☐ Received a SepticSmart letter	☐ Received an enforcement letter	☐ Fire / Flood

Property / Site Information:

Site address: 17503 Highway 7 Lyons, CO 80540

Number of Bedrooms: 3 Area of lot in acres: 1.01

Existing Building: ☒ Residential ☐ Commercial ☐ Industrial ☐ Institutional

Water information:

Supply (check all that apply): ☐ Cistern ☐ Water District ☐ Spring ☒ Well

Water District Name: _____

Certified Professionals:

Engineer: Van Horn

Installer: Aclarma Excavating

Owner on Record and Owner Contact Information:

Name: Genna Murphy & Shawna Ries

Mailing address: 17503 Highway 7

City Lyons, State CO, Zip 80540

Phone: (303) 747-8887 Cell Phone: (303) 862-0289

Email: murphygenna@hotmail.com

Contact Information If Different from Owner on Record

Name: _____

Mailing address: _____

City_____, State_____, Zip_____

_____ Phone: (_)_-_____Cell Phone: (_)_____-_____

IN ORDER TO ISSUE A PERMIT - ALL APPLICATION INFORMATION MUST BE COMPLETE.
PLOT PLAN AND INSTRUCTIONS ON PAGE TWO MUST ALSO BE COMPLETED.

Boulder County Public Health
Application for Permit to Install, Construct,
Alter or Repair an Onsite Wastewater Treatment System (OWTS)

3450 Broadway – Boulder – CO- 80304 Ph: 303-441-1564 Fax: 303-441-1468

PLEASE PROVIDE detailed instructions to the property.

DIRECTIONS TO PROPERTY

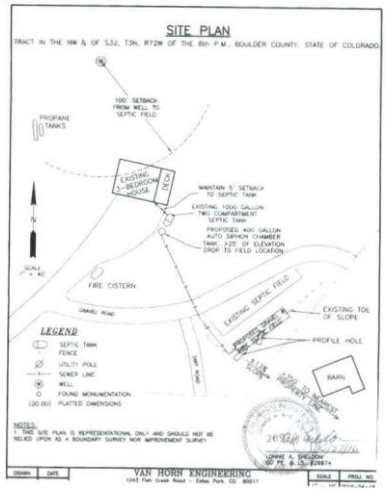
N
W E
S

Hwy 7 past Peak to Peak
Look for Blue Sign "Scenic Overlook"
one mile
Turn right, right after this sign.
Coyote Ridge Ranch 17503 Hwy 7

PLEASE SKETCH a plot plan below indicating the (proposed) location of buildings, wells, or other types of water supply, waterlines, proposed septic area and any physical features such as streams, lakes, ditches, gulches or rock formations on the property.

PLOT PLAN OF PROPERTY

N
W E
S



Internal use only:

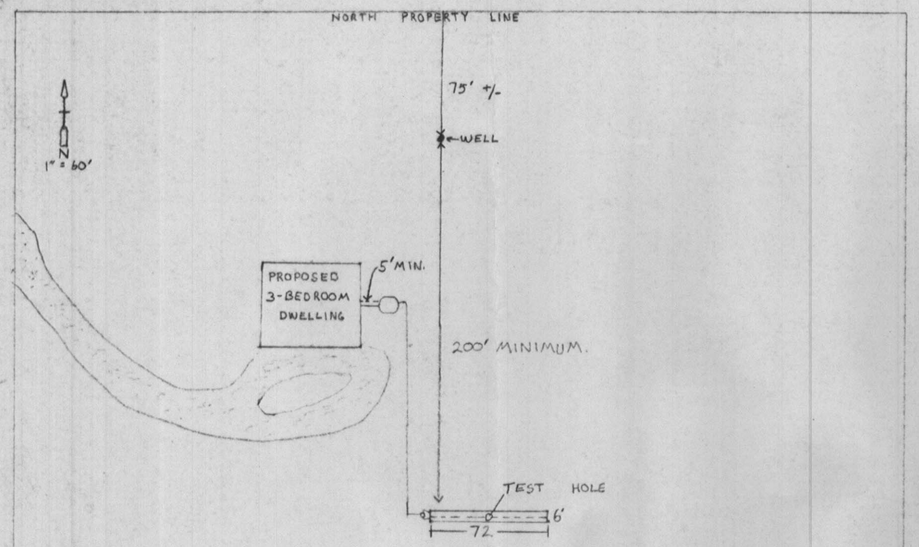
Parcel Number:_____ Area #: _____

ON Record: _____

Legal Description: Lot: _____ Block: _____
Subdivision: _____ Addition: _____
Section: _____ Township: _____ Range: _____

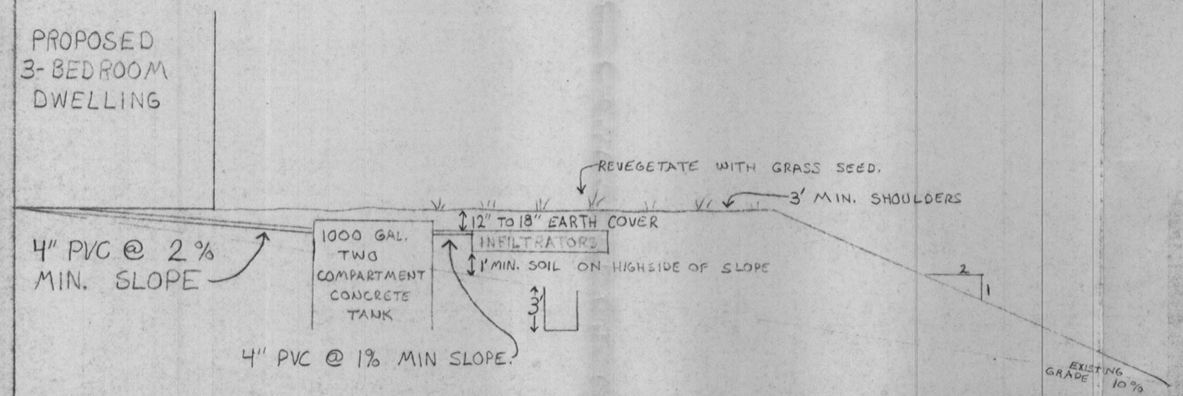
□ Site Address Validated

NOTES: STA ONLY + SIPHON



SITE PLAN FOR
NW 1/4, SEC. 32, T3N, R72N.

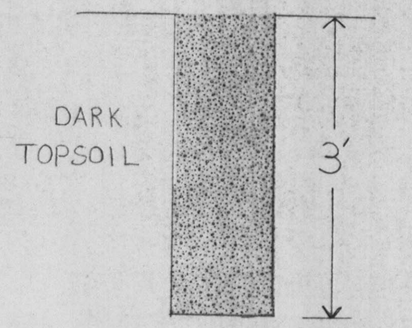
PROFILE PLAN
N.T.S.



TEST HOLE DATA

TEST NUMBER	1	2	3
PERCOLATION RATE	5	6	5

AVG. PERCOLATION RATE = 1" IN 6 MINUTES.



ENCOUNTERED HARD GRANITE/ BEDROCK AT 38".

GENERAL NOTES

Install ~~1000~~ gallon two-compartment tank, distribution box and 72' X 6' standard infiltrator field. Field shall be built up a minimum of 1' on the highside of field. Soil imported into field shall have a percolation rate of ~~10 M.P.I~~ or better.

All construction and materials to meet Boulder County Health Department regulations.

Engineer to make final and other inspections as needed.

DESIGN DATA

Sizing is based on 3 bedrooms and a percolation rate of one inch in 10 minutes. 720 gallon/day

A_b = 450 X (1.6 / 5) X 1.3 X $\sqrt{10}$ = 555 sq. ft.
= 592 sq ft

Required 555 sq.ft.x 0.65 = 361 sq.ft.. Recommend a 72' X 6' (2 units wide x 12 units long) seepage bed using the standard infiltrator= 432 sq. ft. (24 units)

NOTE: OWNER OCCUPANTS: Septic systems are not designed to treat oil, grease, kitchen fats, of non-biodegradable soaps.

592
-35%
385/18.75 = 21 units min.

RPE calling for 24 units

Determine suitability of fill.

Field must be at least 1' above original grade on uphill side

SEAL: COLORADO REGISTERED KERRY MICHAEL PROCHNOW 25082 PROFESSIONAL ENGINEER

DATE:	REVISION:	BY:

PROJECT TITLE: SEPTIC DESIGN
SHEET TITLE: NW 1/4, SEC. 32, T3N, R72N
17503 HIGHWAY 7
CLIENT: JOHN MILLER
OFFICE:

DESIGNED BY RHR	APPROVED BY KMP	JOB NO.	SHEET	SHEETS
DRAWN BY RHR	DATE	9-2331.	1	1
CHECKED BY KMP	SCALE SHOWN	001.00		

RMC
ROCKY MOUNTAIN CONSULTANTS, INC.
DENVER: 6301 E. PRENTICE AVE., SUITE 101 ENGLEWOOD, COLORADO 80111 (303) 741-8000
LONGMONT: 1980 INDUSTRIAL CIRCLE, SUITE A LONGMONT, COLORADO 80501 (303) 772-5282 (METRO) 665-4283
ESTES PARK: 457 S. ST. VRAIN P.O. BOX 1649 ESTES PARK, COLORADO 80517 (303) 586-2468 (METRO) 823-9233

ROCKY MOUNTAIN CONSULTANTS, INC.
437 South St. Vrain
P.O. Box 1649
Estes Park, CO 80517

586-2458 Local
825-8233 Metro

FINAL INSPECTION OF SEPTIC SYSTEM

TO: Boulder COUNTY HEALTH DEPARTMENT

NAME: John Miller

LOCATION: NW¼, Sec 32, T3N, R72N / 17503 HWY 7, Allens Park, Co.

JOB NO.: 9-233.001.00 DATE OF INSPECTION: 7/19/93

COMMENTS:

I hereby certify that this system was inspected and found to be installed according to the approved plan, except as noted above.

Michael S. Todd
Inspector

Reviewed by:

COLORADO REGISTERED KERRY MICHAEL PROCHASKA 25082 PROFESSIONAL ENGINEER

ROCKY MOUNTAIN CONSULTANTS, INC.

437 South St. Vrain
Estes Park, CO 80517
(303) 586-2458
Metro (303) 825-8233
Fax (303) 825-8912

May 3, 1993

Boulder County Health Department
3450 Broadway
Boulder, CO 80304

Re: John Miller
NW 1/4, Sec.32, T3N, R72N
RMC Job # 9-2331.001.00

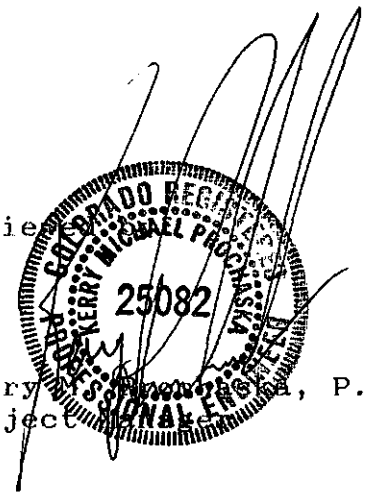
Dear Mesdames & Gentlemen:

We submit herewith a septic system design for NW 1/4, Sec. 32, T3N, R72N, 17503 Hwy. 7.

We are of the opinion that when properly installed this system will function adequately.

Sincerely,
ROCKY MOUNTAIN CONSULTANTS, INC.

