# WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR INTENDED USE CHANGED***

## OPERATIONS PERMIT

**PERMIT #** **WRP-101633-2023** **APPLICATION DATE:** 04/30/2023 **BLDG. PERMIT#:** **RBPR-101627-2023**

**PIN:** 1831371559 **RECORDED:** Yes

**TOWNSHIP:** 19 - Wake Forest **JURISDICTION:** Wake County **ZONING:** R-40W

**APPLICANT:** ICG Homes LLC
Ryan Perry
4020 Wake Forest RD Suite 306

**BUSINESS PHONE:** (919) 876-5802
**HOME PHONE:**
**MOBILE PHONE:** (919) 302-4493

**HD USE:** 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**

**SITE ADDRESS:** 7305 WEXFORD WOODS LN

**SUBDIVISION:** WEXFORD RESERVE PH 2 **LOT:** 91 **ACRES:** 0.85

**DIRECTIONS:** From Wake Forest Rd. -->
Follow Falls of Neuse Rd and Old Falls of Neuse Rd to Thompson Mill Rd -->
Continue on Thompson Mill Rd. Drive to Wexford Woods Ln

Systems defined as either type III-b, III-g with a pump, IV, V or VI, in accordance with the North Carolina administrative code 15A NCAC 18a .1961, table V as adopted by reference in the "Regulations Governing Wastewater Treatment Dispersal Systems in Wake County", requires Wake County Environmental Services to conduct periodic inspections of the system type pursuant to 15A NCAC 18a. 1961 (j). Fees for these inspections will be charged as per the approved Fee Schedule. In addition, all systems are to be operated and maintained as specified in 15A NCAC 18A .1961. This permit is based in part on information provided by the homeowner and/or his/her representative in the application submitted for this permit. The Environmental Health Specialist is not responsible for false or misleading information contained in the application. The environmental health specialist is also not responsible for concealed conditions on the property or for statements in this report that may have resulted from false or misleading statements provided to him/her in the application. Neither Wake County nor the Environmental Health Specialist warrants that the septic tank system will continue to function satisfactorily in the future or that the water supply will remain potable.

**OPERATION PERMIT VALID FOR:** No Expiration
**INSTALLED BY:** BRANTLEY, CORY - 1036 - IV
**PROPRIETARY SYSTEM:** EZ1203HG - EZFlow EZ 1203H Geo **PRETREATMENT SYSTEM:**
**SYSTEM TYPE INSTALLED:** III B
**OPERATION PERMIT:** **STATUS:** Issued **ISSUED BY:** Hunter Gregg **ISSUED DATE:** 02/01/2024

**SEPTIC TANK:** David Brantley & Sons - STB-323 - 1250 gallons **DATE OF MANUFACTURE:** 08/24/2023 **FILTER:** GAG SIM/TECH - STF-110
**GREASE TRAP:** **DATE OF MANUFACTURE:** **FILTER:**
**DOSING PUMP TANK:** Brantley - PT-2124 - 1312 gal - 21.5 gal/in **DATE OF MANUFACTURE:** 11/10/2023 **FILTER:**
**CC1:** 999,806 **ETM1:** 11 **CC2:** **ETM2:**
**RECIRCULATION TANK:** **DATE OF MANUFACTURE:**
**CC1:** **ETM1:** **CC2:** **ETM2:**

**SEPTIC TANK ELEVATION:** 1.92 **GREASE TRAP ELEVATION:** **DOSING PUMP TANK ELEVATION:** 2.25

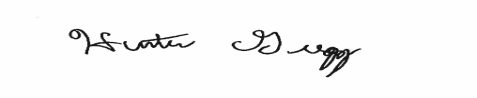
**RECIRCULATION TANK ELEVATION:** **DISTRIBUTION DEVICE ELEVATION:** 3

| INSTALLED TRENCH DEPTH | INSTALLED AGGREGATE DEPTH | INSTALLED TRENCH LENGTH | INSTALLED TRENCH BOTTOM ELEVATION |
|---|---|---|---|
| 28 | 12 | 50 | 6.708 |
| 28 | 12 | 100 | 7.583 |
| 28 | 12 | 95 | 8.417 |
| 28 | 12 | 75 | 9.229 |
| 28 | 12 | 70 | 10.333 |
| 28 | 12 | 50 | 11.562 |

**ACTUAL PRESSURE HEAD:** 2 **ACTUAL FLOW RATE:** 44 **ACTUAL DOSE VOLUME:** 226

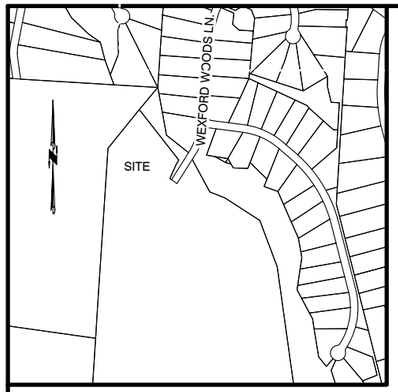
**SPECIFIC OPERATION REQUIREMENTS:**

-Elevations for tanks and drainfield/manifold inspected separately.
-System is designed for 4 bedroom home with design flow of 480 GPD.
-Future repair is Type III B/E (pump to Horizontal PPBPS with pressure manifold distribution) with 30" maximum trench depth.
-Property is served by municipal water.
-No cutting, grading, alterations, or utilities in septic area.

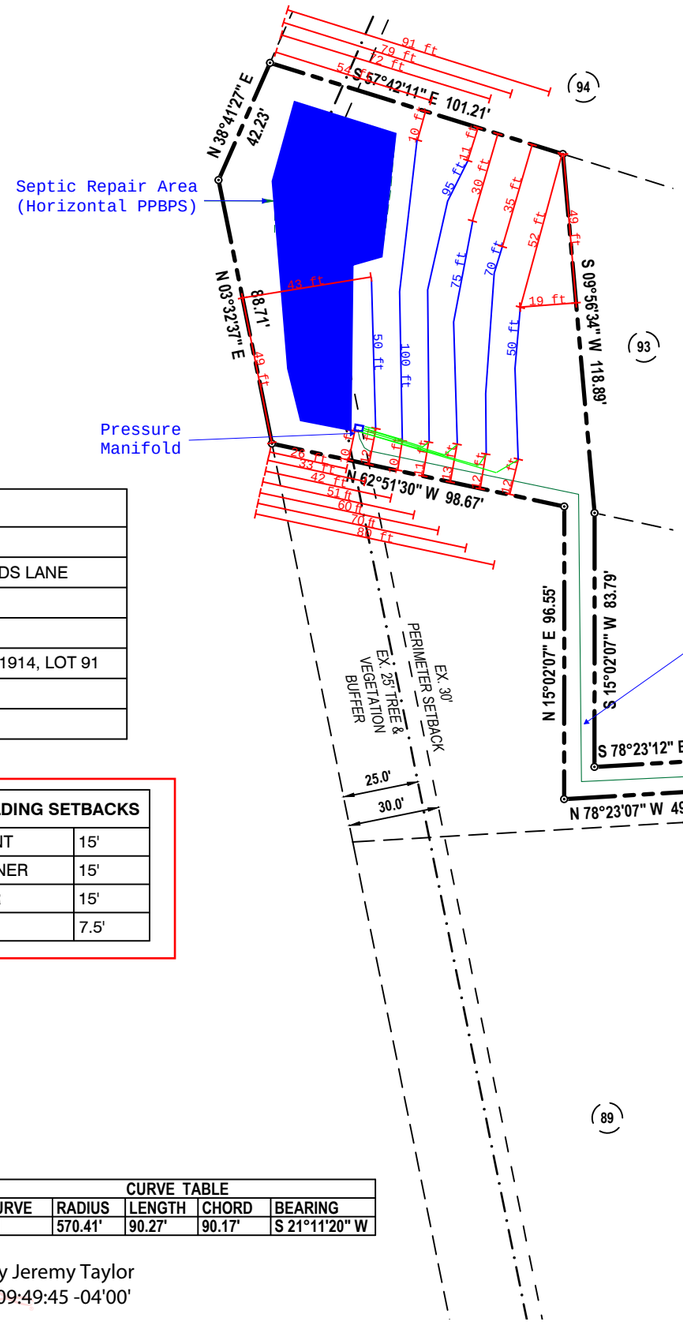
**ISSUED BY:**  **DATE:** 02/01/2024

RBPR-101627-2023

SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Ivey Shields
05/01/2023 4:45:12 PM




LOCATION MAP
1" = 1000'




## NOTES:

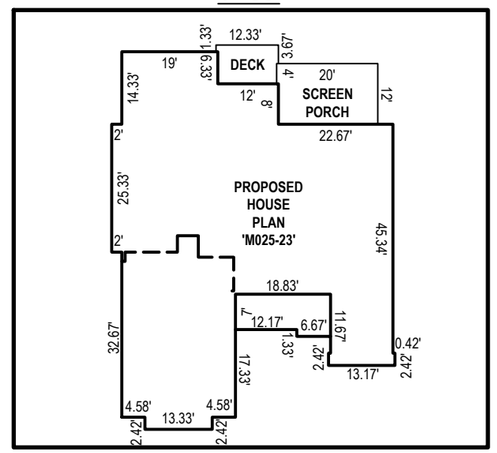
1) The basis of North and all easements, right-of-way's, buffers, setbacks and adjoiners, etc., referenced from Book of Maps 2022, Pages 1912-1914 unless otherwise noted.

2) Surveyor has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence or any other facts that an accurate and current title search may disclose.

3) Contours shown referenced from Wake County GIS.

WRP-101633-2023 As-Built
Hunter Gregg, REHS 3118

## HOUSE DETAIL
1"=30'




B.M. 2022, PG. 1912-1914

## LEGEND

| | |
|---|---|
| ○ | Ex. property corner |
| ● | Set property corner |
| ⊙ | Calculated point |
| W | Water Meter |
| S | Sanitary Sewer Cleanout |
| S | Sanitary Sewer Manhole |
| P | Power Pedestal |
| | Power Pole |
| T | Telephone Pedestal |
| C | Cable Pedestal |
| G | Gas Meter |
| AC | AC Condenser |
| B.M. | Book of Maps |
| D.B. | Deed Book |
| PG. | Page |
| S.F. | Square Feet |
| AC. | Acres |
| —X— | Fence |
| —W— | Water pipe |
| —SS— | Sanitary sewer pipe |
| —SD— | Storm drain pipe |
| —OU— | Overhead utility |

## SITE DATA

| | |
|---|---|
| CURRENT OWNER | ICG HOMES LLC |
| SITE ADDRESS | 7305 WEXFORD WOODS LANE |
| PIN | 1831-37-1559 |
| DEED REFERENCE | D.B. 19225, PG. 102 |
| PLAT REFERENCE | B.M. 2022, PGS. 1912-1914, LOT 91 |
| LOT SIZE | 0.85 ACRES |
| ZONING | R-40W |

| IMPERVIOUS AREAS (S.F.) | |
|---|---|
| HOUSE | 3451 |
| DRIVEWAY/WALK | 1997 |
| **TOTAL** | **5448** |
| MAX. | 7480 |

| BUILDING SETBACKS | |
|---|---|
| FRONT | 15' |
| CORNER | 15' |
| REAR | 15' |
| SIDE | 7.5' |

| CURVE TABLE | | | | |
|---|---|---|---|---|
| CURVE | RADIUS | LENGTH | CHORD | BEARING |
| C1 | 570.41' | 90.27' | 90.17' | S 21°11'20" W |

NORTH CAROLINA PROFESSIONAL SEAL L-3841 LAND SURVEYOR JEREMY TAYLOR

Digitally signed by Jeremy Taylor
Date: 2023.04.25 09:49:45 -04'00'

## SHEET INDEX:


| | |
|---|---|
| C-01 | SITE PLAN |
| C-02 | EROSION CONTROL PLAN |
| C-03 | QUAD & SOILS MAP OVERLAYS |
| D-04 - D16 | EROSION DETAILS |



TAYLOR LAND CONSULTANTS, PLLC
License # P-0829
1600 Olive Chapel Rd., #140
Apex, NC 27502
(919) 801-1104


**LOT DEVELOPMENT PLAN**
WEXFORD SUBDIVISION PHASE 2
7305 WEXFORD WOODS LANE
WAKE FOREST TOWNSHIP
WAKE COUNTY, NORTH CAROLINA

REVISIONS

DATE: 04/10/2023
JOB #: 19920
SHEET SIZE: 11x17

0 25 50
SCALE: 1" = 50

**C-01**
SITE PLAN

WAKE COUNTY
NORTH CAROLINA

TEL 919 856 7400
FAX 919 856 7407

**Environmental Services**

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602

August 8, 2023

REQUIREMENTS TO COMPLETE YOUR PRESSURE MANIFOLD SYSTEM

Dear Sir/Madam:

Enclosed is your approved pressure manifold installation plan and the "Pressure Manifold Sewage Disposal System Maintenance Information Sheet".

**To complete your permit:**

- **System Installation** - A contractor **CERTIFIED** by the State of North Carolina to at least a **LEVEL II** certification, and **REGISTERED** in Wake County, must be used to install your system.

- A copy of the "Pressure Manifold Sewage Disposal System Maintenance Information Sheet" and a copy of the "Wake County Well and Septic System Owner's Guide", which contain information essential to the long-term performance of this wastewater disposal system, must be forwarded to the owner or user of the system, if other than yourself.

**ANY PROPOSED MODIFICATION TO THE APPROVED PLANS MUST BE COORDINATED WITH YOUR SYSTEM DESIGNER**

Please call (919) 480-9998 or email at CORY.LARSEN@wake.gov if you have any questions.

