

Harnett County Department of Public Health

Improvement Permit

A building permit cannot be issued with only an Improvement Permit

ISSUED TO: Aaron Thomas PROPERTY LOCATION: McNeill Hobbs Rd, Bunnlevel (SR2072)
 SUBDIVISION _____ LOT # _____
 NEW REPAIR EXPANSION Site Improvements required prior to Construction Authorization Issuance: _____
 Type of Structure: 56' x 28' modular
 Proposed Wastewater System Type: pump to mound
 Projected Daily Flow: 360 GPD
 Number of bedrooms: 3 Number of Occupants: 6 max
 Basement Yes No
 Pump Required: Yes No May be required based on final location and elevations of facilities
 Type of Water Supply: Community Public Well Distance from well _____ feet Permit valid for: Five years
 Permit conditions: _____ No expiration

Authorized State Agent: Moh O REHS Date: 3-4-21 SEE ATTACHED SITE SKETCH
 The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This site is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit.

Construction Authorization

(Required for Building Permit)

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by references into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

ISSUED TO: Aaron Thomas PROPERTY LOCATION: McNeill Hobbs Rd, Bunnlevel (SR2072)
 SUBDIVISION _____ LOT # _____
 Facility Type: 56' x 28' modular New Expansion Repair
 Basement? Yes No Basement Fixtures? Yes No
 Type of Wastewater System** pump to mound (Initial) Wastewater Flow: 360 GPD
 (See note below, if applicable)
pump to mound (Repair)

Installation Requirements/Conditions

Septic Tank Size <u>1000</u> gallons	Number of trenches <u>12</u>	Trench Spacing: <u>9</u> Feet on Center
Pump Tank Size <u>1000</u> gallons	Exact length of each trench <u>100</u> feet	Soil Cover: <u>6</u> inches
	Trenches shall be installed on contour at a	(Maximum soil cover shall not exceed
	Maximum Trench Depth of: <u>18</u> inches	<u>36"</u> above the trench bottom)
	(Trench bottoms shall be level to +/-1/4"	
	in all directions)	
Pump Requirements: _____ ft. TDH vs. _____ GPM		<u>6</u> inches below pipe
		Aggregate Depth: <u>2</u> inches above pipe
Conditions: _____		<u>12</u> inches total

WATER LINES (INCLUDING IRRIGATION) MUST BE 10FT. FROM ANY PART OF SEPTIC SYSTEM OR REPAIR AREA.
NO UTILITIES ALLOWED IN INITIAL OR REPAIR DRAIN FIELD AREA.

***If applicable: I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.*

Owner/Legal Representative Signature: _____ Date: _____

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be transferred when there is a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. SEE ATTACHED SITE SKETCH

Authorized State Agent: Moh O REHS Date: 3-4-21
 Construction Authorization Expiration Date: _____

Application # BRES2102-0022

Harnett County Department of Public Health Site Sketch

Property Location: McNeill Hobbs Rd, Bunnlevel (SR2072)