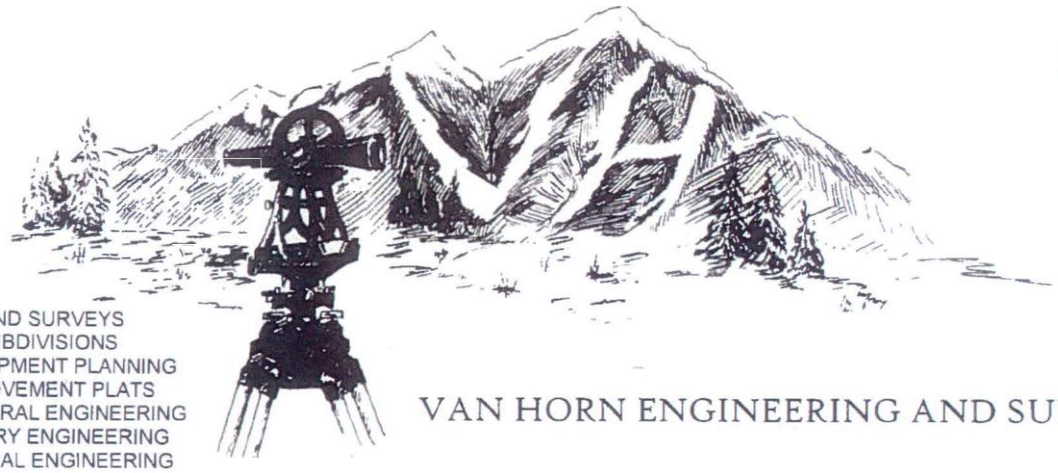
Ron H. Richmond



Reviewed by:
Kerry M. Prochaska, P.E.
Project Manager

RHR/wjk

Concrete
1.5'
3'
2'
24 units
6'
10ft 5'
1000 gallon erie
13'
Driveway
2' Riser
5 1/2'
Grade
17'
3
5.5
2'
N



LAND SURVEYS
SUBDIVISIONS
DEVELOPMENT PLANNING
IMPROVEMENT PLATS
STRUCTURAL ENGINEERING
SANITARY ENGINEERING
MUNICIPAL ENGINEERING

VAN HORN ENGINEERING AND SURVEYING

July 31, 2018

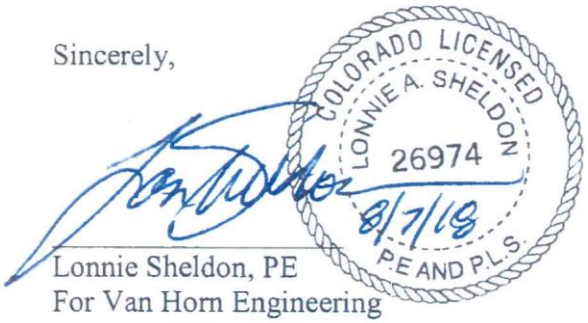
Boulder County Health Department
3450 Broadway
Boulder, CO 80304

RE: Murphy ISDS final approval

To whom it may concern,

We recently completed an inspection of the finished system of the constructed septic system at 17503 Highway 7 for the property owned by Genna Murphy and Shauna Ries. An open hole inspection was conducted prior to soil placement to confirm adequate depth to restrictive layer. All added material placed in the bed area was material meeting the specifications of sand filter media per the design. The system as installed had sufficient depth of sand below the bed area as required in the design/permit. The system has been properly graded and covered and the finished system conforms to our design and we approve of the overall septic system. The dosing tank was placed after the existing tank as specified in the design and conforms to the septic design and we approve of the finished septic system. If you have any questions please call me at 970/586-9388 x17.

Sincerely,



Lonnie Sheldon, PE
For Van Horn Engineering

1043 Fish Creek Road • Estes Park, Colorado 80517 • 970-586-9388 • E-mail: vhe@airbits.com

LAND SURVEYING
SUBDIVISIONS
DEVELOPMENT PLANNING
IMPROVEMENT PLATS
STRUCTURAL ENGINEERING
SANITARY ENGINEERING
MUNICIPAL ENGINEERING

VAN HORN ENGINEERING AND SURVEYING
1043 FISH CREEK ROAD * ESTES PARK, CO 80517
PHONE: (970) 586-9388 * FAX: (970) 586-8101

Individual Sewage Disposal System Design

TRACT IN THE NW ¼ OF S32-T3N-R72W OF THE 6th P.M.,
BOULDER COUNTY, STATE OF COLORADO.

RECEIVED
JUN 22 2018
ENVIRONMENTAL HEALTH

OWNER/ADDRESS:	Genna Murphy and Shauna Ries 17503 Highway 7 Allenspark, CO 80510
BUILDING CONTRACTOR:	N/A
SYSTEMS CONTRACTOR:	T & G Enterprises 79 Big John Road Allenspark, CO 80540
BUILDING:	Existing 3 Bedroom House
WATER SUPPLY:	Existing Well
DEPTH TO BEDROCK:	36"
SOIL TYPE:	6" Sandy Topsoil 1'-0" USDA Type 1 Loamy Sand, Single Grain 1'-6" USDA Non-restrictive Type 0 Sand w/Highly Decomposed Granite (>35%rock)
DEPTH TO GROUNDWATER:	None Found
SYSTEM TYPE:	Gravel and Pipe, Siphon Dosed Pressure System
SEPTIC TANK:	Existing 1000 Gallon Two Compartment Tank and New 400 Gallon Siphon Dosing Tank, Pressurized (±25' Elev. Drop Tank to Field, Sufficient Pressure for Equal Distribution)
CALCULATIONS:	USDA Soil Type 1 LTAR = 0.8 gal/s.f. 1.0 FOR SAND FILTER Q = 3 bedrooms = 450 gpd A Bed = 450(1.0)(1.0)/1.0= 450.0 s.f. required construct a 10'x45' gravel and pipe septic field Area of Bed = 450.0 s.f. provided

COLORADO LICENSED
LONNIE A. SHELDON
26974
6/22/18
P.E AND P.L.S.

Lonnie A. Sheldon,
PE & PLS #26974

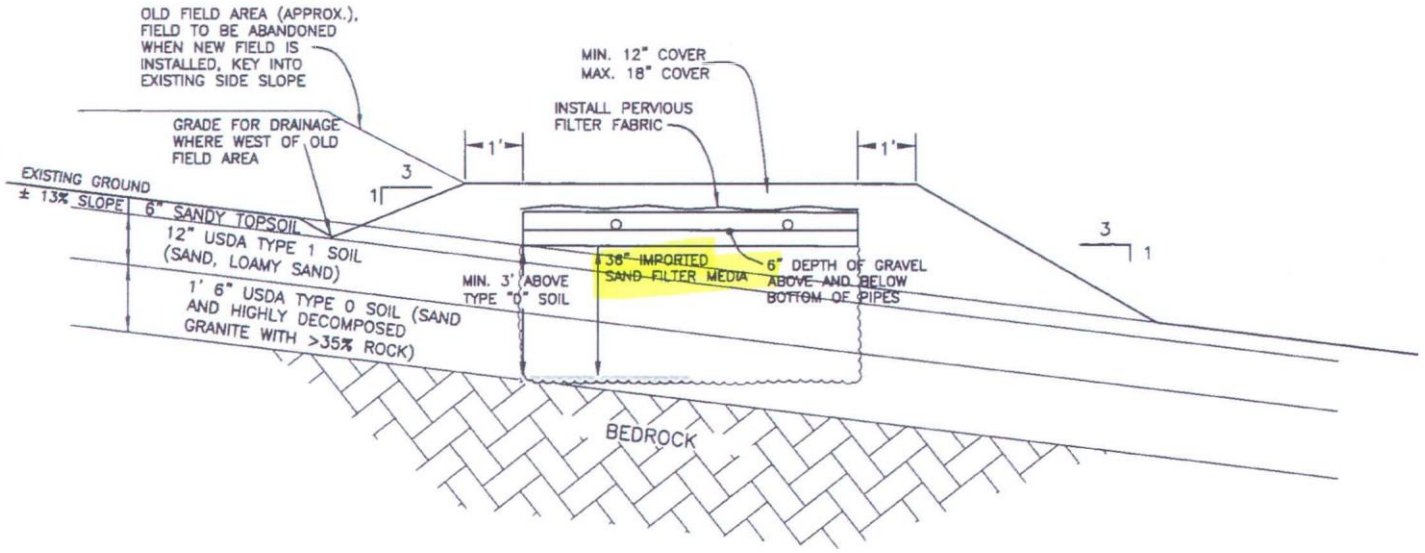
An open hole inspection is NOT required.
A reperc test is NOT required,
18" of material meeting the specifications of sand filter media must be used

DRAWN	DATE	VAN HORN ENGINEERING	SCALE	PROJ. NO.
TWB	6-22-18	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586-9388 – vanhornengineering.com	NO SCALE	2016-04-16

STANDARD GRAVEL AND PIPE DESIGN

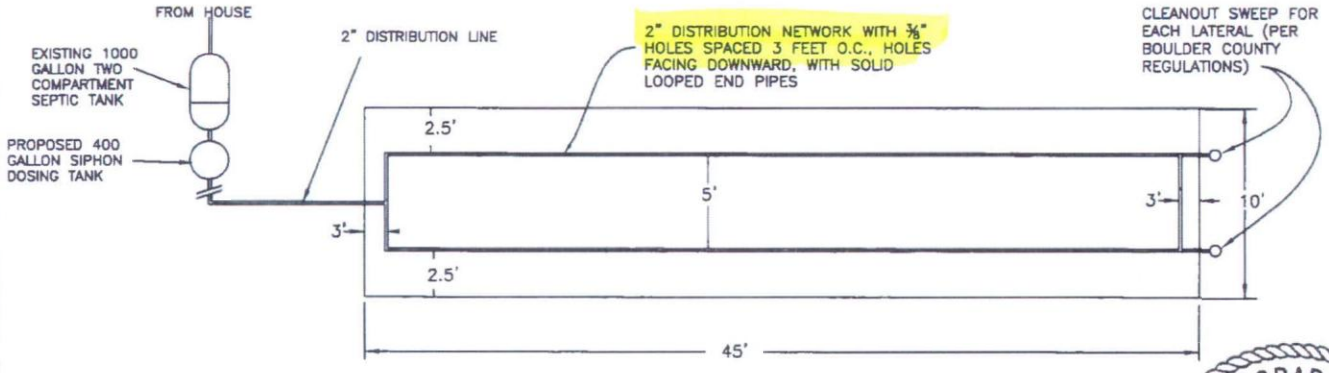
BED CROSS-SECTION

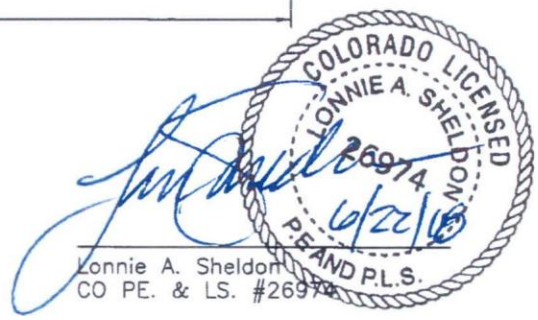
NO SCALE



BED PLAN VIEW

NO SCALE





Lonnie A. Sheldon
CO PE. & LS. #26974

DRAWN	DATE	VAN HORN ENGINEERING	SCALE	PROJ. NO.
TWB	6-22-18	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586-9388 – vanhornengineering.com	NO SCALE	2016-04-16

CONSTRUCTION AND MAINTENANCE NOTES:

UNIQUE REQUIREMENTS FOR THIS DESIGN:

1. THE EXISTING 1000 GALLON TWO COMPARTMENT SEPTIC TANK WILL BE UTILIZED FOR THE NEW SEPTIC FIELD, A NEW 400 DOSING SEPTIC TANK SHALL BE INSTALLED IN THE APPROXIMATE LOCATION SHOWN ON THE SITE PLAN AND SIPHON DOSED TO THE FIELD (TANK SPECIFICATIONS ATTACHED) IN 135 GALLON INCREMENTS. THIS SIPHON DOSING TANK WILL DOSE TO THE FIELD, ±25' OF ELEVATION DROP PROVIDES SUFFICIENT PRESSURE FOR EQUAL DISTRIBUTION.

