



Onslow County Health Department
 234 Northwest Corridor Blvd
 Jacksonville, North Carolina 28540
 Phone: (910) 938-5851 Fax: (910) 989-5819

OPERATIONS PERMIT

(GS 130A-337)

Owner: THE PRESERVE AT MORRIS LANDING LLC

Address: 104 TRALEE PL, HOLLY RIDGE, NC

Parcel: 749-20.2

Subdivision: Preserve at Morris Landing

Lot Number: 48 **Section:** 6 **Phase:** 2

Block: **Part:** **Tract:**

Proposed Use: Single Family Residence

Location: 104 Tralee Rd

Facility/Daily design flow: 3 Bedroom/ 360GPD

System Information: Installed 4-45' EZ Flow 25% reduction lines.
 30x40 anaerobic drip repair.

Septic Installer: Atlantic On Site

Water Supply: Public

System Description: 25% Reduction Accepted System, EZflow EZ 1203H-GEO

Permit No: EHOP-2019-00125

Workclass: EH OP New

FINAL PLOT / REMARKS

System Type: III b

System Classification: b. Septic system w/
 single effluent pump or siphon

Manufacturer: EZflow EZ 1203H-GEO

Model#: EZ1203H-GEO

Note: Type V and VI systems expire in 5 years. (In accordance with Table Va of .1961). Owner must contact the Onslow County Health Department 6 months prior to expiration for permit renewal. Onslow County Health Department is required to inspect the following system types: IIIb, every 5 years; IV, every 3 years; V, once per year and VI, every six months.

Signed By: Robert McCabe 

Date: 04/05/2019

This system has been installed in compliance with applicable NC General Statutes, Rules for Sewage Treatment and Disposal, and all conditions of the I.P. and C.A. This system shall perform in accordance with 15A NCAC 18A Rule .1961. Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank periodically removed from all compartments. The contents shall be pumped, by approved means, whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

THE ISSUANCE OF THIS O.P. DOES NOT CONSTITUTE AN ONSLOW COUNTY WARRANTY OR GUARANTEE OF THE FUNCTIONALITY OF THE WASTEWATER SYSTEM



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CONSTRUCTION AUTHORIZATION

(GS 130A-336)

Permit No: EHCA-2019-00194

Workclass: EH CA Revision

(Required for Building Permit)

THIS AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION SHALL BE VALID FOR A PERIOD EQUAL TO THE PERIOD OF VALIDITY OF THE IMPROVEMENT PERMIT.

Owner: D R HORTON INC

Address: 104 TRALEE PL, HOLLY RIDGE, NC 28445

Subdivision: PRESERVE AT MORRIS LANDING **Lot Number:** 48 **Section:** 6 **Phase:** 2

Block: **Part:** **Tract:**

Proposed Use: Single Family Residence

Location: 104 Tralee Place

System Type: III b **System Classification:** b. Septic system w/ single effluent pump or siphon

System Description: 25% Reduction Accepted System, EZflow EZ 1203H-GEO, Effluent Pump

Facility/Daily design flow: 3 Bedrooms/360 gpd/6 Persons Max

System Information: Installed 4-45' EZ Flow 25% reduction drainlines.

Repair: 30' X 40' Anaerobic Drip.

INSTALLED BY ATLANTIC ON SITE .

LTAR: .5 gpd/sq. ft. **Water Supply:** Public

Septic Tank Size: 1000 gallons **Grease Trap Size:** N/A gallons

Pump Tank Size: 1000 gallons

Nitrification Area: 540 sq. ft. **Nitrification Linear Feet:** 180 lin. ft.

No of Lines: 4 **Line Length:** 45' **Line Width:** 3'

Trench Bottom Depth: 12" Below Ground Surface

(SEE ATTACHED PAGES 1 6 of 6 FOR ADDITIONAL PERMIT CONDITIONS)

