Supervisor/Administrative Professional Checklist

New Septic [X] New Well [ ] Use Existing [ ] Alteration [ ] Modified Plot Plan [ ]

New Septic Fees Paid:

IP ($250.00) LE 3/24/16 _____ Initials/Date

CA ($200.00) LE 6/12/17 _____ Initials/Date

OP ($200.00) LE 6/12/17 _____ Initials/Date

File Complete when CA is Issued.

(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 [✓] JAM 6-23-16

OK to Generate CA once fees are paid.

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. [✓] _____

This septic system requires a certified operator contract before final hold is released. [✓]

Certified operator contract is on file. [ ] _____

OK to release CM 0005 [illegible] and Port.

[illegible] NOV

Groundwater & Wastewater Services: Septic Project File & D

GWS File #:	9433B
WASPS App #:	8119
Primary ES assigned to project:	Bryan Davenport
Secondary ES assigned to project:	
Project Type:	New System
Site Evaluation Information: .1939(a)(1) - Topography and Landscape Position Recorded?	Yes
Site Evaluation Information: .1940(a-g) - Slope % Recorded?	Yes
Site Evaluation Information: .1939(a)(2) - Texture Class Recorded?	Yes
Site Evaluation Information: .1939(a)(2) - Structure Type Recorded?	Yes
Site Evaluation Information: .1939 (a)(2) - Consistence Recorded?	Yes
Site Evaluation Information: .1939(a)(2) - Mineralogy Recorded?	Yes
Site Evaluation Information: .1939(a)(3) - Soil Wetness Condition Recorded?	Yes
Site Evaluation Information: .1939(a)(4) - Soil Depth to Rock or Parent Material Recorded when Encountered?	Yes
Site Evaluation Information: .1939(a)(5) - Depth to Restrictive Horizons Recorded when Encountered?	N/A
Site Evaluation Information: .1939(a)(6) - Sufficient Available Space Recorded?	Yes
Site Evaluation Information: .1937(m) - Are the Profile Locations Shown?	Yes
Site Evaluation Information: .1939(a) - Are the S/PS Profiles in system & in repair area?	Yes
Site Evaluation Information: .1939(d), .1955, .1956, .1957 - LTAR	Yes
Improvement Permit/Construction Authorization: .1937(g), 130A-336(a) - Proposed System Type stated - Initial	Yes
Improvement Permit/Construction Authorization: .1945(b) - Proposed System Type stated - Repair	Yes
Improvement Permit/Construction Authorization: 130A-336(a)(3) - System location identifiable by setbacks - Initial	Yes
Improvement Permit/Construction Authorization: .1937(g), .1945(b) - System components shown - Initial	Yes
Information Permit/Construction Authorization: .1945(b) - Repair area shown	Yes
Improvement Permit/Construction Authorization: .1937(f)(g) - Does System design match facility, flow & WW characteristics?	Yes
Improvement Permit/Construction Authorization: .1937(f)(g) - Is System design consistent with soil/site conditions?	Yes
Improvement Permit/Construction Authorization: .1937(f)(g) - Is the System located in the approved area?	Yes
Improvement Permit/Construction Authorization: 130A-336(a) - Number of Bedrooms, employees, seats, etc. indicated?	Yes
Improvement Permit/Construction Authorization: .1937 (g) - Trench depth correct?	Yes
Improvement Permit/Construction Authorization: .1937(g) - Trench width correct?	Yes
Improvement Permit/Construction Authorization: .19379(g) - Trench length correct?	Yes
Improvement Permit/Construction Authorization: 130A-336(a)(1) - Proposed/existing well shown?	N/A
Improvement Permit/Construction Authorization: 130A-336(a)(1) - Property line lengths shown?	Yes

Improvement Permit/Construction Authorization: 130A-336(a) - Facility/appurtenance setbacks shown from fixed points?	Yes
Corrections/modifications needed?	No
Comments:	
IA issued date:	5-18-17
OP Issued date:	5-30-17
Review performed by:	Jeremy Michael
Date performed:	6/23/2016

Created at 6/23/2016 2:03 PM by Michael, Jeremy
Last modified at 6/23/2016 2:03 PM by Michael, Jeremy

Close

S

FEE: 200.00
DATE:6/12/2017

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 9433B

PERMIT NUMBER: 30008119

PARCEL NUMBER: 19507349

JOB LOCATION INFORMATION

ADDRESS: 3809 PIAFFE AVE

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

ISSUED TO: GRANDFATHER HOMES

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 6/23/2016

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30008119, 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, AND MAY BE ISSUED AT THE SAME TIME THE IMPROVEMENT PERMIT IS ISSUED.

