

ES Copy

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WELL AND SEWAGE SITE LOCATION PERMIT
NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED
UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION HAS BEEN ISSUED

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

PERMIT#: D031952 STATUS: A APP. DATE: 11/03/2004 BLDG. PERMIT#: 0051463
PIN: 0799.01 48 0845 000 TAX MAP: 0240 0000 RECORDED: Y ORIG. PERMIT#:
TOWNSHIP: 02 BARTON'S CREEK JURISDICTION: WC ZONING: 40W
APPLICANT: CAROLINA RESTORATION SERVICES
P O BOX 3445
CARY, NC 27519
(919) 469 - 1955
USE: HD USE: 101 ONE-FAMILY HOUSE
EXIST USE:
DISPOSAL: BEDROOMS: 4 BASEMENT: N #EMPLOYEES: 0 FOUND DRAIN: Y
SITE: ADDRESS: 13201 NORWOOD RD
SUBDIVISION: BAYLEAF ESTATES LOT: 3 ACRES: 1.13
DIRECTION: HWY 50N L NORWOOD SUB ON L

IMPROVEMENT PERMIT

TANK SIZE: 1200 gal. PUMP Tank: 1200 gal. SQ FT: 1365 INNOVATIVE MAX DEPTH LINE: 36 in.
WASTEWATER: INDIVIDUAL SEWAGE: DOMESTIC TYPE SYSTEM: III G PUMP: Y P/M: Y
DAILY FLOW: 480 gal/day DESIGN FEE REQ?: Y PAID?: Y WATER: COMMUNITY

COMMENTS: INSTALL SYSTEM ON CONTOUR FOLLOWING CA SITE PLAN, AND ALL STATE AND LOCAL REGULATIONS. NO STEP-DOWNS SHALL BE USED. TRENCH WALLS SHALL BE SCARIFIED. SYSTEM/REPAIR AREAS SHALL BE FENCED OFF DURING CONSTRUCTION OF THE HOUSE. NO GRADING SHALL BE DONE WITHIN 15' OF THE SYSTEM OR REPAIR AREA. NO FILLING SHALL BE DONE IN SYSTEM/REPAIR AREA. NO UTILITIES/IRREGATION SHALL CROSS SYSTEM/REPAIR AREA. NO GARBAGE DISPOSAL SHALL BE INSTALLED ON SEPTIC SYSTEM. SYSTEM ANDREPAIR SHALL BE FLAGGED BY INSTALLER PRIOR TO INSTALLATION OF SYSTEM. IT IS RECOMMENDED THAT NO WATER SOFTENER BE INSTALLED ON THE SEPTIC SYSTEM. CALL WITH ANY QUESTIONS

IP ISSUED? Y DATE: 04/13/2006 BY: (EFG) Eric Brun PHONE#: 795-3144

AUTHORIZATION FOR WASTEWATER/WATER SYSTEM CONSTRUCTION
VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE
AUTHORIZATION CONDITIONS:

Contractors shall install system on contours, see attached site plan for wastewater system design and well location. No underground utilities, water lines or sprinkler systems may be located in the original system or repair areas. A septic tank filter with a riser 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 an Operation 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 is 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 nitrification 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. **OTHER CONDITIONS:**

ACCEPTED STATUS SYSTEM REDUCTION HAS BEEN TAKEN FOR THE DESIGN OF INITIAL AND REPAIR SYSTEMS. PLEASE SEE DESIGN PLAN BY S&EC, INC. (APPROVED 04-17-06 BY BSM) FOR INSTALLATION INFORMATION. INITIAL SYSTEM IS A VARIED LENGTH LINE PRESSURE MANIFOLD WITH 36 INCH TRENCH BOTTOMS. WHEN INSTALLING DRAINLINES, PLEASE MAINTAIN ALL REQUIRED SETBACKS. REPAIR SYSTEM IS A VARIED LENGTH LINE PRESSURE MANIFOLD WITH 36 INCH TRENCH BOTTOM. WHEN CLEARING AREA FOR INITIAL SYSTEM, DO NOT DISTURB OR REMOVE ANY SOIL FROM EITHER THE INITIAL OR REPAIR AREA. A NEMA4X CONTROL PANEL WITH TWO BREAKERS, TWO POWER SUPPLIES, ELAPSED TIME METER, AND CYCLE COUNTER IS REQUIRED. INSTALL TRENCHES ON CONTOUR AND > OR = 9FT ON CENTER. PLEASE CALL ENVIRONMENTAL SERVICES IF ANY QUESTIONS OR PROBLEMS ARISE.

TANK SIZE: 1200 gal. PUMP TANK: 1200 gal. SQ FT: 1365 INNOVATIVE MAX DEPTH LINE: 36 in.
MAINT: N OPER: N UO: Y TRENCH#: 6 LENGTH: 455 ft. WIDTH: 36 in. DESIGNER: S&EC
SUBFIELDS: 1 DESIGN HEAD PRESSURE: 2 DESIGN FLOW: 45.38 gal/min DOSE VOLUME: 228 gal.

CA ISSUED? Y DATE: 04/20/2006 BY: (BSM) Beth A. M... PHONE#: 856-7463

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WELL AND SEWAGE SITE LOCATION PERMIT
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UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION HAS BEEN ISSUED
PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/ OR IF SITE IS ALTERED OR INTENDED USE CHANGED

PERMIT#: D031952 STATUS: A APP. DATE: 11/03/2004 BLDG. PERMIT#: 0051463
 PIN: 0799.01 48 0845 000 TAX MAP: 0240 0000 RECORDED: Y ORIG. PERMIT#:
 TOWNSHIP: 02 BARTON'S CREEK JURISDICTION: WC ZONING: 40W
 APPLICANT: CAROLINA RESTORATION SERVICES
 P O BOX 3445
 CARY, NC 27519
 (919) 469 - 1955
 USE: HD USE: 101 ONE-FAMILY HOUSE
 EXIST USE:
 DISPOSAL: BEDROOMS: 4 BASEMENT: N #EMPLOYEES: 0
 SITE: ADDRESS: 13201 NORWOOD RD
 SUBDIVISION: BAYLEAF ESTATES LOT: 3 ACRES: 1.13
 DIRECTION: HWY 50N L NORWOOD SUB ON L

Well System: WATER: COMMUNITY TYPE: NEW

WELL LOG INFORMATION: DEPTH: _____ CASING DEPTH: _____ YIELD: _____ STATIC LEVEL: _____
 WELL CONTRACTOR: _____ REG.# _____ PUMP CONTRACTOR: _____ REG.# _____
 Construction Compliance GROUT APPROVED ☐ DATE _____ EHS _____
 WELLHEAD APPROVED ☐ DATE _____ EHS _____
 SYSTEM FINALIZED ☐ DATE _____ EHS _____
 COMMENTS: _____

DESIGN FLOW: 45.38 gal./min. ACTUAL FLOW: 39.24 gpm Operation Permit INNOVATIVE LETTER: Y

INSTALLED BY: James Gully
 PROPRIETARY SYSTEM: E E-Z LAY PIPE
 COMMENTS: _____

INSTALLATION APPROVED BY: [Signature]
 FILTER NO: TuffTite

OPERATIONS PERMIT ISSUED? Y OP DATE: 2-19-07 BY: [Signature]

This permit is based in part on information provided by the homeowner 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 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.

As Built Information:

Date: 10/31/06 Benchmark: _____ Rod reading: _____ Distance to Structure: _____
 ST: _____ gals ID#: _____ D.O.M.: _____ Elev.: _____ Distance to Well: _____
 PT: _____ gals ID#: _____ D.O.M.: _____ Elev.: _____
 D-box/FD/PM elev.: 3000' 2.6' Supply Line: _____ ft. Pump/Control Panel: _____
 Line 1: 5.35' 5.35' 5.40' _____ Date: 10/31/ _____ Line 6: 7.6' 7.6' 7.6' 7.65' Date: 10/31/06
 Line 2: 6.97' 6.0' 6.0' _____ Date: _____ Line 7: _____ _____ _____ _____ Date: _____
 Line 3: 6.4' 6.45' 6.45' _____ Date: _____ Line 8: _____ _____ _____ _____ Date: _____
 Line 4: 6.75' 6.8' 6.9' _____ Date: _____ Line 9: _____ _____ _____ _____ Date: _____
 Line 5: 6.95' 6.9' 6.9' _____ Date: _____ Line 10: _____ _____ _____ _____ Date: _____
 Distance to P/L: _____ Notes: _____

2-16-07. James Gully removed all irrigation pipes, and installed clay dams on the downslope side of each trench anywhere the pipes crossed the drain lines. We cannot ensure that there will be no future effects from this damage, but we repaired it ~~as best~~ to the best of our abilities EPH.

ATTN: ISKEI

As Built
1"=50'

REVISED

N/F
SHELTON BAREFOOT
DB 2046, PG 0473

PIN# 079901480845

I certify that the location of planned or existing structure(s) are accurately shown. I understand failure to locate structures in accordance with this plot plan may require the relocation of structure(s) regardless degree of completion. I hereby grant permission to Municipal/County Representatives the right of entry to make evaluations or inspections upon this property.