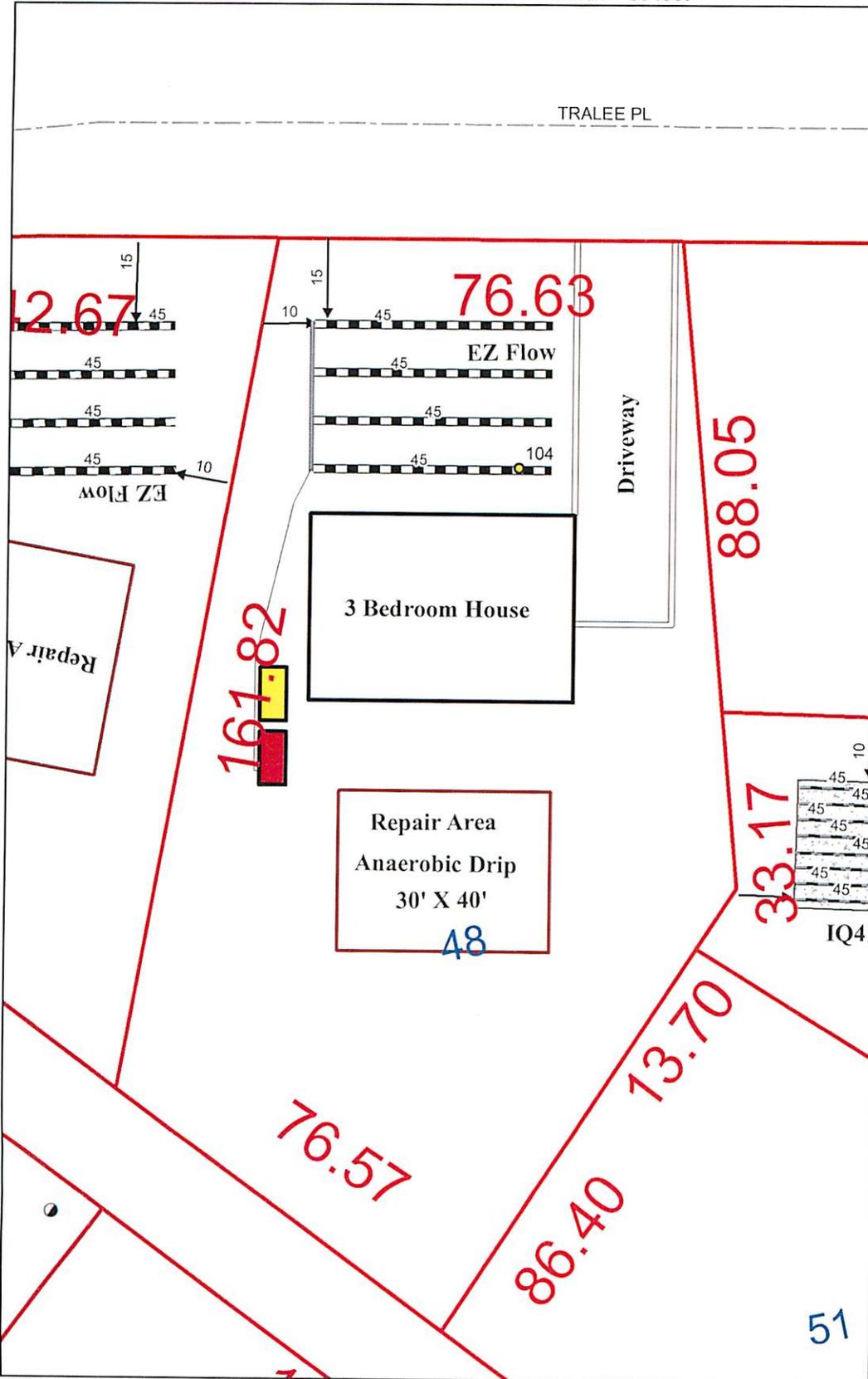
Signed By: Robert McCabe *Robert McCabe REHS* Date: 03/15/2019

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. 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. The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958 and .1959 are incorporated by reference into this permit and shall be met.

THE ISSUANCE OF THIS C.A. DOES NOT CONSTITUTE AN ONSLOW COUNTY WARRANTY OR GUARANTEE OF THE FUNCTIONALITY OF THE WASTEWATER SYSTEM

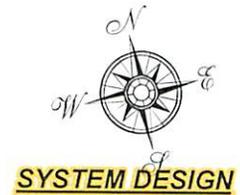
PLOT PLAN

1 inch = 30 feet



Additional Permit Conditions:

1. Do not park or drive on any part of system or repair area.
2. Nitrification trench aggregate shall be covered with straw, untreated paper or other approved materials prior to final cover/backfilling.
3. Do not install system under wet conditions.
4. Adhere to minimum set back requirements as stated in Rule .1950 and .1951 of NC Laws and Rules for Sewage Treatment and Disposal System (Article 11, G.S. Chapter 130A) unless otherwise indicated on this permit.
5. Rock used in soil absorption systems shall be clean, washed gravel or crushed stone and graded or sized in accordance with size numbers 3, 4, 5, 57, or 6 of ASTM D-448 (standard sizes of coarse aggregate) which is hereby adopted by reference in accordance with G.S. 150 B-14 (c). Documentation of aggregate size shall be available upon request.
6. All pump tanks shall be tested for water tightness. Septic tanks may be subject to a water tightness test.
7. The septic tank is designed to receive sewage or wastewater under gravity flow. However, if a system subject to the N.C. Plumbing Code is used to pump raw sewage to the septic tank, the sewage shall be reduced to gravity/non-turbulent flow by approved means at the inlet of the septic tank.
8. An accepted wastewater system may also be installed in accordance with the accepted wastewater system approval. (Maximum LTAR of 1.0 gpd/ft²)
9. Run lines parallel to contour. System components represent approximate contours only. The contractor must flag the system prior to beginning the installation to insure that proper grade is maintained.
10. A recorded plat or deed and corresponding map shall be submitted to the Environmental Health Section of the Onslow County Health Department PRIOR TO the issuance of the Construction Authorization.
11. An APPROVED stormwater plan shall be submitted to the Environmental Health Section of the Onslow County Health Department PRIOR to issuance of a Construction Authorization.
12. FOR DWELLING UNIT WASTEWATER SYSTEMS ONLY – This wastewater system is designed only for the number of bedrooms shown as bedrooms or sleeping rooms on the building/floor plan approved by Onslow County Code Enforcement. No other room or space may be relabeled as a bedroom, used as a bedroom, or converted into a bedroom without prior approval from Onslow County Environmental Health.