X Bryce Dagnac
Signature

X40433

MECKLENBURG COUNTY
HEALTH DEPARTMENT

94338 # 8119

22 MAR '16 PM 3:36

APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

1. SEPTIC / TYPE APPLICATION: ○ N/A ☒ NEW SYSTEM ○ ALTERATION ○ REPAIR ○ MODIFIED PLOT PLAN

2. WELL / TYPE APPLICATION: ☒ N/A ○ NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

3. JOB LOCATION INFORMATION:

TAX PARCEL NUMBER: 19507355
STREET ADDRESS: 3809 Piatte Ave
CITY: Charlotte
STATE: NC ZIP: 28277
SUBDIVISION NAME: Cheval
LOT #: 50 LOT SIZE (acres): 1.3
TOWNSHIP:

○ MECKLENBURG ○ CORNELIUS ○ HUNTERSVILLE
○ DAVIDSON ○ CHARLOTTE ○ PINEVILLE
○ MATTHEWS ☒ MINT HILL

4. BUILDING INFORMATION:

BUILDING TYPE:

○ SINGLE MOBILE HOME ○ MODULAR HOME
○ DOUBLE WIDE ○ MULTIPLE FAMILY
☒ HOUSE ○ OTHER

HEATED SQUARE FOOTAGE: 5947
NUMBER OF BEDROOMS: 5
NUMBER OF OCCUPANTS: 5
FOUNDATION TYPE:

○ CONCRETE SLAB ○ BASEMENT WITH PLUMBING
☒ CRAWL SPACE ○ BASEMENT WITH NO PLUMBING

5. IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION: ☒ N/A

NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. WATER SUPPLY: ☒ MUNICIPAL ○ PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○ OTHER _____

7. PROPOSED USE OF WELL: ☒ N/A ○ IRRIGATION ○ POTABLE (DRINKING WATER) ○ OTHER _____

8. PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE *(1-MOST DESIRED 5-LEAST DESIRED)*:

☐ N/A ☐ ANY TYPE [1] CONVENTIONAL [3] ACCEPTED [2] INNOVATIVE [4] ALTERNATIVE ☐ OTHER _____

8A. RANK: ___ ___ ___ ___ ___

9. DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.

BURIED CABLES, LANDFILLS, STUMPHOLES	○ YES ☒ NO	GRADING/SOIL REMOVAL PERFORMED	○ YES ☒ NO
EXISTING WASTEWATER (SEPTIC) SYSTEMS	○ YES ☒ NO	JURISDICTIONAL WETLANDS	○ YES ☒ NO
WELLS, SPRINGS, OR WATER LINES	○ YES ☒ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	○ YES ☒ NO
EASEMENTS OR RIGHT-OF-WAYS	○ YES ☒ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	○ YES ☒ NO
CHEMICAL/PETROLEUM STORAGE TANKS	○ YES ☒ NO	KNOWN UNDERGROUND CONTAMINATION	○ YES ☒ NO
WASTE STORAGE	○ YES ☒ NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	○ YES ☒ NO

10. WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 8/23/2006 ☐ UNKNOWN

11. WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? 3/25/2017 ☐ N/A

12. PROPERTY OWNER:

NAME: Grandfather Homes
ADDRESS: 1111 Central Ave #320
CITY: Charlotte
STATE: NC ZIP: 28204
WORK PHONE: 980 219 7480
MOBILE PHONE: 336 953 2098
FAX: 704 910 6978
E-MAIL: missy@grandfatherhomes.com

13. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:

NAME: Missy Bagley
ADDRESS: 1111 Central Ave #320
CITY: Charlotte
STATE: NC ZIP: 28204
WORK PHONE: 980 219 7480
MOBILE PHONE: 336 953 2098
FAX: 704 910 6978
E-MAIL: missy@grandfatherhomes.com
Billing@

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

Revised on: 12/15/10

14. SEPTIC SYSTEM PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either sixty (60) months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

MB (Initial here for septic system applications)

15. WELL PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of twelve (12) months from the date of issuance.

_____ (Initial here for well applications)

16. APPLICATION SIGNATURE SECTION:

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. A proper signature is required in order to process your application. Please review the application carefully and sign in the space provided below. A PROPOSED PLOT PLAN is required to be submitted with each application.

M Bagley
Property Owner's or Owner's Legal Representative Signature

3/22/16
Date

OFFICE USE ONLY

○ SURVEY PLAT TO SCALE SUBMITTED ○ SCALED SITE PLAN SUBMITTED ○ UN-SCALED SITE PLAN SUBMITTED

SEPTIC APPLICATION FEE RECEIVED: $_____ DATE FEE RECEIVED: _____

WELL APPLICATION FEE RECEIVED: $_____ DATE FEE RECEIVED: _____

APPLICATION PROCESSED BY: _____

GWS FILE NUMBER ASSIGNED: _____

APPLICATION ID NUMBER ASSIGNED: _____

COMMENTS:

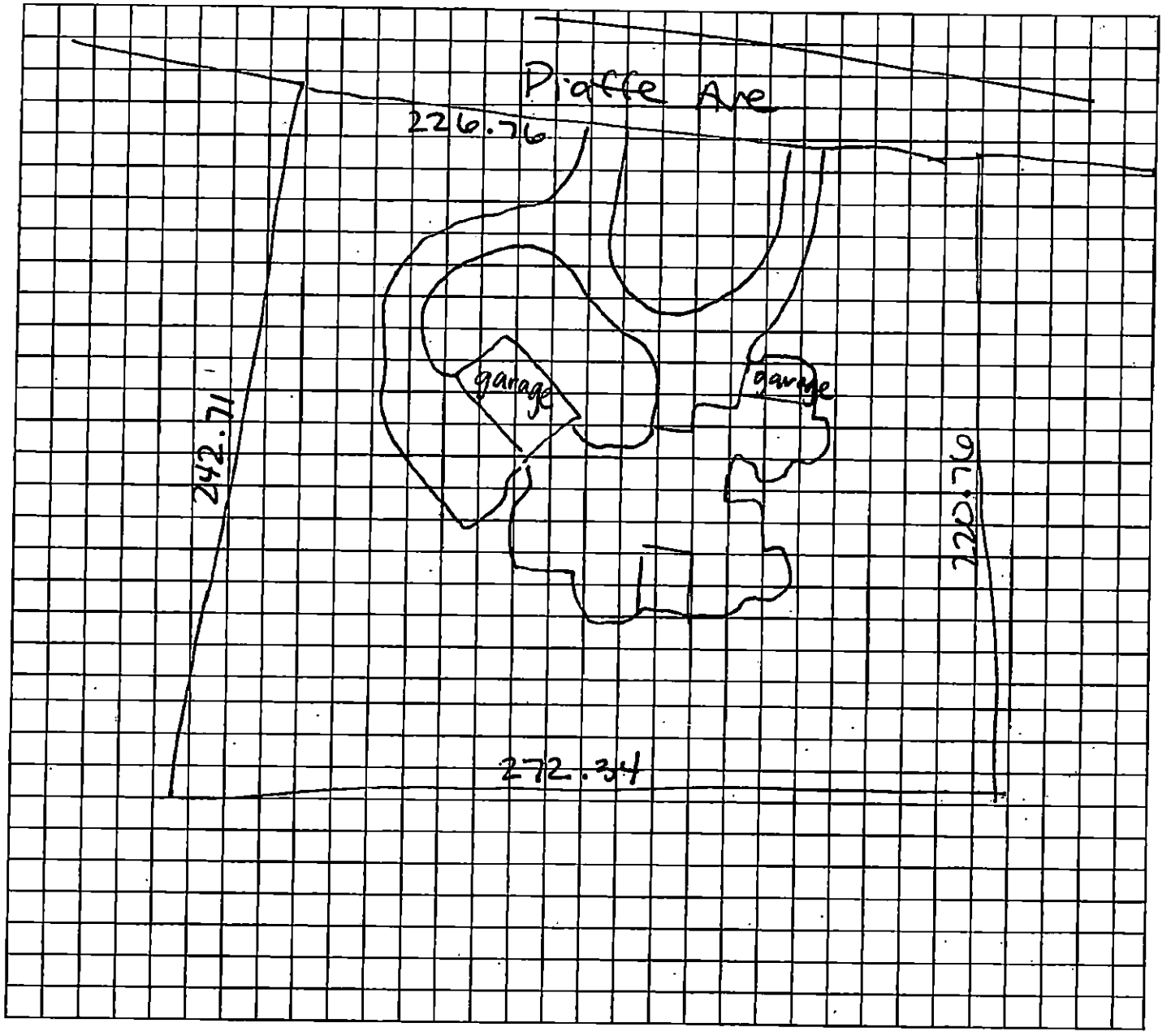
File #: _____

PROPOSED PLOT PLAN

A drawing showing the locations of the following items is required: existing and proposed property lines with dimensions, easements or right-of-ways, proposed building pad(s) or existing building footprint(s), all appurtenances (garage, driveway, deck, pool, etc.), location of existing or proposed well(s), location of existing or proposed sewer lines and sewage disposal systems, surface water bodies, and any aboveground or underground storage tanks. Provide names for all roads that adjoin the property.

