Supervisor/Administrative Professional Checklist

New Septic ☑ **New Well** ☐ **Use Existing** ☐ **Alteration** ☐ **Modified Plot Plan** ☐

New Septic Fees Paid:

IP ($250.00) MSB 9/19/14 Initials/Date

CA ($200.00) LE 8/26/16 Initials/Date

OP ($200.00) LE 8/26/16 Initials/Date

(CA and OP fees need to be paid before a building permit can be issued)

New Well Fee Paid: $550.00 _____ Initials/Date

Use Existing Fee Paid: $100.00 _____ Initials/Date

Alteration Fee Paid: $300.00 (Total) $200 (If use existing was paid)_____ Initials/Date

Modified Plot Plan Fee Paid: $100.00 _____ Initials/Date

Floor plans need to be submitted and reviewed before CA can be issued. ☑ Reviewed ☑ SAM 8-29-16

This site is served by septic and well. Verify each is complete before final hold is released. ☐

Septic file completed. ☐ _____ Well file completed. ☐ _____

Send permit for signature. ☑ Signature received. ☑ 11/19/14

This septic system requires a certified operator contract before final hold is released. ☐

Certified operator contract is on file. ☐ _____

Please scan to WASP for Modified Plot Plan App# 8961 & generate CA dated 6-5-2017

Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 9023B WASPS App #: 7028

Primary ES assigned to project: Shelby Ledford

Secondary ES assigned to project: _____

Project Type: New System ☑ Alteration ☐ Repair ☐ Modified Plot Plan ☐

I. File Review:

Rule or Law	Permit Application			
.1937(d)	Is the Application complete	Yes ☑	No ☐	N/A ☐
.1937(d)	Is there a Site plan/Plat with application	Yes ☐	No ☐	N/A ☑ Used consultants Plan
.1937(d)	Is the Facility shown?	Yes ☑	No ☐	N/A ☐
.1937(d)	Are appurtenances shown	Yes ☑	No ☐	N/A ☐
	Site Evaluation Information			
.1939 (a)(1)	Topography and Landscape Position Recorded?	Yes ☑	No ☐	N/A ☐
.1940 (a-g)	Slope % Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Texture Class Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Structure type Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Consistence Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Mineralogy Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(3)	Soil Wetness Condition Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(4)	Soil Depth to Rock or Parent Material Recorded When Encountered	Yes ☑	No ☐	N/A ☐
.1939 (a)(5)	Depth to Restrictive Horizons Recorded When Encountered?	Yes ☐	No ☐	N/A ☐
.1939 (a)(6)	Sufficient Available Space Recorded?	Yes ☑	No ☐	N/A ☐
.1937(m)	Are the Profile Locations Shown?			
.1939(a)	Are the S/PS Profiles in system & in repair area?	Yes ☑	No ☐	N/A ☐
& .1945(b)	Number of auger borings made: 4 Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR 0.3	Yes ☑	No ☐	N/A ☐
	Improvement Permit/Construction Authorization			
.1937(g) 130A-336(a)	Proposed System Type stated-Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Proposed System Type stated-Repair	Yes ☑	No ☑	N/A ☐
130A-336 (a)(3)	System location identifiable by setbacks - Initial	Yes ☑	No ☐	N/A ☐
.1937(g) .1945(b)	System components shown – Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Repair area shown	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Does System design match facility, flow & WWcharacteristics?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is System design consistent with soil/site conditions?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is the System located in the approved area?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Is the Design flow (gpd) indicated?	Yes ☑	No ☐	N/A ☐

130A-336(a)	Number of Bedrooms, employees, seats, etc. indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench depth indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench width indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench length indicated?	Yes ☑	No ☐	N/A ☐
130A-336(a)(1)	Proposed/existing well shown?	Yes ☐	No ☐	N/A ☑
130A-336(a)(1)	Property line lengths shown?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Facility/appurtenance setbacks shown from fixed points?	Yes ☑	No ☐	N/A ☐
	Operation Permit			
.1937(i)	System type as described in table V(a) of rule .1961	Yes ☑	No ☐	N/A ☐
.1937(i)	Conditions for system performance, operation, maintenance, monitoring and reporting.	Yes ☑	No ☐	N/A ☐

II. WASPS Review:

Construction authorization issued	Yes ☐	No ☐	N/A ☐
Installation approval issued	Yes ☐	No ☐	N/A ☐
Operation permit issued	Yes ☐	No ☐	N/A ☐
Other related documentation	Yes ☐	No ☐	N/A ☐

Items requiring correction/modification: _____

Comments:

_____

_____

_____

_____

_____

IA issued date: 6-7-17

OP issued date: 6-9-17

Review performed by: Sam Date performed: 11/7/17

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID: 139-034-01
Lot #: 82
File #: 9023B
AppID: 7078

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Property Owner: Redus Charlotte Housing
Address: 3563 Phillips Hwy, Jacksonville, FL 32207
Proposed Facility: 5 Bedroom House
Design Flow (.1949): 600 GPD
Location of Site: 7837 Deerbridge St, Mint Hill, NC 28227
Water Supply: [X] Public [X] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [X] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Paul Carty w/ Wells Fargo
Date Evaluated: 9/25/2014
Property Size: 0.877 ac
Property Recorded: Unknown