2. THE EXCAVATOR HAS THE ABILITY TO CHANGE THE CONFIGURATION OF THE BED AS LONG AS THE SAME OR MORE SQUARE FOOTAGE IS MAINTAINED AND THE EXTENTS OF THE BED DO NOT ENCROACH UPON ANY SETBACK FEATURES.

3. SOIL TESTS WERE PERFORMED ON THE SOILS FROM BOTH PROFILE HOLES, BOTH UPPER LAYERS WERE DETERMINED TO BE LOAMY SAND – USDA SOIL TYPE 1, SAID SOIL TYPE WHICH CARRIES A LONG TERM ACCEPTANCE RATE OF 0.8 GAL/SF/DAY. ALTHOUGH SAND FILTER MEDIA IS BEING ADDED TO RAISE THE INFILTRATIVE SURFACE ABOVE THE RESTRICTIVE LAYER, THE MORE RESTRICTIVE LTAR OF LOAMY SAND IS USED FOR FIELD SIZING. – USING 1.0 PER 6/22/18 calc sheet WLD

4. THE EXISTING MATERIAL IS TO BE RIPPED AND 36" OF SAND FILTER MEDIA SHALL BE ADDED ON TOP OF THE RESTRICTIVE LAYER TO PROVIDE SUFFICIENT INFILTRATIVE DEPTH OF 36" TO THE RESTRICTIVE LAYER (IN THIS CASE THE RESTRICTIVE LAYER IS HIGHLY DECOMPOSED GRANITE – USDA TYPE 0 SOIL).

5. A REPERC TEST IS NOT REQUIRED, ADDED MATERIAL USED MUST MEET THE SPECIFICATIONS OF SAND FILTER MEDIA.

STANDARD REQUIREMENTS:

1. MUST MAINTAIN A MINIMUM OF 3' OF SUITABLE MATERIAL UNDER THE GRAVEL BED. A MINIMUM OF 10" OF COVER. MAXIMUM COVER OVER THE FIELD IS 1.5'.

2. SURFACE RUNOFF IS TO BE DIRECTED AROUND THE ABSORPTION BED.

3. A #4 REBAR IS TO BE PLACED NEXT TO THE PIPE JUNCTIONS, THE TOP OF THE REBAR IS TO BE AT OR ABOVE FINISH GRADE.

4. WHERE THE FINAL COVER OVER THE SEPTIC FIELD IS ABOVE PRE–EXISTING GRADE THE SIDE SLOPES OF THE COVER SHALL BE 3 TO 1 OR FLATTER.

5. VAN HORN ENGINEERING DID NOT CALL FOR OR PERFORM ANY UTILITY LOCATES ON–SITE, THIS IS THE RESPONSIBILITY OF THE CONTRACTOR OR PROPERTY OWNER.

6. MAINTAIN THE FOLLOWING ABSORPTION BED SETBACKS ON SITE:
   - 20' TO HOUSE
   - 10' TO ANY PROPERTY LINE
   - 25' TO ANY POTABLE WATERLINE (OR SLEEVING WILL BE REQUIRED)

7. ALL OTHER BOULDER COUNTY HEALTH DEPARTMENT INSTALLATION/MATERIALS REQUIREMENTS ARE ALSO REQUIRED.

MAINTENANCE AND USE REQUIREMENTS:

1. THIS SYSTEM IS CLASSIFIED AS A "NON–TYPICAL SYSTEM" MEANING THAT SPECIFIC DESIGN AND CONSTRUCTION TECHNIQUES ARE NECESSARY FOR CONSTRUCTION. SAND MEETNG THE REQUIREMENTS OF SAND FILTER MEDIA MUST BE ADDED TO BRING THE INFILTRATIVE SURFACE 36" ABOVE THE HIGHEST OBSERVED DECOMPOSED BEDROCK. A FINAL SYSTEM INSPECTION MUST BE CONDUCTED BY THE DESIGN ENGINEER.

IT IS IMPORTANT TO REALIZE THAT ANY SYSTEM CAN FAIL IF IT IS NOT PROPERLY USED AND MAINTAINED. THE OWNER SHOULD UNDERSTAND AND COMMIT TO THE FOLLOWING:

WATER CONSERVATION IS IMPORTANT RELATIVE TO THE AMOUNT OF WATER PUT THROUGH THE SYSTEM AT ANY GIVEN TIME. DON'T OVERTAX THE SYSTEMS ABSORPTION ABILITIES. PROCESSES THAT UTILIZE A LOT WATER (LAUNDRY, DISH WASHING, BATHING) SHOULD BE SPREAD OUT TO PROVIDE THE BED WITH DRYING TIME BETWEEN CYCLES.

REGULAR TANK PUMPING IS NECESSARY TO AVOID CLOGGING THE ABSORPTION FIELD. A BASIC RULE OF THUMB IS THAT THE SYSTEM SHOULD BE PUMPED EVERY THREE YEARS. THE OWNER SHOULD KNOW WHERE THE LIDS ARE AND KEEP THEM UNOBSTRUCTED FOR READY ACCESS.

THE ABSORPTION BED AREA SHOULD BE KEPT CLEAR AND OPEN. TREES SHOULD NOT BE PLANTED WITHIN 10' OF THE EDGES, VEHICLE, ANIMAL, OR RECREATIONAL TRAFFIC OVER THE BED AREA SHOULD NOT BE ALLOWED TO AVOID OVER COMPACTING THE BED MATERIAL.

HARSH CHEMICALS, SOLVENTS, FATS AND GREASES SHOULD NOT BE ALLOWED TO BE DISCHARGED INTO THE SYSTEM. THESE ITEMS WILL KILL BACTERIA IN THE SYSTEM.

2. THE OWNER SHOULD CHECK THE CONDITION OF THE FIELD AND SYSTEM COMPONENTS EACH YEAR. THE FIELD SHOULD BE MAINTAINED FREE OF EROSION, VARMINT INTRUSION AND THE SURFACE WELL VEGETATED AND FREE DRAINING (NO STANDING WATER).

COLORADO REGISTERED CONNIE A. SHELDON 26974 P.E. AND P.L.S.

4/22/18

DRAWN	DATE	VAN HORN ENGINEERING	SCALE	PROJ. NO.
TWB	6–22–18	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586–9388 – vanhornengineering.com	NO SCALE	2016–04–16

VAN HORN ENGINEERING AND SURVEYING
1043 Fish Creek Road – Estes Park, CO 80517
Phone: (970) 586-9388

Murphy/Ries Septic Calculations

(I) Flow = Q for 3 bedroom house

Q = 450 gpd

(II) Long Term Acceptance Rate = LTAR

for sand filter media in USDA Type 1 receiving soil, therefore use

LTAR = 1.0

(III) Bed Area = $A_{BED} = \frac{Q}{LTAR}(\text{flow factor})(\text{media factor})$

flow factor for pressure dosing = 1.0

media factor for gravel & pipe = 1.0

$A_{BED} = \frac{450}{1.0}(1.0)(1.0) = 450$ s.f. required

construct a 10' x 45' gravel & pipe field

$A_{BED} = (10')(45') = 450$ s.f. provided

COLORADO LICENSED
LONNIE A. SHELDON
26974
6/22/18
PROFESSIONAL L.S.

JOB NAME: Murphy/Ries

JOB NO.: 2016-04-16

SHEET ____ OF ____

BY: TWB DATE: 6/22/2018

Blanchard, Gwendolyn (Wendy)

From: Blanchard, Gwendolyn (Wendy)
Sent: Friday, June 22, 2018 9:33 AM
To: murphygenna@hotmail.com; tom@vanhornengineering.com; lonnie@vanhornengineering.com
Subject: 17503 Hwy 7 MOUND

Importance: High

Genna & Shawna,

I have CC'ed Tom and Lonnie from Van Horn on this email: Project 2016-04-16

The Van Horn Design specifies to use the top 18" of existing Type 1 sandy soil, and to put another 18" of ASTM-33 concrete sand on top of that. (See the CROSS SECTION page of the design. Also see item #4 on the CONSTRUCTION AND MAINTENANCE NOTES page). So yes that is a BIG MOUND.
The regulations do require 3-feet of absorption material. They are using 18-inches of the soil that is there plus 18-inches of sand which equals 36-inches which is 3-feet.

Since the bedrock layer is at 3-feet down below existing grade, another option you may wish to discuss with Van Horn would be removing ALL OF THE EXISTING SOIL down to 3-feet below existing grade and replacing all of it with ASTM-33 sand. That way you would not need such a big mound and the gravel layer could be placed at existing grade. I don't know if this would cost less or not – you will have to ask Van Horn and the installers.

An important item for Van Horn to know: They DO NOT NEED AND EXTRA 2 FEET OF BUFFER MATERIAL UNDER THE 3-FEET OF SAND.

- That was required in 2016 when Van Horn wrote up this design – and that may be what they were trying to avoid by using less than 2-feet of sand.
- This regulation changed at the state level in June 2017 and since this design was submitted to BCPH AFTER that date, we will waive that requirement.

If, after discussing this with Van Horn, you wish to have them redesign this system, please have them submit a redesign to me and I will rewrite and reissue the permit.

Any of you are welcome to call or email me if you have questions.

Wendy

Wendy Blanchard, REHS

Boulder County Public Health (BCPH)
Environmental Health Specialist Water Quality
3450 Broadway Boulder, CO 80304

LAND SURVEYING
SUBDIVISIONS
DEVELOPMENT PLANNING
IMPROVEMENT PLATS
STRUCTURAL ENGINEERING
SANITARY ENGINEERING
MUNICIPAL ENGINEERING

VAN HORN ENGINEERING AND SURVEYING
1043 FISH CREEK ROAD * ESTES PARK, CO 80517
PHONE: (970) 586-9388 * FAX: (970) 586-8101

Individual Sewage Disposal System Design

TRACT IN THE NW ¼ OF S32-T3N-R72W OF THE 6th P.M.,
BOULDER COUNTY, STATE OF COLORADO.