Street Address: 3809 Piatte Ave Tax Parcel #: 19507355

Subdivision Name: Cheval Lot #: 50



M Bagley
Property Owner's or Owner's Legal Representative Signature

3/22/16
Date

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

Revised on: 12/15/10

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 03/23/16
Receipt #: 99575
Check / Auth #: MC 193809
Received By: ELLISLW

Amount: 250.00
Tendered: 250.00
Returned: 0.00

Account Information

Account #: 200000
Contractor: GRANDFATHER HOMES,INC
Attn: WILLIAMS,ROBERT
Address: 1111 CENTRAL AVE #320
Address:
City/State/Zip: CHARLOTTE, NC 28204

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 3809 PIAFFE AVE		1	250.00	250.00

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

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

Payment Receipt

Mecklenburg County POS

Environmental Health
700 N. Tryon Street
Charlotte, NC 28202
Phone: 704-336-5100

Enter Account # or Customer Name Here:
GRANDFATHER HOMES, INC

Bill To:

GRANDFATHER HOMES, INC
ROBERT WILLIAMS
1111 CENTRAL AVE #320

Charlotte, NC 28204

Single Payment

Transaction Date: 03/23/2016 7:33 AM Pacific Time
Pay Method: **********4925
Approval #: 193809
Trace Number: c31492a5-1049-493f-bd14-00f2da13c24d
Amount: $250.00

Payment Amount: $250.00

Total: $250.00

Thank you for your payment.

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

Property ID: 195-073-55
Lot #: 50
File #: 9433B
AppID: 8119

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Property Owner: Grandfather Homes
Address: 1111 Central Ave, Suite 320, Charlotte, NC 28204
Proposed Facility: 5 Bedroom House
Design Flow (.1949): 600 GPD
Location: 3809 Piaffe Ave, Charlotte, NC 28277
Water Supply: [ ] Public [ ] Individual [ ] Well
Evaluation Method: [X] Auger Boring [ ] Pit
Type of Wastewater: [X] Sewage [ ] Industrial Process

Applicant: Missy Bagley with Grandfather Homes
Date Evaluated: 3/31/16
Property Size: 1.3 ac
Property Recorded: Unknown
[ ] Spring [X] Municipal
[ ] Cut
[ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 1941 Structure/ Texture	1941 Consistence/ Mineralogy	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
Boring #1	LS 4%	0 - 7 7 - 50	gr/sbk CL sbk C	SS SP FR SEXP S P FI SEXP	>50"	50	NA	NA		PS IV 0.3	36"
Boring #2	LS 4%	0 - 9 9 - 17 17 - 49	gr L sbk CL sbk C	SS SP FR SEXP S P FR SEXP S P FR SEXP	>49"	41	NA	NA	manganese 9 - 49" yellow brown mottles 40 - 49"	PS IV 0.25	36"
Boring #3	LS 4%	0 - 5 5 - 49	gr L sbk/abk C	SS SP FR SEXP S P FI SEXP	>49"	49	NA	NA		PS IV 0.3	36"
Boring #4	LS 4%	0 - 6 6 - 18 18 - 42 42 - 48	gr L sbk CL sbk C abk C	SS SP FR SEXP S P FR SEXP S P FR SEXP S P FI SEXP	few 2 chroma at 42"	48	NA	NA		PS IV 0.25	29"
Boring #5	LS 4%	0 - 6 6 - 12 12 - 49	gr L sbk CL sbk C	SS SP FR SEXP S P FR SEXP S P FI SEXP	>49"	49	NA	NA	yellow brown mottles 28 - 49" with quartz gravel	PS IV 0.275	36"
Boring #6	LS 4%	0 - 8 8 - 50	gr/sbk CL sbk C	SS SP FR SEXP S P FR SEXP	>50"	50	NA	NA		PS IV 0.3	36"
Boring #7	LS 4%	0 - 8 8 - 49	gr/sbk CL sbk C	SS SP FR SEXP S P FR SEXP	>49"	49	NA	NA	yellow brown mottles 35 - 40"	PS IV 0.3	36"

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	IVa	IVa
Site LTAR (gpd/sq ft)	0.3	0.25 (Drip 0.1)