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr. Horiz	General Comments	Profile Class & LTAR	Maximum Trench Bottom, Depth for 3' Wide Conventional Trench
Pit #1	LS 9%	0 - 6	gr L	FR SEXP	>40"	34	NA	NA		PS IV 0.25	19"
		6 - 10	wfsbk CL	FR SEXP							
		10 - 24	wmabk C	FI SEXP							
		24 - 34	wmsbk CL	FR SEXP							
		34 - 40	Rock w/Sap								
Pit #2	LS 10%	0 - 10	gr SL	FR SEXP	>52"	52	NA	NA		PS IV 0.3	36"
		10 - 52	mfabk C	FI SEXP							
Pit #3	LS 10%	0 - 7	gr SL	FR SEXP	2 chroma @ 48"	53	NA	NA		PS IV 0.3	32"
		7 - 12	wfsbk CL	FR SEXP							
		12 - 45	mmabk C	FI SEXP							
		45 - 53	wmsbk C	FI SEXP							
Pit #4	LS 10%	0 - 7	gr SL	FR SEXP	>47"	47	NA	NA		PS IV 0.3	31"
		7 - 12	wmsbk CL	FR SEXP							
		12 - 47	mmabk C	FI SEXP							

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	IIIg	IIIa
Site LTAR (gpd/sq ft)	0.3*	0.3*

*LTAR valid only for area near pits 2, 3, & 4

Other Factors (.1946):
Soil Evaluation By: Jacob Presley, REHSI, LSS
Others Present: Wendell Overby, LSS
Site Classification (.1948): PS
Site Evaluation By: Shelby Hedrick
Others Present: Shelby Hedrick REHSI

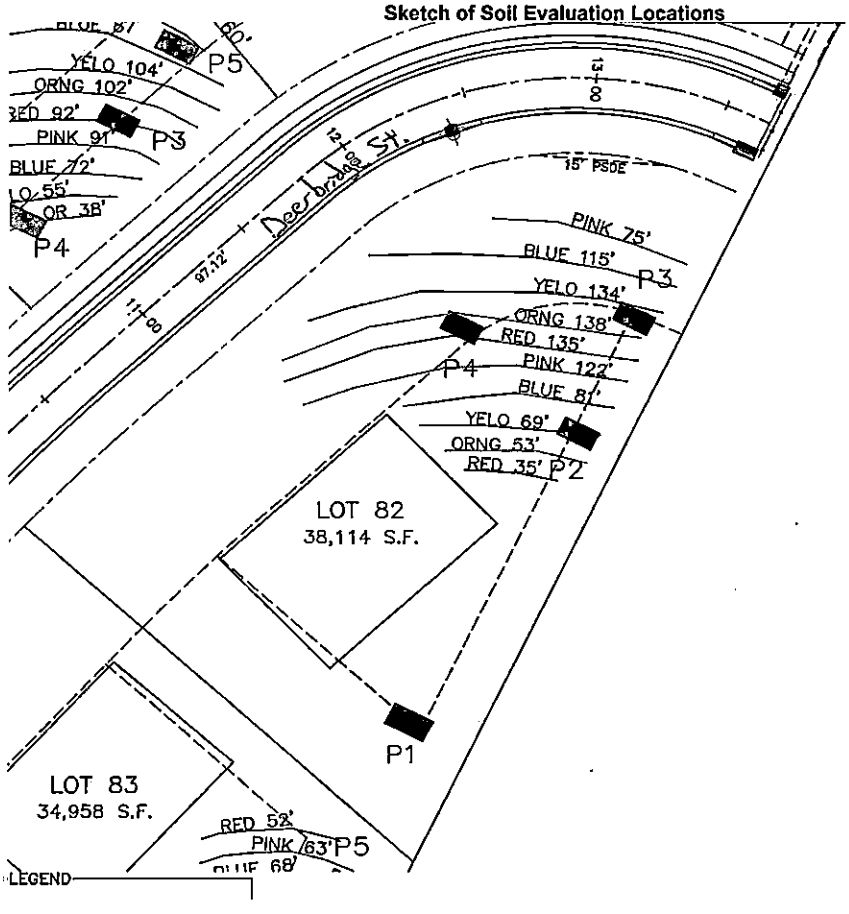
COMMENTS:

Sheet: 2 of 2
File #: 9023B
AppID: 7078

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	sg-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		mass-Massive
LS-Linear Slope				cr-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	gr-Granular
NS-Nose Slope		L-Loam		sbk-Subangular Blocky
HS-Head Slope				abk-Angular Blocky
CC-Concave Slope	III	Si-Silt	0.6 - 0.3	pl-Platy
CV-Convex Slope		SiCL-Silty Clay Loam		pr-Prismatic
T-Terrace				Sap-Saprolite
FP-Flood Plain		CL-Clay Loam		**Structure Prefixes**
D-Drainage Way		SCL-Sandy Clay Loam		w-weak
				m-moderate
		SiL-Silt Loam		s-strong
				f-fine
	IV	SC-Sandy Clay	0.4 - 0.1	m-medium
		SiC-Silty Clay		c-coarse
		C-Clay		

Consistence	Consistence	Mineralogy
Moist	**Wet**	SEXP-Slightly Expansive
VFR-Very Friable	SS-Slightly Sticky	EXP-Expansive
FR-Friable	S-Sticky	
FI-Firm	VS-Very Sticky	**Classification**
VFI-Very Firm	NP-Non-Plastic	US-Unsuitable
EFI-Extremely Firm	SP-Slightly Plastic	PS-Provisionally Suitable
	P-Plastic	S-Suitable
	VP-Very Plastic	NA-Not Applicable

Sketch of Soil Evaluation Locations



SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

June 21, 2017

Mecklenburg County Groundwater and Wastewater Services
Attn: April Bumgarner
700 N. Tryon Street, Suite 211
Charlotte, NC 28202

Re: Lot 82 Stonebridge

Dear Mrs. Bumgarner,

RCS, Inc. recently installed a 3-bedroom accepted septic system for lot 82 of Stonebridge Subdivision. The system uses gravity distribution of the wastewater. S&FS initially flagged the proposed septic trenches for the installer. Based on our layout, discussion with the installer, and inspection by Mecklenburg GWS we are satisfied with the system installation.