Signature of Owner or Authorized Agent

LOT 2

L3

S 52°42'48" E
100.25'
30' R
BUILDING SETBACK (TYP)

143.71'

S 17°18'04" E

LOT 3
BAYLEAF ESTATES
49,101 SQ.FT.
1.13 ACRES

L2

15' SIDE

L1

OLD TOBACCO BARN

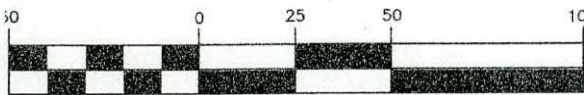
HOUSE

71.08'

LOT 1

LINE	LENGTH	BEARING
L1	68.00'	N17°04'04"E
L2	89.88'	N02°13'23"E
L3	105.98'	N08°36'41"E
L4	21.35'	S79°46'14"E

SCALE



(IN FEET)

Zoning R40w 1 inch = 50 ft. By ODA
 Approve ✓ Date 4/18/06
 Revise ✓ Use 101
 Reject _____ MBL _____
 Front 30 Rear 30
 Side 15 Corner _____

Comments:

S 69°12'34" W 393.73'
TIE TO THE CENTERLINE
INTERSECTION OF
BAYLEAF TRAIL
& NORWOOD ROAD

NORWOOD ROAD
(60' R/W)

Impervious

House: 1973 SF
 Garage: 816 SF
 Decks: 100 SF
 Total: 3410 SF

#1111-1325

CA Site Plan Part A
PIN# 799.01480845

N/F
SHELTON BAREFOOT
DB 2046, PG 0473

PIN# 079901480845

D31952

Bayleaf Estates Lot 3
1"=50'
LOT 2

*See LA Site Plan Part L3B
& Design Plan (Approved
4-17-06 by BSM)
for additional info

I certify that the location of planned or existing structure(s) are accurately shown. I understand failure to locate structures in accordance with this plot plan may require the relocation of structure(s) regardless degree of completion. I hereby grant permission to Municipal/County Representatives the right of entry to make evaluations or inspections upon this property.

Mary Bailey
Signature of Owner or Authorized Agent

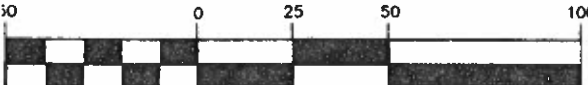
BOM 2004, PG 220

D031952
0051463

LINE TABLE		
LINE	LENGTH	BEARING
L1	68.00'	N17°04'04"E
L2	89.88'	N02°13'23"E
L3	105.98'	N08°36'41"E
L4	21.35'	S79°46'14"E

LOT 1

SCALE



(IN FEET)

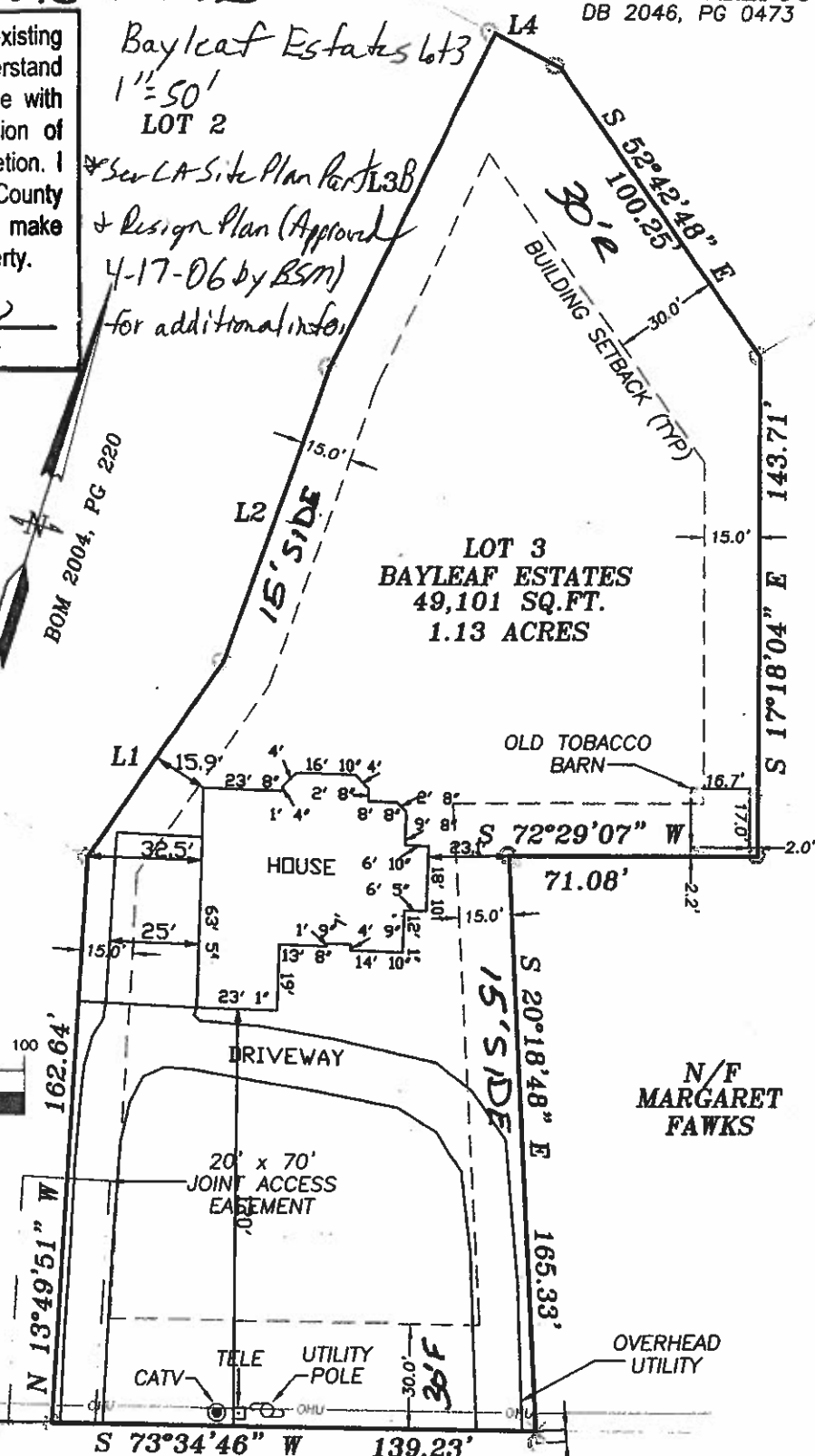
Zoning R46W By ODA
 Approve ✓ Date 4/18/06
 Revise ✓ Use 101
 Reject _____ MBL _____
 Front 30 Rear 30
 Side 15 Corner _____

Comments:

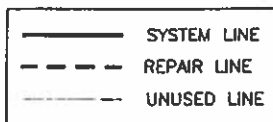
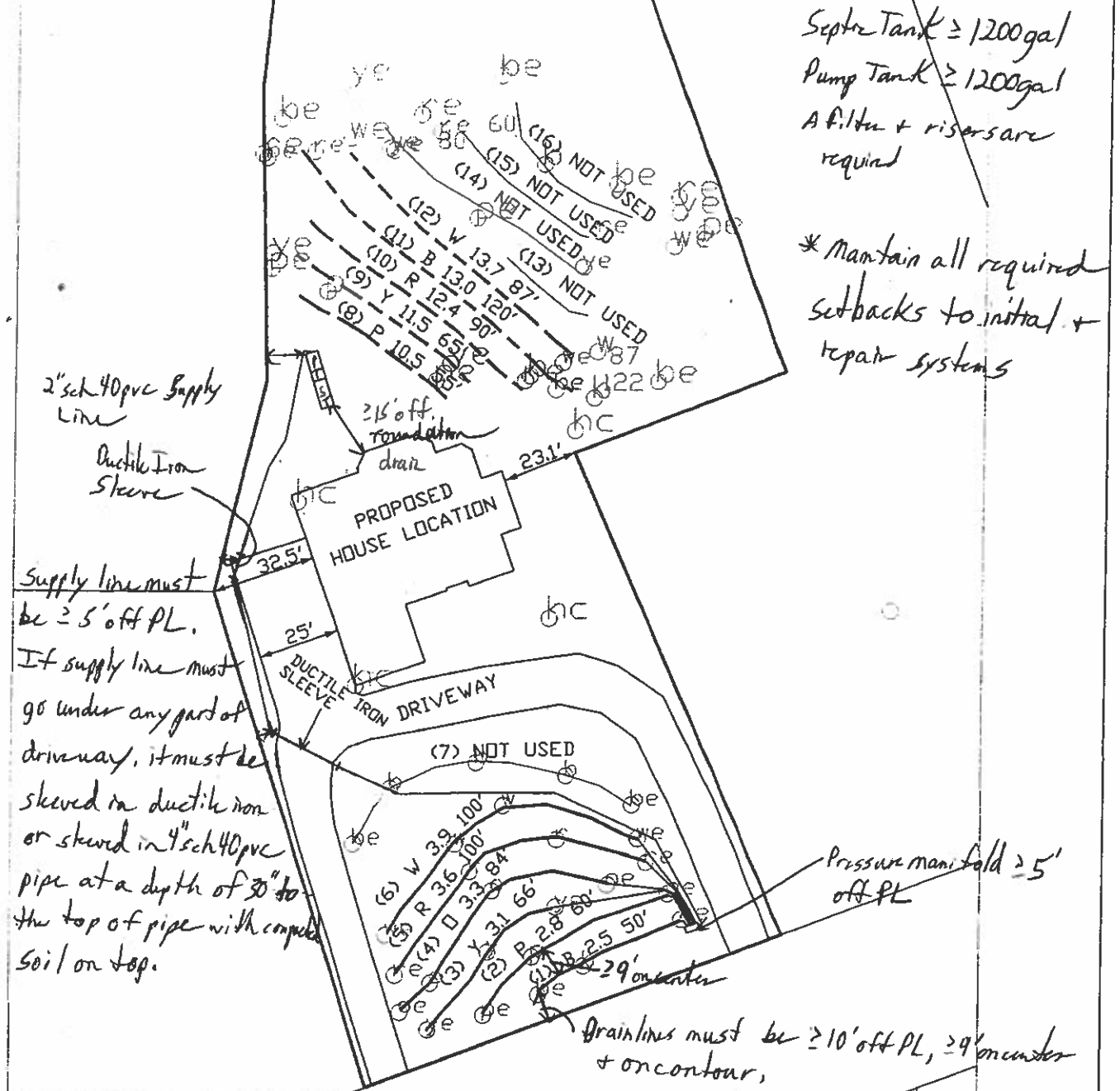
S 69°12'34" W 393.73'
TIE TO THE CENTERLINE
INTERSECTION OF
BAYLEAF TRAIL
& NORWOOD ROAD