Sincerely,

CORY LARSEN, PE
Environmental Engineer

*** CA PART A - C ***

# WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

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## CONSTRUCTION AUTHORIZATION PERMIT

**PERMIT #** **WRP-101633-2023** **APPLICATION DATE:** 04/30/2023 **BLDG. PERMIT#:** **RBPR-101627-2023**

**PIN:** 1831371559 **RECORDED:** Yes

**TOWNSHIP:** 19 - Wake Forest **JURISDICTION:** Wake County **ZONING:** R-40W

**APPLICANT:** ICG Homes LLC
4020 Wake Forest RD Suite 306
Raleigh, NC 27609

**BUSINESS PHONE:** (919) 876-5802
**HOME PHONE:**
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**SITE ADDRESS:** 7305 WEXFORD WOODS LN

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**DIRECTIONS:** From Wake Forest Rd. -->
Follow Falls of Neuse Rd and Old Falls of Neuse Rd to Thompson Mill Rd -->
Continue on Thompson Mill Rd. Drive to Wexford Woods Ln

Contractors shall install system on contour. See attached SITE PLAN for wastewater system design and well location. No underground utilities, water lines or sprinklers systems may be located in the original system, or permit areas. A septic tank filter with two risers for access is required. The wastewater system shall not be covered or placed into use until inspected by the Wake County Department of Environmental Services and Operations Permit issued. An Accepted Status System may be used in place of conventional system, if it can be placed in the permitted/authorized trench footprint (except reduction in line length and/or number as allowed for in approval) and the installation in accordance with the accepted system approval, without unauthorized product alteration. If permit required use of an Accepted Status System, substitution with another accepted status system may be made, as long as no changes are necessary in the location of each nitrifications line (including any increase in line length), trench depth or effluent distribution method. If changes are necessary, prior approval by this office is required before system installation. Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

**CONSTRUCTION AUTHORIZATION PERMIT VALID FOR:** Five Years

**CONSTRUCTION AUTHORIZATION PERMIT:** **CA STATUS:** Issued **BY:** Cory Larsen **DATE:** 08/08/2023

**CA VALID FOR:** Five Years **DESIGN FLOW:** 480 GALLONS **BASEMENT:** **BASEMENT FIXTURES:**

**SEPTIC TANK:** 1200 GALLONS
**DOSING PUMP TANK:** 1200 GALLONS
**GREASE TRAP:**
**RECIRCULATION PUMP TANK:**

**SEPTIC TANK FILTER:** Yes
**DOSING PUMP TANK FILTER:**
**GREASE TRAP FILTER:**
**RECIRCULATION PUMP TANK FILTER:**

**PROPOSED SYSTEM:** 0.25 - 25% Reduction (Innovative or Accepted) **EXISTING SYSTEM:**

**DRAINFIELD SQ. FT:** 1,320 **AGGREGATE DEPTH:** 12 **MAX. TRENCH DEPTH:** 30 INCHES

**DISTRIBUTION DEVICE:** PM - Pressure Manifold

**TRENCH #:** 6 **TRENCH LENGTH:** 80, 100, 95, 75, 70, 50 FEET **TRENCH WIDTH:** 36 INCHES **TOTAL TRENCH LENGTH:** 440 FEET

**CENTER SPACING:** 9 FEET
**PRETREATMENT:**
**SUBFIELDS #:**
**PUMP TDH:** 37.26 FEET

**MINIMUM SOIL COVER:** 6 INCHES
**APPROVAL #:**
**PUMP DESIGN FLOW:** 45.38
**ZONE VALVE:** No

**ASDMS REQUIRED:** No
**LINE OF CREDIT REQUIRED:** No
**OPERATOR REQUIRED:** No
**P.E. SIGN OFF/ASBUILT REQUIRED:** No
**TRIPARTY AGREEMENT REQUIRED:** No

**SPECIFIC CONSTRUCTION AUTHORIZATION REQUIREMENTS:**
ALLOWED SYSTEM REDUCTION HAS BEEN TAKEN FOR THE DESIGN OF THE INITIAL AND REPAIR SYSTEM FOR THIS 4 BEDROOM DWELLING. INITIAL SYSTEM IS A PRESSURE MANIFOLD SYSTEM PUMPING TO 6 UNEQUAL DRAINLINES WITH 30" TRENCH BOTTOM. REPAIR SYSTEM IS A PRESSURE MANIFOLD SYSTEM PUMPING TO 7 UNEQUAL DRAINLINES [50% REDUCTION PPBPS PRODUCT – HORIZONTAL INSTALLATION] WITH 30" TRENCH BOTTOM. 1200 GALLON SEPTIC TANK AND 1200 GALLON PUMP TANKS ARE PROPOSED. FOUNDATION DRAIN ALLOWED.

WHEN INSTALLING SYSTEM, MAINTAIN ALL REQUIRED SETBACKS. DO NOT DISTURB OR REMOVE ANY SOIL IN INITIAL OR REPAIR AREAS. MUST MAINTAIN REQUIRED EMERGENCY STORAGE IN THE PUMP TANK. A NEMA 4X CONTROL PANEL WITH TWO BREAKERS, TWO POWER SUPPLIES, ELAPSED TIME METER AND CYCLE COUNTER ARE REQUIRED. IF FLAGS ARE MISSING, CALL DESIGNER TO RE-FLAG.

THIS SYSTEM IS DESIGNED BY A CONSULTANT AND MUST BE INSTALLED PER THE APPROVED DESIGN, PLAN AND SPECIFICATIONS. ANY DEVIATION MUST BE APPROVED BY THE DESIGNER AND WAKE COUNTY ENVIRONMENTAL SERVICES PRIOR TO SYSTEM INSTALLATION. PLEASE CONTACT ENVIRONMENTAL SERVICES IF ANY QUESTIONS OR PROBLEMS ARISE PRIOR TO INSTALLATION.

**Issued By:** 

**Date:** 08/08/2023

# HOMEOWNER GUIDE FOR UTILIZATION AND MAINTENANCE OF ON-SITE WASTEWATER DISPOSAL SYSTEMS

## What is an On-site Wastewater Disposal System?

There are a number of different types of on-site wastewater disposal systems each designed for a specific set of site conditions. However, there are several system components that are common to most systems. These include the following:

1. A septic tank - a concrete tank that is designed to receive wastewater from the house and to provide a degree of pretreatment for the waste, chiefly through removal of some of the solids in the waste. Note that these solids accumulate over time and necessitate periodic pumping of the septic tank. Currently septic tanks are equipped with two access risers (normally constructed of concrete), which are designed to be at least 6 inches above the ground surface to prevent surface and shallow groundwater from entering the septic tank and to provide access for maintenance. **Care must be taken not to damage or cover these risers so that water inflow / infiltration can be prevented and the tank can be accessed for maintenance.**
2. In some installations, a pump tank - a concrete tank, very similar to the septic tank, which contains a pump along with the associated controls / componentry. The pump tank and pump is designed to receive effluent from the septic tank, and pump the effluent to a disposal field located at a higher elevation and/or to a pressurized distribution network in the disposal field. **The pump tank also has an access riser which must be protected in a similar manner to that indicated for the septic tank.** Servicing of the pump tank components often necessitates the assistance of a professional such as a septic tank installer or Certified Subsurface System Operator. The latter is required for operation and maintenance of certain types of systems.
3. A disposal field - a series of subsurface trenches and lines that are designed to distribute the effluent into the soil and provide for the ultimate treatment and disposal of the effluent. There are numerous variations on the design of the disposal field, related chiefly to the type of system chosen, site constraints, etc. Dependent on the type of disposal system, you may have to maintain a contract with a Certified Subsurface System Operator for operation and maintenance of your wastewater disposal system.

## Utilization of Your Wastewater Disposal System

In order to obtain the maximum efficiency and life expectancy from your system, the following simple procedures must be adhered to:

1. **Practice water conservation.** This can include many practical considerations such as not leaving the water running while you brush your teeth, not overfilling the tub, limiting time in the shower, not replacing low flow fixtures with those of higher flows, over rinsing dishes (allow the dishwasher to do its job), immediate repair of any leaking fixtures, running washing machines and dishwashers only when full, etc.

NOTE: Washing machines generate significant volumes of wastewater. As a result, laundry activities should be spread over the week as opposed to accumulating all of laundry until the weekend.

2. **Do not utilize your wastewater disposal system as a trash can by dumping nondegradables down your drains or toilet.** These include cigarette butts, sanitary products, grease, plastics, disposable diapers, etc. Avoid use of garbage disposals. Do not retrofit garbage disposals unless the system is specifically permitted for their use. Also, do not dump harmful chemicals down the drain. These include petroleum products, paint, paint thinner, pesticides, antifreeze, etc.

## Maintenance of Your Wastewater Disposal System

Every wastewater disposal system requires maintenance in order to function properly. The specific maintenance required is related to the type of system. The following are general considerations that apply to all systems.

1. **Protect your wastewater disposal system components including the tanks, access risers, disposal field and associated components.** Do not drive or park on any portion of the system. The area over the disposal field should be left undisturbed with the grass cover being maintained as you would your lawn. Location of trees and shrubs on or in close proximity to the disposal field is not recommended since roots may clog or damage your drain lines. Additionally, great care must be exercised when considering the addition of any structure(s) to the site. The location of any appurtenances cannot encroach on the installation or repair areas for your system. It is not recommended that irrigation systems be located in proximity to the disposal system since their construction can cause system damage and/or result in additional hydraulic load on the disposal field.
2. **Protect the system from excess surface and shallow groundwater.** The land surface on and around the wastewater disposal system should be landscaped to shed rainfall and runoff and prevent ponding. Be sure that foundation drains, runoff from roofs and drives, etc. are diverted away from the disposal system.
3. **Regularly have the septic tank / pump tank pumped and cleaned by a permitted septage hauler.** Although the necessary frequency of pumping varies with the household and system, most tanks need **pumping at a frequency of 3-5 years** and at any time solids occupy one-fourth to one-third of the septic tank liquid depth.

Note that all septic tanks being currently installed incorporate an effluent filter within the outlet compartment of the septic tank. This filter is to be cleaned anytime the septic tank is pumped. If plumbing becomes sluggish, this filter should be checked. If filter service is found to be necessary, the tank is to pumped, the filter cleaned and the filter reinstalled.

4. **Be alert to warning signs that your system may not be functioning properly.** These include sewage surfacing over the disposal system, sewage backups / slow draining in the house, lush growth over the disposal system, sewage odors, etc.
5. **Do not make or allow repairs to your system unless all necessary permits are obtained from Wake County Department of Environmental Services.**
6. **Commercial additives for septic tank systems -** It has generally not been demonstrated that these additives enhance the function of septic systems or reduce the need for tank pumping and other necessary maintenance.
7. **Special maintenance considerations -** As already alluded to, some of the more complex wastewater disposal systems require that you retain / maintain the services of a Certified Wastewater System Operator in order to comply with Laws and Rules and maintain a valid operation permit for your system. In Wake County this maintenance requirement should be recorded with Register of Deeds if applicable.

**Where Do I Obtain Information and Assistance?**

If you are purchasing a new home, you should request a copy of your wastewater system permit from the builder / seller along with information regarding any special maintenance requirements. You may also obtain information and assistance from the **Wake County Department of Environmental Services,** 336 Fayetteville Street Mall, Raleigh, NC, Telephone (919) 856-7400. Additional information is also available on Wake County's Septic and Wastewater Management webpage.

BSM 3/9/21

WAKE COUNTY NORTH CAROLINA
Environmental Services

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602
www.wake.gov

## PRESSURE MANIFOLD SYSTEMS

A Pressure Manifold System is one of several types of septic systems approved for use in Wake County. The Pressure Manifold System, while somewhat more expensive to install, is a flexible and high-quality method of wastewater disposal. A pump doses a pressure distribution manifold that disperses the effluent evenly to each trench. Dosed systems are more common for larger flows. The manifold can be constructed with different size taps to accommodate different trench lengths. This allows for better utilization of the area on the lot. The pressure manifold can include valves or plugs that permit more control over trench loading or trench resting.

Experience and study have shown that pressure manifold systems require routine maintenance in order to function properly. Items 1, 4 and 6 are also recommended for conventional septic systems. The maintenance schedule frequency is as follows:

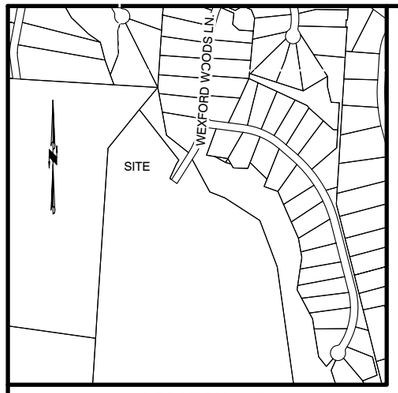
| System Component | Frequency | Maintenance |
|---|---|---|
| 1. Septic Tank | 6-12 months | Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. |
| | 1-3 years | Check and clean septic tank filter. Pump septage when 1/3 to ¼ of the liquid capacity of the tank is occupied by solids. |
| 2. Pump or Dosing Tank | 6-12 months | Check riser conditions (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing. |
| 3. Supply lines (Manifold) | 6-12 months | Check for settling, pipe exposure and leakage. |
| 4. Ground Absorption Field | 1-4 weeks<br>6-12 months | Maintain vegetative cover (mow grass and remove weeds and brush). Check for settling, erosion and surfacing of effluent. Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields. |
| 5. Pressure Manifold | 6-12 months | Flush sludge from pressure manifold (any discharge sludge and effluent is to be treated with a chlorine solution). Check and reset pressure head. |
| 6. General | At all times | Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over ground absorption field. Practice water conservation to reduce wastewater load on system. Do not permit entry of grease and non-domestic waste to system. Use of a garbage disposal is prohibited. Addition of chemical or biological additives has not been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained. |

A certified operator may be required.