OWNER/ADDRESS:	Genna Murphy and Shauna Ries 17503 Highway 7 Allenspark, CO 80510
BUILDING CONTRACTOR:	N/A
SYSTEMS CONTRACTOR:	T & G Enterprises 79 Big John Road Allenspark, CO 80540
BUILDING:	Existing 3 Bedroom House
WATER SUPPLY:	Existing Well
DEPTH TO BEDROCK:	36"
SOIL TYPE:	6" Sandy Topsoil 1'-0" USDA Type 1 Loamy Sand, Single Grain 1'-6" USDA Non-restrictive Type 0 Sand w/Highly Decomposed Granite (>35%rock)
DEPTH TO GROUNDWATER:	None Found
SYSTEM TYPE:	Gravel and Pipe, Siphon Dosed Pressure System
SEPTIC TANK:	Existing 1000 Gallon Two Compartment Tank and New 400 Gallon Siphon Dosing Tank, Pressurized (±25' Elev. Drop Tank to Field, Sufficient Pressure for Equal Distribution)
CALCULATIONS:	USDA Soil Type 1 LTAR = 0.8 gal/s.f. Q = 3 bedrooms = 450 gpd A Bed = 450(1.0)(1.0)/0.8= 562.5 s.f. required construct a 10'x56.5' gravel and pipe septic field Area of Bed = 565.0 s.f. provided

COLORADO REGISTERED LONNIE A. SHELDON 26974 PE AND PLS

6/27/16

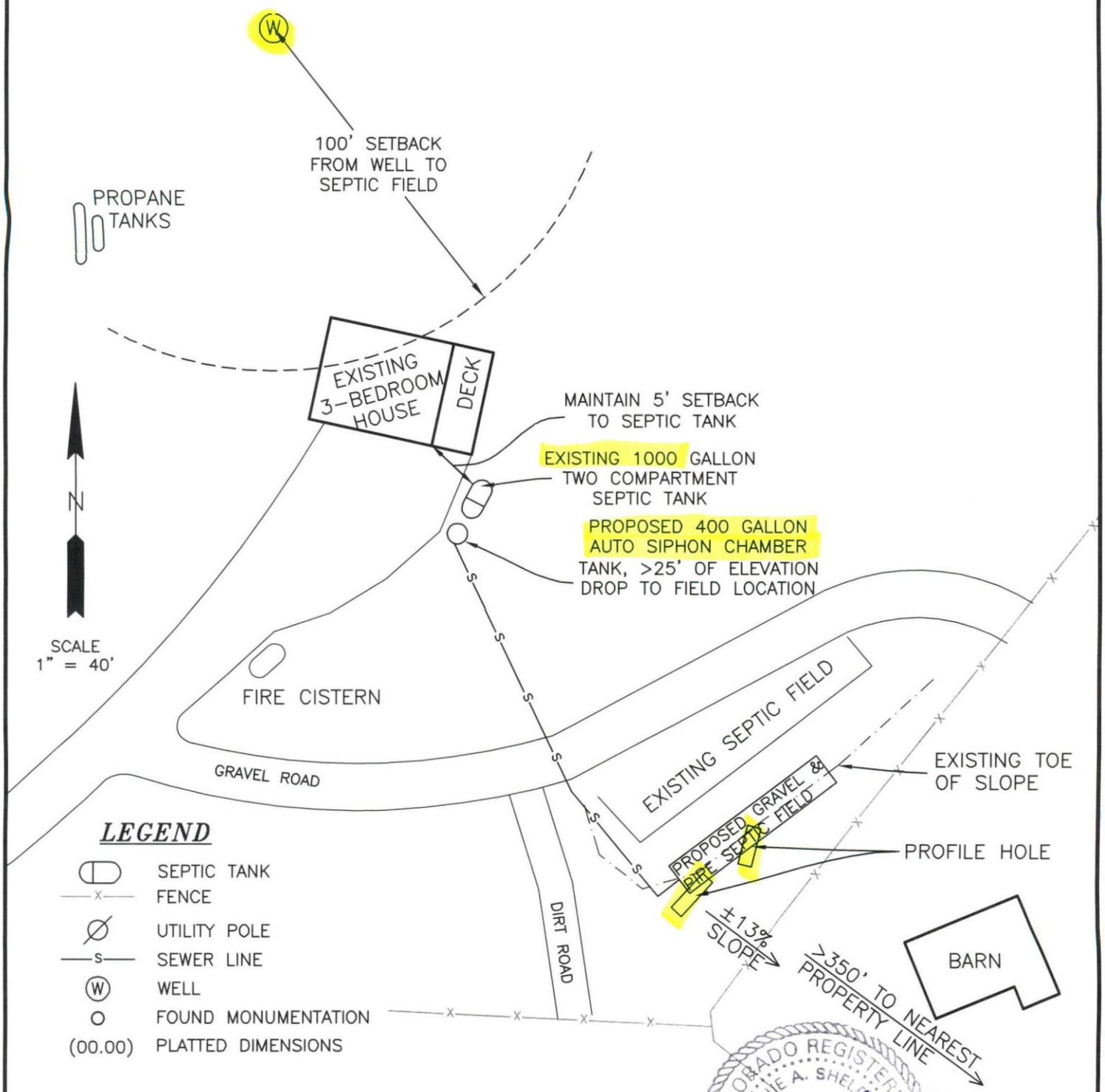
Lonnie A. Sheldon,
PE & PLS #26974

An open hole inspection is NOT required.
A reperc test is NOT required,
18" of material meeting the specifications of sand filter media must be used

DRAWN	DATE	VAN HORN ENGINEERING	SCALE	PROJ. NO.
TWB	6-22-16	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586-9388 – vanhornengineering.com	NO SCALE	2016-04-16

SITE PLAN

TRACT IN THE NW ¼ OF S32, T3N, R72W OF THE 6th P.M., BOUNDER COUNTY, STATE OF COLORADO.



LEGEND

- SEPTIC TANK
- FENCE
- UTILITY POLE
- SEWER LINE
- WELL
- FOUND MONUMENTATION
- (00.00) PLATTED DIMENSIONS

NOTES:

1. THIS SITE PLAN IS REPRESENTATIONAL ONLY AND SHOULD NOT BE RELIED UPON AS A BOUNDARY SURVEY NOR IMPROVEMENT SURVEY.

COLORADO REGISTERED LONNIE A. SHELDON 26974 P.E. AND P.L.S.

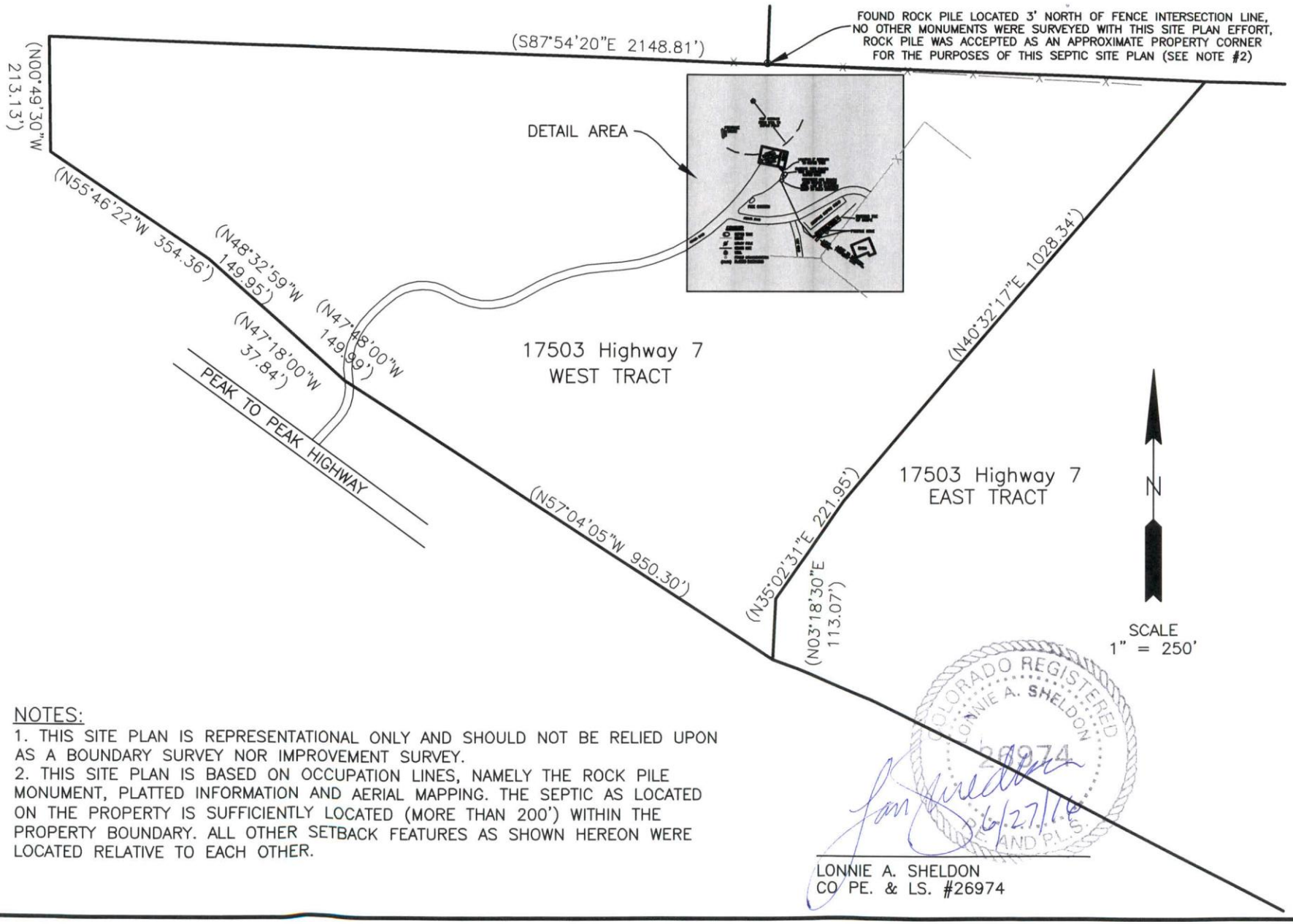
6/27/16

LONNIE A. SHELDON
CO PE. & LS. #26974

DRAWN	DATE	VAN HORN ENGINEERING	SCALE	PROJ. NO.
TWB	6-22-16	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586-9388	1" = 40'	2016-04-16

SITE PLAN

TRACT IN THE NW ¼ OF S32, T3N, R72W OF THE 6th P.M., BOULDER COUNTY, STATE OF COLORADO.



NOTES:

1. THIS SITE PLAN IS REPRESENTATIONAL ONLY AND SHOULD NOT BE RELIED UPON AS A BOUNDARY SURVEY NOR IMPROVEMENT SURVEY.
2. THIS SITE PLAN IS BASED ON OCCUPATION LINES, NAMELY THE ROCK PILE MONUMENT, PLATTED INFORMATION AND AERIAL MAPPING. THE SEPTIC AS LOCATED ON THE PROPERTY IS SUFFICIENTLY LOCATED (MORE THAN 200') WITHIN THE PROPERTY BOUNDARY. ALL OTHER SETBACK FEATURES AS SHOWN HEREON WERE LOCATED RELATIVE TO EACH OTHER.

COLORADO REGISTERED
LONNIE A. SHELDON
26974
6/27/16
PE AND PLS

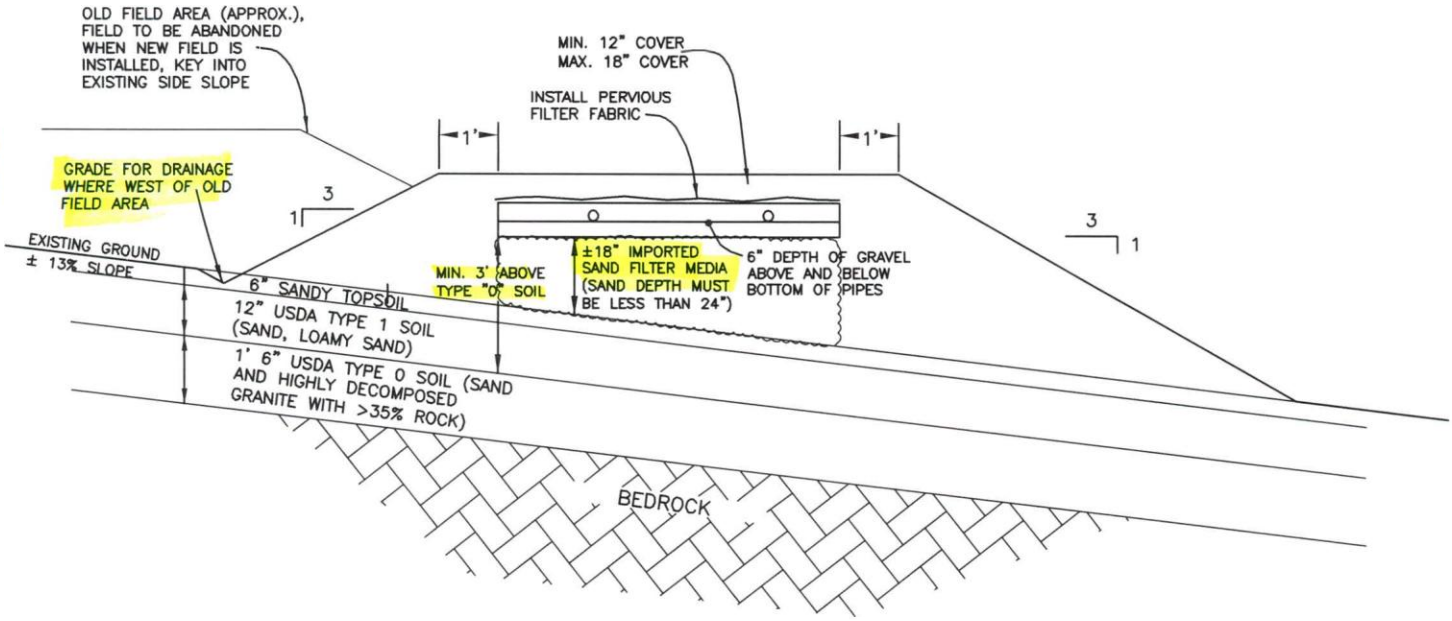
LONNIE A. SHELDON
CO PE. & LS. #26974

VAN HORN ENGINEERING
1043 Fish Creek Road – Estes Park, CO 80517
Phone: (970) 586-9388