13201
NORWOOD ROAD
(60' R/W)

Impervious
 use: 1973 sf
 sage: 814 sf
 UKS: 100 sf
 ... 3410 sf



PIN# 799.01480845 Design Plan (Approved 4/17/06)
 031952 Bayleaf Estates lot 3 by BSM for additional
 info.
 1"=50'



PROJECT NO. 7.51	SCALE 1" = 50'	SHEET TITLE SEPTIC SYSTEM LAYOUT
PROJECT MGR. JWN BY	FIELD WORK SV	PROJECT NAME: CAROLINA RESTORATION 13201 NORWOOD ROAD WAKE COUNTY, NORTH CAROLINA



Soil & Environmental Consultants, PA
 11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SandEC.com

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Part C

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www.SandEC.com

January 5, 2006

Attached is a proposed design for a Pressure Manifold Septic System for a single family residence located at 13201 Norwood Road, Wake County, NC

<u>Contents:</u>	<u>Page</u>
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Pump Tank Diagram-----	8
Pressure Manifold-----	9
Nitrification Trench Detail -----	10
Control Panel Specifications-----	11 - 12
Pump Specifications-----	13 - 14
Repair Tap Sheet-----	15
Repair Site Plan-----	16

☐ APPROVED
☒ APPROVED AS NOTED
☐ DISAPPROVED

**S&EC PROJECT #9977.S1, DESIGN – S. Menser
PROJECT MGR – D. Wells**

Review of this document has been made only for conformance with the design concept of the project and approval or approval as noted 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 characteristics to meet the requirements and intent of the contract documents.

**WAKE COUNTY DEPARTMENT OF
ENVIRONMENTAL SERVICES**

Date 4-17-06 By Beth S. Mader

INFORMATION FOR THE INSTALLER

The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations;

- Tanks shall be approved by NCDENR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement without damage or displacement of pipe or fittings.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied PVC pipe glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be done by hand with a shovel. No loose material will be left in the trench.
- All pipe openings in the tanks shall be properly grouted with waterproof grout. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent settlement.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Pumptank riser shall be 6" above grade, control panel shall be 12" above grade.
- System uses EZ-FLOW drain line.
- Repair uses EZ-FLOW drain line.

13201 NORWOOD ROAD
Project No. 9977.S1
PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner: Carolina Restoration Services
Attn: Travis Bailey
Address: PO Box 3445
Cary, NC 27519
Phone: (919) 469-1955
County: Wake
Location: Norwood Road

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd ✓
System Flow: 45.38 ✓

Design Specifications

Drainfield Size: 455 ✓
Loading Rate: 0.28 gpd/ft.² ✓
Depth of Gravel in Trench: NA (EZ-Lay)
Gravel Size: NA (EZ-Lay)
Trench Depth: 36 in. ✓
Trench Width: 36 in. ✓
Septic Tank Size: 1200 gal. ✓
Pump Tank Size: 1200 gal. ✓
Estimated Supply Line Length: 189 ✓
Supply Line Diameter: 2 in. SCH 40 PVC ✓
Supply Line Volume: 32.89 ✓
Supply Manifold: 3 in. SCH 80 PVC ✓
Supply Manifold Length: 4.5 ft. (minimum) ✓
Supply Manifold Volume: N/A
Threaded Union: In Tank
Gate Valves: 1 in Tank
1 at Pressure Manifold
Check Valves: In Tank
Anti-Siphon Hole: NA

Recommended Float Controls: SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel: SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Recommended Pump: Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering 24 ft.of Head at 46 gpm Total Flow ✓

Additional Comments: Soil suitability was performed by the Wake County Health Department.

13201 NORWOOD ROAD
Project No. 9977.S1
DESIGN CALCULATIONS

Supply line length 189 ft
 2" PVC 0.174 gal/ft
Supply line Volume 32.886 gal

Total drain field length 455 ft
 4" pipe 0.6508 gal/ft
 Total drain field volume 296.11 gal
 Percent of dose volume 77.8%

Dose Volume 207.26 gal

Dose volume 207.26 gal

Pump tank 21.42 gal/in

Pump tank Drawdown 0.7 in

Ground elev at pump tank 7.0 ft

Pump elev 5.4 ft

12.4 ft

Manifold elev 1.5 ft

10.9 ft

Elevation Head 10.9 ft

System flow 45.38 gal/minute

Friction factor 3.8 f/100ft

Supply line length 189 ft

Friction Head 7.2 ft

Pressure Head 2.0 ft

Total Dynamic Head 20.1 ft

(Friction Factor for fittings) 15 %

(TDH) Total Dynamic Head 23.1 ft

Daily flow 480 gal/day

LTAR 0.28 sqft/day

Trench width 3 ft

Required drain field length (gravel) 571 ft

Required drain field length (ezflow) 429 ft

FRICTION FACTOR
INTERPOLATER
2" SCH 40 PVC

GPM	f
20	0.84
22	1.01
25	1.27
27.5	1.53
30	1.78
32.5	2.08
35	2.37
37.5	2.70
40	3.03
42.5	3.40
45	3.77
47.5	4.18
50	4.58
55	5.50
60	6.42

13201 NORWOOD ROAD

Project No. 9977.S1

LAYOUT FOR 4 BEDROOM HOME

December 22, 2005

<u>LINE #</u>	<u>FLAG</u> <u>COLOR</u>	<u>BS</u>	<u>HI</u>	<u>FS</u>	<u>ELEVATION</u>	<u>FLAGGED</u> <u>LINE LENGTH</u>	<u>DESIGN</u> <u>LINE LENGTH</u>
TBM		11.7			100.00		
INSTR. 1			111.70				
1	BLUE			2.50	109.20	50	50
2	YELLOW			2.80	108.90	60	55 60
3	PINK			3.10	108.60	66	60 65
4	ORANGE			3.30	108.40	84	80
5	RED			3.60	108.10	100	100
6	WHITE			3.90	107.80	100	100
7	BLUE			4.40	107.30	100	0
8	PINK			10.50	101.20	55	55
9	YELLOW			11.50	100.20	65	65
10	RED			12.40	99.30	92	90
11	BLUE			13.00	98.70	122	120
12	WHITE			13.70	98.00	87	87
13	PINK			14.40	97.30	31	0
14	YELLOW			15.10	96.60	80	0
15	RED			15.40	96.30	60	0
16	BLUE			16.00	95.70	56	0
Total						648	417

	<u>LINE</u> <u>LENGTH</u>	<u>LTAR</u> <u>GPD/FT²</u>	<u>SYSTEM</u> <u>TYPE</u>	<u>SOIL</u> <u>LTAR</u> <u>GPD/FT²</u>	<u>INNOVATIVE</u> <u>SYSTEM</u>	<u>DISTRIBUTION</u>
* System	455	0.28	INNOV.	0.28	EZ-Flow	Pressure Manifold
Repair	417	0.30	Innov.	0.30	EZ-Flow	Pressure Manifold