Issued To: Aaron Thomas

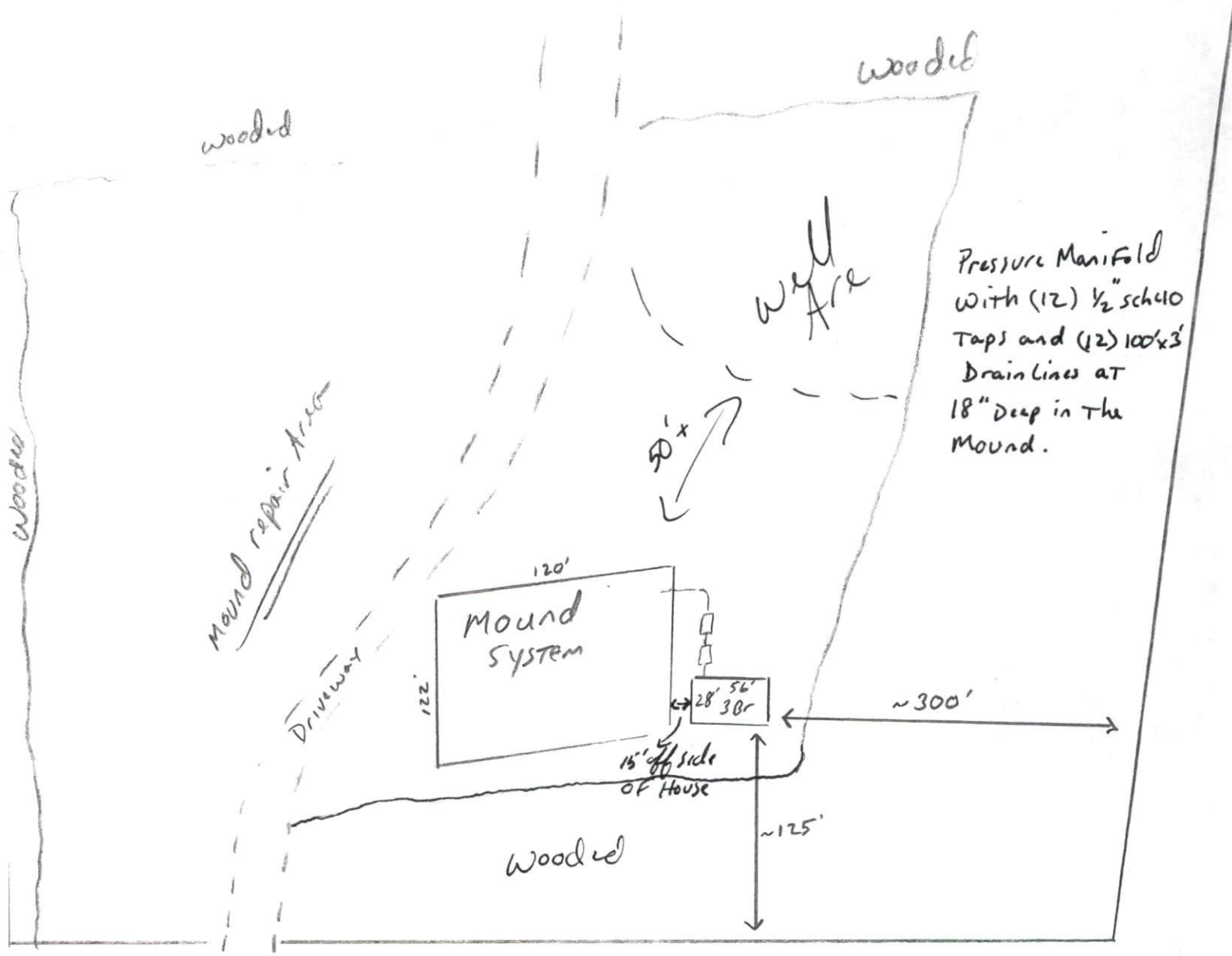
Subdivision _____

Lot # _____

Authorized State Agent: _____

Mark Ch REHC

Date: _____



McNeill Hobbs Rd (SR 2072)

This drawing is for illustrative purposes only. System installation must meet all pertinent laws, rules, and regulations.

Guideline For Design and Installation of Fill Systems with Conventional Trenches

I. Trench and Fill Specifications

<u>IV</u>	- Soil Texture Group	<u>110</u> ft.	- Length of Fill
<u>.1</u> gpd/sq. ft.	- Acceptance Rate	<u>112</u> ft.	- Width of Fill
<u>360</u> gpd	- Sewage Flow	<u>12320</u> sq. ft.	- Total Fill Area
<u>3600</u> sq. ft.	- Trench Bottom	<u>32</u> in.	- Depth of Sand
<u>3</u> ft.	- Trench Width	<u>1217</u> cu. yd.	- Volume of Sand
<u>1200</u> ft.	- Total Trench Length	<u>6</u> in.	- Depth of Topsoil
<u>12</u>	- Number of Trenches	<u>254</u> cu. yd.	- Volume of Topsoil
<u>100</u> ft.	- Length of each Trench		

II. Site Preparation

1. Place flags at the 4 corners of the area to be filled designated on the improvement permit. Failure to place fill in the permitted area may result in the fill having to be moved or the permit revoked.
2. Do not work when the site is wet. Working on soil when wet can destroy soil structure making the site unsuitable for a Construction Authorization.
3. Remove all above ground vegetation and root mat from area to be filled without removing topsoil. Removal of soil can result in revocation of the permit.
4. Disk the area to be filled to a depth of 6 inches to break up root mat.