Sincerely,

Wendell Overby
NC Licensed Soil Scientist
NC Registered Forester

LICENSED SOIL SCIENTIST
JAMES WENDELL OVERBY
1218
STATE OF NORTH CAROLINA

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	09/19/14	**Amount:**	250.00
Receipt #:	90820	**Tendered:**	250.00
Check / Auth #:	CHECK 1615	**Returned:**	0.00
Received By:	BEACHMS		

Account Information

Account #: 200000
Contractor: LIVE WELL HOMES, LLC
Attn:
Address: PO BOX 1345
Address:
City/State/Zip: FT MILL, SC 29716

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 7849 DEERBRIDGE STREET		1	250.00	250.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
	587.40		270.00	1,859.65	

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30007078** GWS File #: **9023B** Tax Parcel #: **139-034-01**

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be NO grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 11/3/2019

Type of Installation: Residential - New System Lot Number: 82

Structure Type: HOUSE Size (ft^2): 3000 # Bedrooms: 5 # Occupants: 4

Building Foundation: Crawl Space Water Supply: Municipal

II. Initial System Type: Accepted **System Classification:** IIIg

Initial System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	N/A
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	1500	Total Trench Length (ft):	500
Maximum Trench Depth (in):	30	Depth of Media (in):	12	Distribution Device:	Drop Boxes		

III. Repair System Type: PPBPS (pressurized) **System Classification:** IVa

Repair System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	0.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	1000	Total Trench Length (ft):	333
Maximum Trench Depth (in):	30	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Shelby Ledford Owner/Legal Agent: Brad Cardwell
Print Name

Signature: Shelby Ledford Signature: Bradley D. Cardwell

Date Issued: 11/3/2014

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30007078** GWS File #: **9023B**

IV. Permit Conditions/Comments:

- This type of repair system requires the installation of a pump tank and all associated components. This type of system will require routine inspections by our office. The system owner is responsible for all fees associated with these inspections.
- This type of repair system requires the property owner to obtain a contract with a Certified Operator to perform routine inspections and maintenance on the system.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across any part of the septic system.
- Foundation drains shall be constructed not to discharge water onto or across any part of the septic system.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

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- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Shelby Ledford

Signature: Shelby Ledford

Date Issued: 11/3/2014

Owner/Legal Agent: Brad Cardwell
Print Name

Signature: Bradley D. Cardwell

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

A design for a 5 Bedroom Innovative Septic System using gravity distribution for lot 82 of Stonebridge Subdivision
7837 Deerbridge Street, Mint Hill

Contents: **Page**

Information for the Installer ---- 1

Design Information
- Design Specifications ---- 2-3
- Layout Specifications ---- 4
- Repair Flow ---- 5

Site Plan ---- 6

Septic Tank Diagram ---- 7

Calculations ---- 8

Revised

October 2014
Design By: W. Overby

GWS Septic System Design Review

GWS File #: 9023B Approved Disapproved

Design Review: ☑ ☐

Field Review: Shelby Ledford ☑ ☐

*Projects are not considered "APPROVED" until both sections above are completed and indicate an APPROVED status.

Stonebridge Lot 82

Repair (PPBPS)

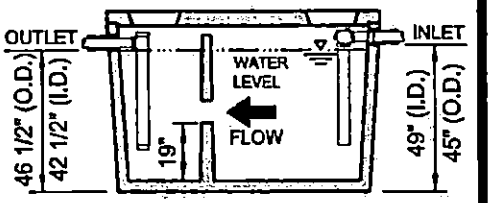
DESIGN SPECIFICATIONS

Line #	Color	#Panels	#Holes Panel	ft Line Length	Hole Size	ft Line Head	gpm Line Flow
3	Yellow	15	1	69	5/32"	2	6.15
4a	Blue	9	1	41	5/32"	2	3.69
4b	Blue	9	1	40	5/32"	2	3.69
5a	Pink	13	1	57	5/32"	2	5.33
5a	Pink	12	1	56	5/32"	2	4.92
10	Pink	16	1	70	5/32"	2	6.56
		74		333			30.34

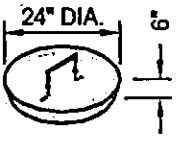
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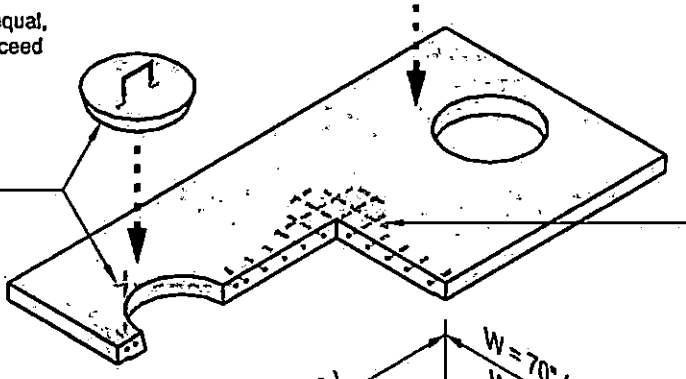
GENERAL NOTES:

1. Design specifications conform to latest ASTM C1227 specifications "Precast Concrete Water and Wastewater Structures"
2. Concrete compressive strength 4,000 psi minimum.
3. Steel reinforcing design to conform to the requirements of ASTM C890 specifications for "Structural Design Loading for Water and Wastewater Structures" and shall utilize grade 60 re-bars conforming to the requirements of ASTM A615 or WWF conforming to the requirements of ASTM A185 or both. Place Additional reinforcing at all openings.
4. Optional EZ-set lid cast in place. Supplied by Dellinger Precast. To be field adjusted using approved methods by contractor.
5. Pipe penetration locations as per job requirements. Pipe inlet and outlet locations to have PSX Direct Drive boots or equal. Pipe Inlet locations (typical 3 sides) to be knock out pannels. Effluent Filter supplied by Dellinger. Inlet Tee & Pipe supplied by contractor.
6. Joints to be sealed with ConSeal CS102. butyl rubber joint sealant or equal. Sealant meets or exceeds the requirements of latest federal specification SS-S-0021(210-A), AASHTO M-198B, and ASTM C-990-91.
7. Lift Insert / Lift Eye Pin by M.A Industries or equal, Cast-In by Dellinger Precast. Lifts meet or exceed OSHA requirements.
8. Method of namufacture is Wet Cast.
9. Sections are monolithic. Weights:
   Top Slab 3,134 ± lbs.
   Base Section 9,751 ± lbs.
10. I.D. = Inside dimension
    O.D. = Outside dimension
    L = Length
    W = Width
    H = Height

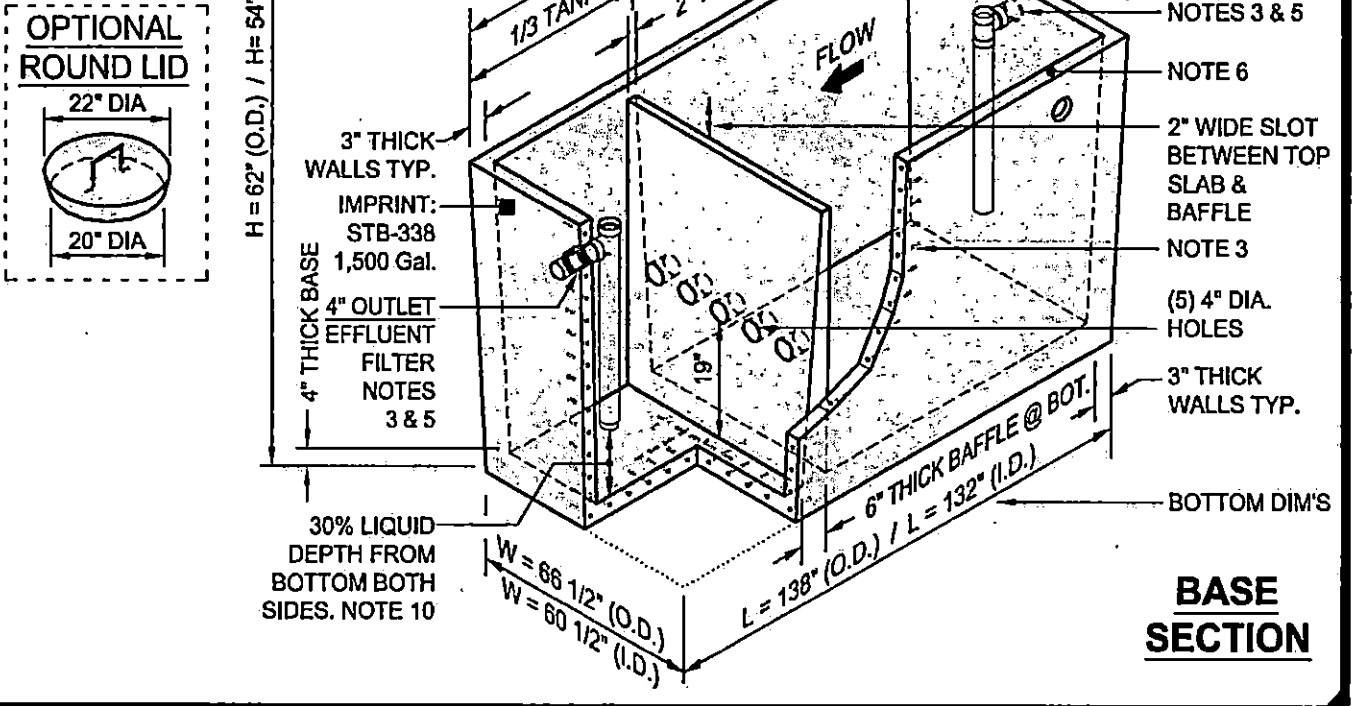


ELEVATION





TOP SLAB



BASE SECTION

OPTIONAL ROUND LID

DELLINGER PRECAST

1,500 Gallon (Top Slab) SEPTIC TANK

Scale: Not To Scale

Revision Date: February 2008

Detail # ST-1,500-TS

4531 North Hwy 16 • Denver, N.C. 28037 • Phone: 800-948-1666 • 704-483-2868 • Fax: 704-483-2363

CALCULATIONS

Location Stonebridge

Project Number 13-1025

Lot No: 82

No. of Bedrooms 5

Design Flow 600 $^{gal}/_{day}$

LTAR 0.3 $^{gal}/_{ft^2 day}$

Innovative? (YES OR NO) yes

Supply Line Length 0 ft.

Supply Line Volume 0 gal.

Required Feet of Line 500 ft.
Amount of Line from Layout 500 ft.

Gallons per Minute 0.00 $^{gal}/_{min}$

Required Septic Tank Capacity 1500 gal.
Minimum Standard Tank Size 1500 gal.

Lateral Line Volume 0 gal.

Dosing Volume 0.00 gal.