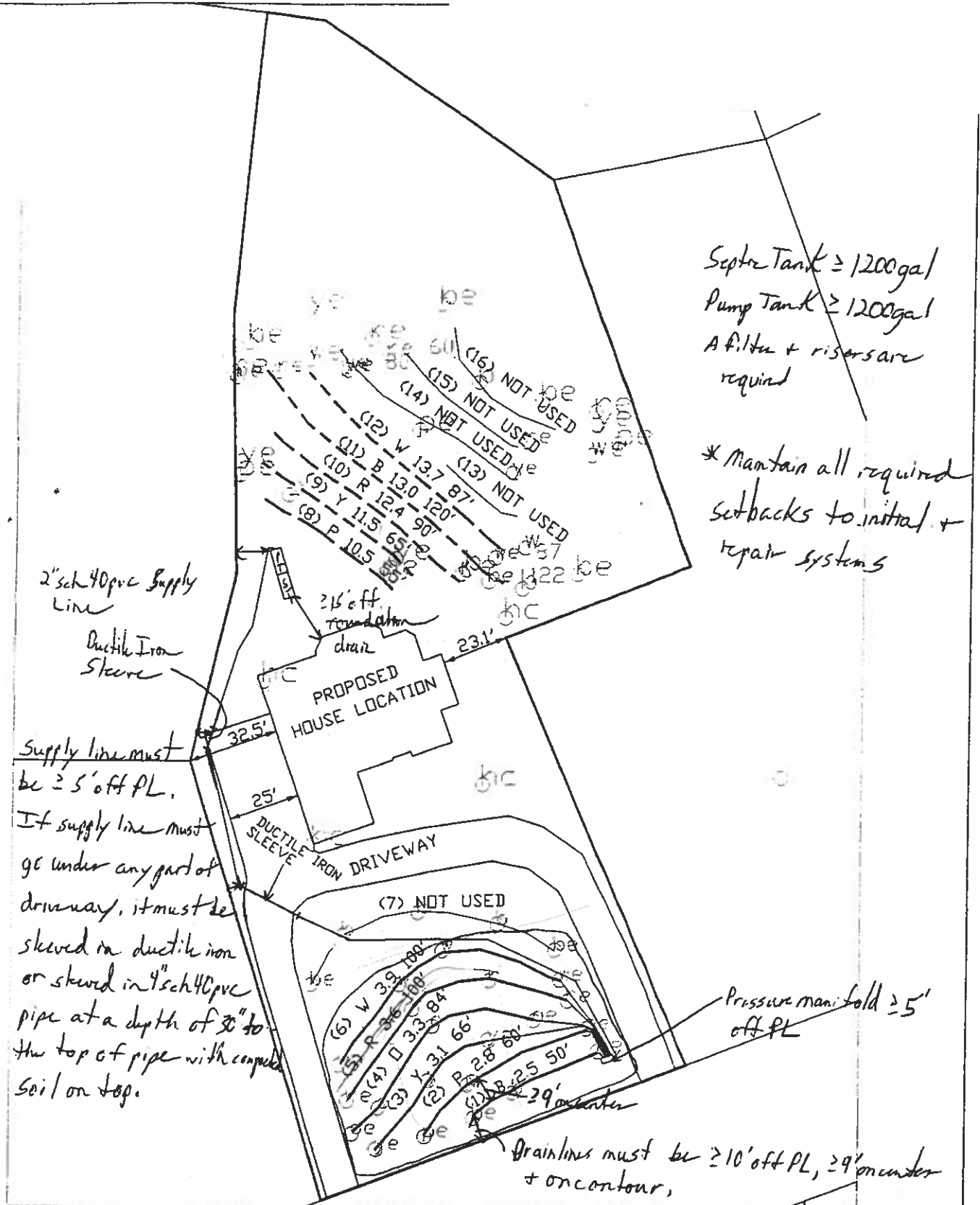
- Notes:**
- ** TBM AT TREE
 - **TBM is assumed to be 100'.
 - **All measures in feet.
 - **Nitrification lines are demonstrated on contour via colored pin flags.
 - **BS, FS indicate rod readings.

**13201 NORWOOD ROAD
Project No. 9977.S1
SYSTEM TAP CHART**

<u>Line #</u>	<u>Color</u>	<u>Field Elev</u>	<u>Length</u>	<u>Hole Size</u>	<u>Flow/Tap</u>	<u>gpd</u>	<u>Trench Area</u>	<u>Line LTAR</u>
1	BLUE	2.5	50	SCH 80 1/2	5.48	57.96	150	0.386
2	PINK	2.8	60	SCH 80 1/2	5.48	57.96	180	0.322
3	YELLOW	3.1	65	SCH 40 1/2	7.11	75.20	195	0.386
4	ORANGE	3.3	80	SCH 40 1/2	7.11	75.20	240	0.313
5	RED	3.6	100	SCH 80 3/4	10.1	106.83	300	0.356
6	WHITE	3.9	100	SCH 80 3/4	10.1	106.83	300	0.356

total feet = 455 / gal/min = 45.38 ✓
 Des. Flow 480
 Pump Run= 10.58
 soil LTAR 0.28
 (ltar +5%) 0.294
 LTAR with INNOV. 0.373333333
 LTAR with INNOV. + 5% 0.392

100% Dose Volume 296.10
 Percent Dose Volume ~~70%~~ 77
 Total ~~207.27~~ 228
 Pump Run Time ~~4.57~~ 5.02



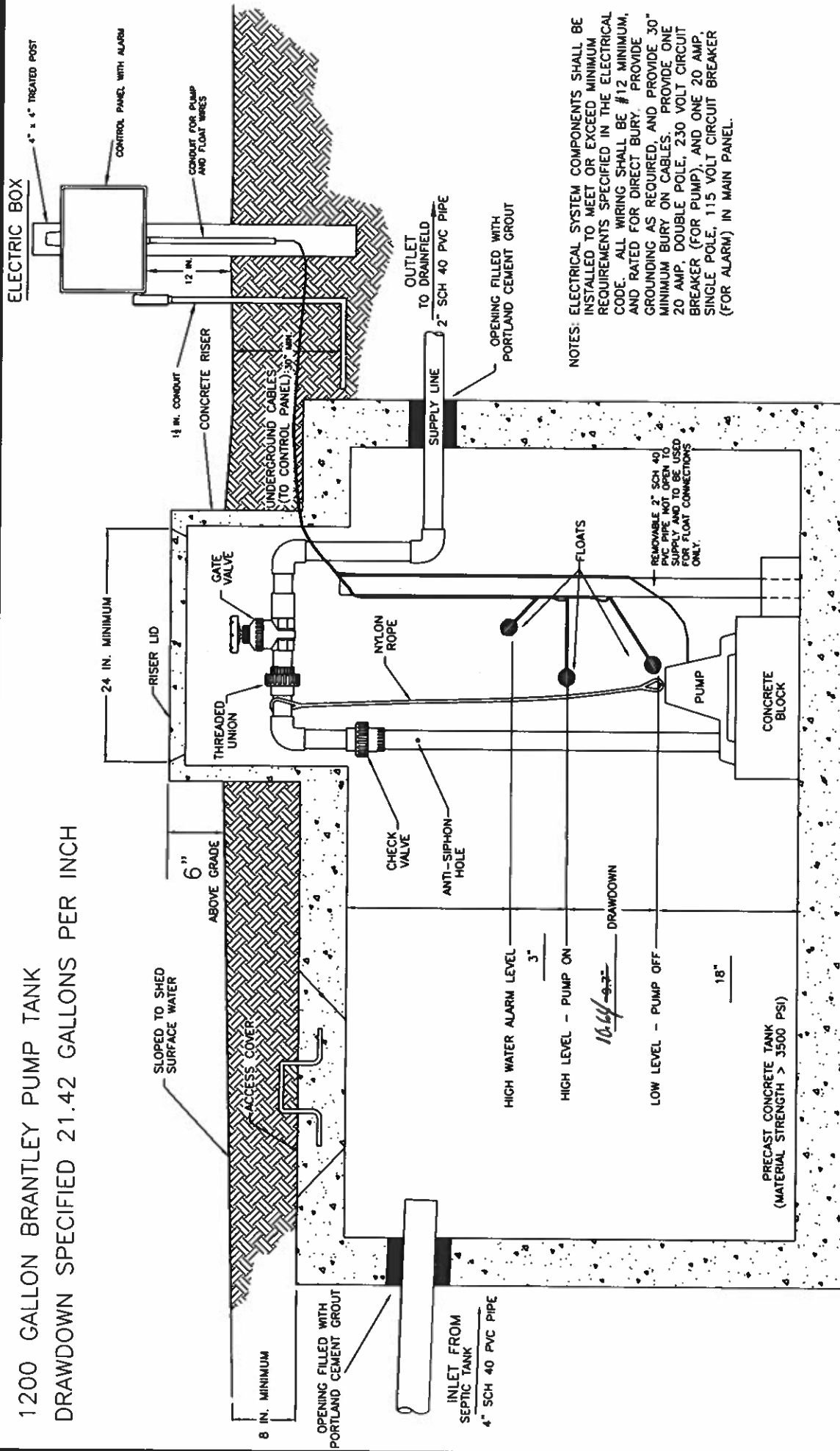
—	SYSTEM LINE
- - -	REPAIR LINE
---	UNUSED LINE

PROJECT NO. 151	SCALE 1" = 50'	SHEET TITLE SEPTIC SYSTEM LAYOUT
PROJECT MGR. SM	FIELD WORK SM	PROJECT NAME CAROLINA RESTORATION 13201 NORWOOD ROAD WAKE COUNTY, NORTH CAROLINA
OWN BY		



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 11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5900 • Fax: (919) 846-9467
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1200 GALLON BRANTLEY PUMP TANK DRAWDOWN SPECIFIED 21.42 GALLONS PER INCH