RBPR-101627-2023

CA PART A

SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Ivey Shields
05/01/2023 4:45:12 PM



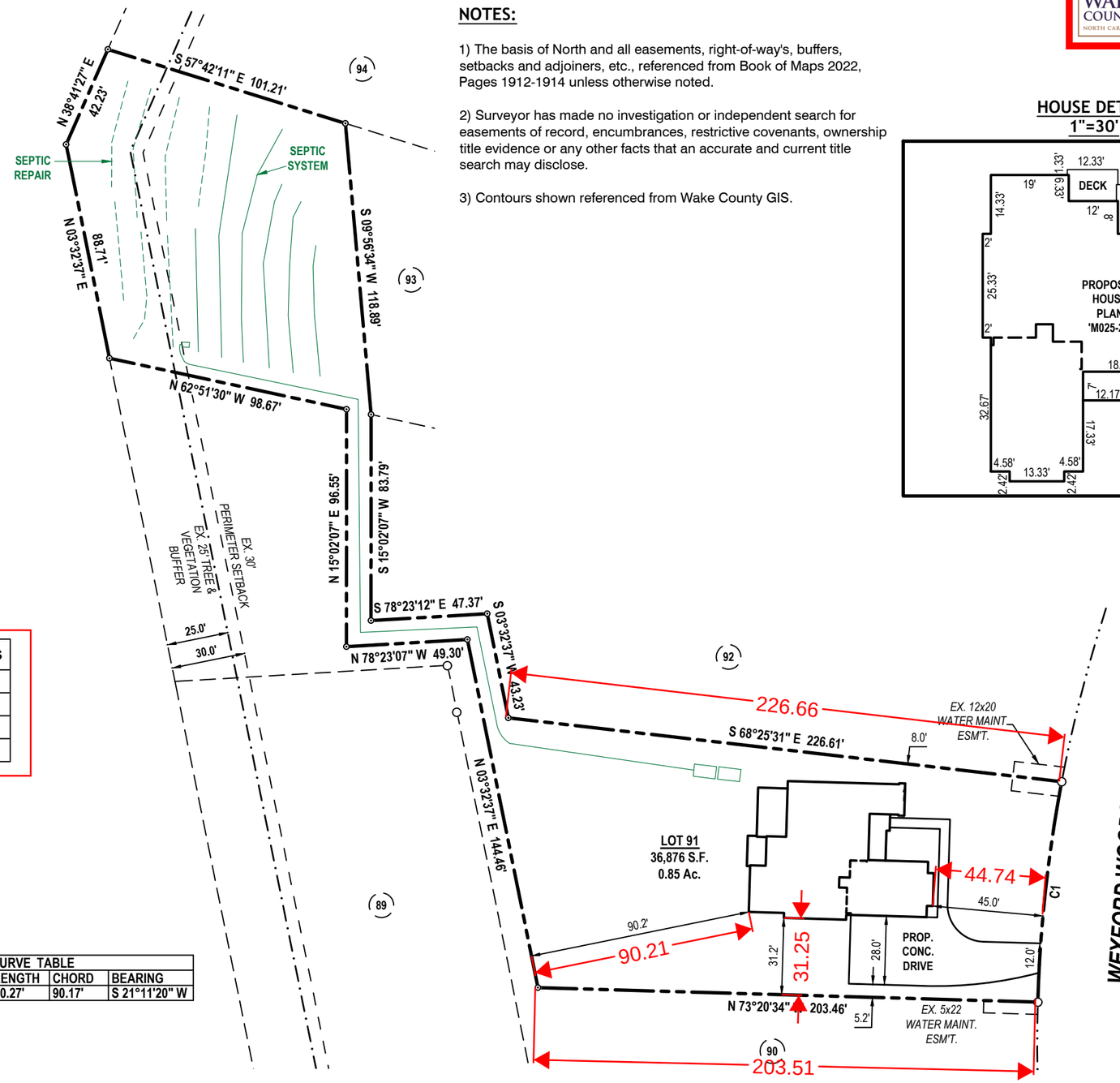

LOCATION MAP
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## NOTES:

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|---|---|
| CURRENT OWNER | ICG HOMES LLC |
| SITE ADDRESS | 7305 WEXFORD WOODS LANE |
| PIN | 1831-37-1559 |
| DEED REFERENCE | D.B. 19225, PG. 102 |
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NORTH CAROLINA PROFESSIONAL SEAL L-3841 LAND SURVEYOR JEREMY TAYLOR

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| C-02 | EROSION CONTROL PLAN |
| C-03 | QUAD & SOILS MAP OVERLAYS |
| D-04 - D16 | EROSION DETAILS |



TAYLOR LAND CONSULTANTS, PLLC
License # P-0829
1600 Olive Chapel Rd., #140
Apex, NC 27502
(919) 801-1104


**LOT DEVELOPMENT PLAN**
WEXFORD SUBDIVISION PHASE 2
7305 WEXFORD WOODS LANE
WAKE FOREST TOWNSHIP
WAKE COUNTY, NORTH CAROLINA

REVISIONS

DATE: 04/10/2023
JOB #: 19920
SHEET SIZE: 11x17

0 25 50
SCALE: 1" = 50

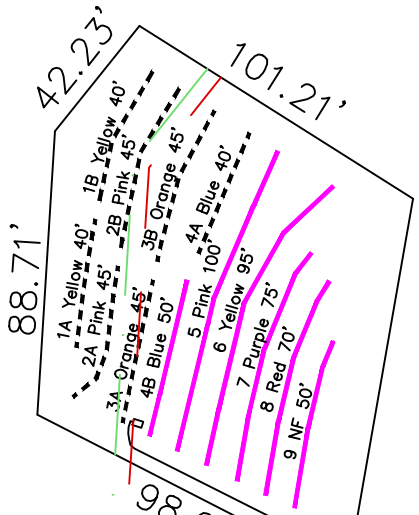
**C-01**
SITE PLAN

# CA PART B

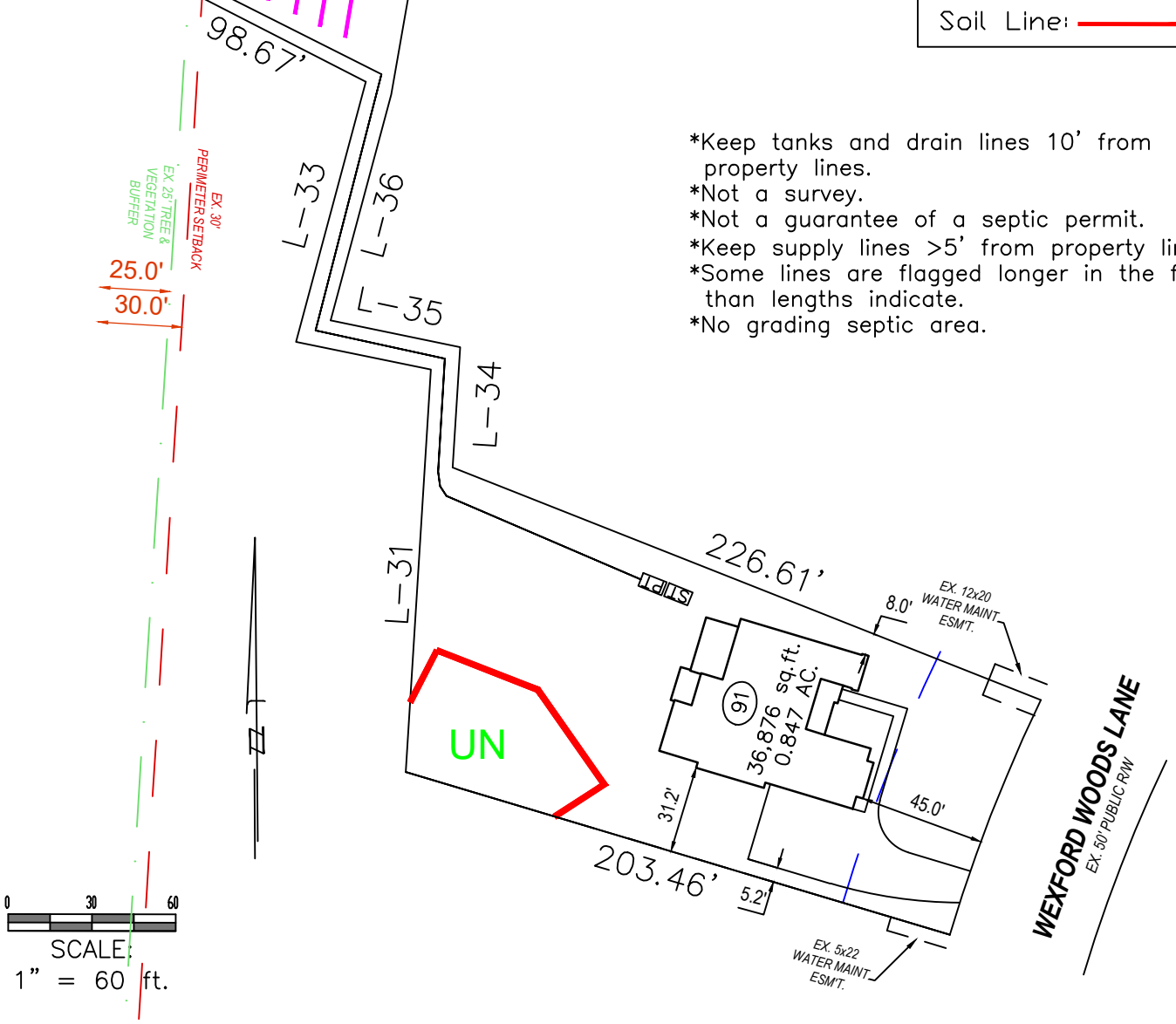
System: Pressure Manifold
Lines: 4B-9 (440')
Accepted Status System
0.3 Soil LTAR

Repair: Pressure Manifold
Lines: 1A-4A, (300')
T&J Panel 50% Reduction
0.3 Soil LTAR

System:
Repair:
Soil Line:




*Keep tanks and drain lines 10' from property lines.
*Not a survey.
*Not a guarantee of a septic permit.
*Keep supply lines >5' from property lines.
*Some lines are flagged longer in the field than lengths indicate.
*No grading septic area.




| | | |
|---|---|---|
| Central Carolina Soil Consulting, PLLC<br>1900 South Main Street, Suite 110<br>Wake Forest, North Carolina 27587<br>Phone (919)569-6704 Fax (919)569-6703 | Septic Site Plan<br>Lot 91, Wexford Subdivision Ph 2<br>4-Bedroom<br>Wake County, North Carolina | Job# : 4532<br>Drawn By : AH<br>Date : 4/21/2023<br>Revision:7/31/23 |

# CA PART C

Department of Environmental Services
Wake County

Approved by

Date : 08082023

Review of this document has been made only for conformance with the design concept of the project and approval shall not relieve the designer and/or contractor from responsibility for any errors therein or for furnishing the materials, and equipment of proper dimension, size, quantity, quality and all performance characteristic to meet the requirements and intent of the contract documents.

# Pressure Manifold
# Septic System Design

for

## Wexford S/D, Lot 91
Wake County, North Carolina

Designed by:

Aaron Holder
Central Carolina Soil Consulting, PLLC
Wake Forest, North Carolina

7/10/2023

# Wexford S/D, Lot 91

## Table of Contents


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# Wexford S/D, Lot 91

## Contact Information

| | |
|---|---|
| Client: | |
| Attn: | |
| Street Address: | |
| Phone: | |
| Fax: | |


| | |
|---|---|
| Designer: | Central Carolina Soil Consulting, PLLC |
| Attn: | Jason Hall |
| Designed By: | James Rice |
| Street Address: | 1900 Main Street Suite 110<br>Wake Forest, NC 27587 |
| Office Phone: | 919-569-6704 |
| Cell Phone: | 910-740-3226 |
| Fax: | 919-569-5703 |
| Email: | jrice@centralcarolinasoil.com |

# Wexford S/D, Lot 91

Layout/Design Specifications

| | | |
|---|---|---|
| Facility Type: | Single Family Home | |
| # of Bedrooms: | 4 | |
| Daily Flow: | 480 | gal/day |
| L.T.A.R.: | 0.3 | gal/day/sq.ft |
| Trench Depth: | per WCDES | in |
| Trench Width: | 36 | in |
| Stone Depth: | EZ-FLOW | in |
| Manifold Length: | 54 | in |
| Manifold Diameter: | 4 | in sch 80pvc |
| Supply Line Length: | 350 | ft |
| Supply Line Diameter: | 2 | in sch 40pvc |
| Supply Line Volume: | 60.90 | gallons |
| Friction Loss + Fitting Loss: | 18.86 | ft(supply line length + 70' for fittings in pump tank) |
| Design Head: | 2 | ft |
| Elevation Head: | 16.40 | ft |
| Total Head: | 37.26 | ft |
| Dose Volume: | 214.50 | gals |
| % of Pipe Vol. | .75 | |
| Drawdown: | 10.92 | in @ 19.65 gal/in |
| Pump Run Time: | 4.73 | Mins |
| Control Panel: | SJE Rhombus Model112 control panel (or approved equivalent) | |
| Pump: | Zoeller M161 Flow-Mate (or approved equivalent) | |
| Septic Tank Effluent Filter: | Zoeller 170-0078 residential effluent filter (or approved equivalent) | |
| Septic Tank: | Brantley 1,250 Gallon ST 323 | |
| Pump Tank: | Brantley 1,200 Gallon PT 463 | |