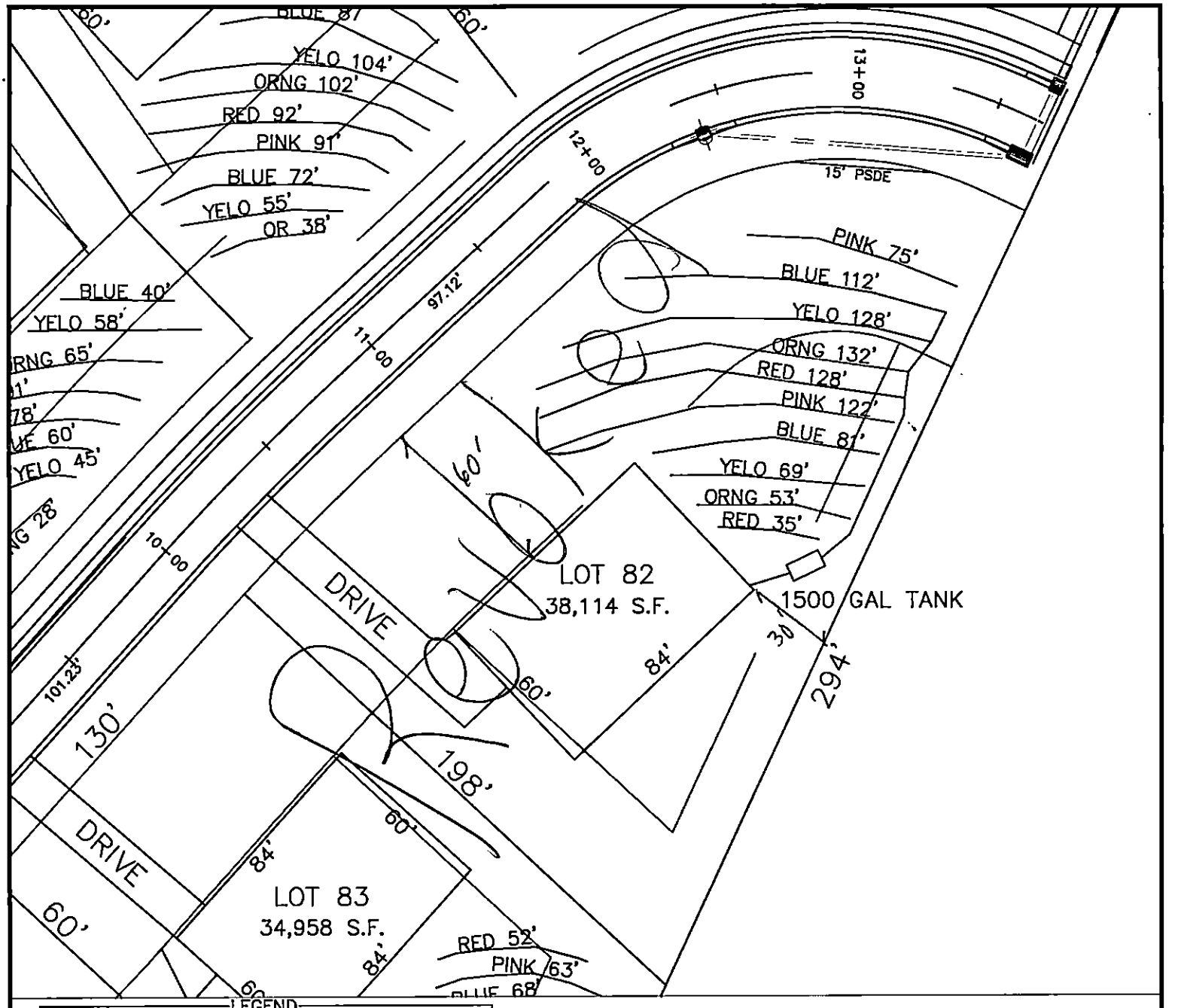
Tank Draw Down 0.0 in.
Generic Draw Down of 29 gal.per in.

Pump Run Time 0.00 minutes

Elevation Head 0 ft.
Pressure Head 0 ft.
Friction Factor 0 ft./100 ft. *(From the interpolater.)*
Friction Head 0.00 ft.
Total Dynamic Head (+15%) 0.00 ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
26	1.37
30	1.78
	-1.76
35	2.37
37	2.63
40	3.03
42.4	3.39
45	3.77
46.51	4.01
50	4.58
57.11	5.89
60	6.42



LEGEND

LINE #	COLOR	IN FIELD LENGTH
1	RED	35'
2	ORANGE	53'
3	YELLOW	69'
4	BLUE	81'
5	PINK	122'
6	RED	135'
7	ORANGE	138'
8	YELLOW	134'
9	BLUE	115'
10	PINK	75'

5 BEDROOM
SYSTEM INFO: ACCEPTED TRENCH; .3 LTAR
REPAIR INFO: PPBPS TRENCH; .3 LTAR

GRAPHIC SCALE
1" = 50'

50' 0 50' 100'

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

Figure 1. Septic System Layout and House Plan Layout performed by S&FS

SHEET TITLE:
SEPTIC SYSTEM LAYOUT/PRELIM SITE PLAN SKETCH MAP

PROJECT NAME:
LIVEWELL HOMES
STONEBRIDGE LOT 82
MECKLENBURG COUNTY, NORTH CAROLINA
October 2014

Soil & Forestry Services of the Carolinas, PA
P.O. Box 832
Mooresville, NC 28115

SCALE 1"=
PROJECT NO. 13-1023

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 DEHNR, and certification supplied by the manufacturer.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied 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 hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- 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.
- Elevations at pinflag locations should be checked by the installer prior to beginning
- Septic tank riser shall be a minimum of 6" above finished grade.
- **System specified as accepted type using gravity distribution**
- **Repair specified as accepted type using gravity distribution**
- **System trench depth specified at 30"**
- **System trenches installed on 9' minimum; 3' wide trenches**
- **See Figure 1. Septic System Layout and House Plan**

GRAVITY DOSED ACCEPTED SYSTEM FOR WASTEWATER TREATMENT

Applicant:	LiveWell Homes
Contact:	Keith Bell
Phone:	
County:	Mecklenburg
Location:	Stonebridge Lot 82

Source of Wastewater Flow:	3 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	360 gpd
System Flow:	gpm