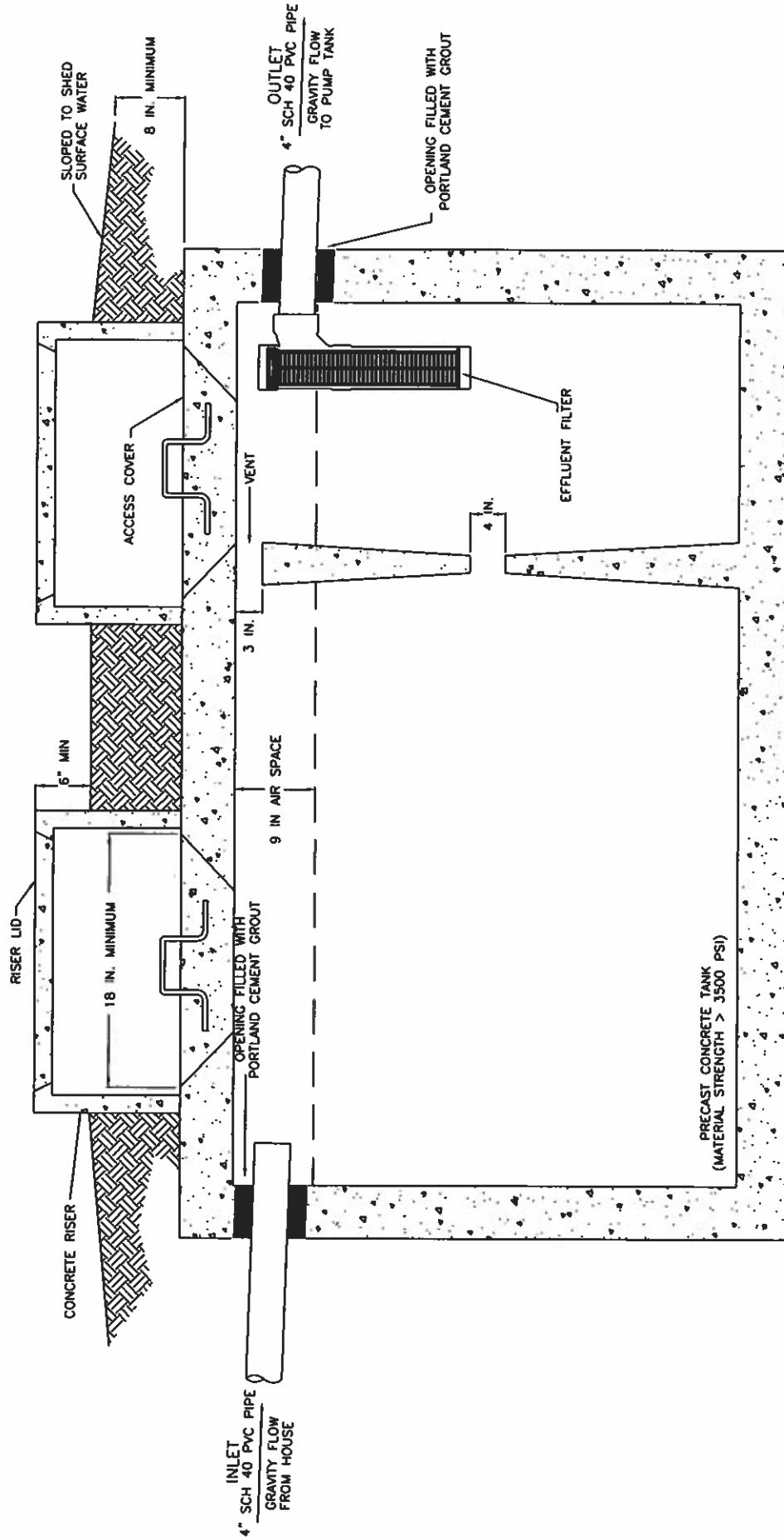


SHEET 1 OF 1

JOB NO. 987751	PROJECT NAME 13201 NORWOOD ROAD
PROJECT DGR.	
DW	
SCALE	
NTS	
SHEET TITLE PUMP TANK DIAGRAM	

S&E
EC

Soil & Environmental Consultants, PA
11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5900 • Fax: (919) 846-5467
www.SandEC.com



BRANTLEY 1200 GALLON SEPTIC TANK

JOB NO.
997151

PROJECT NAME
DW

SCALE
NTS

PROJECT NAME:

13201 NORWOOD ROAD

SHEET TITLE:

SEPTIC TANK DIAGRAM

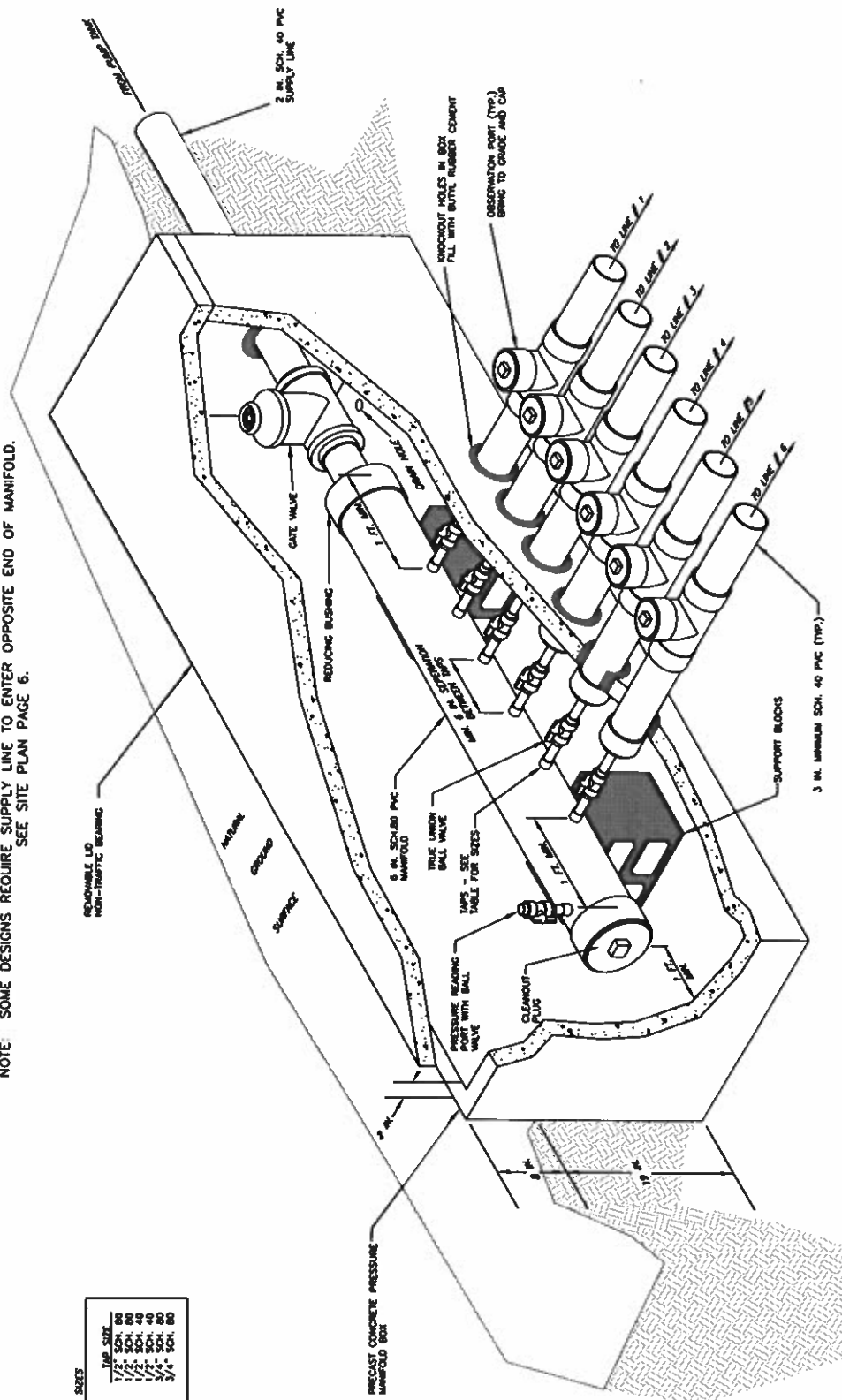
SHEET
1 OF 1

S&EC

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11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5000 • Fax: (919) 846-9467
www.SandEC.com

PRESSURE MANIFOLD DETAILS
FOR
13201 NORWOOD ROAD

NOTE: SOME DESIGNS REQUIRE SUPPLY LINE TO ENTER OPPOSITE END OF MANIFOLD.
SEE SITE PLAN PAGE 6.



SHEET 1 OF 1

13201 NORWOOD ROAD

PRESSURE MANIFOLD DIAGRAM

S&EC

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11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SeedEC.com

JOB NO.