# Wexford S/D Lot 91
## TAP CHART

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Bench Mark** | | | | | | | | **Elevation Head** | 16.40 |
| **Pump tank elev.** | | 15.5 | 84.50 | **Pump elev.** | 79.10 | | **Manifold elev.** | | 95.50 |
| **line** | **color** | **rod read** | **Elevation** | **length** | **hole size** | **flow/tap** | **gal/day** | **trench area** | **LINE LTAR** |
| 4B | Blue | 5.50 | 94.50 | 50 | 1/2in SCH 80 | 5.48 | 57.96 | 150 | 0.3864 |
| 5 | Pink | 6.50 | 93.50 | 100 | 3/4in SCH 80 | 10.1 | 106.83 | 300 | 0.3561 |
| 6 | Yellow | 7.50 | 92.50 | 95 | 3/4in SCH 80 | 10.1 | 106.83 | 285 | 0.3748 |
| 7 | Purple | 8.50 | 91.50 | 75 | 1/2in SCH 40 | 7.11 | 75.20 | 225 | 0.3342 |
| 8 | Red | 9.50 | 90.50 | 70 | 1/2in SCH 40 | 7.11 | 75.20 | 210 | 0.3581 |
| 9 | NF | 10.50 | 89.50 | 50 | 1/2in SCH 80 | 5.48 | 57.96 | 150 | 0.3864 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **total** | **feet =** | **440** | **gal/min =** | **45.38** | **LTAR =** | **0.3000** |
| | | | | | | **LTAR + %5** | **0.3150** |
| **% of Dose Vol.** | 75 | | **Des. Flow** | **480** | | **(Itar W/ INOV)** | 0.4000 |
| **Dose Volume** | 214.50 | | **Pump Run=** | 10.58 | | **(Itar W/ INOV + 5%** | 0.4200 |
| **Dose Pump Time** | 4.73 | | **Tank Gal/IN** | 19.65 | | | |
| **Drawdown in Inches** | 10.92 | | | | | | |

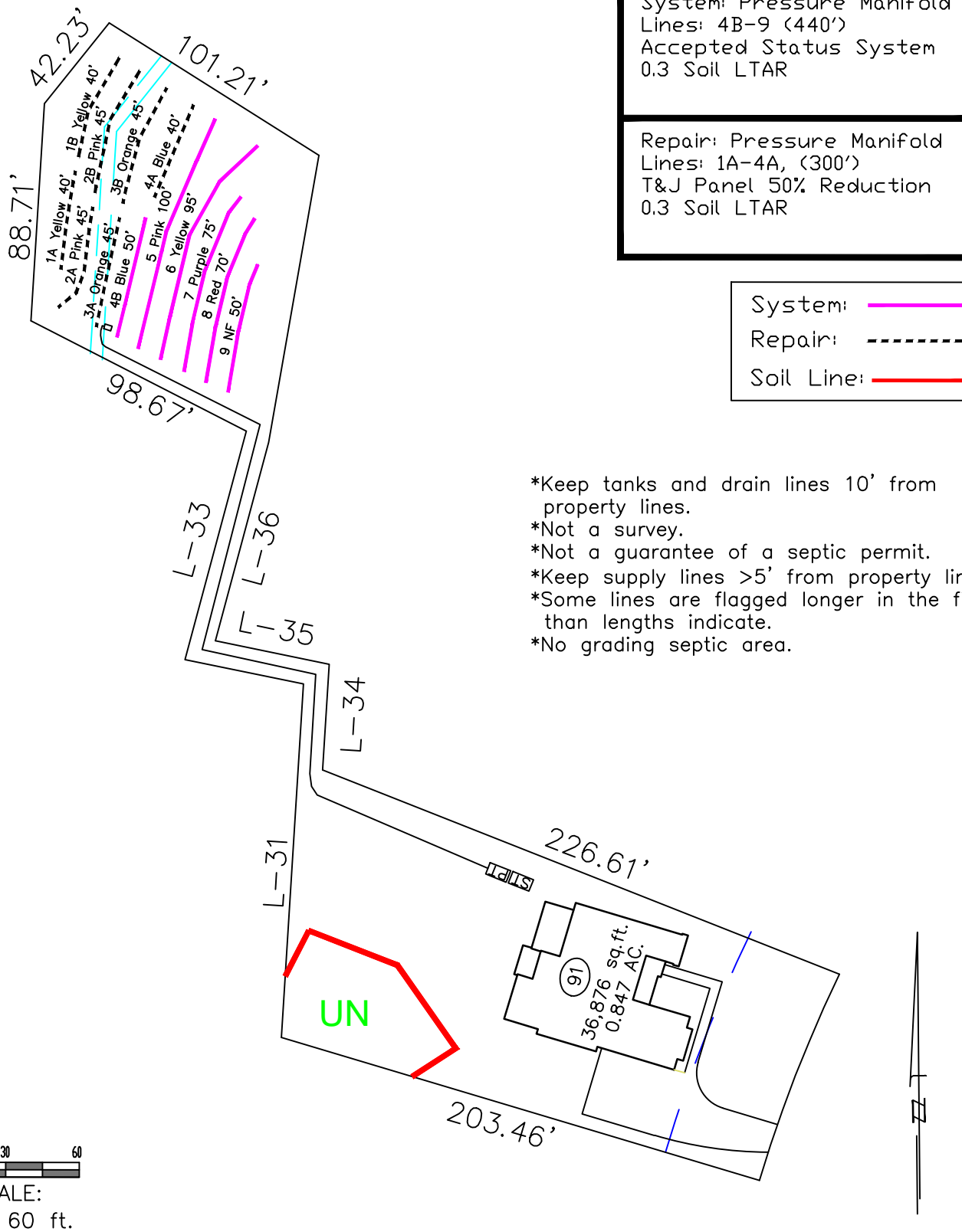
# Wexford S/D Lot 91
## T&J Panel Block Repair, TAP CHART

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Bench Mark** | | | | | | | | **Elevation Head** | 19.60 | | |
| **Pump tank elev.** | | 15.5 | 84.50 | **Pump elev.** | 79.10 | | **Manifold elev.** | | 98.70 | | **Spacing of** |
| **line** | **color** | **rod read** | **Elevation** | **length** | **hole size** | **flow/tap** | **gal/day** | **trench area** | **LINE LTAR** | **# of Panels** | **Panels (in)** |
| 1A | Yellow | 2.30 | 97.70 | 40 | 1/2in SCH 80 | 5.48 | 51.43 | 120 | 0.4286 | 9 | 6.6 |
| 1B | Yellow | 2.30 | 97.70 | 40 | 1/2in SCH 80 | 5.48 | 51.43 | 120 | 0.4286 | 9 | 6.6 |
| 2A | Pink | 3.50 | 96.50 | 45 | 1/2in SCH 80 | 5.48 | 51.43 | 135 | 0.3810 | 10 | 7.3 |
| 2B | Pink | 3.50 | 96.50 | 45 | 1/2in SCH 80 | 5.48 | 51.43 | 135 | 0.3810 | 10 | 7.3 |
| 3A | Orange | 4.50 | 95.50 | 45 | 1/2in SCH 80 | 5.48 | 51.43 | 135 | 0.3810 | 10 | 7.3 |
| 3B | Orange | 4.50 | 95.50 | 45 | 1/2in SCH 80 | 5.48 | 51.43 | 135 | 0.3810 | 10 | 7.3 |
| 4A | Blue | 5.50 | 94.50 | 40 | 1/2in SCH 80 | 5.48 | 51.43 | 120 | 0.4286 | 9 | 6.6 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | **Total Number of Panels:** | 67 |
| | **total** | **feet =** | **300** | **gal/min =** | **38.36** | **LTAR =** | **0.3000** | |
| | | | | | | **LTAR + %5** | **0.3150** | |
| **% of Dose Vol.** | 0 | | **Des. Flow** | **360** | | **(Itar W/ INOV)** | 0.6000 | |
| **Dose Volume** | 335.00 | | **Pump Run=** | 9.38 | | **(Itar W/ INOV + 5%** | 0.6300 | |
| **Dose Pump Time** | 8.73 | | **Tank Gal/IN** | 19.65 | | | | |
| **Drawdown in Inches** | 17.05 | | | | | | | |

System: Pressure Manifold
Lines: 4B-9 (440')
Accepted Status System
0.3 Soil LTAR

Repair: Pressure Manifold
Lines: 1A-4A, (300')
T&J Panel 50% Reduction
0.3 Soil LTAR




*Keep tanks and drain lines 10' from property lines.
*Not a survey.
*Not a guarantee of a septic permit.
*Keep supply lines >5' from property lines.
*Some lines are flagged longer in the field than lengths indicate.
*No grading septic area.

0 30 60
SCALE:
1" = 60 ft.


Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703


Septic Site Plan
Lot 91, Wexford Subdivision Ph 2
4-Bedroom
Wake County, North Carolina

| | |
|---|---|
| Job# | 4532 |
| Drawn By | AH |
| Date | 4/21/2023 |
| Revision: | |

# MODEL 112 Control Panel

**Single phase, simplex motor contactor control.**

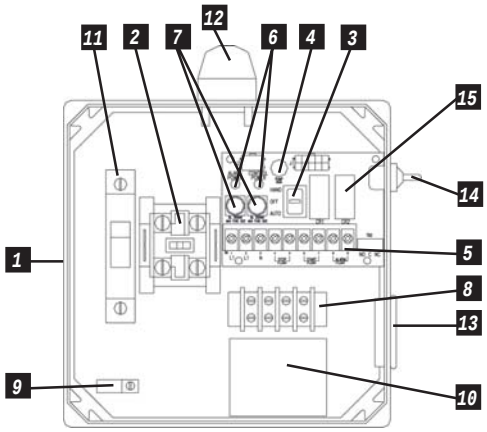
The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.

## PANEL COMPONENTS

1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).

   * Options selected may increase enclosure size and change component layout.

2. **Magnetic Motor Contactor** controls pump by switching electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.




***Model Shown 1121W914X***

## STANDARD ALARM PACKAGE

12. **Red Alarm Beacon** provides 360° visual check of alarm condition.
    **Note:** NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating).
    **Note:** NEMA 1 style utilizes an internally mounted buzzer in lieu of horn.
14. **Exterior Alarm Test/Normal/Silence Switch** allows horn and light to be tested and horn to be silenced in an alarm condition. Alarm automatically resets once alarm condition has been cleared.
15. **Horn Silence Relay** (mounted on circuit board).

**NOTE:** other options available.

## FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty

c UL us LISTED

**SEE BACKSIDE FOR COMPLETE LISTING OF AVAILABLE OPTIONS.**

SJE Rhombus® CONTROLS

PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
**www.sjerhombus.com**

| 112 | 1 | W | 1 | 2 | 4 | H | 3A, 8A, 8C, 15A |
|---|---|---|---|---|---|---|---|

## MODEL 112

**ALARM PACKAGE**
- [ ] 0 = select options or no alarm package
- [X] 1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

**ENCLOSURE RATING**
- [ ] I = Indoor, NEMA 1 (metal)
- [X] W = Weatherproof, NEMA 4X (engineered thermoplastic)

**STARTING DEVICE**
- [X] 1 = magnetic motor contactor 120/208/240V
- [ ] 9 = magnetic motor contactor 120V only

**PUMP FULL LOAD AMPS**
- [ ] 0 = 0-7 FLA
- [ ] 1 = 7-15 FLA
- [X] 2 = 15-20 FLA
- [ ] 3 = 20-30 FLA

**PUMP DISCONNECTS**
- [ ] 0 = no pump disconnect
- [ ] 1 = pull-out with safety deadfront in a 10"x8" enclosure
- [X] 4 = circuit breaker 120V (select STARTING DEVICE option 9 above)
  120/208/240V (select STARTING DEVICE option 1 above)

**FLOAT SWITCH APPLICATION**
- [X] H or L = pump down or pump up
- [ ] X = no floats
  WITH alarm package
  WITHOUT alarm package

**OPTIONS** *Listed below*

★ ENCLOSURE UPSIZE - If you selected 3 or more of the ★ options, or one ★★ option , **a one-time enclosure upsize fee would apply.**

***If additional features are required, call the factory for a quote on either a SJE-Rhombus Pro-Line or Engineered Custom control panel.***

| | CODE | DESCRIPTION |
|---|---|---|
| [ ] | 1A | Red beacon only / no audio *(must select 1E if floats included)* |
| [ ] | 1C | Horn only / no visual *(must select 1E if floats included)* |
| [ ] | 1E | Alarm float |
| [X] | 3A | Alarm flasher |
| [ ] | ★ 3B | Manual alarm reset |
| [ ] | ★ 4A | Low level cutout *(select option 4D if floats included)* |
| [ ] | ★ 4B | Red low-level indicator & alarm *(must select 4A also)* |
| [ ] | 4D | Low-level float |
| [ ] | ★ 5A | Thermal cutout/heat sensor auto reset (for pumps w/thermal switch leads) |
| [ ] | ★★5E | Seal failure circuit & red indicator (2 wire) |
| [ ] | 6A | Auxiliary alarm contact, form C type |
| [X] | ★ 8A | Elapsed time meter |
| [X] | ★ 8C | Event (cycle) counter |
| [ ] | ★★9_A | Pump overload specify amperage after number 9 followed by letter "A". Example: 912A = 12 amp pump. |
| | ★★[ ] | 0-25 FLA |
| | ★★[ ] | 25-30 FLA |
| [ ] | 10E | Lockable latch - NEMA 4X |
| [ ] | 10E | Lockable latch - NEMA 1 |
| [ ] | ★10F | Lightning arrester |
| [ ] | ★10K | Anti-condensation heater |

| | CODE | DESCRIPTION |
|---|---|---|
| [ ] | 11C | NEMA 1 alarm panel *must select option 6A* |
| [ ] | 11D | NEMA 4X alarm panel *must select option 6A* |
| [ ] | ★★14B | Main disconnect (rotary style, mounted through door) non-fused |
| | ★★[ ] | 0-20 FLA (total of both pumps) |
| | ★★[ ] | 20-30 FLA (total of both pumps) |
| [X] | 15A | Control / alarm circuit breaker *Does not include the circuit board as in standard.* |
| [ ] | 16A | 10' cord in lieu of 20' *(per float)* |
| [ ] | 16B | 15' cord in lieu of 20' *(per float)* |
| [ ] | 16C | 30' cord in lieu of 20' *(per float)* |
| [ ] | 16D | 40' cord in lieu of 20' *(per float)* |
| [ ] | 17A | SJE SignalMaster® / mounting strap ● *(per float)* |
| [ ] | 17B | SJE SignalMaster® / externally weighted ● *(per float)* |
| [ ] | 17C | Sensor Float® / internally weighted ▲ *(per float)* |
| [ ] | 17D | Sensor Float® / externally weighted ▲ *(per float)* |
| [ ] | 17E | Sensor Float® Mini / pipe clamp ▲ *(per float)* |
| [ ] | 17F | Sensor Float® Mini / externally weighted ▲ *(per float)* |
| [ ] | 19T | TOA (Test/Off/Automatic) switch and pump run light through door mounted |
| [ ] | 19U | HOA (Hand/Off/Automatic) switch and pump run light through door mounted |
| [ ] | 19X | Door mounted pump run indicator |
| [ ] | 21A | SJE PumpMaster® in lieu of on/off switches ● |
| [ ] | 21B | SJE PumpMaster® Plus in lieu of on/off switches ● |
| [ ] | 21C | Super Single® in lieu of on/off switches ▲ |
| [ ] | 21D | Double Float® in lieu of on/off switches ▲ |

● Mechanically-activated ▲ Mercury-activated

## SAMPLE

**MODEL** 112 | 1 | W | 9 | 1 | 4 | H | 3A 8A

- **Alarm Package**
- **Enclosure Rating**
- **Starting Device**
- **Pump Full Load Amps**
- **Pump Disconnect**
- **Float Switch Application**
- **Options: Flasher, Elapsed Time Meter**

© SJE-Rhombus Printed in USA 06/05

"Quality Pumps Since 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

ZOELLER PUMP CO.