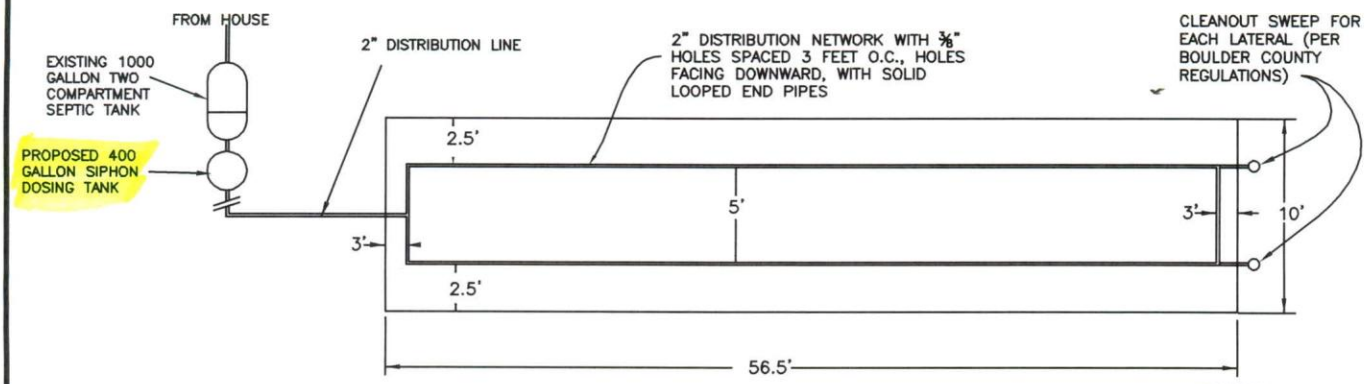
DRAWN	DATE	SCALE	PROJ. NO.
TWB	6-22-2016	1" = 250'	2016-04-16

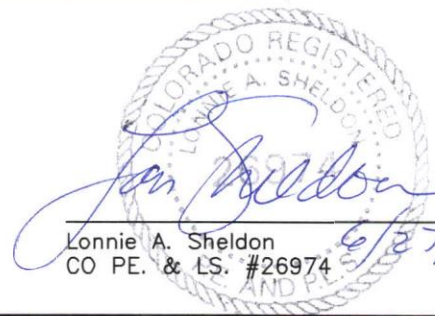
STANDARD GRAVEL AND PIPE DESIGN

BED CROSS-SECTION
NO SCALE



BED PLAN VIEW
NO SCALE



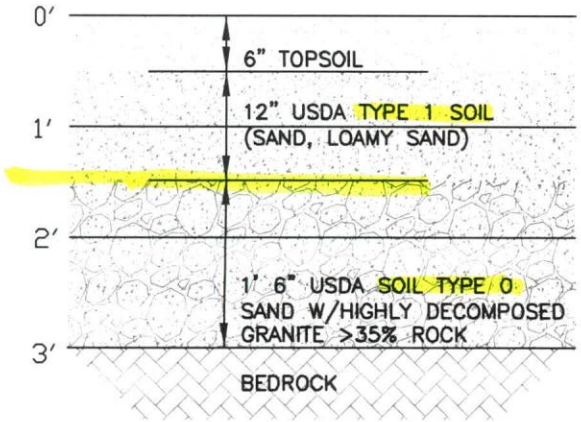


Lonnie A. Sheldon
CO PE. & LS. #26974 6/27/16

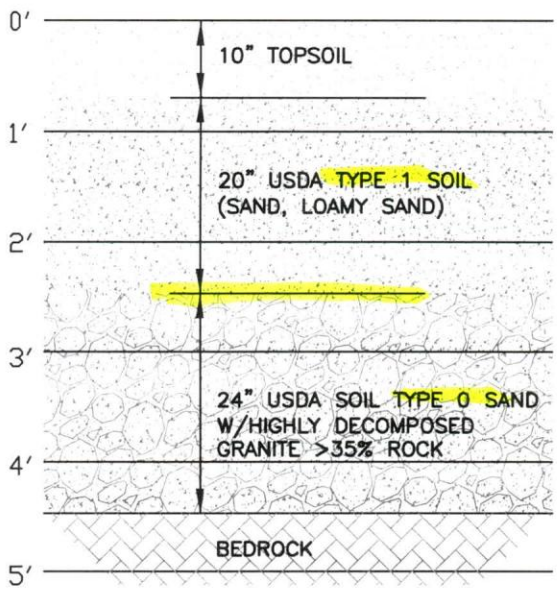
DRAWN	DATE	VAN HORN ENGINEERING	SCALE	PROJ. NO.
TWB	6-22-16	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586-9388 – vanhornengineering.com	NO SCALE	2016-04-16

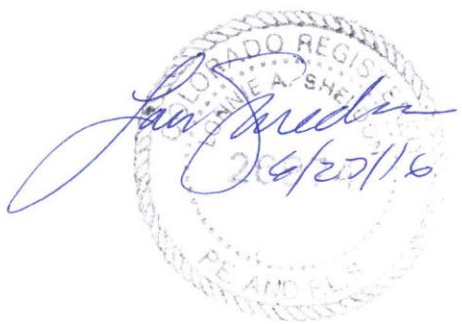
HOLE LOG

WEST HOLE



EAST HOLE





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TWB	6-22-16	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586-9388 – vanhornengineering.com	NO SCALE	2016-04-16

VAN HORN ENGINEERING AND SURVEYING
1043 Fish Creek Road – Estes Park, CO 80517
(970) 586-9388 – Fax: (970) 586-8101 – vhe@airbits.com

Murphy Septic Calculations

(I) Flow = Q At 3 bedrooms Q = 450 gpd

(II) LTAR = Long Term Acceptance Rate
Soil depth of acceptable USDA Type I Soil was 18". 18" of sand filter media is to be added to existing material, use LTAR of limiting layer LTAR = 0.8

(III) Bed Area = $A_{BED} = \frac{Q}{LTAR}$ (flow factor)(media factor)

use gravel & pipe media ⇒ 1.0 media factor

use siphon dose (pressure) flow ⇒ 1.0 flow factor

$$A_{BED} = \frac{450}{0.8}(1.0)(1.0) = 562.5 \text{ s.f. required}$$

construct a 10' x 56.5' gravel & pipe field

$$A_{BED} = (10')(56.5') = 565 \text{ s.f. provided}$$

COLORADO REGISTERED P.E. [illegible] A. SHAFFER
7/27/16

JOB NAME: _____ JOB NO.: _____
SHEET _____ OF _____
BY: _____ DATE: _____

CONSTRUCTION AND MAINTENANCE NOTES:

UNIQUE REQUIREMENTS FOR THIS DESIGN:

1. THE EXISTING 1000 GALLON TWO COMPARTMENT SEPTIC TANK WILL BE UTILIZED FOR THE NEW SEPTIC FIELD, A NEW 400 DOSING SEPTIC TANK SHALL BE INSTALLED IN THE APPROXIMATE LOCATION SHOWN ON THE SITE PLAN AND SIPHON DOSED TO THE FIELD (TANK SPECIFICATIONS ATTACHED) IN 135 GALLON INCREMENTS. THIS SIPHON DOSING TANK WILL DOSE TO THE FIELD, ±25' OF ELEVATION DROP PROVIDES SUFFICIENT PRESSURE FOR EQUAL DISTRIBUTION.

2. THE EXCAVATOR HAS THE ABILITY TO CHANGE THE CONFIGURATION OF THE BED AS LONG AS THE SAME OR MORE SQUARE FOOTAGE IS MAINTAINED AND THE EXTENTS OF THE BED DO NOT ENCROACH UPON ANY SETBACK FEATURES.

3. SOIL TESTS WERE PERFORMED ON THE SOILS FROM BOTH PROFILE HOLES, BOTH UPPER LAYERS WERE DETERMINED TO BE LOAMY SAND – USDA SOIL TYPE 1, SAID SOIL TYPE WHICH CARRIES A LONG TERM ACCEPTANCE RATE OF 0.8 GAL/SF/DAY. ALTHOUGH SAND FILTER MEDIA IS BEING ADDED TO RAISE THE INFILTRATIVE SURFACE ABOVE THE RESTRICTIVE LAYER, THE MORE RESTRICTIVE LTAR OF LOAMY SAND IS USED FOR FIELD SIZING.

4. THE EXISTING MATERIAL (18" OF SUITABLE SOIL IS TO BE UTILIZED UNDER THE BED AREA), THE ORGANIC MATERIAL SHALL BE REMOVED FROM THE TOPSOIL AND 18" TO 23" OF SAND FILTER MEDIA SHALL BE ADDED ON TOP OF THE *EXISTING MATERIAL* TO PROVIDE SUFFICIENT INFILTRATIVE DEPTH OF 36" TO THE RESTRICTIVE LAYER (IN THIS CASE THE RESTRICTIVE LAYER IS HIGHLY DECOMPOSED GRANITE – USDA TYPE 0 SOIL). 18" OF SAND FILTER MEDIA IS TO BE ADDED ON THE MOST UPHILL CORNER OF THE BED AREA, THEREFORE SAND ADDED ON THE MOST DOWNHILL CORNER OF THE BED AREA WILL BE APPROXIMATELY 22" GIVEN THE EXISTING SLOPE. IN NO CASE SHALL MORE THAN 23" OF SAND BE ADDED.

5. A REPERC TEST IS NOT REQUIRED, ADDED MATERIAL USED MUST MEET THE SPECIFICATIONS OF SAND FILTER MEDIA. NO MORE THAN 23" OF SAND FILTER MEDIA MAY BE ADDED.

STANDARD REQUIREMENTS:

1. MUST MAINTAIN A MINIMUM OF 3' OF SUITABLE MATERIAL UNDER THE GRAVEL BED. A MINIMUM OF 10" OF COVER. MAXIMUM COVER OVER THE FIELD IS 1.5'.

2. SURFACE RUNOFF IS TO BE DIRECTED AROUND THE ABSORPTION BED.

3. A #4 REBAR IS TO BE PLACED NEXT TO THE PIPE JUNCTIONS, THE TOP OF THE REBAR IS TO BE AT OR ABOVE FINISH GRADE.

4. WHERE THE FINAL COVER OVER THE SEPTIC FIELD IS ABOVE PRE-EXISTING GRADE THE SIDE SLOPES OF THE COVER SHALL BE 3 TO 1 OR FLATTER.

5. VAN HORN ENGINEERING DID NOT CALL FOR OR PERFORM ANY UTILITY LOCATES ON-SITE, THIS IS THE RESPONSIBILITY OF THE CONTRACTOR OR PROPERTY OWNER.