# BEDROOMS/ GPD:	3 BR/360 gpd/6 Persons Max
SYSTEM TYPE:	III b
% REDUCTION:	25%
LTAR:	.5
SQ. FT.:	540
LINEAR FEET:	180'
# OF LINES:	4
LENGTH EACH LINE:	45'
TRENCH BOTTOM:	12" Below Ground Surface
TRENCH WIDTH:	3' FEET
FEET ON CENTER(LINES):	9' FEET
REPAIR AREA:	30' X 40' Anaerobic Drip
	.3

****WARNING: THIS IS NOT A SURVEY!****

This map is prepared for the inventory of real property found within this jurisdiction, and is compiled from recorded deeds, plats, and other public records and data. Users of this map are hereby notified that the aforementioned public primary information sources should be consulted for verification of the information contained on this map. The County and mapping company assume no legal responsibility for the information contained on this map.

Tank Water Tightness Testing Procedures

I. Leak Testing Procedures:

1. The tank shall be set and leveled. The tank hole may be backfilled to a point below the midseam of a two piece tank or to the midpoint of a one-piece tank. If site conditions do not allow the tank hole to be left open or if you choose not to leave the tank hole open, the tank shall be leak tested onsite prior to placement in tank hole.
2. The manhole riser(s) (if applicable) shall be attached to the tank according to state approved plans.
3. The tank shall be filled with water 2" above the seam where the manhole riser is connected to the top of the tank, or to a point level with the top of the tank in both manholes if riser(s) are not required. It is strongly recommended to perform the leak test prior to removing any tank block out (placing any pipes into/out of the tank). If tank block outs have been removed and pipe has been installed it will be necessary to block or plug the inlet and outlet pipe to prevent flow from these pipes. It may also be necessary to place mastic around the bevel of the inlet manhole and weight the lid down to prevent leakage.
4. After filling and allowing for the concrete to absorb water (about 24 hours) add any additional water needed to get water level back to the starting level.
5. Contact the Onslow County Health Department to conduct the test. The test will take a minimum of 24 hours and will not be conducted Friday or the day prior to a Holiday.
6. Only after the completion of a satisfactory leak test will the tank be approved for use.

II. Vacuum Testing Procedures (concrete tanks only):

1. The tank shall be set and leveled. The tank hole may be back filled to a point below the midseam of a two piece tank or to the midpoint of a one piece tank. If site conditions do not allow the tank hole to be left open or if you choose not to leave the tank hole open, the tank shall be leak tested on site prior to placement in tank hole.
2. The manhole riser(s) (if applicable) shall be attached to the tank according to state approved plans.
3. The tank shall be vacuum tested as per the following:

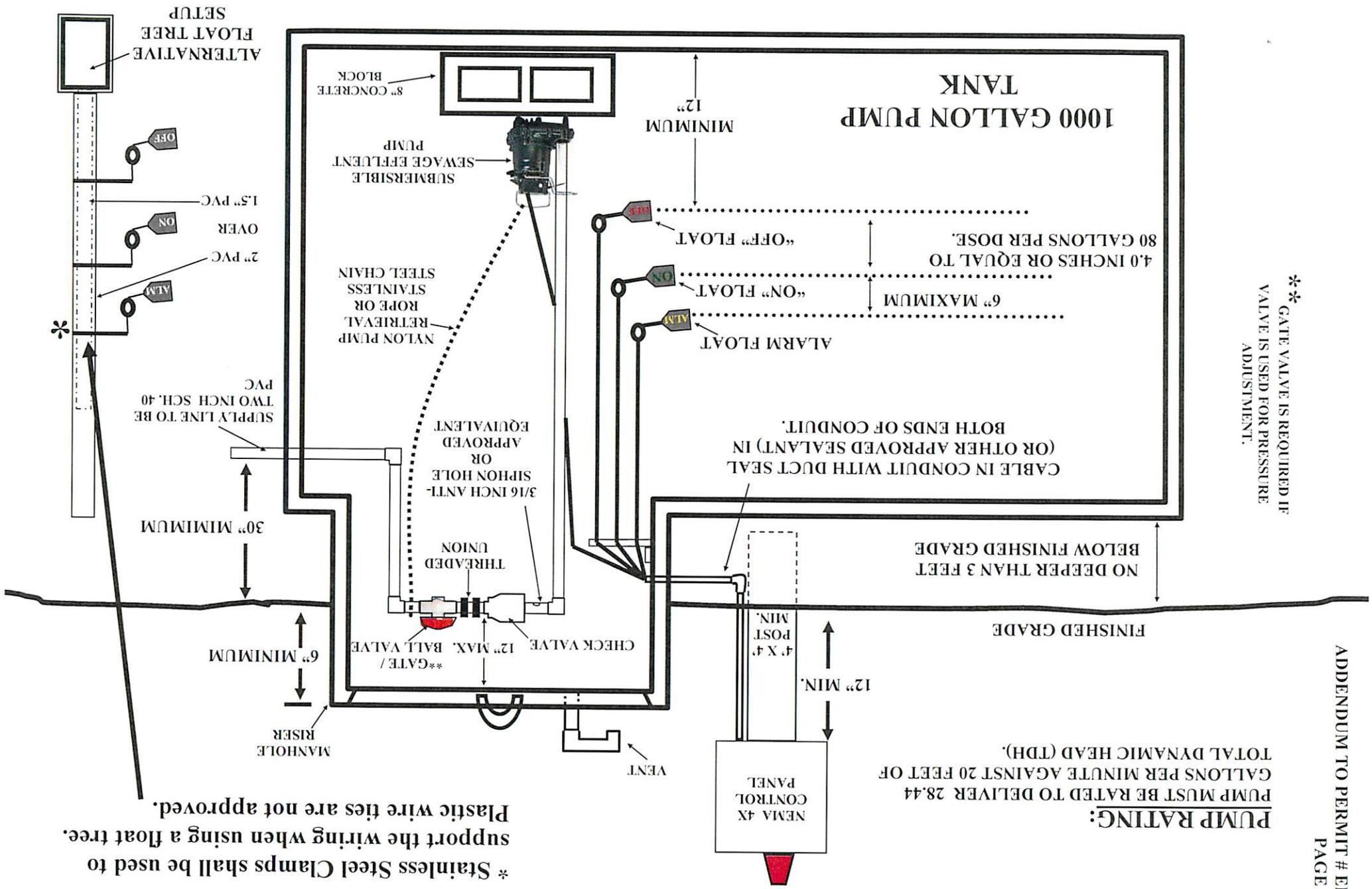
<u>Inches of Mercury</u>	<u>Duration</u>
5"	2 Min.

($\leq 10\%$ pressure drop / $\leq .5$ inch loss of mercury shall constitute an acceptable test)

4. Onslow County Health Department representative shall be present during vacuum testing procedure.
5. Only after the completion of a satisfactory vacuum test will the tank be approved for use.

PUMP SYSTEM DETAIL SHEET

* Stainless Steel Clamps shall be used to support the wiring when using a float tree. Plastic wire ties are not approved.



PUMP RATING:

PUMP MUST BE RATED TO DELIVER 28.44 GALLONS PER MINUTE AGAINST 20 FEET OF TOTAL DYNAMIC HEAD (TDH).

NO DEEPER THAN 3 FEET BELOW FINISHED GRADE

CABLE IN CONDUIT WITH DUCT SEAL (OR OTHER APPROVED SEALANT) IN BOTH ENDS OF CONDUIT.