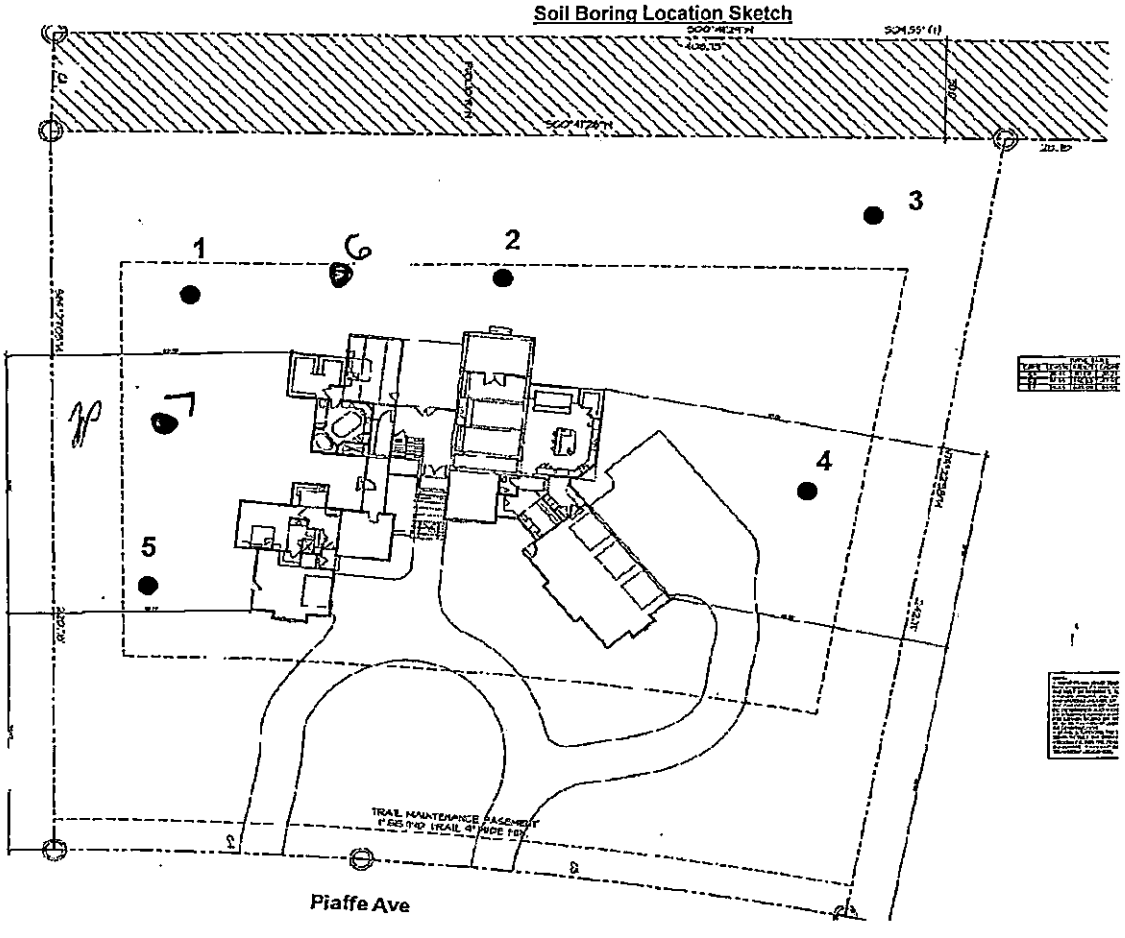
Other Factors (.1946): NA
Soil Evaluation By: Jacob Presley, REHS, LSS
Others Present: Wendell Overby and Ashley Rollins
Site Classification (.1948):
Site Evaluation By: BD
Others Present:

COMMENTS:

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
		SiCL-Silty Clay Loam		pr-Prismatic
CV-Convex Slope				Sap-Saprolite
T-Terrace				
FP-Flood Plain		CL-Clay Loam		Structure Prefixes
D-Drainage Way		SCL-Sandy Clay Loam		w-weak
				m-moderate
				s-strong f-fine
				m-medium
		Silt		c-coarse
	IV	SC-Sandy Clay	0.4 - 0.1	
		SiC-Silty Clay		
		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

Soil Boring Location Sketch



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 #: 30008119 GWS File #: 9433B Tax Parcel #: 195-073-55

- 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):** 6/21/2021

Type of Installation: Residential - New System Lot Number: 50

Structure Type: HOUSE Size (ft^2): 5947 # Bedrooms: 5 # Occupants: 5

Building Foundation: Crawl Space Water Supply: Municipal

II. Initial System Type: PPBPS (pressurized) **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	2	Trench Spacing (ft):	8	Absorption Area (ft^2):	666	Total Trench Length (ft):	333
Maximum Trench Depth (in):	32	Depth of Media (in):	12	Distribution Device:	Manifold (LPP Distri		

III. Repair System Type: Drip Irrigation **System Classification:** Va

Repair System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	.1	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	2	Trench Spacing (ft):	2	Absorption Area (ft^2):	6000	Total Trench Length (ft):	3000
Maximum Trench Depth (in):	29	Depth of Media (in):	12	Distribution Device:	Headworks (Drip Irr.		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, 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 a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Bryan Davenport Owner/Legal Agent: MATTHEW EWERS

Signature: Bryan Davenport Signature: _____

Print Name

Date Issued: 6/21/2016

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 #: 30008119 GWS File #: 9433B

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- 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 components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- All components of the septic system must be located a minimum distance from the normal pool elevation or mean high water mark for the nearby body of water. See plot plan for minimum setback requirements.
- 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.
- The system must be water tested during the final inspection to verify proper operation and set system pressure.
- 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 septic system shall be located at least 10 feet from any foundation drain.