Design Specifications

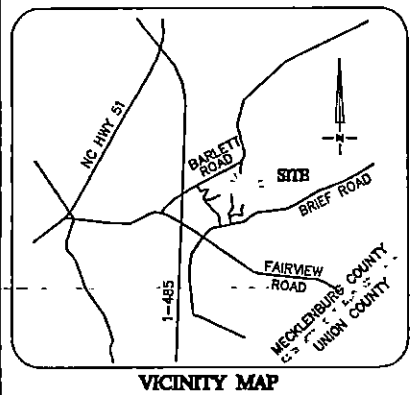
Drainfield Size:	300	lf
Loading Rate:	0.3 gpd/ft.^{2}	
Depth of Gravel in Trench:	n/a	
Gravel Size:	n/a	
Trench Depth:	30	in
Trench Width:	36 in.	
Septic Tank Size:	1000	
Pump Tank Size:	~~1000~~ N/A	
Estimated Supply Line Length:	0	lf
Supply Line Diameter:	N/A	
Supply Line Volume:	0.00	gal
Dosing Volume:	0.00	gal

Recommended Float Controls:

Recommended Control Panel:

Pressure Head:	0	
Friction Head:	0.00	ft
Elevation Head:	0.00	ft
Total Dynamic Head:	0.00	ft
Threaded Union:	N/A	
Gate Valves:	N/A	
Check Valves:	N/A	
Anti-Siphon Hole:	N/A	
Recommended Pump:		

NOTE:
1. BUILDER ASSUMES RESPONSIBILITY FOR GRADING LOT AND/OR DESIGNING STEPS, PORCHES, DECKS, ETC. AS NECESSARY TO PREVENT ENCROACHMENT INTO SETBACKS.
2. HOUSE DIMENSIONS AND OPTIONS SHOULD BE VERIFIED WITH CONTRACTOR PRIOR TO CONSTRUCTION.
3. SETBACKS/ EASEMENTS SHOULD BE VERIFIED WITH DEVELOPER AND LOCAL OFFICIALS PRIOR TO CONSTRUCTION.
4. THIS IS A CONCEPTUAL DRAWING AND CONTENTS SHOWN HEREON ARE SUBJECT TO CHANGE UPON FINAL CONSTRUCTION.

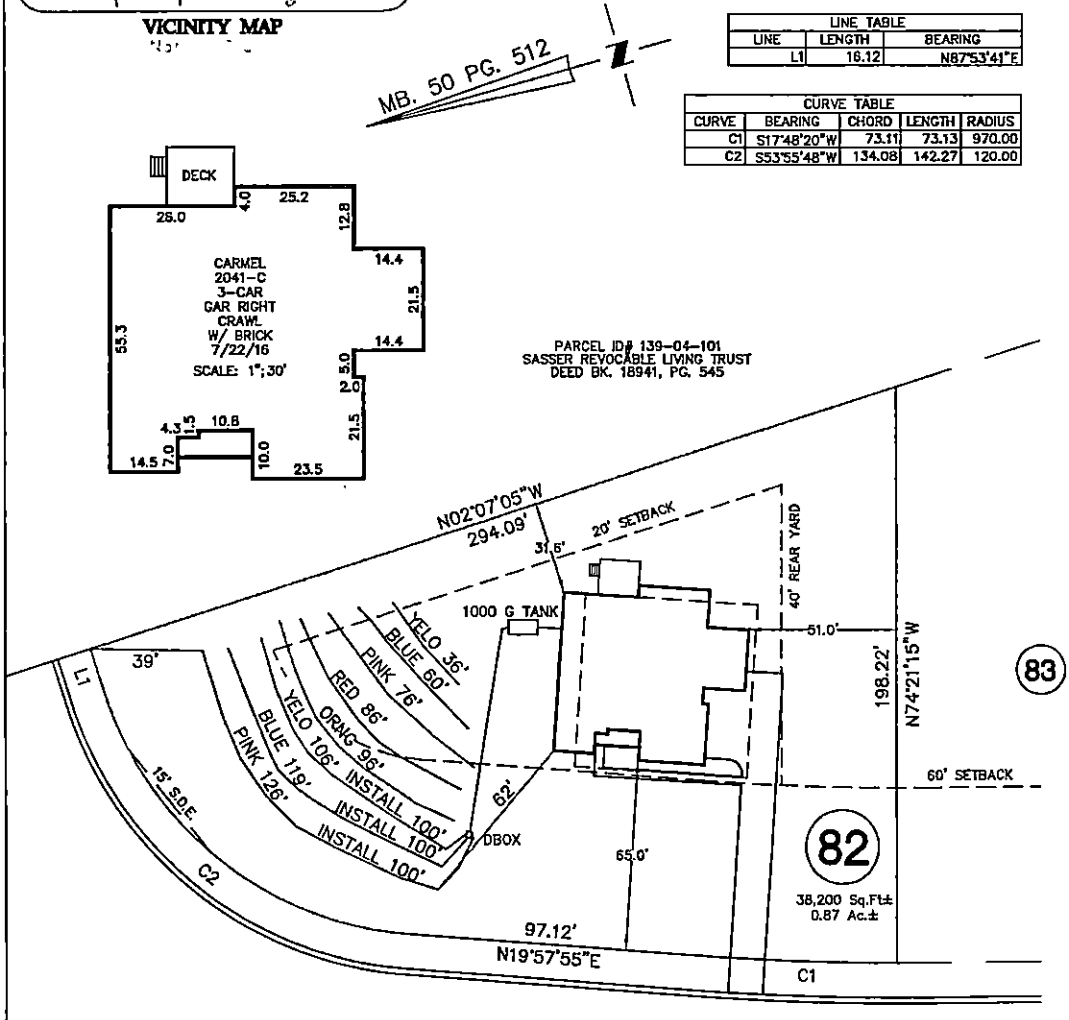


VICINITY MAP

FIGURE 1. SITE PLAN & SEPTIC LAYOUT. LAYOUT BY S&FS

LINE TABLE		
LINE	LENGTH	BEARING
L1	16.12	N87°53'41"E

CURVE TABLE				
CURVE	BEARING	CHORD	LENGTH	RADIUS
C1	S17°48'20"W	73.11	73.13	970.00
C2	S53°55'48"W	134.08	142.27	120.00



#7849 DEERBRIDGE STREET

60' PUBLIC R/W

REV. #	DATE	COMMENT
REV. #1	8/4/16	SHIFTED LEFT 5'