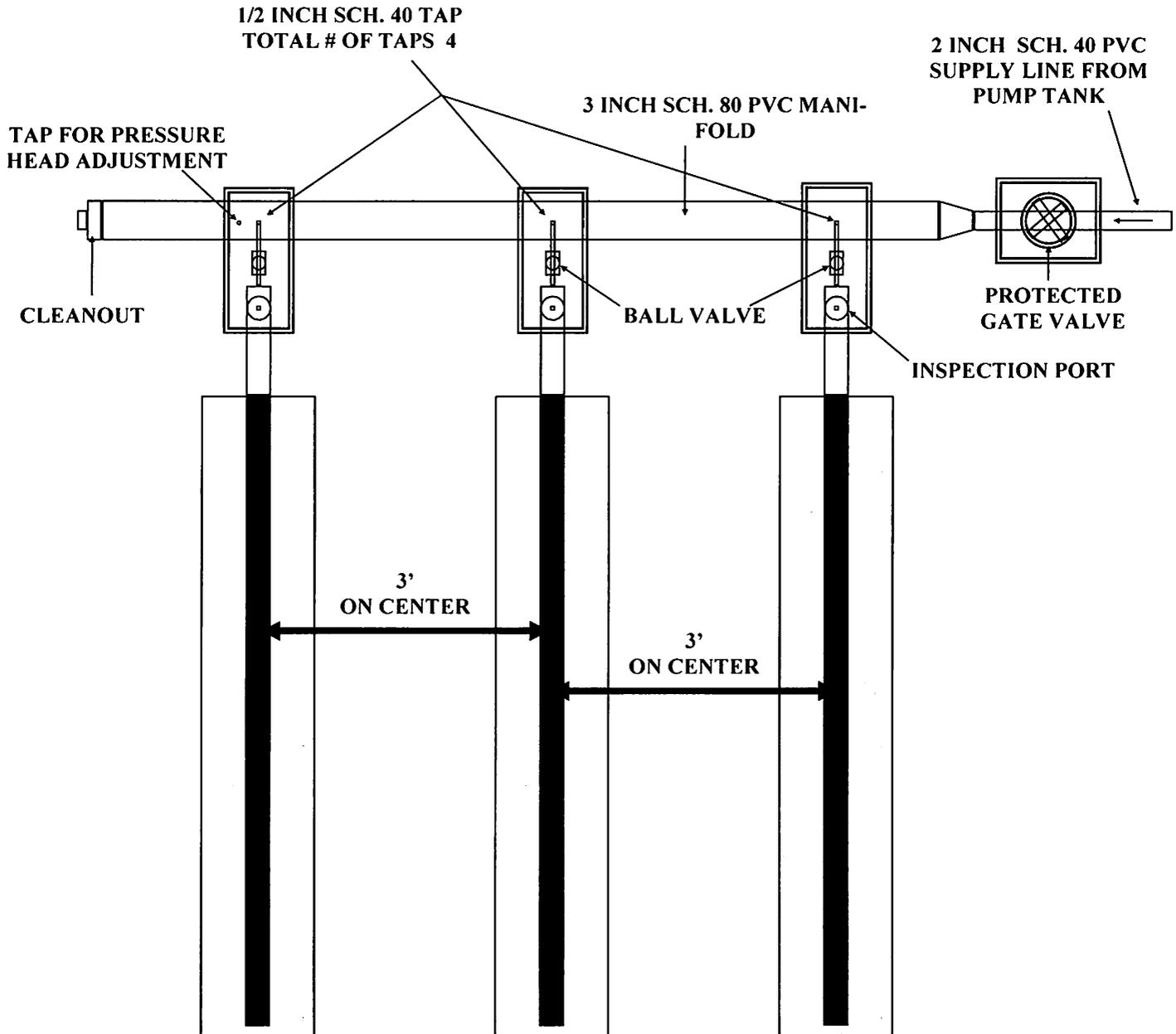
6" MAXIMUM
"ON" FLOAT
"OFF" FLOAT
4.0 INCHES OR EQUAL TO 80 GALLONS PER DOSE.