SECTION: 2.20.050
FM0460
0102
Supersedes
0300

*MAIL TO:* P.O. BOX 16347 • Louisville, KY 40256-0347
*SHIP TO:* 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

*visit our web site:*
*http://www.zoeller.com*

## COMPARE THESE FEATURES

- Non-clogging bronze vortex impeller design.
- Durable cast construction. Cast iron switch case, base, motor and pump housing.
- Castings - Cast iron class 25-30 (25,000# tensile strength). Impeller, bronze class 85-5-5-5.
- Corrosion resistant powder coated epoxy finish.
- 20 foot UL listed 3-wire neoprene cord and plug. Longer cords available in lengths of 25-35-50 feet.
- Motor - 60 Hz. 3450 RPM, oil-filled, hermetically sealed, automatic reset thermal overload protection (1 Ph only).
- Upper sleeve bearing and lower ball bearing running in bath of oil.
- Carbon and ceramic shaft seal.
- Maximum temperature for effluent or dewatering, 130° F. - 54° C. (ED 140° F. - 60° C).
- Major width 12¾". Height 18$^{9}/_{16}$". (Single seal pumps)
- No screens to clog.
- Square Ring & Gasket - Neoprene.
- Stainless steel screws, bolts, float rod, handle guard, arm and seal assembly.
- Passes ¾" spherical solids.
- 1½" NPT discharge with 2" or 3" flange available.
- Automatic units available with float operated, submersible (NEMA 6) 2-pole mechanical switch. On point 14¾" - Off point 5".
- Available in single or double seal designs.
- 100% of units are computerized tested.

## MODELS 4161-4163-4165 DOUBLE SEAL PUMPS (Nonauto only)

- Protects motor from seal leaks.
- Improved bearing lubrication.
- Helps eliminate seal and bearing damage from dry runs.
- Major width 12¾". Height 20$^{7}/_{16}$".

**Note:** The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

**AUTOMATIC UNITS NOT RECOMMENDED FOR USE IN EFFLUENT SYSTEMS.**

## *161 - 163 - 165 Single Seal Series*
## *4161 - 4163 - 4165 Double Seal Series*

*(For Pump Prefix Identification see News & Views 0052)*

# HIGH HEAD "FLOW-MATE"

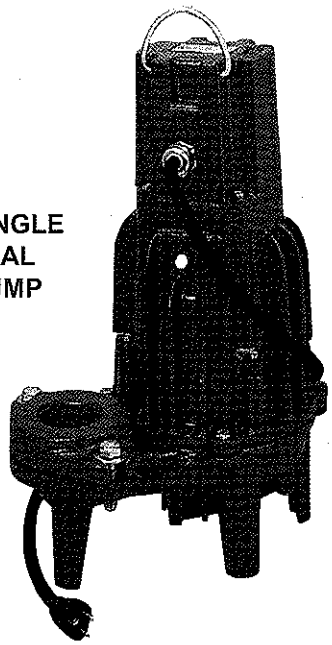
FOR SEPTIC TANK • LOW PRESSURE PIPE (LPP) AND ENHANCED FLOW STEP SYSTEMS

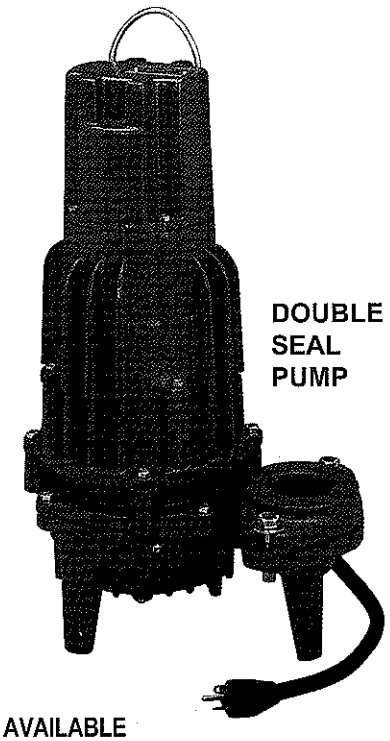
## EFFLUENT

OR DEWATERING PUMP • SUBMERSIBLE
1½" NPT DISCHARGE STANDARD • 2" AND 3" NPT FLANGE AVAILABLE

SSPMA MEMBER SUMP AND SEWAGE PUMP MFRS. ASSN.

SINGLE SEAL PUMP





DOUBLE SEAL PUMP

POWDER COATED TOUGH™

**MODELS AVAILABLE**

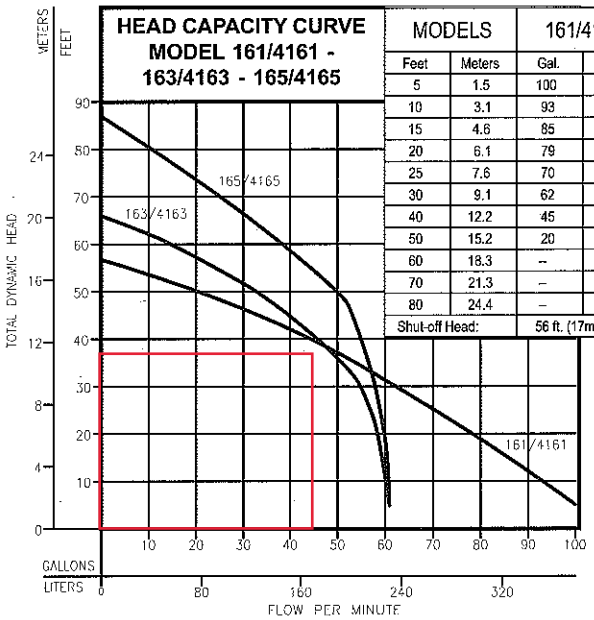
• Automatic (Single Seal Only) or Nonautomatic

| 161-163 and 4161-4163 Series | 165 and 4165 Series |
|---|---|
| • ½ H.P., 1 Ph, 115V, 200-208V or 230V | • 1 H.P., 1 Ph., 200-208V or 230V |
| • ½ H.P., 3 Ph., 200-208V, 230V or 460V | • 1 H.P., 3 Ph., 200-208 230V or 460V |

*NOTE: No UL listing or approval for 200-208V 1Ph or Extra Duty (ED) pumps. See back page for UL & CSA Listings.

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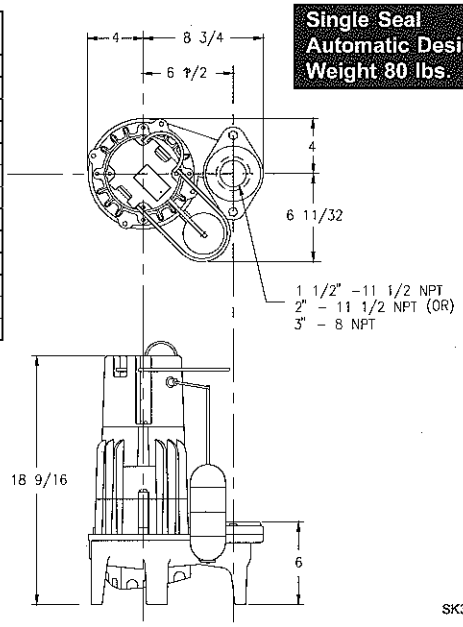
## HEAD CAPACITY CURVE MODEL 161/4161 - 163/4163 - 165/4165




| MODELS | | 161/4161 | | 163/4163 | | 165/4165 | |
|---|---|---|---|---|---|---|---|
| Feet | Meters | Gal. | Liters | Gal. | Liters | Gal. | Liters |
| 5 | 1.5 | 100 | 379 | 61 | 231 | 61 | 231 |
| 10 | 3.1 | 93 | 352 | 60.5 | 229 | 60.5 | 229 |
| 15 | 4.6 | 85 | 322 | 60 | 227 | 60.5 | 229 |
| 20 | 6.1 | 79 | 297 | 59 | 223 | 60 | 227 |
| 25 | 7.6 | 70 | 265 | 57 | 216 | 59 | 223 |
| 30 | 9.1 | 62 | 233 | 55 | 206 | 58 | 220 |
| 40 | 12.2 | 45 | 170 | 46 | 172 | 55 | 208 |
| 50 | 15.2 | 20 | 76 | 33 | 125 | 50 | 189 |
| 60 | 18.3 | – | – | 15 | 57 | 39 | 148 |
| 70 | 21.3 | – | – | – | – | 22.5 | 85 |
| 80 | 24.4 | – | – | – | – | 10 | 38 |
| Shut-off Head: | | 56 ft. (17m) | | 66 ft. (20m) | | 86.5 ft. (26m) | |

009920B

**Single Seal Automatic Design Weight 80 lbs.**




SK374

Standard all models - 20 ft. cord - ½ H.P.

| 161 MODELS | 4161 MODELS | Control Selection | | | | | | Listings | |
|---|---|---|---|---|---|---|---|---|---|
| Single Seal | Double Seal | Volts - | Ph | Mode | Amps | Simplex | Duplex | CSA | UL |
| M161 | —— | 115 | 1 | Auto | 15.5 | 1 | —— | Y | Y |
| N161 | N4161 | 115 | 1 | Non | 15.5 | 2 | 3 or 5 & 6 | Y | Y(1) |
| D161 | —— | 230 | 1 | Auto | 7.5 | 1 | —— | Y | Y |
| E161 | E4161 | 230 | 1 | Non | 7.5 | 2 | 3 or 5 & 6 | Y | Y |
| * H161 | —— | 200-208 | 1 | Auto | 8.8 | 1 | —— | Y | N |
| * I161 | * I4161 | 200-208 | 1 | Non | 8.8 | 2 | 3 or 5 & 6 | Y | N |
| * J161 | * J4161 | 200-208 | 3 | Non | 6.4 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |
| * F161 | * F4161 | 230 | 3 | Non | 5.2 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |
| * G161 | * G4161 | 460 | 3 | Non | 2.9 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |

Standard all models - 20 ft. cord - ½ H.P.

| 163 MODELS | 4163 MODELS | Control Selection | | | | | | Listings | |
|---|---|---|---|---|---|---|---|---|---|
| Single Seal | Double Seal | Volts - | Ph | Mode | Amps | Simplex | Duplex | CSA | UL |
| M163 | —— | 115 | 1 | Auto | 15.0 | 1 | —— | Y | Y |
| N163 | N4163 | 115 | 1 | Non | 15.0 | 2 | 3 or 5 & 6 | Y | Y(1) |
| D163 | —— | 230 | 1 | Auto | 7.5 | 1 | —— | Y | Y |
| E163 | E4163 | 230 | 1 | Non | 7.5 | 2 | 3 or 5 & 6 | Y | Y |
| * H163 | —— | 200-208 | 1 | Auto | 8.5 | 1 | —— | Y | N |
| * I163 | * I4163 | 200-208 | 1 | Non | 8.5 | 2 | 3 or 5 & 6 | Y | N |
| * J163 | * J4163 | 200-208 | 3 | Non | 6.0 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |
| * F163 | * F4163 | 230 | 3 | Non | 4.8 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |
| * G163 | * G4163 | 460 | 3 | Non | 2.9 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |

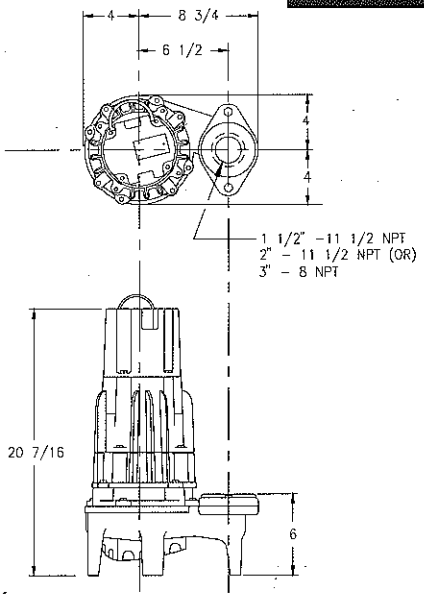
Standard all models - 20 ft. cord - 1 H.P.

| 165 MODELS | 4165 MODELS | Control Selection | | | | | | Listings | |
|---|---|---|---|---|---|---|---|---|---|
| Single Seal | Double Seal | Volts - | Ph | Mode | Amps | Simplex | Duplex | CSA | UL |
| D165 | —— | 230 | 1 | Auto | 10.2 | 1 | —— | Y | Y |
| E165 | E4165 | 230 | 1 | Non | 10.2 | 2 | 3 or 5 & 6 | Y | Y |
| * H165 | —— | 200-208 | 1 | Auto | 12.6 | 1 | —— | Y | N |
| * I165 | * I4165 | 200-208 | 1 | Non | 12.6 | 2 | 3 or 5 & 6 | Y | N |
| * J165 | * J4165 | 200-208 | 3 | Non | 7.5 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |
| * F165 | * F4165 | 230 | 3 | Non | 7.4 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |
| * G165 | * G4165 | 460 | 3 | Non | 3.7 | 4 & 6 | 3 & 4 or 5 & 6 | Y | Y |
| * BA165 | * BA4165 | 575 | 3 | Non | 3.0 | 4 & 6 | 3 & 4 or 5 & 6 | N | N |

* No Molded Plug

(1) UL listed unit available with 20 Amp plug.