6. MAINTAIN THE FOLLOWING ABSORPTION BED SETBACKS ON SITE:
   - 20' TO HOUSE
   - 10' TO ANY PROPERTY LINE
   - 25' TO ANY POTABLE WATERLINE (OR SLEEVING WILL BE REQUIRED)

7. ALL OTHER BOULDER COUNTY HEALTH DEPARTMENT INSTALLATION/MATERIALS REQUIREMENTS ARE ALSO REQUIRED.

MAINTENANCE AND USE REQUIREMENTS:

1. THIS SYSTEM IS CLASSIFIED AS A "NON-TYPICAL SYSTEM" MEANING THAT SPECIFIC DESIGN AND CONSTRUCTION TECHNIQUES ARE NECESSARY FOR CONSTRUCTION. SAND MEETNG THE REQUIREMENTS OF SAND FILTER MEDIA MUST BE ADDED TO BRING THE INFILTRATIVE SURFACE 36" ABOVE THE HIGHEST OBSERVED DECOMPOSED BEDROCK. A FINAL SYSTEM INSPECTION MUST BE CONDUCTED BY THE DESIGN ENGINEER.

IT IS IMPORTANT TO REALIZE THAT ANY SYSTEM CAN FAIL IF IT IS NOT PROPERLY USED AND MAINTAINED. THE OWNER SHOULD UNDERSTAND AND COMMIT TO THE FOLLOWING:

WATER CONSERVATION IS IMPORTANT RELATIVE TO THE AMOUNT OF WATER PUT THROUGH THE SYSTEM AT ANY GIVEN TIME. DON'T OVERTAX THE SYSTEMS ABSORPTION ABILITIES. PROCESSES THAT UTILIZE A LOT WATER (LAUNDRY, DISH WASHING, BATHING) SHOULD BE SPREAD OUT TO PROVIDE THE BED WITH DRYING TIME BETWEEN CYCLES.

REGULAR TANK PUMPING IS NECESSARY TO AVOID CLOGGING THE ABSORPTION FIELD. A BASIC RULE OF THUMB IS THAT THE SYSTEM SHOULD BE PUMPED EVERY THREE YEARS. THE OWNER SHOULD KNOW WHERE THE LIDS ARE AND KEEP THEM UNOBSTRUCTED FOR READY ACCESS.

THE ABSORPTION BED AREA SHOULD BE KEPT CLEAR AND OPEN. TREES SHOULD NOT BE PLANTED WITHIN 10' OF THE EDGES, VEHICLE, ANIMAL, OR RECREATIONAL TRAFFIC OVER THE BED AREA SHOULD NOT BE ALLOWED TO AVOID OVER COMPACTING THE BED MATERIAL.

HARSH CHEMICALS, SOLVENTS, FATS AND GREASES SHOULD NOT BE ALLOWED TO BE DISCHARGED INTO THE SYSTEM. THESE ITEMS WILL KILL BACTERIA IN THE SYSTEM.

2. THE OWNER SHOULD CHECK THE CONDITION OF THE FIELD AND SYSTEM COMPONENTS EACH YEAR. THE FIELD SHOULD BE MAINTAINED FREE OF EROSION, VARMINT INTRUSION AND THE SURFACE WELL VEGETATED AND FREE DRAINING (NO STANDING WATER).

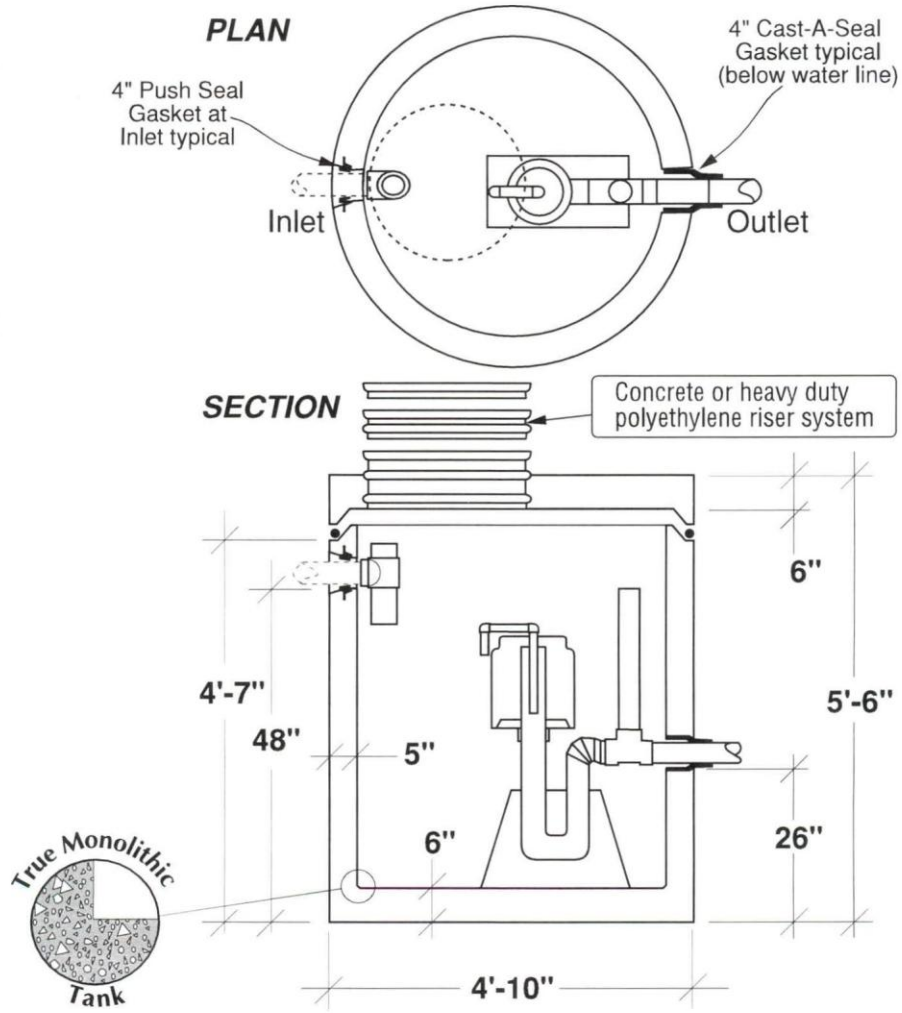
6/22/16

DRAWN	DATE	VAN HORN ENGINEERING	SCALE	PROJ. NO.
TWB	6-22-16	1043 Fish Creek Road – Estes Park, CO 80517 Phone: (970) 586-9388 – vanhornengineering.com	NO SCALE	2016-04-16

400 Gal. Single Auto Siphon Chamber

FLXX. FLXX.

- Monolithic tank meets ASTM-C-1227 Spec. for water and wastewater structures.
- Butyl rubber sealant meets Fed. Spec. SS-S-210A. (Provided with tank)
- All plumbing shown in diagram is 4" SDR 35. (Provided with tank)



* Includes 200 lbs. siphon / foundation

Part #	Siphon / Discharge		Approximate Weights		
			Tank*	Lid	Total
PCA-000-280	#413	100 Gal.	5,050 lbs	1,520 lbs	6,570 lbs
PCA-001-280	#417	135 Gal.			

Note: N.T.S.

FLXX® Watertight
Front Range Precast Concrete, Inc.
5439 N. Foothills Highway, Boulder, Colorado 80302
Phone (303) 442-3207 • (800) 783-3207 • Fax (303) 442-3209
www.flxx.com

Public Health

TO: Robin Scott Kerns, Staff Planner
Land Use Department

FROM: Christopher Wallis

DATE: November 9, 2007

RE: Site Plan Review for Docket SPRW-07-093

Name of Property Owner: Shauna Ries & Genna Murphy

Site Address: 17503 Highway 7

Legal Description of Property: S32, 3N, 72W

Boulder County Public Health issued a new permit for the installation of a standard system on 5/10/92. The permit was issued for an onsite wastewater system (OWS) adequate for a 3-bedroom house. Boulder County Public Health approved the installation of the OWS on 8/3/93.

The barn must be located a minimum of 20 feet from the absorption field. If sinks or toilets are installed in the barn, wastewater must be disposed of in an approved onsite wastewater system (OWS) and a permit from Boulder County Public Health will be required. The OWS must meet current regulations. Heavy equipment should be restricted from the surface of the absorption field during construction of the barn to avoid soil compaction, which could cause premature absorption field malfunction.

cc: Shauna Ries & Genna Murphy

Area 1
ON 51177

June 7, 2018

RECEIVED
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ENVIRONMENTAL HEALTH

KEY OWS
Property Transfer
FEE 50.00
CK#4509

Boulder County Public Health

ONSITE WASTEWATER TREATMENT SYSTEM (OWTS)
Property Transfer Inspection Report

Name of Owner: Ries Shauna M & Genna C Murphy	Date of Inspection: 8-7-2018
Inspection Ordered By: Genna Murphy	Name of Inspector: Robert D. Broadwell
Site Address: 17503 Highway 7 Lyons CO 80540	Inspector's Certification No: 12833ITC
Owner's Phone: 303-747-8884	Inspector's Address: PO Box 3077 Nederland CO 80466
Property Legal Description: * See below	Inspector's Phone: 720-514-9703
Send Inspection Report To: Genna Murphy	Inspector's E-mail: ColoradoSeptic@gmail.com
Mailing or Email Address: gcm@mwbdr.com	
Size of Property (i.e. # of acres): 60.64 acres	
Type of Existing Building or Structure (if commercial, list all uses or tenants): single residential dwelling, detached barn	

*

I. GENERAL INFORMATION (TO BE COMPLETED AND SIGNED BY OWNER)

lift station (6/2018)

1. Age of OWTS: Tank(s) 25 years Absorption Bed(s) <1 years Other <1 years
2. Water Softener ☐ Yes ☑ No
   Garbage Disposal ☑ Yes ☐ No
   Grease Trap ☐ Yes ☑ No
3. Residential ☑ Yes ☐ No
   Commercial ☐ Yes ☑ No
   Flow Meter ☐ Yes ☑ No
   In-Home Business ☐ Yes ☑ No Type: _____
4. **BEDROOMS:** Number counted in structures 3
   Number Listed on OWTS Permit 3 ☑ PASS ☐ FAIL
   Number Listed in Assessor Record 3
   Is House Currently Unoccupied? ☐ Yes ☑ No How long? _____
5. Has a sewage backup ever occurred? ☐ Yes ☐ No
6. List any known repairs to system new field and dosing tank 7/2018
7. Is there a service contract for system components? ☐ Yes ☑ No Company: _____
8. Date septic tank last pumped prior to this inspection: 5-22-18 Frequency: 3-4 years
   Company: Johnstown (Attach pumping receipt)
9. Water supply supplied by a well? ☑ Yes ☐ No
10. Potability test sample of well taken? ☐ Yes ☑ No
    Potability test results: ☐ PASS ☐ FAIL
    (NOTE: A pass or fail here does not indicate a pass/fail for the inspection)

NOTE: Property Transfer Renewals will no longer be accepted.

The above information is true to the best of my knowledge.