12" MINIMUM

1000 GALLON PUMP TANK

** GATE VALVE IS REQUIRED IF VALVE IS USED FOR PRESSURE ADJUSTMENT.

MANIFOLD FOR LEVEL SITES



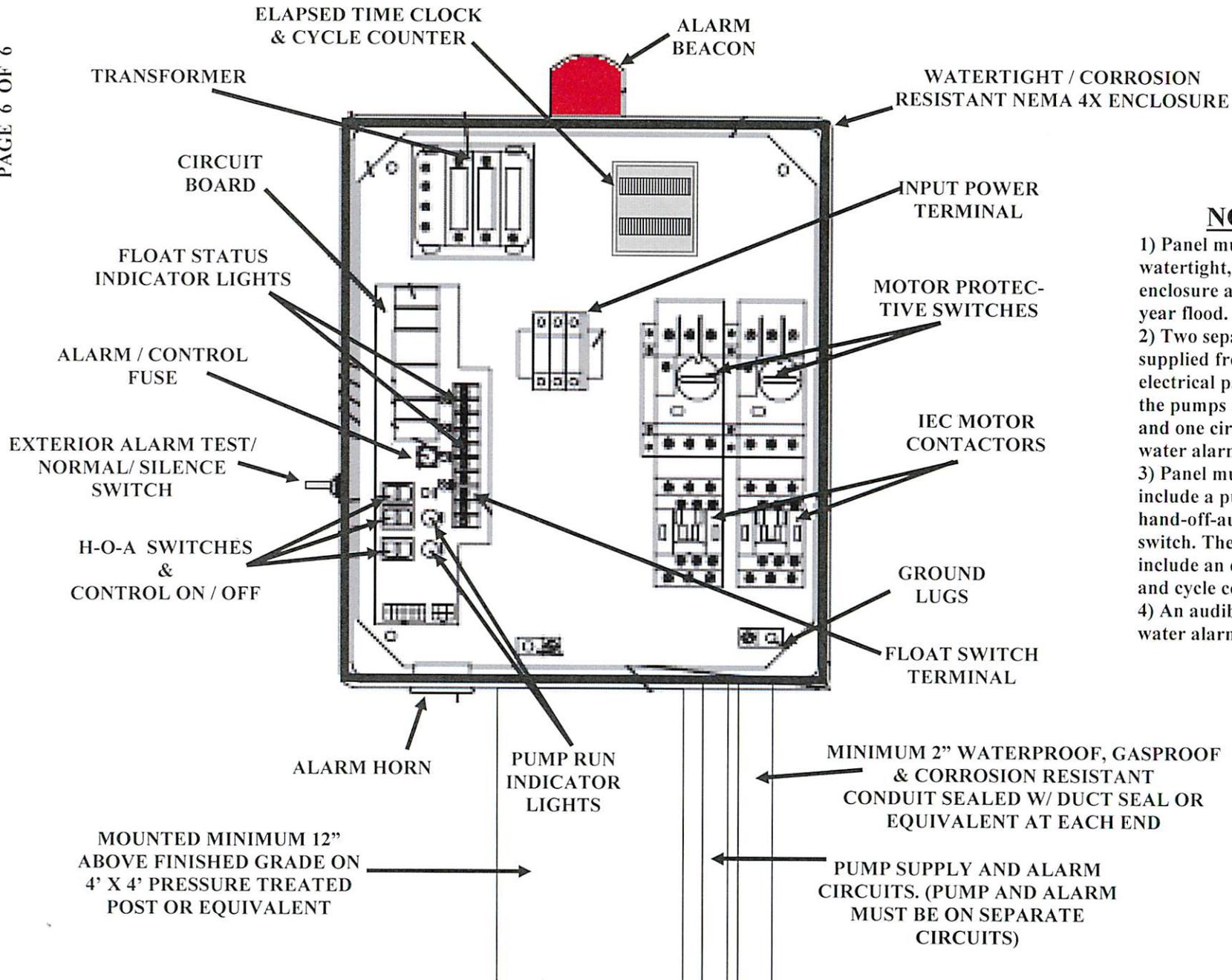
- PRESSURE HEAD TO BE SET AT 2 FEET.
- MANIFOLD SHALL BE INSTALLED LEVEL.
- CLEANOUT PLUG MAY BE ADAPTED TO ACCOMMODATE A STAND PIPE FOR PRESSURE HEAD ADJUSTMENT.

Pump Tank Additional Specifications

1. There shall be no splices in any electrical cable within the pump chamber.
2. Pump and alarm must be on two separate live electrical circuits which operate independently of each other.
3. If the pump manufacturer specifies that the "pump off" level be below the top of the pump, then follow the manufacturer's specifications and adjust other floats accordingly.
4. Contact the Onslow County Electrical Inspector for release of Temporary Full Service and be sure service is available **prior** to contacting the Onslow County Health Department for inspection.
5. Check valves shall be mounted horizontally and such that a siphon breaker hole can be drilled on the pump side of the valve.
6. Only those tanks specifically approved by the state of North Carolina and appropriately stamped shall be used for pump tanks. Modified septic tanks shall not be approved.
7. This permit is valid only for that shown on the attached plot plan, these specifications, and related paraphernalia approved by the Onslow County Health Department.
8. A complete and approved installation is required for this permit to continue to be valid beyond five years elapsed time from the date of issuance.
9. This permit is valid subject to all conditions so noted on this permit, the operations permit, the approved plans and specifications, and any written correspondence that may specify a condition or requirement.
10. This permit is valid only for as long as it meets all requirements of G.S. Chapter 130A Article 11 and related portions of NC Administrative Code.
11. No driving or parking shall be allowed over any portion of the system or repair area unless specifically approved elsewhere in this permit.
12. System operation, maintenance and repairs shall be the responsibility of the land owner as named on this permit.
13. This permit shall not be transferred, nor shall any changes of use occur, without prior approval by the Onslow County Health Department.
14. The pump curve for the effluent pump installed shall be available during the system inspection.
15. Paperwork confirming that the electrical enclosure used is NEMA 4X rated shall be available during system inspection. (Paperwork is not necessary if NEMA 4X rated is clearly marked on the enclosure.)

CONTROL PANEL DETAIL

(NOT A WIRING DIAGRAM! CONSULT AN ELECTRICIAN)



NOTES:

- 1) Panel must be in a NEMA 4X, watertight, corrosion resistant enclosure and located above 100-year flood.
- 2) Two separate circuits must be supplied from the main house electrical panel--one circuit for the pumps and pump controls and one circuit for the high-water alarm.
- 3) Panel must be U.L. listed and include a pump run light and hand-off-automatic (H-O-A) switch. The panel should also include an elapsed time clock and cycle counter.
- 4) An audible and visible high-water alarm shall be provided.