III. Placement Of Fill

1. Add 3 to 4 inches of approved sand fill to area and disk again to thoroughly mix the original soil and the fill. Approved sand fill is a sand or loamy sand.
2. Add more sand fill to achieve a uniform height of SD (see diagram) in the middle of the fill area.
3. The fill shall be tapered from the top edge of the fill to the ground surface 2 feet from the boundary of the fill area. The top edge of fill is located 5 feet from the proposed trenches.

4. Six (6) inches of finer textured fill shall be placed over the sand fill and extend to the boundary of the fill area. Finer texture is necessary to establish a vegetative cover which will prevent erosion of the fill. Fill used for cover shall be a sandy loam, loam, silt loam or sand clay loam texture. See CD dimension of diagram. Side slope shall be 1 to 4 except for site with Soil Texture Group 1 which can have a side slope of 1 to 3.
5. Contact Health Department for inspection of fill before constructing trenches. A Construction Authorization must be obtained before proceeding.

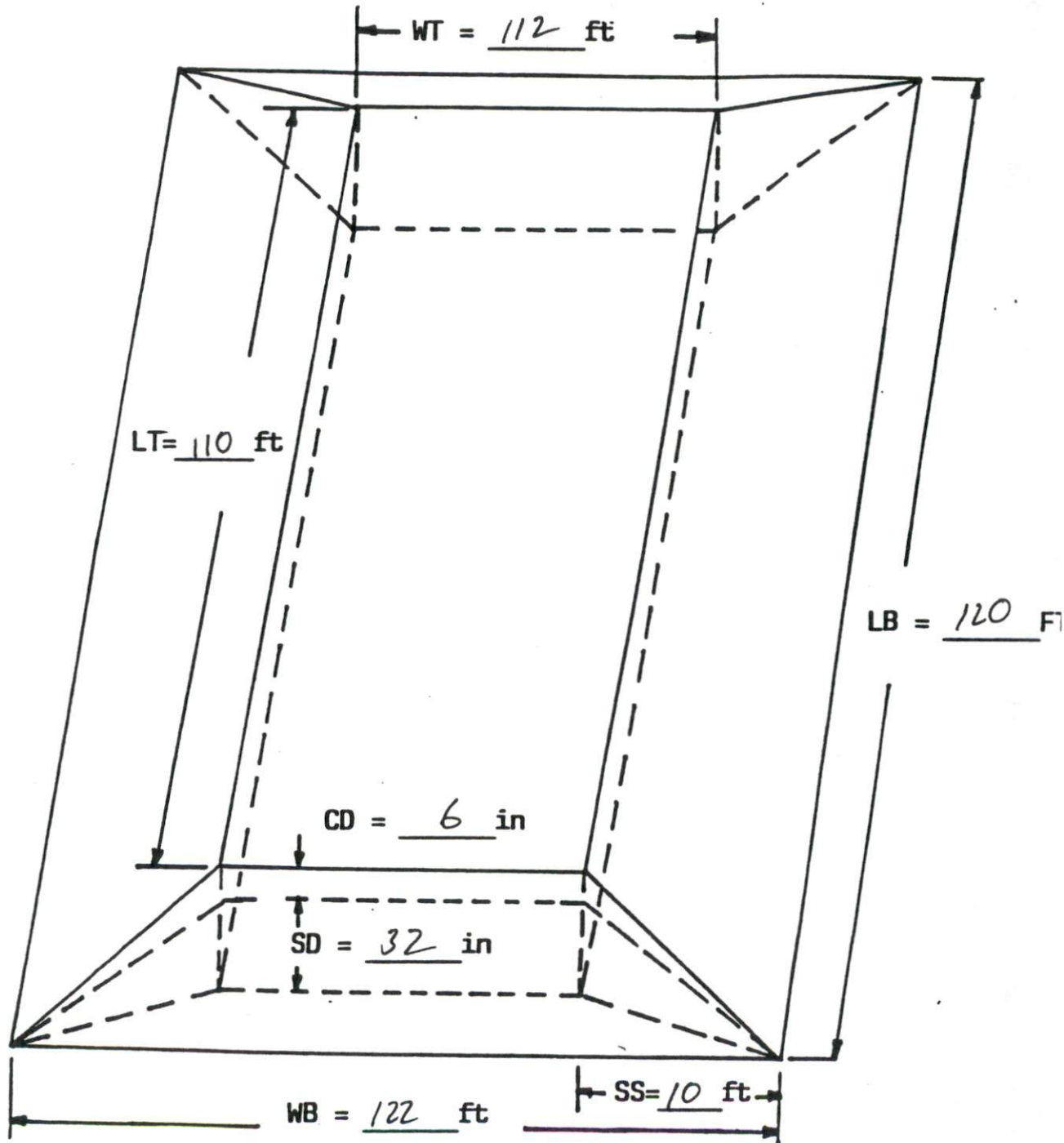
IV. Trench Construction

1. The outside edge of any trench shall be 5 feet from the top of the side slope of the fill.
2. This system is designed with 12 trenches which are 100 ft. long and 3 ft. wide. Trenches must have a spacing of 9 ft. on centers.
3. Trench bottoms shall be no deeper than 18 inches below finished grade of the fill.
4. Trench bottoms shall be constructed level.
5. Distribution boxes shall be located 5 feet from the top edge of the fill.
6. Call the Health Department for inspection after the trenches are finished.

V. Landscaping

1. The fill must be shaped to shed surface water and shall be stabilized with grass or other suitable cover to prevent erosion.
2. Vegetation must be maintained after established. Grass must be mowed.
3. Additional fill beyond what has already been specified may be necessary to cover and landscape around the septic tank.