**Double Seal Design Weight 87 lbs.**




SK1413

**SELECTION GUIDE**

1. Integral float operated 2-pole mechanical switch, no external control required.
2. Single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. Mechanical alternator M-Pak 10-0072 or 10-0075. Refer to FM0495
4. Simplex three phase control panel. Refer to FM1228.
5. See FM0712 for correct model of Electrical Alternator.
6. Variable level control switch 10-0225 used as control activator, specify simplex (3) float or duplex (3) or (4) float system.

For information on additional Zoeller products refer to catalog on Piggyback Variable Level Float Switches, FM0477; Electrical Alternator, FM0486; Mechanical Alternator, FM0495; Alarm Package, FM0732; and Sump/Sewage Basins, FM0487.

**⚠ CAUTION**

**All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).**

## RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller pump.

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Trusted. Tested. Tough.®

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

**Register your Zoeller Pump Company Product on our website: http://reg.zoellerpumps.com/**

ZOELLER® PUMP COMPANY

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
TEL: (502) 778-2731 • 1 (800) 928-PUMP • FAX: (502) 774-3624

**SECTION: C2.10.130**
CL0040
0421
Supersedes
0318

Visit our website:
zoellerpumps.com

# WW1 Effluent Filter, P/N 170-0078

## OWNER'S MANUAL

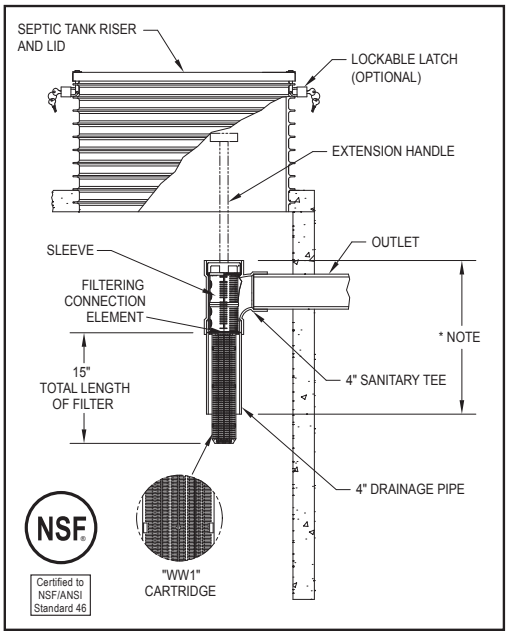
**Application:** Single family homes.

**Filter Area:** 132 Linear Feet of 1/16" filtration.

**Flow Rate:** 1,500 GPD. Two or more filters may be connected with a manifold for higher flow applications.

**Material:** All materials are non corrodible in the septic tank environment. Sleeve is PVC, primary filter is polypropylene, and filter connection element is neoprene.

**Easy To Install Or Retrofit:** The WW1 Filter fits inside any 4" sanitary tee. To install, slide the cartridge into the sleeve and rotate clockwise to lock. Insert the assembled cartridge and sleeve into the sanitary tee at the tank's outlet. Ensure the white vertical locking tab is pointing toward the outlet of the septic tank before installation. Firmly press the filter down into the sanitary tee until the vertical locking tab snaps into place, then rotate clockwise until the bypass screen no longer rotates. When installed correctly, the cartridge should be capable of rotating within the sleeve to the locked and unlocked position. If the cartridge hangs or will not rotate to the unlocked position, check to make sure the sleeve is installed with the vertical locking tab extending freely into the septic tank's outlet pipe. For an optional high water alarm assembly, order the high water alarm bracket (5090-0014), an alarm box (10-3067) and a float switch (sold separately).




**NOTE:** State and local plumbing codes may require a specific liquid penetration. For example, 25% - 45% into the liquid depth or 9" off the tank bottom.

**Adding An Extension Handle:** A 1/2" PVC pipe can be attached to the top of the filter with a stainless steel screw. Cut off to appropriate length below the lid.

**Easy To Maintain:** The cartridge can be removed for maintenance by rotating the handle counterclockwise and then pulling the unit up out of the sleeve. The sleeve should remain in the sanitary tee while cleaning the cartridge. To clean, hold cartridge over septic tank opening and rinse with tap water until clean, washing filtered solids back into the septic tank. In addition, spray off any solids that have accumulated on the inside of the sleeve. The WW1 Filter should be cleaned each time the septic tank is pumped or when the need is indicated by a high water level in the tank or slow flows from the house. The secondary filter sleeve should be cleaned whenever the tank is pumped. For installations that exceed the design flow rate of the filter or in applications where the septic tank is undersized, more frequent cleanings may be required. It is recommended that the filter be inspected and serviced as part of a regular septic tank maintenance routine.

Troubleshooting, repair, and replacement: Follow the installation and maintenance instructions above. For replacement components, call 1-800-928-7867.

**Lifetime Warranty:** Every Zoeller Pump Company filter is guaranteed to be free from defects in materials and workmanship for the lifetime of the homeowner/purchaser. Free repair or replacement, excluding labor, will be made on return of the filter prepaid to the factory. This warranty is limited to product proven to be free from abuse or improper installation.

**ALL ZOELLER PUMP COMPANY PRODUCTS MUST BE INSTALLED IN ACCORDANCE WITH PLUMBING AND HEALTH DEPARTMENT CODES.**

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

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# WW1 Effluent Filter

## Protects Drainfield Components By Screening Effluent In Residential Applications With Flows Up To 1,500 Gpd (5.7 $M^3$/Day)



Help prolong the life of an onsite system in residential applications. The deep pleated filter design offers highly effective screening and solids retention.

## Features

- Rated for flows up to 1,500 gpd (5.7 $m^3$/day)
- 132 linear feet of 1/16" filtration
- Fits 4" sanitary tees or DWV Tees
- Easy to install and maintain
- Integral bypass protection screen
- High water alarm bracket available
- Lifetime warranty

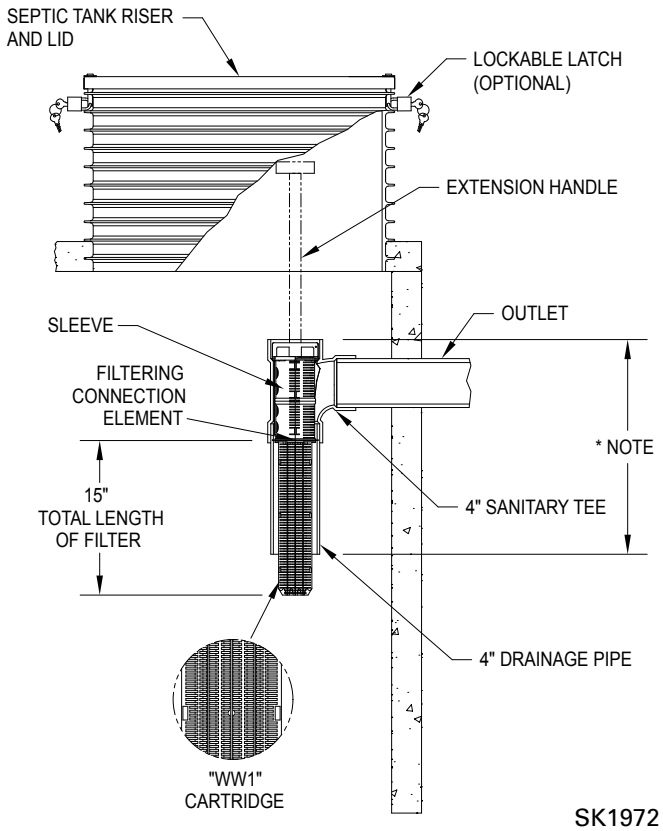
Alarm bracket sold separately
Float switch sold separately

ZOELLER® PUMP COMPANY

Trusted. Tested. Tough.®

zoellerpumps.com 800-928-7867
3649 Cane Run Road, Louisville, KY 40211 USA

3.20.052
CL0038
0121
Supersedes
0119




Zoeller Pump Company septic tank effluent filters are designed to protect all downstream components from solids. Every filter comes standard with bypass protection which keeps the filter working, even during cleaning!

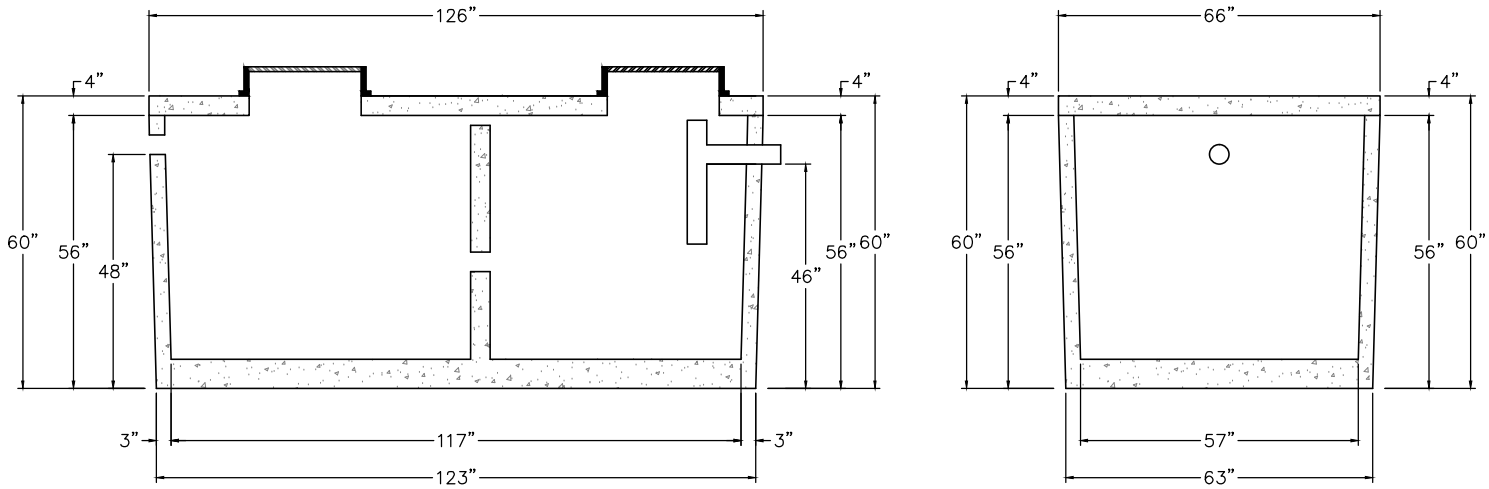
| WW1 Effluent Filter ( 1,500 GPD) | |
|---|---|
| Part Number | Description |
| 170-0078 | WW1 Effluent Filter |
| 170-0079 | WW1 Effluent Filter (10 pk) |
| 170-0144 | WW1 Effluent Filter with 4" sanitary tee |
| 170-0145 | WW1 Effluent Filter with 4" sanitary tee (10 pk) |
| 5090-0014 | Alarm bracket assembly |
| 10-3067 | C-Pak Alarm, touch pad without float |
| 013216 | Replacement filter cartridge (without bypass screen) |
| 013218 | Rubber alignment gasket |
| Container Assembly | |
| Part Number | Description |
| 31-1473 | 12" Riser extension with hardware and gasket |
| 31-1476 | 6" Riser extension with hardware and gasket |
| 170-0078 | WW1 Effluent Filter |
| 170-0144 | WW1 Effluent Filter with 4" sanitary tee |
| 5090-0001 | Container assembly with 12" riser and lid |

FAMILY OWNED AMERICAN PROUD

NSF

Certified to NSF/ANSI Standard 46

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502-778-2731 | 800-928-7867 | 3649 Cane Run Road | Louisville, KY 40211-1961 | zoellerpumps.com




# 1,250 ST 323

NTS

NON TRAFFIC BEARING


DAVID BRANTLEY & SONS
37 Pine Ridge Rd.
Zebulon, NC 27597
Office 252-478-3721
Fax 919-573-0443
installer@gmail.com


PREPARED FOR : David Brantley & Sons
37 Pine Ridge Rd.
Zebulon, NC 27597

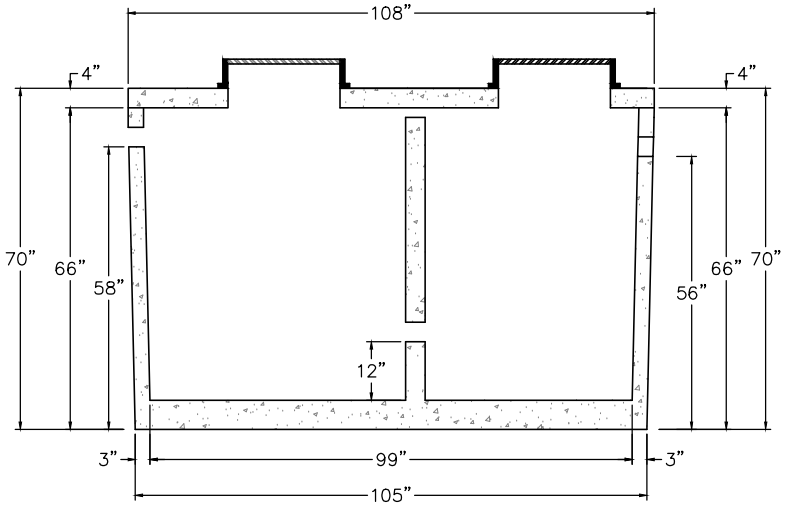
DATE : April 11, 2014

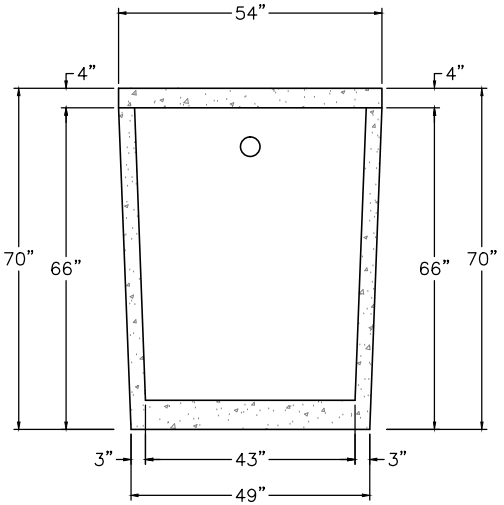
CONTACT: CORY BRANTLEY

| REVISION NO. | DATE |
|---|---|
| Original Submittal | April 11, 2014 |
| Revision 1 | |
| Revision 2 | |
| Revision 3 | |
| Master Set | ------ |