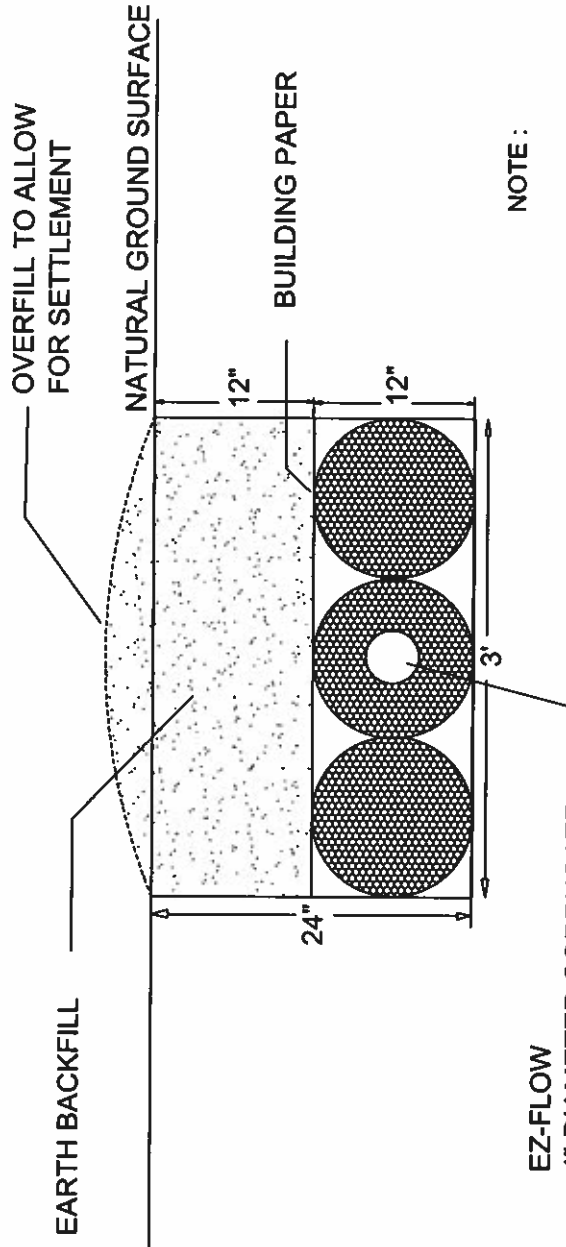
PROJECT NO.

DV

SCALE

MTS

NITRIFICATION TRENCH DETAIL FOR EZ-FLOW



EZ-FLOW
4" DIAMETER CORRUGATED
PLASTIC DRAIN PIPE
SURROUNDED BY
POLYSTYRENE BLOCKS
WRAPPED W/PLASTIC MESH

NOTE :

1. PERFORATED CORRUGATED PLASTIC PIPE SHALL MEET REQUIREMENTS OF ASTM D 2729.
2. PIPE SHALL BE LEVEL.
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES.
4. TRENCH BOTTOM SHALL BE LEVEL.
4. SEE INFORMATION FOR INSTALLER.

JOB NO. 9977.51	PROJECT NAME: 13201 NORWOOD ROAD
PROJECT MGR. DW	SHEET TITLE TRENCH DETAIL
SCALE NTS	

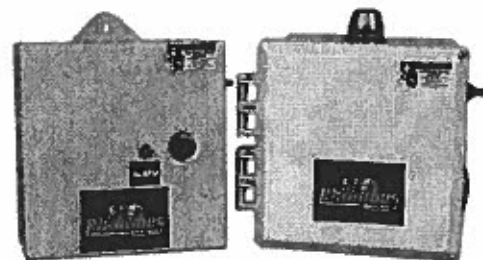
S&EC

Soil & Environmental Consultants, PA
11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SandEC.com

MODEL 112 Control Panel

Single phase, simplex motor contactor control.

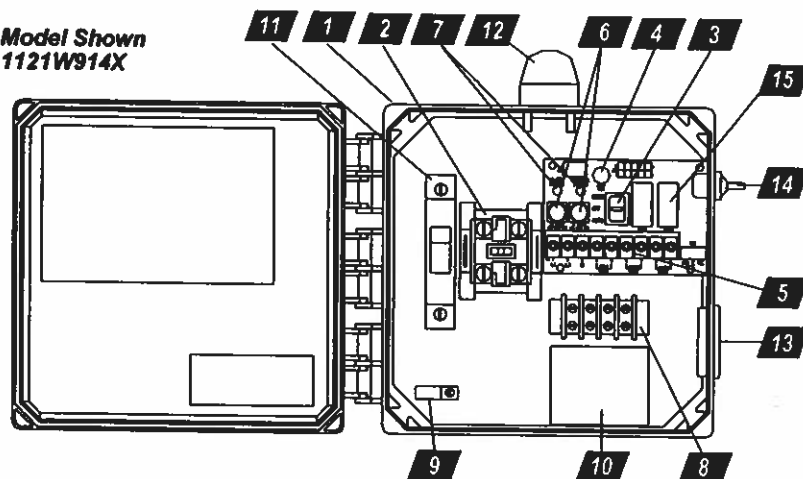
The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single-phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs,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



indoor

indoor/outdoor

Model Shown
1121W914X



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 hot 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.

STANDARD ALARM PACKAGE (other options available)

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 (83 to 85 decibel) in lieu of horn.
14. Exterior Horn Test/Normal/Silence Switch allows alarm horn to be silenced and testing of horn and light to ensure proper operation of alarm system.
15. Horn Silence Relay automatically resets alarm after alarm condition has been resolved (mounted on circuit board).

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



SJE Rhombus
SJ ELECTRO SYSTEMS, INC.

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	9	0	4	H	3A,8A,8C
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MODEL 112

ALARM PACKAGE

☒ 0 = select options or no alarm package
☐ 1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

ENCLOSURE RATING

☒ 1 = Indoor, NEMA 1 (metal)
☐ W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE

☒ 1 = magnetic motor contactor 120/208/240V
☐ 9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS

☒ 0 = 0-7 FLA
☐ 1 = 8-15 FLA
☐ 2 = 16-20 FLA
☐ 3 = 21-30 FLA

PUMP DISCONNECTS

☐ 0 = no pump disconnect
☒ 1 = pull-out with safety deadfront in a 10"x8" enclosure
☐ 4 = circuit breaker

FLOAT SWITCH APPLICATION

☒ H or L = pump down or pump up
☐ X = no floats

OPTIONS *Listed below*

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

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

CODE	DESCRIPTION	CODE	DESCRIPTION
☐ 1A	Red beacon only / no audio <i>must select 1E if floats included</i>	☐ 11C	NEMA 1 alarm panel <i>must select option 6A</i>
☐ 1C	Horn only / no visual <i>must select 1E if floats included</i>	☐ 11D	NEMA 4X alarm panel <i>must select option 6A</i>
☐ 1E	Alarm float	☐ 15A	Control / alarm circuit breaker <i>Does not include the circuit board as in standard.</i>
☒ 3A	Alarm flasher	☐ 16A	10' cord in lieu of 20'
☐ ★ 4A	Low level cutout <i>select option 4D if floats included</i>	☐ 16B	15' cord in lieu of 20'
☐ ★ 4B	Red low-level indicator & alarm <i>must select 4A also</i>	☐ 16C	30' cord in lieu of 20'
☐ 4D	Low-level float	☐ 16D	40' cord in lieu of 20'
☐ 6A	Auxiliary alarm contact, form C type	☐ 17A	SJE SignalMaster® / mounting strap ●
☒ ★ 8A	Elapsed time meter	☐ 17B	SJE SignalMaster® / externally weighted ●
☒ ★ 8C	Event (cycle) counter	☐ 17C	Sensor Float® / internally weighted ▲
☐ 10E	Lockable latch - NEMA 4X	☐ 17D	Sensor Float® / externally weighted ▲
☐ 10E	Lockable latch - NEMA 1	☐ 17E	Sensor Float® Mini / pipe clamp ▲
☐ ★ 10F	Lightning arrester	☐ 17F	Sensor Float® Mini / externally weighted ▲
☐ ★ 10K	Anti-condensation heater	☐ 19X	Door mounted pump run indicator
		☐ 21A	Pumpmaster® in lieu of on/off switches ●
		☐ 21B	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
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Alarm Package _____

Enclosure Rating _____

Starting Device _____

Pump Full Load Amps _____

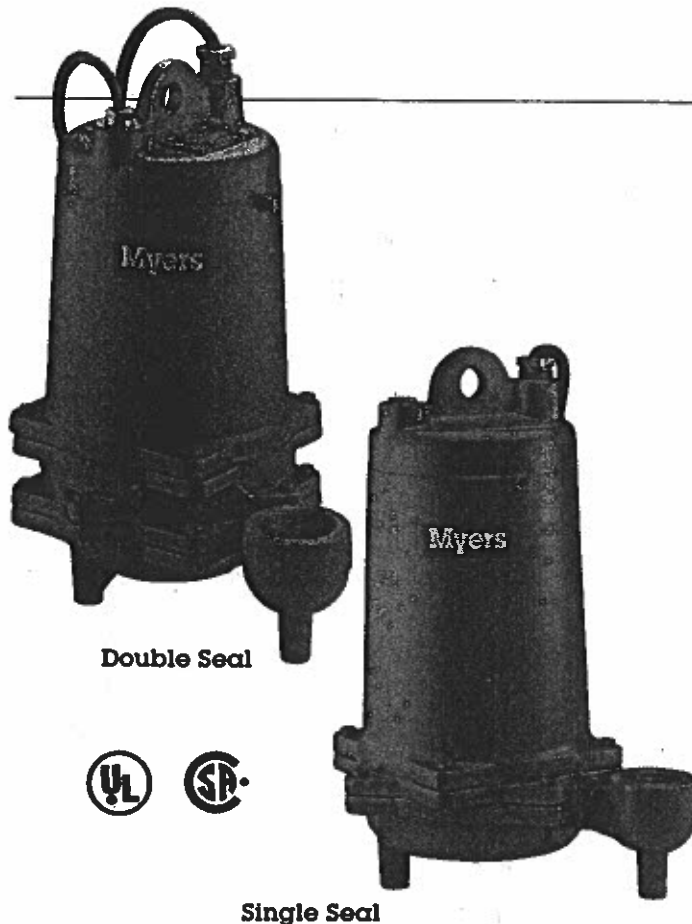
Pump Disconnect _____

Float Switch Application _____

Options: Alarm Flasher, Elapsed Time Meter _____

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps



Double Seal

Single Seal

THE MYERS ME SERIES EFFLUENT PUMPS ARE DESIGNED SPECIFICALLY FOR TODAY'S EFFLUENT PRESSURE DISTRIBUTION MOUNDS, TRENCHES AND HIGH FLOW DRAINAGE APPLICATIONS. The ME Series effluent pumps with their efficient two vane, enclosed impellers, provide the ideal performance for optimum dosing. ME Series pumps are constructed of only corrosion resistant materials like cast iron, stainless steel and thermoplastics to assure that they will perform for years to come in the harsh effluent environment and drainage applications. For more information, call your Myers distributor today or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