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, 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 a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Bryan Davenport

Signature: Bryan Davenport

Date Issued: 6/21/2016

Owner/Legal Agent: MATTHEW EVERS
Print Name

Signature: Matthew Evers

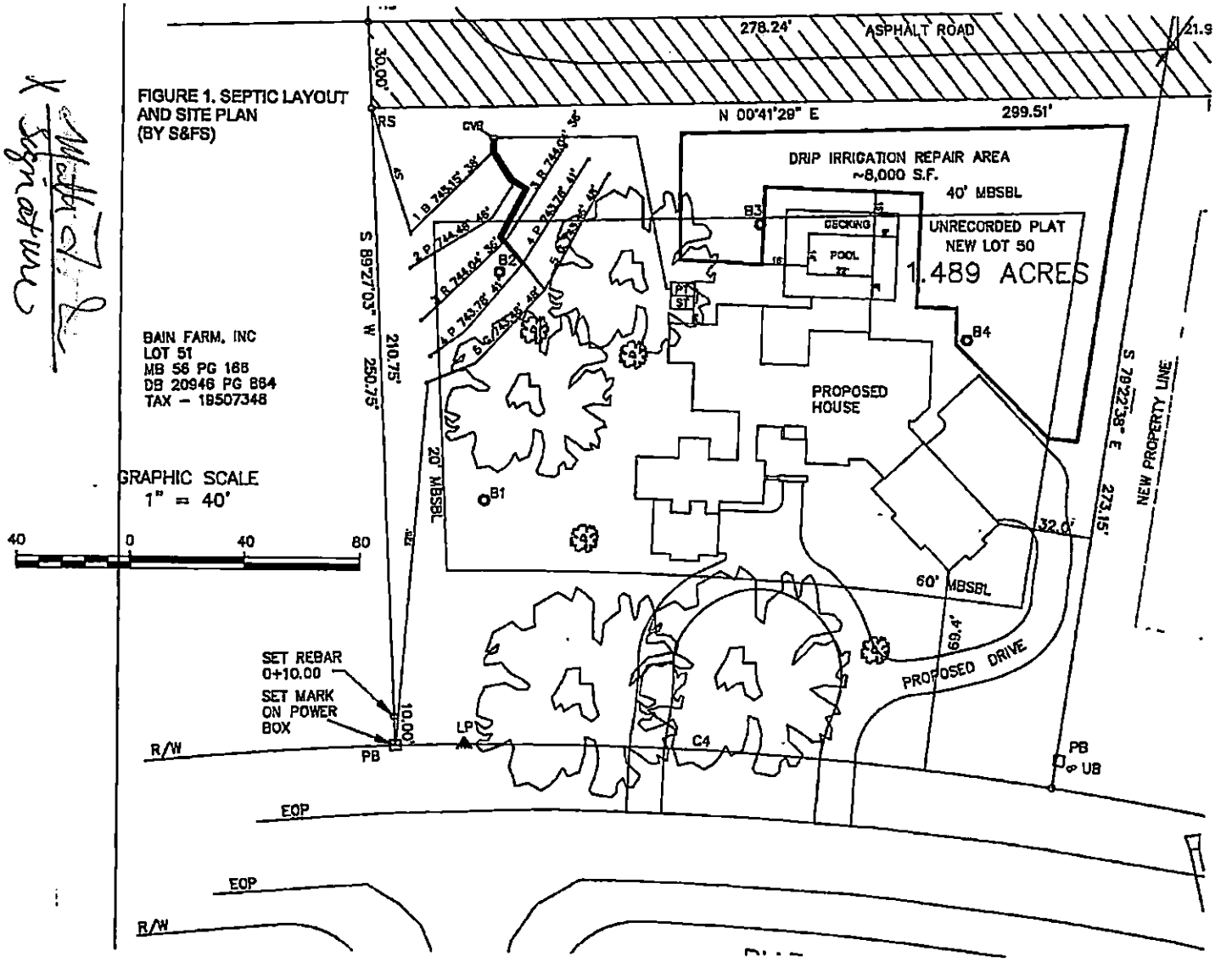
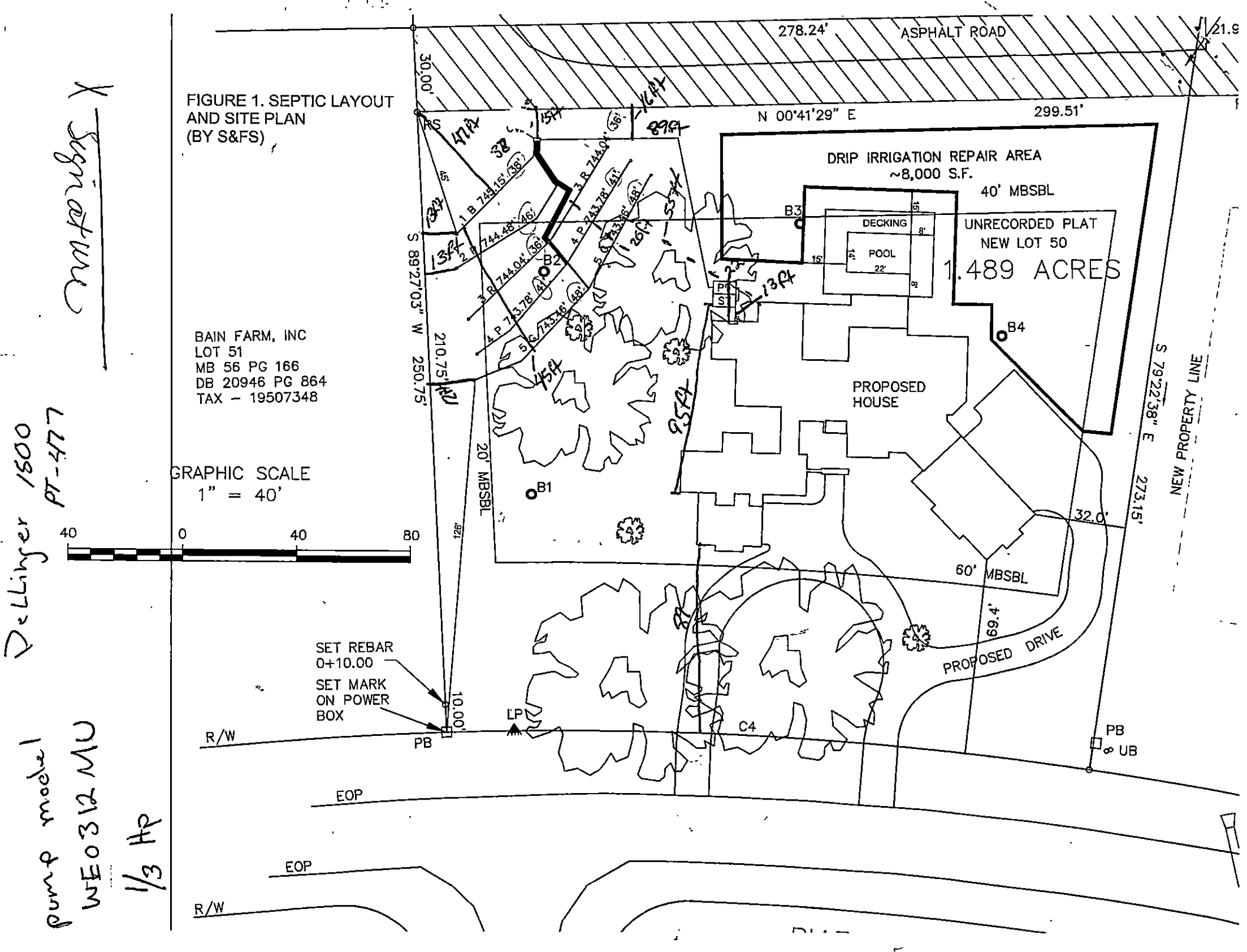