THIS PROPERTY MAY BE SUBJECT TO ANY AND ALL APPLICABLE DEED RESTRICTIONS, EASEMENTS, RIGHT-OF-WAY, UTILITIES AND RESTRICTIVE COVENANTS WHICH MAY BE OF RECORD OR IMPLIED

B

THIS DRAWING DOES NOT REFLECT AS-BUILT INFORMATION

PRELIMINARY PLAT
NOT FOR RECORDATION, CONVEYANCES, OR SALES

50 0 50
SCALE: 1" = 50'

HOUSE LOCATION PLOT PLAN
FOR

LOT 82, STONEBRIDGE, PHASE 2 MAP 3
Town of Mint Hill, Mecklenburg County, North Carolina

PROPERTY OF: LIVEWELL HOMES

MAP BOOK 50 PAGE 512 DEED REFERENCE

DRAWN BY: ERG | DATE: JULY 28, 2016

EASTOVER
LAND SURVEYING COMPANY, P.A.
LAND SURVEYORS - PLANNERS (C-1833)
10430 PARK ROAD, SUITE #300
CHARLOTTE, NORTH CAROLINA 28210
PHONE (704) 927-8080
FAX (980) 309-0842

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 DEHNR, 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 natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied 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 hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- 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.
- Elevations at pinflag locations should be checked by the installer prior to beginning
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- **System specified as innovative type using gravity distribution**
- **Repair specified as PPBPS type using LPP distribution**
- **System trench depth specified at 30"**
- **System trenches installed on 9' minimum; 3' wide trenches**
- **See Figure 1. Septic System Layout and House Plan**

GRAVITY DOSED INNOVATIVE SYSTEM FOR WASTEWATER TREATMENT

Applicant:	LiveWell Homes
Contact:	Brad Cardwell
Phone:	704 787-0517
County:	Mecklenburg
Location:	Stonebridge Lot 82

Source of Wastewater Flow:	5 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	600 gpd
System Flow:	gpm

Design Specifications

Drainfield Size:	500	lf
Loading Rate:	0.3 gpd/ft.^{2}	
Depth of Gravel in Trench:	n/a	
Gravel Size:	n/a	
Trench Depth:	30	in
Trench Width:	36 in.	
Septic Tank Size:	1500 gal.	
Pump Tank Size:	1500 gal.	
Estimated Supply Line Length:	0	lf
Supply Line Diameter:	N/A	
Supply Line Volume:	0.00	gal
Dosing Volume:	0.00	gal

Recommended Float Controls:

Recommended Control Panel:

Pressure Head:	0	
Friction Head:	0.00	ft
Elevation Head:	0.00	ft
Total Dynamic Head:	0.00	ft
Threaded Union:	N/A	
Gate Valves:	N/A	
Check Valves:	N/A	
Anti-Siphon Hole:	N/A	

Recommended Pump:

Stonebridge Lot 82
INNOV Design

DESIGN FLOW:	600	gpd
SOIL APPLICATION RATE:	0.3 gpd/ft.^{2}	
TOTAL AREA TRENCH BOTTOM:	1500	sf
TOTAL LATERAL LENGTH:	500	lf
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	500	lf
SUPPLY LINE LENGTH:	0	lf
TOTAL DYNAMIC HEAD:	0.00	gpm
DOSING VOLUME:	0.00	gal
PUMP TANK DRAW DOWN*:	0.0	in
SEPTIC TANK SIZE:	1500 gal.	
PUMP TANK SIZE:	N/A	
RECOMMENDED PUMP:	N/A	

**Pump tank draw down based on a volume basis of 29 gallons per inch. Draw down may vary among pump tank manufacturers.*

Stonebridge Lot 82

Layout for a 5 bedroom home — Oct 2014

LINE #	FLAG COLOR	BS	HI	FS	ELEV	FLAGGED LINE LENGTH	DESIGN LENGTH
TBM		1.7			100.0		
INSTR. 1			101.7				
			REPAIR				
1	Red		extra	4.20	97.5	35	
2	Orange		extra	5.60	96.1	53	
3	Yellow			7.10	94.6	69	69
4	Blue			8.20	93.5	81	81
5	Pink			9.20	92.5	122	113
			SYSTEM				
6	Red			10.30	91.4	135	128
7	Orange			7.70	94.0	138	132
8	Yellow			9.10	92.6	134	128
9	Blue			10.10	91.6	115	112
			REPAIR				
10	Pink			10.70	91.0	75	70

	LINE LENGTH	LTAR GPD/FT	SYSTEM TYPE	REDUCTION TYPE	DIST	TRENCH DEPTH
SYSTEM	500	0.300	INNOV	25%	GRAVITY	30
REPAIR	360	0.300	MOD	50%	LPP	32

Notes:

** TBM located at back left house stake
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS and FS indicate rod readings