4. Call the Health Department for inspection after landscaping is complete. The Operation Permit allowing use of the system is issued at this time.

DIMENSIONS OF FILL SYSTEM



DEFINITIONS

WT - width of top
LT - length of top
WB - width of bottom
LB - length of bottom

SS - side slope
SD - sand depth
CD - cover depth

Calculation of Fill Volume

Total volume of fill (TVF)

$$\text{TVF} = [(\text{LT} + \text{LB}) / 2 \times (\text{WT} + \text{WB}) / 2] \times \text{TFD}$$

$$\begin{aligned} &= [(\underline{110} \text{ FT.} + \underline{120} \text{ FT.}) / 2 \times (\underline{112} \text{ FT.} + \underline{122} \text{ FT.}) / 2] \times \underline{3.2} \text{ FT.} \\ &= \underline{43056} \text{ CU. FT.} \end{aligned}$$

(DIVIDE BY 27 CU. FT. TO OBTAIN CU. YDS.)

$$= \underline{1595} \text{ CU. YDS.}$$

Total volume of sand (TVS)

$$\text{TVS} = [(\text{LT} + \text{LB} - 4) / 2 \times (\text{WT} + \text{WB} - 4) / 2] \times \text{SD}$$

$$\begin{aligned} &= [(\underline{110} \text{ FT.} + \underline{120} \text{ FT.} - 4) / 2 \times (\underline{112} \text{ FT.} + \underline{122} \text{ FT.} - 4) / 2] \times \underline{2.7} \text{ FT.} \\ &= \underline{35087} \text{ CU. FT.} \end{aligned}$$

(DIVIDE BY 27 CU. FT. TO OBTAIN CU. YDS.)

$$= \underline{1300} \text{ CU. YDS.}$$

Total volume of cover (TVC)

$$\text{TVC} = \text{TVF} - \text{TVS}$$

$$= \underline{1595} \text{ CU. YD.} - \underline{1300} \text{ CU. YD.}$$

$$= \underline{295} \text{ CU. YD.}$$

Key to abbreviations:

LT = length of top
LB = length of bottom
WT = width of top
WB = width of bottom

TFD = total fill depth
= SD + CD
SD = sand depth
CD = cover depth

Aaron Thomas

McNeill Hobbs Rd, Bunnlevel, NC (SR2072)

Pressure Manifold

4 inch SCH40 PVC

(12) ½ inch lateral Taps @ 9 foot on center

2 foot of pressure head

12(taps) x 7.11 GPM + 2 (anti siphon hole) = **87.32 GPM (Flow Rate)**

TDH = EH+PH+FH

EH = 5.5ft

PH = 2ft

FH = .636

TDH = **8.2ft (round up to 9)**

Pump requirements

TDH of 9ft

Flow rate of 87.32