FIGURE 1. SEPTIC LAYOUT AND SITE PLAN (BY S&FS)
BAIN FARM, INC
LOT 51
MB 56 PG 166
DB 20946 PG 864
TAX – 18507348
GRAPHIC SCALE
1" = 40'
40 0 40 80
278.24'
ASPHALT ROAD
30.00'
N 00°41'29" E
299.51'
DRIP IRRIGATION REPAIR AREA
~8,000 S.F.
40' MBSBL
UNRECORDED PLAT
NEW LOT 50
1.489 ACRES
DECKING
POOL
PROPOSED HOUSE
S 89°27'03" W 250.75'
210.75'
20' MBSBL
S 78°22'38" E 273.15'
NEW PROPERTY LINE
60' MBSBL
PROPOSED DRIVE
69.4'
32.0'
SET REBAR 0+10.00
SET MARK ON POWER BOX
10.00'
R/W
PB
LP
C4
EOP
EOP
R/W
PB
UB

FIGURE 1. SEPTIC LAYOUT
AND SITE PLAN
(BY S&FS)



Signature X

Dellinger 1500 pt-477

pump model WE0312 MU 1/3 HP

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (980) 314-1680 Fax: (704) 336-6894

Septic System Pre-Construction Meeting Checklist

File # 9433B App # 8119 Tax Parcel # 195-073-55

Property Owner: Grandfather Homes

Job Location Address: 3809 Piaffe Ave

City: Charlotte State: NC Zip Code: 28227

1. **Does System design match facility, flow & wastewater characteristics?**

   ☑ YES ☐ NO

   Comments: _____

2. **Is there sufficient available space for the septic systems initial and repair areas?**

   ☑ YES ☐ NO

   Comments: _____

3. **Can the septic system be installed per the permit conditions and drawing on file?**

   ☑ YES ☐ NO

   Comments: PT was changed to 1500 gallon

* If "NO" is checked for any of the above the existing permit may need to be revoked.