S

FEE: 200.00
DATE:8/30/2016

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 9023B

PERMIT NUMBER: 30007078

PARCEL NUMBER: 13903401

JOB LOCATION INFORMATION

ADDRESS: 7837 DEERBRIDGE ST

CITY: CHARLOTTE **STATE: NC** **ZIP:** 28227

ISSUED TO: Redus Charlotte Housing LLC

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 8/30/2016

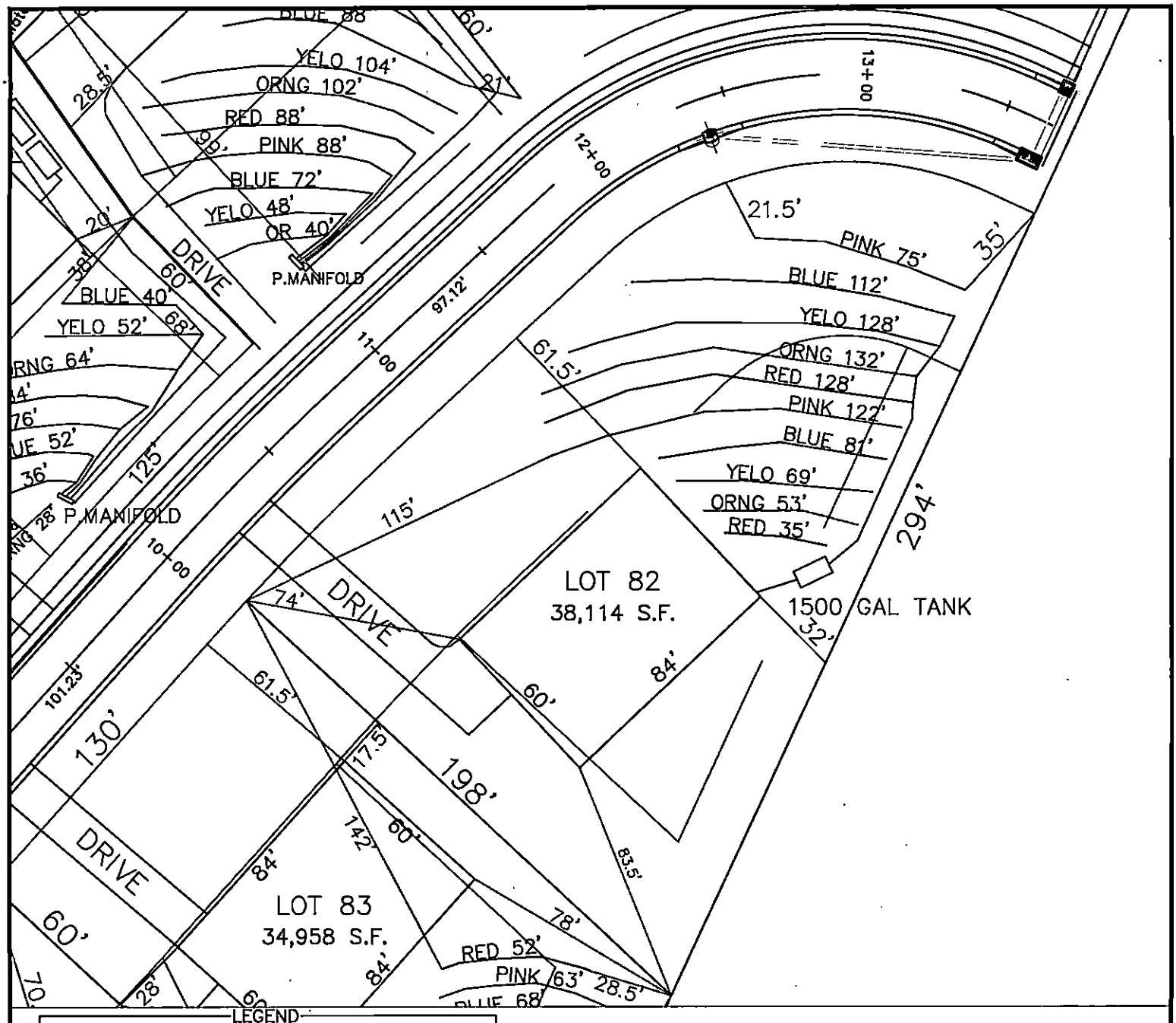
CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30007078, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. A PRE-CONSTRUCTION MEETING MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A LICENSED SEPTIC TANK CONTRACTOR WITH THE NORTH CAROLINA ONSITE WASTEWATER CONTRACTOR INSPECTOR CERTIFICATION BOARD.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. THIS CONSTRUCTION AUTHORIZATION AS PROVIDED IN G.S. 130A-335(f) AND G.S. 130A-336(b) SHALL BE VALID FOR A PERIOD EQUAL TO THE VALIDITY OF THE IMPROVEMENT PERMIT, NOT TO EXCEED 60 MONTHS.



LEGEND

LINE #	COLOR	IN FIELD LENGTH
1	RED	35'
2	ORANGE	53'
3	YELLOW	69'
4	BLUE	81'
5	PINK	122'
6	RED	135'
7	ORANGE	138'
8	YELLOW	134'
9	BLUE	115'
10	PINK	75'

5 BEDROOM
SYSTEM INFO: ACCEPTED TRENCH; .3 LTAR
REPAIR INFO: PPBPS TRENCH; .3 LTAR

GRAPHIC SCALE
1" = 50'

50' 0 50' 100'

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

Figure 1. Septic System Layout and House Plan Layout performed by S&FS

SHEET TITLE:
SEPTIC SYSTEM LAYOUT/PRELIM SITE PLAN SKETCH MAP

PROJECT NAME:
LIVEWELL HOMES
STONEBRIDGE LOT 82
MECKLENBURG COUNTY, NORTH CAROLINA
October 2014

Soil & Forestry Services of the Carolinas, PA
P.O. Box 832
Mooresville, NC 28115

SCALE 1"=50'
PROJECT NO. 13-1025