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IMPROVEMENT PERMIT

(GS 130A-336)

Permit No: EHIP-2017-00133

Workclass: EH IP New

A building permit cannot be issued with only an Improvement Permit

Expiration: Valid For 5 Years From The Date of Issuance 03/27/2017

Owner: PRESERVE AT MORRIS LANDING LLC

Address: , MORRIS LANDING RD, HOLLY RIDGE, NC

Subdivision: Preserve at Morris Landing **Lot Number:** 48 **Section:** 6 **Phase:** 2

Block: **Part:** **Tract:**

Proposed Use: Single Family

Location: Hwy 17 to Holly Ridge to Sound Rd to Morris Landing Rd L onto Tralee Rd

System Type: III **System Classification:** g. Non-Conventional trench system

System Description: 25% Reduction Accepted System

Facility/Daily design flow: 3 Bedroom/ 360GPD

System Information: Install 4-45' 25% reduction lines with 30x40 anaerobic drip repair.

LTAR: .5 gpd/sq. ft. **Water Supply:** Public

(SEE ATTACHED PAGES 1 - 2 of 2 FOR ADDITIONAL PERMIT CONDITIONS)

Signed By: Chris Harper  Date: 03/27/2017

The issuance of this permit by the Onslow County 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 permit is subject to revocation if the site plan, plat, or the intended use changes. This 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 the conditions of this permit.

OWNER: PRESERVE AT MORRIS LANDING
ADDRESS: LOT 48 SEC. 6 PH. 2
LOCATION: MORRIS LANDING RD.

PLOT PLAN

SCALE: 1 inch = 30 feet

SEE PLOT PLAN PROVIDED BY
APPLIED RESOURCE
MANAGEMENT PAGE 2 OF 2.

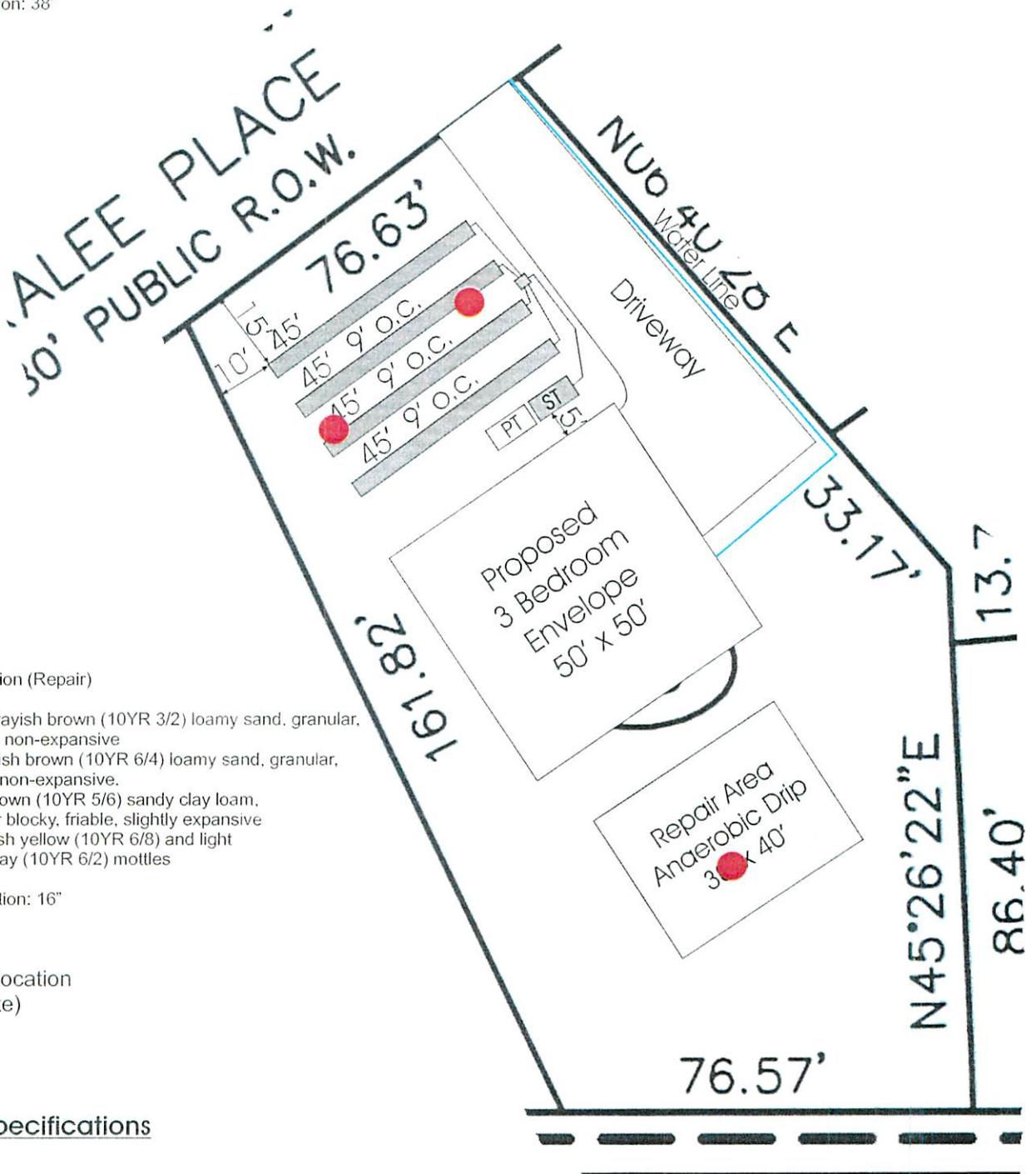
ADDITIONAL PERMIT CONDITIONS:

1. Do not park or drive on any part of the septic system or repair area.
2. Nitrification trench aggregate shall be covered with straw, untreated paper or other approved materials prior to final cover / backfilling.
3. Do not install system under wet conditions.
4. Rock used in soil absorption systems shall be clean, washed gravel or crushed stone and graded or size in accordance with size numbers 3, 4, 5, 57, or 6 of ASTM D-448 (standard sizes of coarse aggregate) which is hereby adopted by reference in accordance with G.S. 150 B-14 (c). Documentation of aggregate size shall be available upon request.
5. Adhere to minimum setback requirements as stated in Rule .1950 and .1951 of NC Laws and Rules for Sewage Treatment, and Disposal Systems (Article 11, G.S. Chapter 130A), unless otherwise indicated in this permit.
6. All pump tanks shall be tested for water tightness. In addition, septic tanks may be subject to a water tightness test.
7. The septic tank is designed to receive sewage or wastewater under gravity flow. However, if a system subject to the N.C. Plumbing Code is used to pump raw sewage to the septic tank, the sewage shall be reduced to gravity/non-turbulent flow by approved means at the inlet of the septic tank.
8. An accepted wastewater system may also be installed in accordance with the Accepted Wastewater System Approval (AWWS-05-01 or AWWS-05-02). Maximum LTAR of 1.0 gpd / ft².
9. Run lines parallel to contour. System components represent approximate contours only. The contractor must flag the system prior to beginning the installation to insure that proper grade is maintained.
10. A recorded plat or deed and corresponding map shall be submitted to the Environmental Health Section of the Onslow County Health Department **PRIOR TO** the issuance of the Construction Authorization.
11. An **APPROVED** stormwater plan shall be submitted to the Environmental Health Section of the Onslow County Health Department **PRIOR** to issuance of a Construction Authorization.
12. **FOR DWELLING UNIT WASTEWATER SYSTEMS ONLY** – This wastewater system is designed only for the number of bedrooms shown as bedrooms or sleeping rooms on the building/floor plan approved by Onslow County Code Enforcement. No other room or space may be relabeled as a bedroom, used as a bedroom, or converted into a bedroom without prior approval from Onslow County Environmental Health.

Soil Profile Description (Initial)

- 0-4" Disturbed Soil
- 4-6" Very dark gray (10YR 3/1) loamy sand, granular, very friable, non-expansive.
- 6-12" Dark yellowish brown (10YR 4/4) loamy sand, granular, very friable, non-expansive.
- 12-24" Light yellowish brown (10YR 6/4) loamy sand, granular, very friable, non-expansive.
- 24-32" Yellowish brown (10YR 5/6) sandy loam/sandy clay loam, sub-angular blocky, friable, slightly expansive
- 32-48" Yellowish brown (10YR 5/6) sandy clay loam, sub-angular blocky, friable, slightly expansive with brownish yellow (10YR 6/8) and light brownish gray (10YR 6/2) mottles at 38"

Soil Wetness Condition: 38"
LTAR 0.5



Soil Profile Description (Repair)

- 0-4" Very dark grayish brown (10YR 3/2) loamy sand, granular, very friable, non-expansive
- 4-16" Light yellowish brown (10YR 6/4) loamy sand, granular, very friable, non-expansive.
- 16-24" Yellowish brown (10YR 5/6) sandy clay loam, sub-angular blocky, friable, slightly expansive with brownish yellow (10YR 6/8) and light brownish gray (10YR 6/2) mottles

Soil Wetness Condition: 16"
LTAR 0.3 Drip area

● Soil boring location (approximate)

System Specifications

3 Bedroom Residence
360 Gallons Per Day

Initial: 1000 Gallon Septic Tank
LTAR 0.5
540 Sq. Ft. 25% Reduction System
180 Ln. Ft. 25% Reduction System
(4) 3' x 45' Nitrification Trenches
Trench Bottom Depth 12"

Repair: LTAR 0.3
Install 1000 gallon pump tank (PT)
1200 Sq. Ft. Anaerobic Drip System
600 Ln. Ft. Anaerobic Drip System
30' x 40' Area Shown



31 January 2017

Map adapted from survey provided by JW Holland Engineering