BRANTLEY TANK MODEL
1,250 ST 323

SHEET NUMBER
1 of 1




# 1,200 PT 463

NTS

## NON TRAFFIC BEARING


*DAVID BRANTLEY & SONS*
37 Pine Ridge Rd.
Zebulon, NC 27597
Office 252-478-3721
Fax 919-573-0443
installer@gmail.com


PREPARED FOR : David Brantley & Sons
37 Pine Ridge Rd.
Zebulon, NC 27597

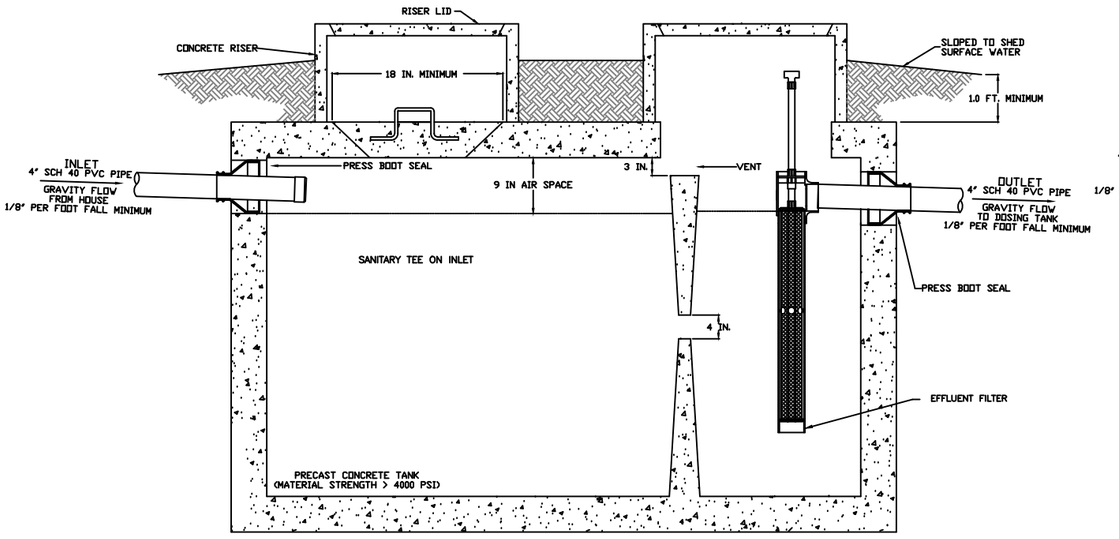
DATE : April 11, 2014

CONTACT:
CORY BRANTLEY

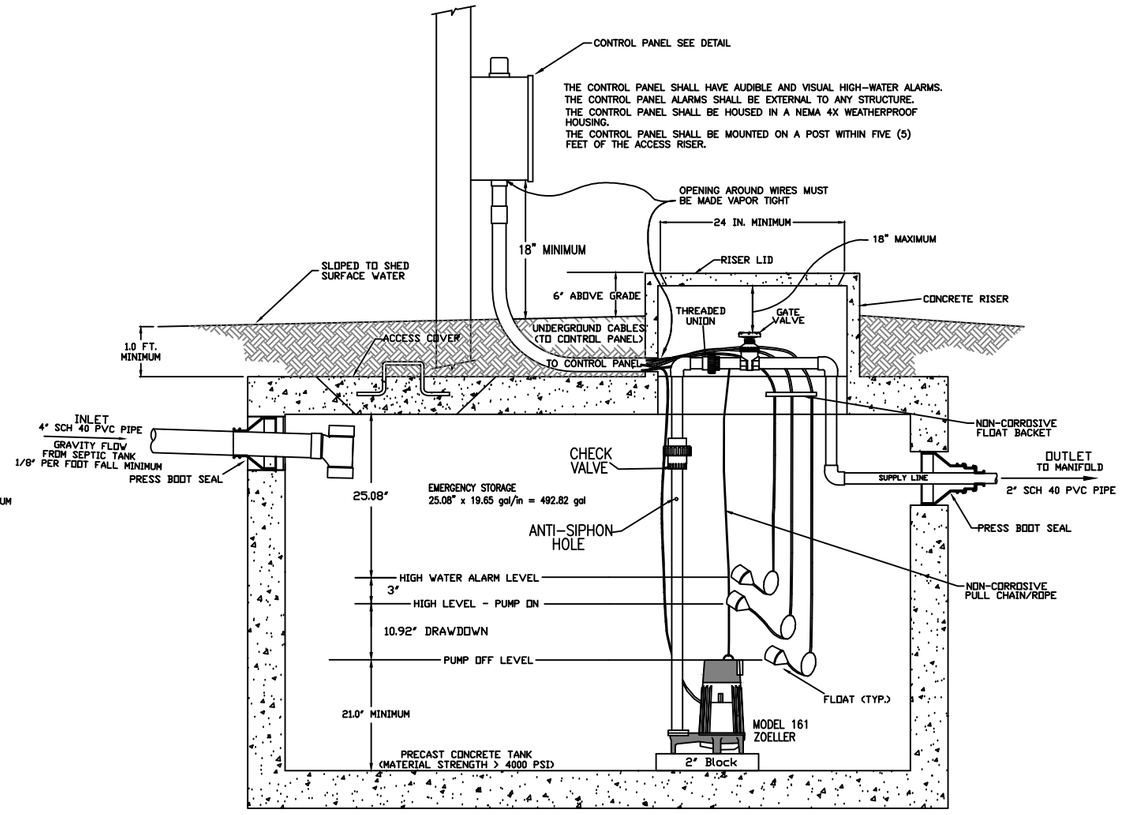
| REVISION NO. | DATE |
|---|---|
| Original Submittal | April 11, 2014 |
| Revision 1 | |
| Revision 2 | |
| Revision 3 | |
| Master Set | ------ |

BRANTLEY TANK MODEL
1,200 PT 463

SHEET NUMBER
1 of 1




1250 GAL SEPTIC TANK SCHEMATIC
NOT TO SCALE




1200 GAL PUMP TANK SCHEMATIC
NOT TO SCALE

NOTES

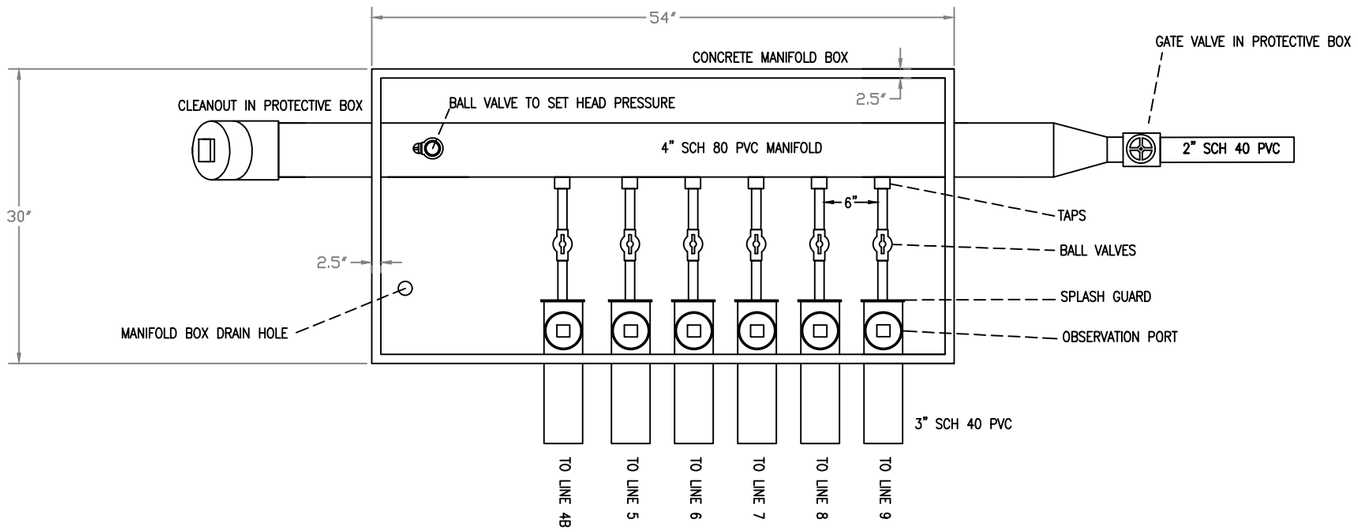
1. ALL TANKS SHALL BE LEAK TESTED SUCH THAT EXFILTRATION OCCURS AT A RATE WHICH DOES NOT EXCEED TEN GALLONS PER TWENTY-FOUR HOURS PER 1,000 GALLONS OF TANK CAPACITY
2. ALL TANKS SHALL REST ON A BED OF #57 WASHED GRAVEL. THE MINIMUM THICKNESS OF THE GRAVEL BED IS 6 INCHES.
3. ALL TANKS MUST BE APPROVED FOR USE BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL HEALTH (DEH).
4. INVERTS SHOWN ARE APPROXIMATE. THE INSTALLER SHALL FIELD CONFIRM PRIOR TO CONSTRUCTION.
5. ALL HARDWARE INSTALLED INSIDE OF TANKS SHALL BE OF STAINLESS STEEL.
6. TANK DIMENSIONS VARY BY MANUFACTURER.
7. DRAWDOWN WILL VARY WITH TANK DIMENSIONS.
8. NO ELECTRICAL SPLICES SHALL BE MADE INSIDE THE PUMP TANK.

Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

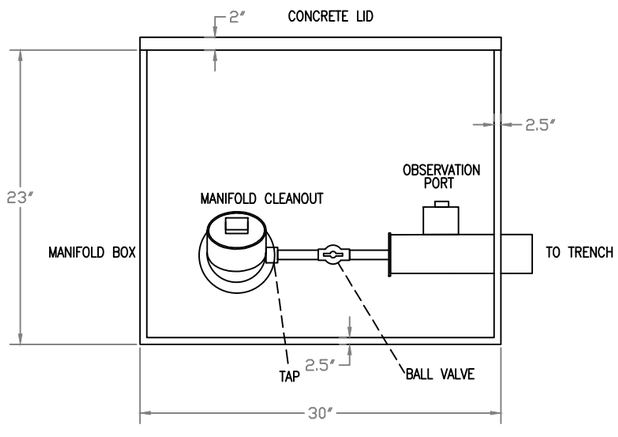
Septic and Pump Tank Details
Wexford S/D, Lot 91
Wake County, North Carolina

Job# : 4532
Drawn By : AH
Date : 7/10/2023
Revision : 00/00/0000

# PRESSURE MANIFOLD DETAILS
## TOP VIEW



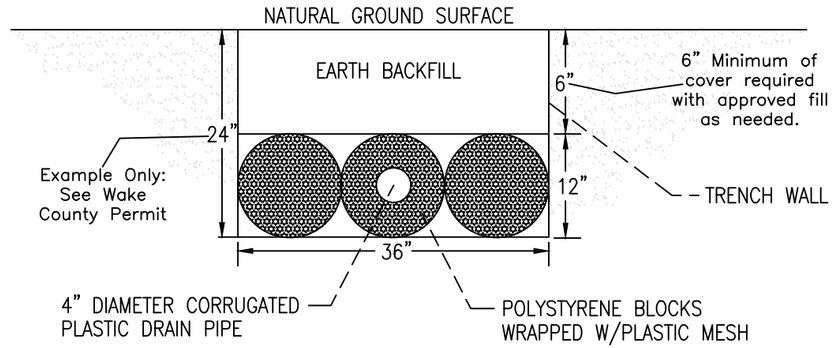

# PRESSURE MANIFOLD DETAILS
## END VIEW




| TAP SCHEDULE | |
|---|---|
| LINE # | TAP |
| 4B | $\frac{1}{2}$" SCH 80 |
| 5 | $\frac{3}{4}$" SCH 80 |
| 6 | $\frac{3}{4}$" SCH 80 |
| 7 | $\frac{1}{2}$" SCH 40 |
| 8 | $\frac{1}{2}$" SCH 40 |
| 9 | $\frac{1}{2}$" SCH 80 |
| | |
| | |

# EZ-FLOW DETAILS

Example only: Installed trench bottom should match design.