IDEAL FOR USE IN MOUND AND TRENCH PRESSURE DISTRIBUTION SYSTEMS

- High efficiency, two vane, enclosed impeller provides ideal performance for most efficient dosing.
- Impeller passes full 3/4 inch solids.
- Enclosed impeller design eliminates possibility of jamming or corrosion between impeller and volute.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- High torque, permanent split capacitor (PSC), single phase motors. No starting switches or relays to wear out.
- Optional seal leak probe warns of seal leak condition. (Dual seal motors only.) Helps prevent costly motor damage.
- Motors have on winding current and temperature sensitive overload. (Single phase only.)

THE ME SERIES EFFLUENT PUMPS ARE DESIGNED FOR YEARS OF MAINTENANCE FREE OPERATION

- Volute seal ring is replaceable. Restores pump to original performance if wear should occur.
- Motor is held in place by 4 screws. Easily removed if service is ever needed.

PRODUCT CAPABILITIES

Capacities To	120 GPM	454 LPM
Heads To	95 ft.	28.9 m
Max. Spherical Solids	3/4 in.	19 mm
Liquids Handling	domestic effluent & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	1/2 HP 115 volts, 1 ph 1/2 to 1-1/2 HP 230 volts, 1 ph 208, 230, 460, 575 volts, 3 ph oil-filled, permanent split capacitor type, 1 ph, 3450 rpm, 60 Hz	
Motor Insulation	Class B (130° C)	
Third Party Approvals	UL, CSA	
Acceptable pH Range	6-9	
Specific Gravity	.9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	2 in.	50.8 mm
Min. Sump Dia. Simplex	24 in.	61 cm
Duplex	36 in.	91.4 cm

Construction Materials	
Motor Housing, Volute	cast iron, Class 30, ASTM A48-76
Enclosed Two Vane Impeller	Standard Optional
	engineered thermoplastic bronze
Impeller Wear Ring	304 SST
Volute Sealing Ring	Buna-N
Shaft	416 SST
Power Cord	
1/2 HP 1 Ph	20 ft. 16/3 SJOW/SJOW-A
3/4 - 1-1/2 HP 1 Ph	20 ft. 14/3 SJOW/SJOW-A
All 3 Ph	20 ft. 14/4 SOW/SOW-A
Shaft Seals	Standard Optional Opt. Lower
	single carbon & ceramic tandem carbon & ceramic tungsten carbide
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

Myers

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps

POWER CORD

Jacket sealed with compression fittings. Individual wires potted with epoxy to prevent wicking in case of cord damage.

MOTOR HOUSING

Cast iron for efficient heat transfer and corrosion resistance.

BEARINGS

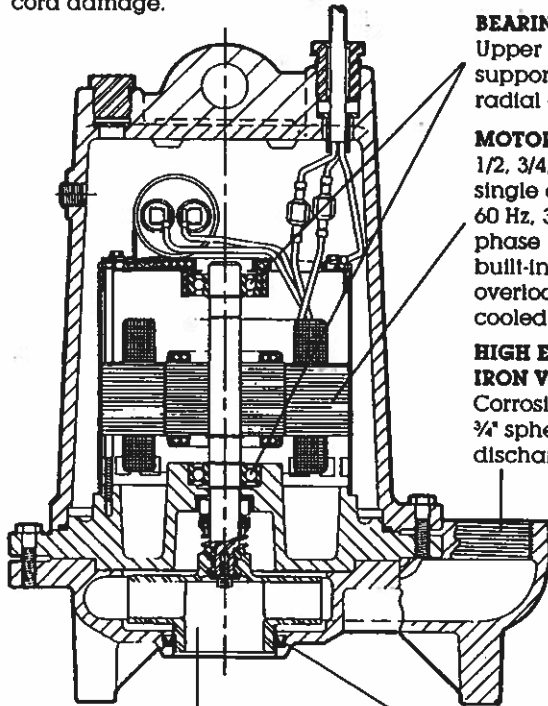
Upper and lower ball support rotor. Take radial and thrust loads.

MOTOR

1/2, 3/4, 1 and 1-1/2 HP single or three phase. 60 Hz, 3450 RPM. Single phase PSC motors have built-in on winding overload protection, oil-cooled and lubricated.

HIGH EFFICIENCY CAST IRON VOLUTE

Corrosion resistant. Passes 3/4" spherical solids. 2" NPT discharge.

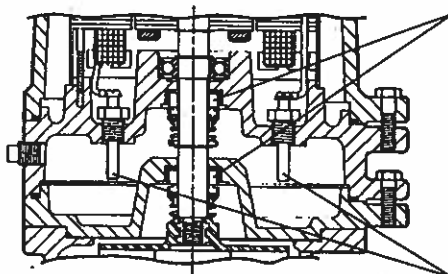


ENCLOSED TWO VANE IMPELLER

high efficiency. Passes 3/4" spherical solids with stainless steel wear ring. Optional bronze construction available.

VOLUTE/IMPELLER SEAL RING

Maintains high efficiency and reduces recirculation. Replaceable.



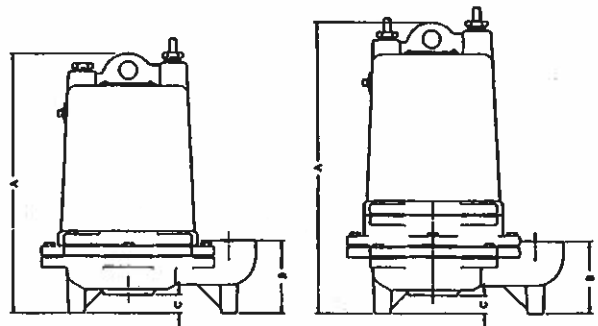
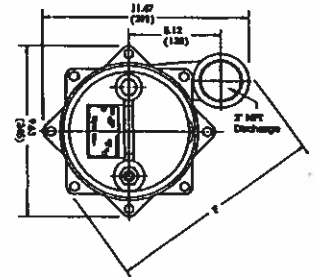
SHAFT SEAL(S)

Carbon and ceramic faces. Optional dual tandem seals. Extends motor life.

SEAL LEAK PROBES

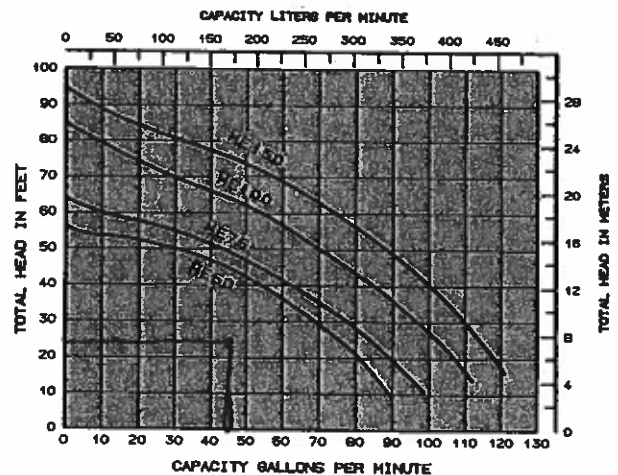
Optional probes (dual seal only) detect water leakage in seal housing. Activates warning light.

DIMENSIONS



Model Series	Inches (millimeters)			
	A	B	C	F
ME50S	16.8 (427)	4.09 (104)	1.03 (26)	12.13 (308)
ME50D	18.6 (472)	4.09 (104)	1.03 (26)	12.13 (308)
ME75S, ME100S, ME150S	16.8 (427)	4.0 (102)	1.06 (27)	12.5 (318)
ME75D, ME100D, ME150D	18.6 (472)	4.0 (102)	1.06 (27)	12.5 (318)

PERFORMANCE CURVE



K3320 2/96
Printed in U.S.A.