Owner/Legal Agent: _____ Date: 8/3/18

June 7, 2018

Inlet: concrete 24" riser to surface with concrete lid

II. SYSTEM TYPE: Components of OWTS (complete as required) Outlet: plastic Fralo riser 24" w/ threaded lid at surface

1. Pretreatment (Septic Tank) Unit 1: Type concrete Manufacturer Envr 2 compartment Capacity (gal) 1000
2. Pump Tank 1: NA Capacity (gal) _____ Plastic Fralo plastic riser to surface
3. Pretreatment/Treatment Unit 2: Type concrete Manufacturer FLXX Capacity (gal) 400
4. Pump Tank 2: NA Capacity (gal) _____ w/ auto dosing siphon
5. Soil Treatment Unit: Type: sand filter ASTM-33 11"+43" Area (Ft²) 539 ☑
6. Vault *(see instructions)* NA Type _____ Manufacturer _____ Capacity (gal) ____

Warning Device ☐ PASS ☐ FAIL

Pumping Receipts (vault only) ☐ Yes ☐ No

Location of warning device: _____

7. Additional Components: inlet baffle effluent filter
8. Greywater Discharge (if separate from OWTS): ☑ None ☐ Surface ☐ Subsurface ☐ Tank
   ☑ PASS ☐ FAIL

III. EVALUATION PROCEDURES

1. **Number of bedrooms counted in house:** 3
   Are there other structures with plumbing? ☐ YES ☑ NO
   (If "YES", all structures must be verified as connected to the OWTS and approved to be connected from BCPH permit records. If they are not, the report is a failing inspection and must be noted as "Unacceptable" with comments on inspection results of OWTS-Item #16)
   Number of bedrooms doesn't exceed OWTS record: ☑ PASS ☐ FAIL
2. Locate, access, and open the septic tank cover: ☑ PASS ☐ FAIL
3. If at grade, is tank cover secure? ☑ PASS ☐ FAIL
4. Can surface water infiltrate into tank(s)? ☑ No/PASS ☐ Yes/FAIL
5. Any indicators of previous failure? ☐ Yes ☑ No
6. Inspect lid; measure sludge and scum level: ☑ Yes ☐ No
7. Inspect effluent screen (if applicable): ☑ Yes ☐ No
8. Is there a diverter valve installed (multi-bed system)? ☐ Yes ☑ No
9. If there is a diverter valve, is it operational? ☐ Yes/PASS ☐ No/FAIL NA
10. Run an operation test **(all beds if multiple-bed system)**:
    a. Gallons added in the operation test : 100 gallons
    b. Does water backflow into tank? ☑ No/PASS ☐ Yes/FAIL
11. Pump out primary treatment (septic) tank: ☑ Yes ☐ No/FAIL
    a. How many gallons? 1400 gallons 1000 Gal + 400 Gal
12. Inspect the condition of the septic tank: ☑ PASS ☐ FAIL
    a. Inspect condition of inlet and outlet baffles ☑ Yes ☐ No
    b. Comments (cracks, deterioration, infiltration, or damage): minimal deterioration
13. Does the system contain a dosing or pump tank, ejector, or grinder pump or an Advance Treatment Unit (ATU)? 2nd tank: new ☑ Yes ☐ No
    a. If so, was the condition of the tank checked? ☑ Yes ☐ No
       Comments: brand new
    b. Is the pump elevated off the bottom of the tank? ☐ Yes ☐ No ☐ NA NA
    c. Does the pump work? ☐ Yes/Pass ☐ No/Fail ☐ NA
    d. Is there a check valve or purge hole present? ☐ Yes ☐ No ☐ NA
    e. Is there a high water alarm? ☐ Yes ☐ No ☐ NA
    f. Does the alarm work? ☐ Yes/Pass ☐ No/Fail ☐ NA

g. Type of alarm: ☐ Audio ☐ Visual ☐ Both NA
h. Do electrical connections appear satisfactory? ☐ Yes ☐ No
i. Was the pump/ATU tank cleaned? ☐ Yes/Pass ☐ No/Fail
j. If an ATU, is the motor working? ☐ Yes/Pass ☐ No/Fail
k. If an ATU, is there a current operation & maintenance agreement in place? ☐ Yes ☐ No

14. Was the soil treatment area probed to determine its location and to check for excessive moisture, odor, and/or effluent? ☑ Yes ☐ No
    a. Any area subject to serious erosion? ☐ Yes ☑ No
    b. Any area subject to compaction? ☐ Yes ☑ No
    c. Any indication of previous failure? ☐ Yes ☑ No
    d. Seepage visible on the surface of the field? ☑ PASS ☐ FAIL
    e. Is improper vegetation present? ☐ Yes ☑ No
    f. Heavy saturation in the distribution media? ☐ Yes ☑ No
    g. Even distribution of effluent in the field? ☑ Yes ☐ No
    h. Snow cover over the absorption area? ☐ Yes ☑ No
    i. Irrigation present on absorption area? ☐ Yes ☑ No

15. Distance between water well and soil treatment area: 100 + Feet

16. Inspection results of OWTS:

☑ Acceptable (no repairs required)

☐ **Unacceptable (repairs required)**

☐ **Repairs required**

Photo Documentation required for of all instances of malfunctions/failures and of any repairs made

Explain/define repairs needed or repairs made.: keep all trees and livestock off absorption field, pump both tanks (all compartments) every 3-4 years, clean effluent filter every 6 months.

☐ Complete system replacement required. Explain:

☐ Further exploratory work is required. Explain:

IV. SKETCH OF SYSTEM

Make an accurate sketch of the entire system that shows a north arrow, the location of the dwelling or structure(s) with two triangulated distance measurements to the septic tank lid(s) or GPS coordinates. Include sewer location to structure, septic tank(s), lift station, and soil treatment area. Include all pertinent setback locations, such as lakes, rivers, irrigation ditches, and water wells.

Note: BCPH will NOT ACCEPT final drawings from existing OWTS permits.

By signing this form, I hereby verify that I am a NAWT or NSF-certified inspector who personally conducted the inspection of this property.

Certified Inspector Signature: Robert D. Broadwell Date: 8-3-2018

№ 76344

Colorado Septic Robert / Tom 870

DATE: 5-22-18
TRUCK: DL EW

JOHNSTON SANITATION

P.O. BOX 7816
LOVELAND, CO 80537
970-667-5405
JOHNSTONSANITATION@GMAIL.COM

BILLING INFORMATION

NAME: Genna Murphy
STREET ADDRESS: 17503 Hwy 7
CITY, STATE, ZIP: Lyons CO
PHONE NUMBERS: 303 747 8887
EMAIL:

SERVICE ADDRESS

STREET ADDRESS:
CITY, STATE, ZIP:
PHONE:

COMMENTS OR SPECIAL INSTRUCTIONS: Pump every 5 years

HOW DID YOU HEAR ABOUT US? Repeat

SEPTIC	VAULT	GALLONS	PAID	CHECK #	CREDIT CARD
X		1000		4488	

SERVICE DESCRIPTION	TOTAL
Pump 1000 gallons septic	$350.00
Pump through inlet risers. outlet Not visible	
Tank level indicates field lines are working.	
Customer flushed, main line clear.	

TANK AND ACCESS NOTES:

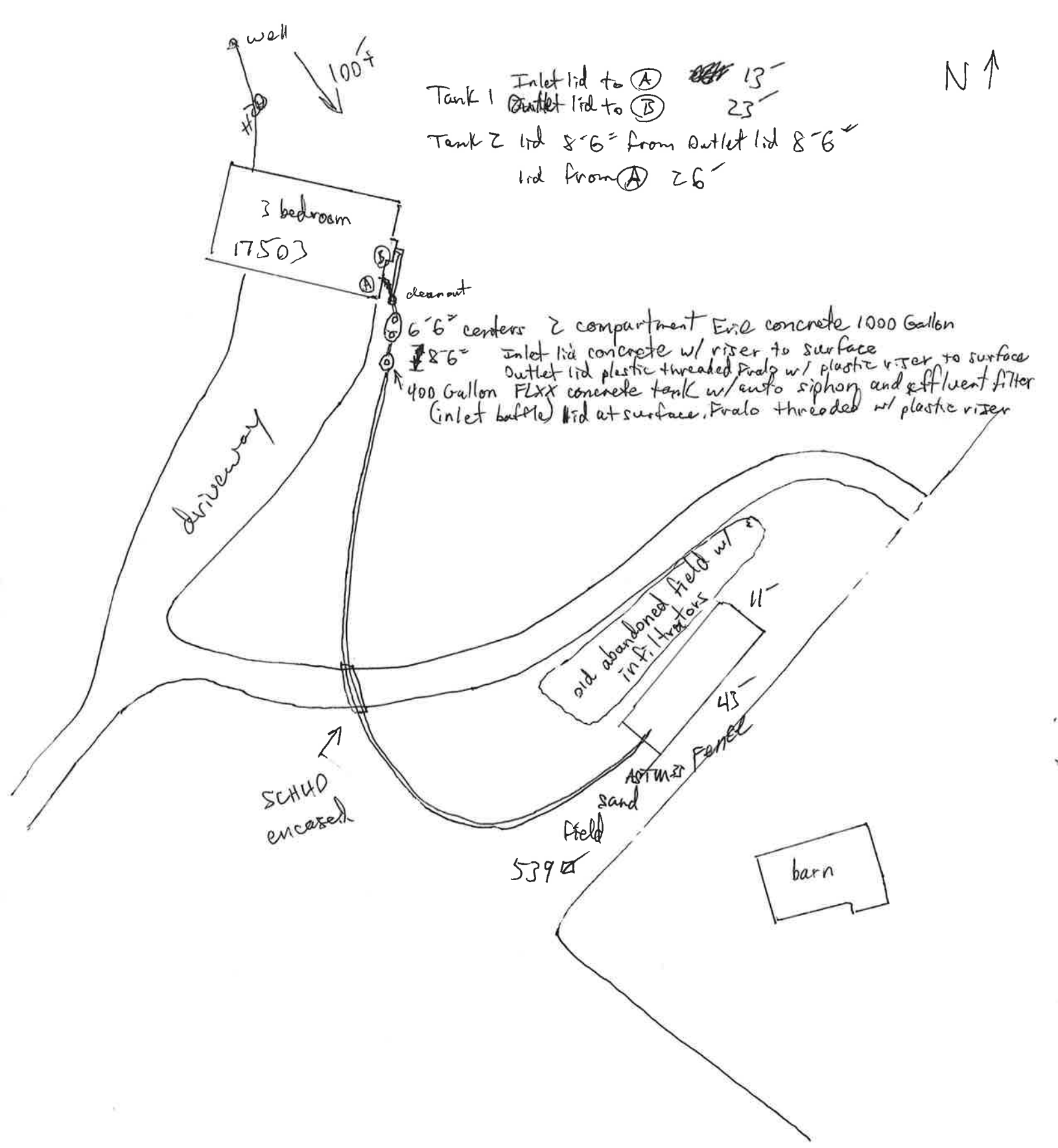
Pull up drive toward garage, 2 hoses around front of truck, inlet riser.

Make all checks payable to Johnston Sanitation. P.O. Box 7816, Loveland, CO 80537

THANK YOU FOR YOUR BUSINESS!

For additional information about care and maintenance of septic systems, please visit: www.johnstonsanitation.com

Thanks, Evan


well
100'+
Tank 1 Inlet lid to (A) 13'
Outlet lid to (B) 23'
Tank 2 lid 8'6" from Outlet lid 8'6"
lid from (A) 26'
N
3 bedroom
1750 ft²
B
A
clean out
6'6" centers 2 compartment Erie concrete 1000 Gallon
8'6" Inlet lid concrete w/ riser to surface
Outlet lid plastic threaded Fralo w/ plastic riser to surface
400 Gallon FLXX concrete tank w/ auto siphon and effluent filter
(inlet baffle) lid at surface, Fralo threaded w/ plastic riser
driveway
old abandoned field w/ infiltrators
11'
43'
ASTM 53 Fence
SCH40 encased
sand
field
539 ft²
barn

Property Report for Account R0057286

Today's Date: 8/6/2018

Property Address:	17503 HWY 7
City:	UNINCORPORATED
Owner:	RIES SHAUNA M & GENNA C MURPHY
Parcel Number:	119932000004
Mailing Address:	17503 HIGHWAY 7
City, State, Zip:	LYONS CO, 80540
Sec-Town-Range:	32 -3N -72
Subdivision:	TR, NBR 960 ALLENSPARK AREA
Jurisdiction:	Unincorporated Boulder County
Legal Description:	61.16 ACS M/L NW 1/4 32-3N-72 PER DEED 1925812 4/8/99 BCR
Square Feet:	2,641,474
Acres:	60.64

Assessment Report for Account R0057286

Today's Date: 8/6/2018

Account

Account Number:	R0057286
Parcel Number:	119932000004
Tax Area:	001350
No. of Improvements:	2
Site Address:	17503 HWY 7
Neighborhood:	ALLENSPARK

Total Account Value

	Actual	Assessed
Total:	106400	11781
Structure:	105600	11549
Land:	800	232
X-Features:	0	0
MillLevy:	63.681	

Improvements

Section:	1
Class:	FARM/RANCH RESIDENTIAL IMPROVEMENTS
Built:	1994
Design:	2 - 3 STORY

Number of rooms:

Total:	7
Bedrooms:	3
Full Bath:	1
3/4 Bath:	1

2ND FLOOR AND HIGHER FINISHED AREA	682
WALK-OUT BASEMENT FINISHED AREA	651
BASEMENT GARAGE AREA	620
DECK AREA	782

Section:	2
Class:	OTHER BLDGS.-AGRICULTURAL
Built:	2003
Design:	GENERAL PURPOSE BARN

Number of rooms:

Total:	0
Bedrooms:	0
Full Bath:	0
3/4 Bath:	0
Half Bath:	0

Areas of levels in sq. ft.