NOTE :

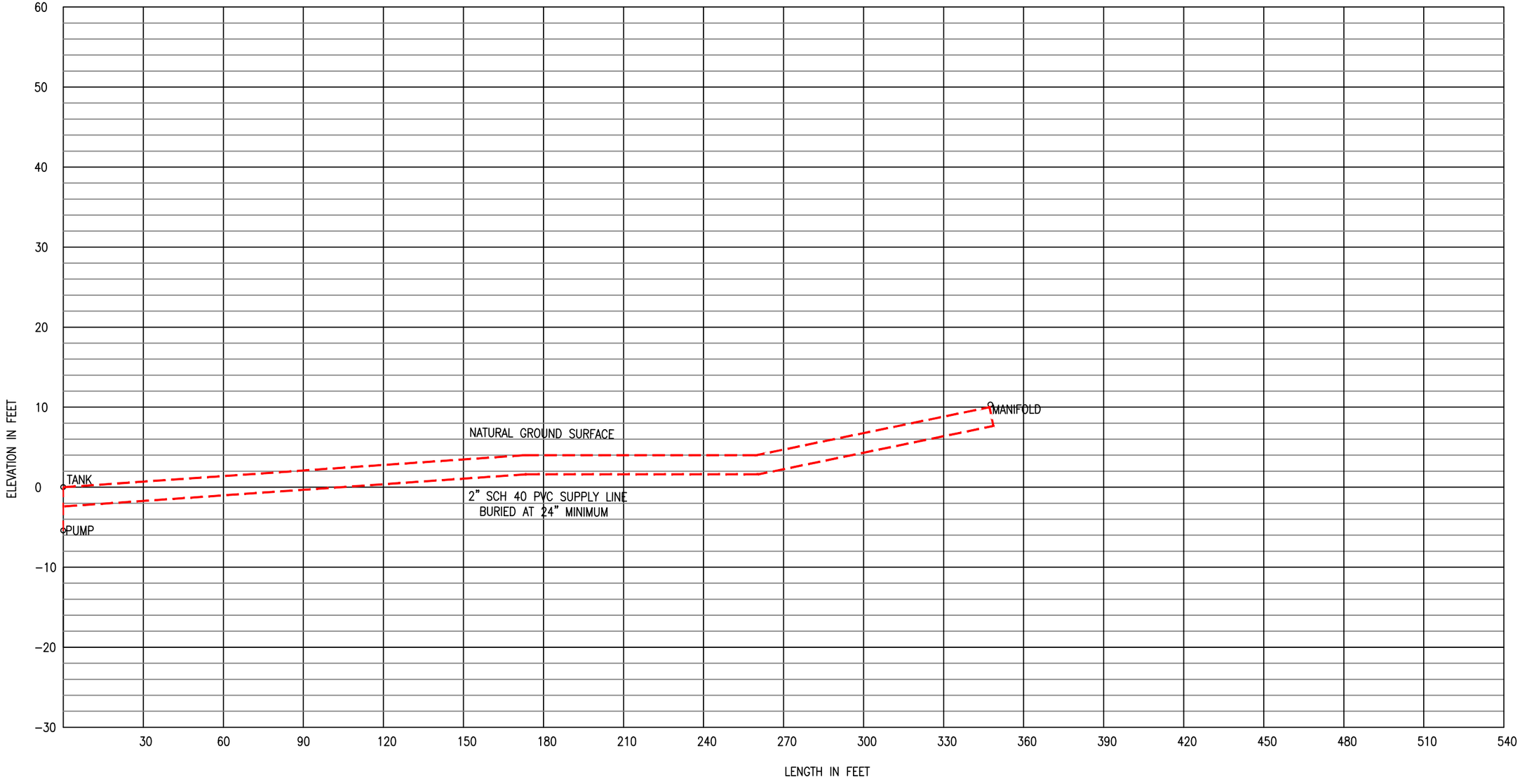
1. EZ-FLOW INSTALLATION SHALL MEET THE REQUIREMNTS INCLUDED IN ITS INNOVATIVE APPROVAL
2. TRENCH BOTTOM SHALL BE AT LEAST 12" FROM ANY RESTRICTIVE SOIL LAYER
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES AND TRENCH BOTTOMS SHALL BE LEVEL
4. THIS IS A GENERIC TRENCH PROFILE SEE COUNTY PERMIT FOR TRENCH DEPTH.


Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703


Manifold and Trench Details
Wexford S/D, Lot 91
Wake County, North Carolina

| | |
|---|---|
| Job# : | 4532 |
| Drawn By : | AH |
| Date : | 7/10/2023 |
| Revision : | 00/00/0000 |

SUPPLY LINE
HYDRAULIC PROFILE




Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569−6704 Fax (919)569−6703

Hydraulic Profile
Wexford S/D, Lot 45
Wake County, North Carolina

| | |
|---|---|
| Job# | : 4532 |
| Drawn By | : AH |
| Date | : 07/10/2023 |
| Revision | : 00/00/0000 |

# WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR INTENDED USE CHANGED***

## IMPROVEMENT PERMIT

**PERMIT #:** **WRP-101633-2023** **APPLICATION DATE:** 04/30/2023 **BLDG. PERMIT #: RBPR-101627-2023**

**PIN:** 1831371559 **RECORDED:** Yes

**TOWNSHIP:** 19 - Wake Forest **JURISDICTION:** Wake County **ZONING:** R-40W

**APPLICANT:** ICG Homes LLC
4020 Wake Forest RD Suite 306

**BUSINESS PHONE:** (919) 876-5802
**HOME PHONE:**
**MOBILE PHONE:** (919) 302-4493

**HD USE:** 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**

**SITE ADDRESS:** 7305 WEXFORD WOODS LN

**SUBDIVISION:** WEXFORD RESERVE PH 2 **LOT:** 91 **ACRES:** 0.85

**DIRECTIONS:** From Wake Forest Rd. -->
Follow Falls of Neuse Rd and Old Falls of Neuse Rd to Thompson Mill Rd -->
Continue on Thompson Mill Rd. Drive to Wexford Woods Ln

Permit is subject to revocation if the Site Plan or Plat changes or the intended use changes.
*Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

**IP VALID FOR:** Five Years AS PER GS 130A-335 (f)
**DESIGNED BY:** CCSC
**SYSTEM LAYOUT:** Private Sector
**SITE CLASSIFICATION:** Provisionally Suitable

**IP STATUS:** Issued **BY:** Noah Greenway **DATE:** 07/25/2023

**NUMBER OF BEDROOMS:** 4 **OR TOTAL NUMBER OF OCCUPANTS:** 8
**PERMITTED DESIGN FLOW:** 480 GPD
**BASEMENT:** No **BASEMENT PLUMBING:** No
**WASTEWATER STRENGTH:** Domestic
**SYSTEM TYPE:** III B
**LTAR:** 0.300
**EXISTING SYSTEM UTILIZED:** No
**PRETREATMENT STRENGTH REQUIRED:** None
**EASEMENT FOR WW SYSTEM ASSOCIATED WITH PARCEL:** No

**MAXIMUM TRENCH DEPTH:** 30 INCHES
**PUMP REQUIRED:** Yes

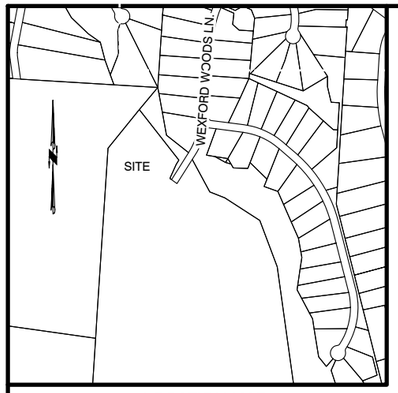
**SPECIFIC SYSTEM REQUIREMENTS:** -System designed for 4 bedroom residence, having 480 gals/day
-Future Repair is a IIIB type system, 50% reduction system PPBPS-Horizontal with a max trench depth of 30” and a 0.3 LTAR.
-Site serviced by community well water.
-No cutting, grading, alterations, or utilities in septic area.
-Maintain all required setbacks.

**ISSUED BY:** 

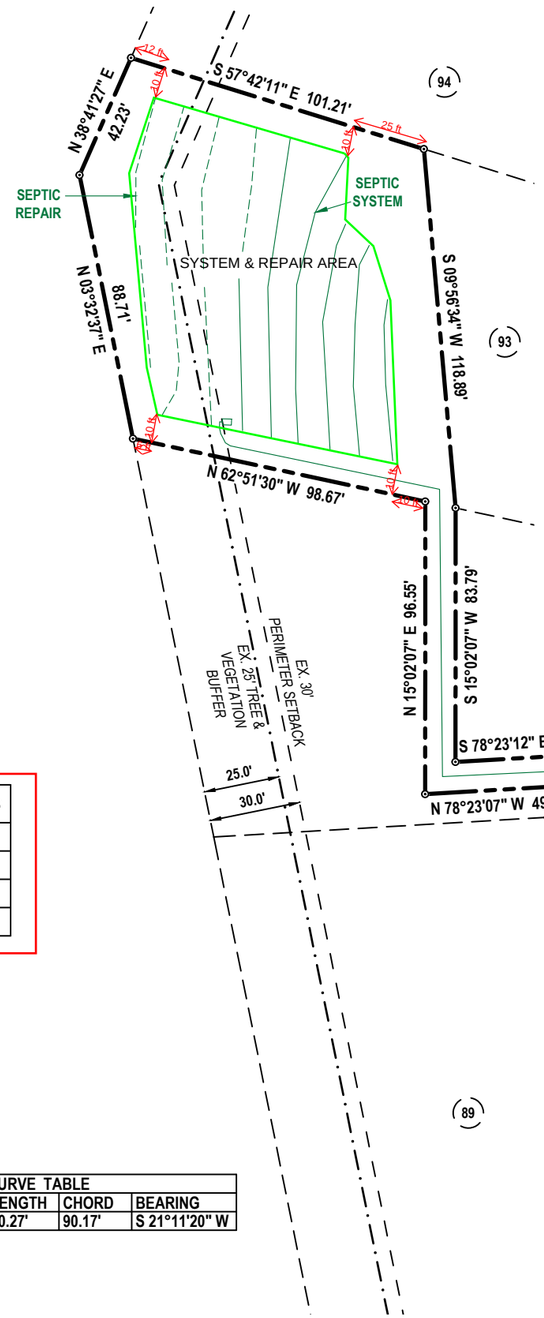
**DATE:** 07/25/2023

RBPR-101627-2023

SITE PLAN APPROVED BY
WAKE COUNTY N.C. P.D.I.
Ivey Shields
05/01/2023 4:45:12 PM




LOCATION MAP
1" = 1000'



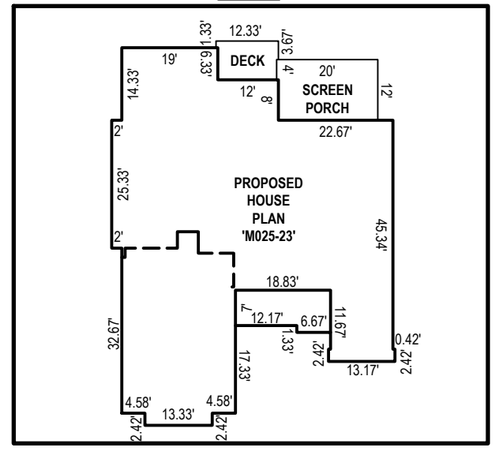

## NOTES:

1) The basis of North and all easements, right-of-way's, buffers, setbacks and adjoiners, etc., referenced from Book of Maps 2022, Pages 1912-1914 unless otherwise noted.

2) Surveyor has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence or any other facts that an accurate and current title search may disclose.

3) Contours shown referenced from Wake County GIS.

## HOUSE DETAIL
1"=30'




B.M. 2022, PG. 1912-1914

## LEGEND

| | |
|---|---|
| ○ | Ex. property corner |
| ● | Set property corner |
| ⊙ | Calculated point |
| W | Water Meter |
| S | Sanitary Sewer Cleanout |
| S | Sanitary Sewer Manhole |
| P | Power Pedestal |
| | Power Pole |
| T | Telephone Pedestal |
| C | Cable Pedestal |
| G | Gas Meter |
| AC | AC Condenser |
| B.M. | Book of Maps |
| D.B. | Deed Book |
| PG. | Page |
| S.F. | Square Feet |
| AC. | Acres |
| —X— | Fence |
| —W— | Water pipe |
| —SS— | Sanitary sewer pipe |
| —SD— | Storm drain pipe |
| —OU— | Overhead utility |

## SITE DATA

| | |
|---|---|
| CURRENT OWNER | ICG HOMES LLC |
| SITE ADDRESS | 7305 WEXFORD WOODS LANE |
| PIN | 1831-37-1559 |
| DEED REFERENCE | D.B. 19225, PG. 102 |
| PLAT REFERENCE | B.M. 2022, PGS. 1912-1914, LOT 91 |
| LOT SIZE | 0.85 ACRES |
| ZONING | R-40W |

| IMPERVIOUS AREAS (S.F.) | |
|---|---|
| HOUSE | 3451 |
| DRIVEWAY/WALK | 1997 |
| **TOTAL** | **5448** |
| MAX. | 7480 |

| BUILDING SETBACKS | |
|---|---|
| FRONT | 15' |
| CORNER | 15' |
| REAR | 15' |
| SIDE | 7.5' |

| CURVE TABLE | | | | |
|---|---|---|---|---|
| CURVE | RADIUS | LENGTH | CHORD | BEARING |
| C1 | 570.41' | 90.27' | 90.17' | S 21°11'20" W |

NORTH CAROLINA PROFESSIONAL SEAL L-3841 LAND SURVEYOR JEREMY TAYLOR

Digitally signed by Jeremy Taylor
Date: 2023.04.25 09:49:45 -04'00'

## SHEET INDEX:


| | |
|---|---|
| C-01 | SITE PLAN |
| C-02 | EROSION CONTROL PLAN |
| C-03 | QUAD & SOILS MAP OVERLAYS |
| D-04 - D16 | EROSION DETAILS |



TAYLOR LAND CONSULTANTS, PLLC
License # P-0829
1600 Olive Chapel Rd., #140
Apex, NC 27502
(919) 801-1104


**LOT DEVELOPMENT PLAN**
WEXFORD SUBDIVISION PHASE 2
7305 WEXFORD WOODS LANE
WAKE FOREST TOWNSHIP
WAKE COUNTY, NORTH CAROLINA

REVISIONS

DATE: 04/10/2023
JOB #: 19920
SHEET SIZE: 11x17

0 25 50
SCALE: 1" = 50

**C-01**
SITE PLAN