Myers

F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144, FAX: 419/289-6658, TLX: 98-7443

Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470, FAX: 519/748-2553



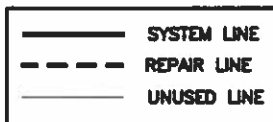
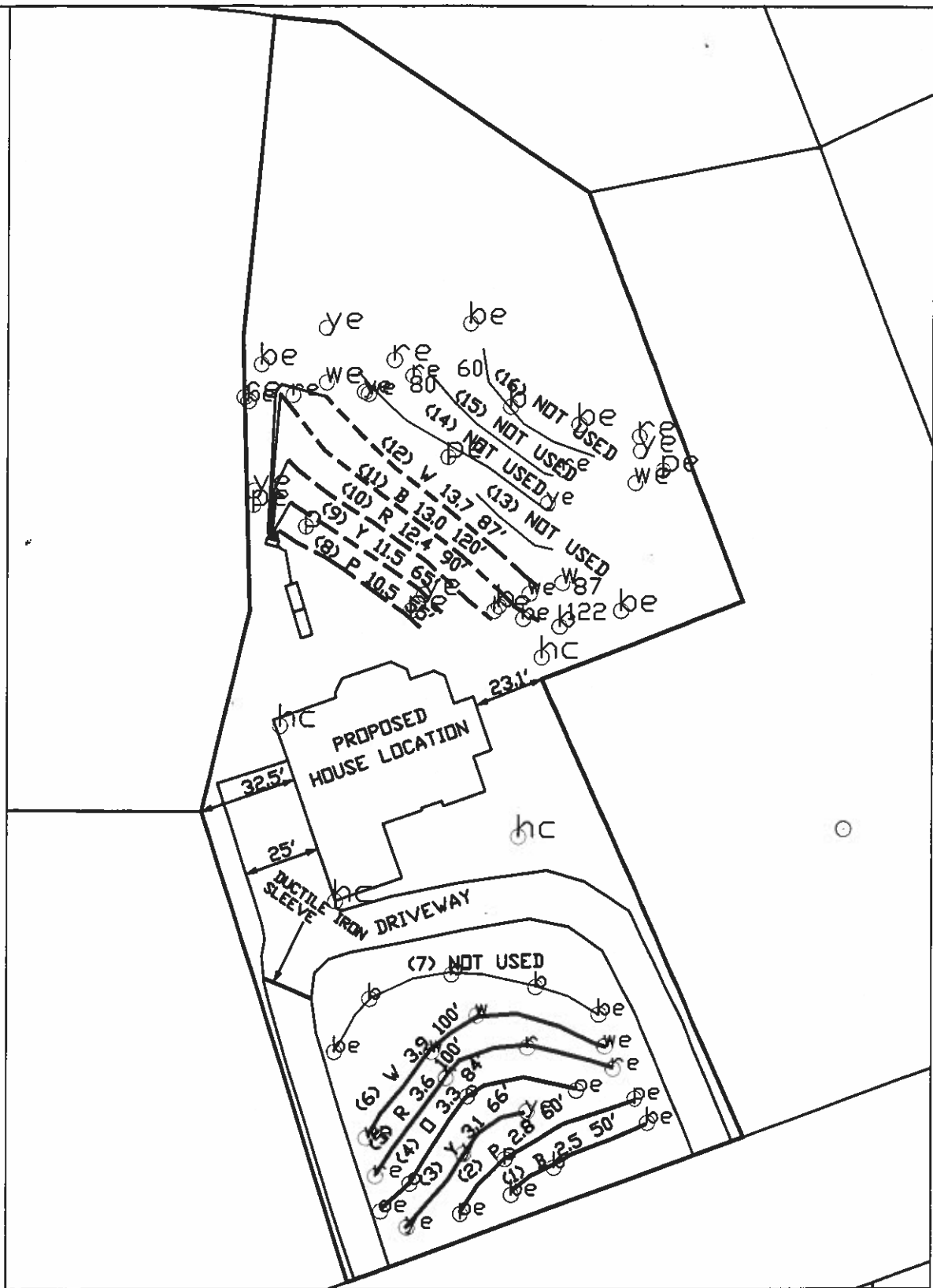
13201 NORWOOD ROAD
Project No. 9977.S1
REPAIR TAP CHART

<u>Line #</u>	<u>Color</u>	<u>Field Elev</u>	<u>Length</u>	<u>Hole Size</u>	<u>Flow/Tap</u>	<u>gpd</u>	<u>Trench Area</u>	<u>Line LTAR</u>
8	PINK	10.5	55 ✓	SCH 80 1/2	5.48 ✓	58.08	165	0.3520 ✓
9	YELLOW	11.5	65 ✓	SCH 40 1/2	7.11 ✓	75.35	195	0.3864 ✓
10	RED	12.4	90 ✓	SCH 80 3/4	10.1 ✓	107.04	270	0.3965 ✓
11	BLUE	13.0	120 ✓	SCH 40 3/4	12.5 ✓	132.48	360	0.3680 ✓
12	WHITE	13.7	87 ✓	SCH 80 3/4	10.1 ✓	107.04	261	0.4101 ✓

total feet = **417 ✓** gal/min = **45.29 ✓**
Des. Flow **480 ✓**
Pump Run= **10.60**
LTAR **0.30**
LTAR + 5% **0.315**
LTAR w / INNOV **0.4**
LTAR w / INNOV + 5% **0.42**

100% Dose Volume **271.37 ✓**
Percent Dose Volume **85% ✓**
Total **230.66 ✓**

Pump Run Time **5.09 ✓**



PROJECT NO. 9077.S1	SCALE 1" = 50'	SHEET TITLE: REPAIR SEPTIC SYSTEM LAYOUT
PROJECT MGR. MB	FIELD WORK SM	PROJECT NAME: CAROLINA RESTORATION 13201 NORWOOD ROAD WAKE COUNTY, NORTH CAROLINA JANUARY 2008
DRAWN BY SM		
\\SEC\SECFILES\6185\LOT 42.DWG		



Soil & Environmental Consultants, PA
 11010 Raven Ridge Road • Raleigh, North Carolina 27614 • Phone: (919) 846-9900 • Fax: (919) 846-9467
www.SandEC.com



Environmental Services

TEL 919 856 7400
FAX 919 743 4772

Water Quality Division

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

February 7, 2007

FIRST CLASS MAIL/CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Carolina Restoration Services
PO Box 3445
Cary, North Carolina 27519

RE: 13201 Norwood Rd., Raleigh, North Carolina 27614
PIN#: 0799.01 48 0845
Bayleaf Estates, Lot 3, D-31952

Dear Carolina Restoration Services:

This letter is in reference to the property listed above. It has come to the attention of this office, that one or more of the following conditions has occurred on your property:

- ☐ The location of the house/building site and/or driveway(s) has changed from the location as indicated on the permit.
- ☐ The size of the house/building has increased in either or both square footage of footprint or the number of bedrooms.
- ☐ There as been an addition of a deck to the house or a detached structure has been added that was not shown on the original site plan.
- ☐ The lot has been graded in a manner, which has either removed soil from the system or repair areas, or the grading has altered the setbacks from the system or repair areas.
- ☐ The locations of the exact property lines are different from the ones indicated during the permitting process.
- ☒ Other: Irrigation has been installed in the front yard over the septic field, which is in direct violation of the septic permit. It has also caused damage to the septic system.

Due to the item(s) listed above, the lot has been affected, so that there no longer appears to be enough space for the installation of both system and repair. 15A NCAC 18A.1937(g) as adopted by reference in the "Regulations Governing Sewage Treatment And Disposal Systems In Wake County", states if ... ***"the information submitted in the application is falsified or changed, or the site is altered, the permit shall become invalid"***, therefore, under the provisions of Section VII of the Wake County Regulations, this letter will serve to **suspend** Improvements Permit D-31952. Our office has also requested that Building Permit 0051463 be placed on hold until this matter has been resolved.

Additionally, the above alterations violate section .1945(a) and (b), as there is no longer enough space available for the installation of both the permitted original and repair systems. You will need to contact the private sector to perform a soil evaluation of the lot and provide a plan for a sewage disposal system, and its repair area, that will meet all applicable state and local rules. A surveyed site plan of the actual house location must be submitted to the Wake County Inspections/Development Plans/Permits Division (I.D.P.P.) and Zoning Departments for their approval. Once these plans and site plans have been submitted to and approved by the I.D.P.P., Zoning Department and this office, your permit will be re-issued.

You may also appeal this decision with submission of adequate substantiating documentation under the provisions of N.C.G.S. 130A-24(b)&(c) and Wake County Human Services-Environmental Health Division Rules of Appeal by letter to:

Wake County Human Services Center
Attn.: Jonica Hinton, Executive Assistant
220 Swinburne Street
Raleigh, North Carolina 27620

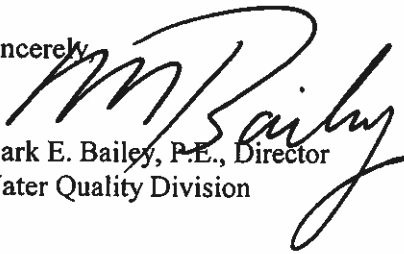
and

Wake County Department of Environmental Services
Attn: Rick Rowe, Department Director
Waverly Akins Wake County Office Building
PO Box 550
Raleigh, North Carolina 27602

*The Department asks that you send copies of the request for an appeal hearing to both parties to insure prompt processing of your request. An appeal must be made within 30 days of receipt of this letter or your appeal rights are forfeited.

If you have any questions, please contact Eric Green at 919-795-3144 between 8:30 and 10:00 AM Monday-Friday.

Sincerely,


Mark E. Bailey, P.E., Director
Water Quality Division

Enclosures

cc: Scott W. Warren, Esq., Wake County's Attorney's Office
Richard K. Rowe, R.S., Director, Wake County Department of Environmental Services
Kent Daeke, R.S., Supervisor, Wake County Environmental Services
Wake County Inspections/Development Plans/Permits Division and Zoning Departments
File
Additional
Additional