GENERAL PURPOSE BARN	976

PROPERTY TRANSFER CERTIFICATE OF OPERATION

is hereby granted to the property located at:

17503 HWY 7 Lyons, CO 80540

Parcel Number 119932000004

Indicating that the onsite wastewater treatment system has been inspected and approved for continued operation in accordance with the Boulder County Public Health Onsite Wastewater Treatment System (OWTS) Regulations.

Date Issued: 08/07/2018

Boulder County Public Health

BOULDER COUNTY PUBLIC HEALTH
Opportunity for a healthy life

Joe M.Malinowski, Environmental Health Division Manager

Boulder County SEPTIC SMART

Certificate is not valid unless accompanied by the complete Property Transfer Inspection Report approved by BCPH. This certification shall remain valid from the date it is issued for a period of 1 year, or until the real estate closing, whichever comes first. The issuance of this Certificate of Operation is based solely on the conditions observed on the date of inspection and from Boulder County Public Health (BCPH) at the time the certificate was issued. Therefore, it may not represent the current operational status of the system, or any BCPH inspections conducted after the issuance of this Certificate.

New X
Repair
Upgrade
Addition
Renewal
Change of Owner

13012

Receipt Number 139340

BOULDER COUNTY HEALTH DEPARTMENT
3450 Broadway, Boulder, CO 80304
441-1190

APPLICATION AND PERMIT TO INSTALL, CONSTRUCT, ALTER OR REPAIR INDIVIDUAL SEWAGE DISPOSAL SYSTEM (SEPTIC TANK)
CERTIFICATION TO BOULDER COUNTY LAND USE DEPARTMENT (COUNTY BUILDING INSP. DEPT.)

Owner John Miller Mailing Address 6810 Broadway #B Denver
City Denver, Co. State CO Zip 80221 Home Phone 460-9506 Work Phone 489-7707
Agent Chris Kunda Street P.O. Box 845 City Evergreen Zip 80437 Phone 586-9447
Site Address 17503 Highway 7, Allenspark Installer
Legal Description (Subdivision) NW 1/4, SE 23, T3N, R72W

TO BE FILLED OUT BY APPLICANT

1. Existing Buildings none
2. Areas to be surfaced
3. Building proposed: Residential X
   Business Commercial Agric.
4. No. of bedrooms 3 No. of baths 2
   No. of persons 7
5. Basement plumbing: yes no type
6. Area of lot (acres) 6 acres
7. Subsoil draintile (yes) (no)
8. Type of sewage disp. system requested:
   Septic tank X vault other
9. Well (proposed) (installed)
10. Water District none

DEPARTMENT USE ONLY

1. Slope 10-15% Waterlines 25' min.
2. Soil Type Sandy loam
3. Soil perc rate 10 design minutes/inch (aver.)
   >3.5' 3.5'
4. Water table depth Bedrock
5. Location of central sewer >1 mile
6. Sized for 3 bedrooms (2) persons/bedroom)

Please locate on the plot plan below the well location or other type of individual water supply including the house, waterlines, proposed septic area and any streams, ditches, or steep banks on the site.

DETAIL DIRECTIONS TO PROPERTY

N W E S

Approx. 1½ miles south on Hwy 7. Drive & gate on east side of road ('Miller' sign on gate)

DETAIL PLOT PLAN

N W E S

SEE Engineers Design.

Owner Signature (Authorized Agent) Rita Kunda Date 5/6/93

DEPARTMENT USE ONLY

Permission is hereby granted to the owner or his agent to perform the work indicated below in accordance with the Boulder County I.S.D.S. Regulations. This permit is to remain in full force for **one year from date**, unless revoked for non-compliance. Plans and specifications of proposed sewage-disposal system when reviewed and attached to this permit have been considered satisfactory. Approval is given if this building site meets existing Zoning and/or Subdivision regulations of Boulder County as they apply in this specific case.

MINIMUM REQUIREMENTS

Install: Septic Tank 1000 gals. | Absorption Field 592/raised Infiltrator sq. ft., OR
Vault ///
Other ///
/// feet of trench three feet wide.
No one trench/line may exceed 100 feet.

Installation Instructions: Install system according to Rocky Mountain Consultants design # 9-2332.001.00. System must be installed by licensed Boulder County installer. Install 24 Infiltrator units as called for by RMC. Bottom of Infiltrators must be at least 1' above original grade on uphill side of field. RMC to determine suitability of all fill material. System must be at least 200' from well. System must be inspected by BCHD and RMC prior to backfilling and final approval.

Authorized Signatures Roy Boyd
Owner or Agent Rita Kunda
Installer Triple R Engineer Approval Rec. 7-22-93
Final Approval 8-3-93

Approved by Board of Health
Permit Date 5-10-92
Date 5-12-93
Final Inspection 7-19-93
(Health Officer—Sanitarian Signature) Roy Boyd

TO OWNER: Leave entire sewage-disposal system uncovered for final inspection. A final inspection is required for all system installations unless otherwise specified. **THE HEALTH OFFICER SHALL ASSUME NO RESPONSIBILITY IN CASE OF FAILURE OR INADEQUACY OF A SEWAGE DISPOSAL SYSTEM BEYOND CONSULTING IN GOOD FAITH WITH THE PROPERTY OWNER OR REPRESENTATIVE.**

Environmental Health (9/86)

13012

SEWAGE DISPOSAL SYSTEM FINAL INSPECTION

Boulder County Health Department

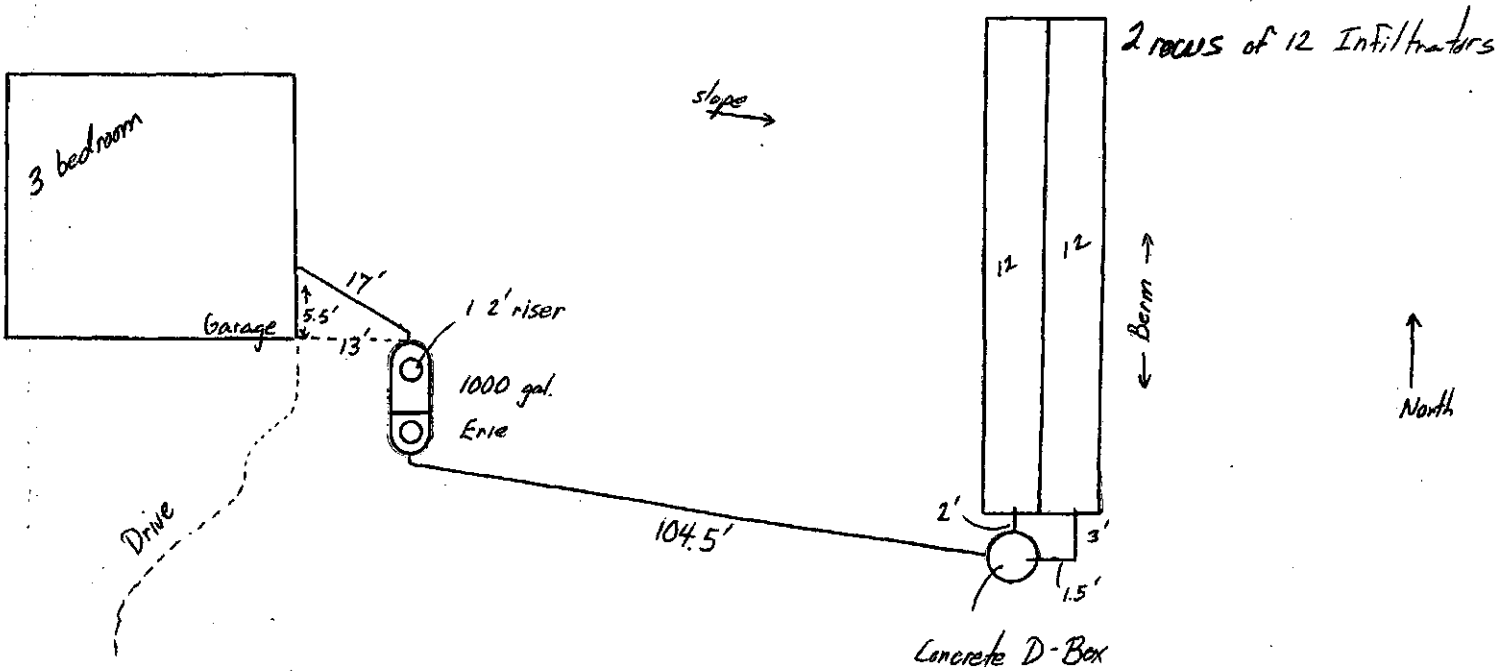
NAME Miller, John

LEGAL DESCRIPTION 17503 Hwy 7

INSTALLER

System Installed in area of tests Yes
Distribution Box concrete Water Leveled Yes
Distribution Lines NA Capped Infiltrators Slope Ø
Type of Grouting Ramneck goop
Depth of Gravel NA
Paper/Straw NA
Septic Tank/Aeration Unit Construction 1000 Gallon
Company Erie
Size Meets Minimum Requirements Yes
Distance to Wells >200'
Distance to Streams/Ditches NA
Depth of Fill Under System 1' Adequate Shoulder Yes
Depth of System Bottom of Infiltrators >1' above original grade
Other

SCHEMATIC OF SYSTEM (Location, House, Direction, Distances) (NO Inspection Pipe)



APPROVED Pending

DENIED

REASON Approval pending RPE letter Rec. 7-22-93

DATE 7-20-93

Roger Bagel
Inspected By

3/79 - 214

#1322

3 bedrooms

INDIVIDUAL SEWAGE DISPOSAL SYSTEM
FIELD WORK SHEET

APPLICANT John Miller

LOCATION T3N, R72N, Sec. 32 17503 Hwy 7 Allensparh
(Legal & Specific Area)

TYPE OF SYSTEM REQUESTED Raised bed

SANITARIAN RECOMMENDATION: Approval ✓ Denial ____ Reason ____

FIELD INSPECTION: Date 5-10-93 Sanitarian Roger Boyd

1. Perc Rate 10 MPI Design 2. Soil Type Sandy Loam 3. Slope 10-15%
4. Groundwater Depth >3.5' 5. Bedrock Depth 3.5'
6. Water Supply Pvt 7. Distance to Water Lines 25 min.
8. Lot Size 6 ac. 9. Structure Proposed Single Family Res.
10. Distance to Waterways & Gulleys >100' 11. Density Low
12. Area for Expansion Yes 13. Distance to Wells 200' min
14. Municipal Sewer Availability >1 mile 15. History of Area ____

Sanitarian Comments ____

PLOT OF SITE (include all pertinent features):