Permission is hereby given to ☐ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge meeting all of the construction requirements of 15A NCAC 18A .1900 which are in effect on the date of granting this approval. System shall not be installed while soils are in wet condition.

Byron Davenport
Authorized Agent

5/30/17
Date

Larry Hankle
Others Present

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

Septic System Pre-Construction Meeting Checklist

File # 9433B App # 8119 Tax Parcel # 195-073-55

Property Owner: Grand Father Homes

Job Location Address: 3809 Pisgfe Ave

City: Charlotte State: NC Zip Code: 28227

1. **Does System design match facility, flow & wastewater characteristics?**

   ☑ YES ☐ NO

   Comments:

2. **Is there sufficient available space for the septic systems initial and repair areas?**

   ☑ YES ☐ NO

   Comments:

3. **Can the septic system be installed per the permit conditions and drawing on file?**

   ☐ YES ☑ NO

   Comments: PT will need to be change to 1500 gallon PT for a 5 Bedroom House

* If "NO" is checked for any of the above the existing permit may need to be revoked.

Permission is hereby given to ☐ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge meeting all of the construction requirements of 15A NCAC 18A .1900 which are in effect on the date of granting this approval. **System shall not be installed while soils are in wet condition.**

Byn Davenport — Authorized Agent

5/18/17 — Date

Larry Hankle — Others Present

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (980) 314-1680 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 9433B Permit #: 8119 Tax Parcel #: 195-073-55

Property Owner: Grand Father Homes

Job Location Address: 3809 Pialle Ave

City: Charlotte State: NC Zip Code: 28227

Operation Permit Issuance Date: 5/30/17 Contractor Name: Larry Hankle

Permitted Design Flow: 600 GPD Liquid Capacity of Dosing Tank: 1500 gallons

Liquid Capacity of Septic Tank: 1500 gallons Manufacture Dellinger Effluent Pump Model: Gouids WE0.312 MU 1/3 hp

Drainfield Installation ☐ N/A

Trench Depth: 32 inches

Trench Width: 2~~8~~ feet

Line Spacing: 8 feet (O.C.)

Total line length: 332 feet

# of Lines: 8 @ various feet

Depth of Media: 22 inches (Type) 50% Reduct PPBPS

Depth of Cover: 10 inches

Distribution Device: Pressure Manifold

Inspection Dates ST-1500 PT-477 -1500

Tank(s) Inspected: 5/18/17

Excavation Inspected: 5/30/17

Pump & Controls Inspected: 5/30/17

Bed Installation *(For Repair Installations ONLY.)* ☑ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☑ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

System Installation Setbacks

Distance from Building Foundation: 13 feet

Distance from Property Line: 12 feet

Distance from Water Supply Source: 10± feet

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

See Attach for Consultant design / drawing

The undersigned has inspected the Septic Tank System described above, and certifies it has been ☑ installed ☐ altered ☐ repaired ☐ as detailed in the plot above ☑ in accordance with the permit issued and meets the provisions of 15A NCAC 18A. 1900, "Laws and Rules for Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. The issuance of this Operation Permit does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below under "Comments." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the Suspension or Revocation of this permit.

Comments: System Classification & Type: Type IVa PPBPS / P / Na / Na

2 foot pressue head 5/30/17

DHHS Authorized Agent: Bryan Davenport Signature: Bryan Davenport

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (980) 314-1660 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 94338 Permit #: 8119 Tax Parcel #: 95-073-55

Property Owner: Grandfather Homes

Job Location Address: 3809 Piaffe Ave

City: Charlotte State: NC Zip Code: 28227

OPERATION PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with 15A NCAC 18A .1961.

II. Monitoring: System shall be monitored as required by 15A NCAC 18A .1961.

III. Maintenance: Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

IV. Operation: System shall be operated in accordance with 15A NCAC 18A .1961.

System Classification: IVa

*Operation Permits for Type V and VI systems expire five (5) years from the date of issuance (in accordance with Table V(a)). The system owner must contact GWS six (6) months prior to expiration for permit renewal.

Subsurface system operator required: Yes ☐ No ☐

☐ This type of system requires the system owner to maintain a contract with a certified operator to perform system inspection, maintenance, and reporting as required in 15A NCAC 18A .1961. and Table V(a). The system owner is responsible for all fees associated with these services.

☐ System does not require inspection by GWS on a routine frequency.

☐ System requires inspection by GWS once every five (5) years. The system owner is responsible for all fees associated with the inspection.

☑ System requires inspection by GWS once every three (3) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every twelve (12) months. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every six (6) months. The system owner is responsible for all fees associated with the inspection.

V. Other: 5 bedroom, PT was change to 1500 from 1000 gal

DENR Authorized Agent: Bryan Davenport Date: 5/30/17

Signature: Bryan Davenport

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

June 12, 2017

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

Re: Lot 50 Cheval

Dear Mr. Davenport,

Larry Henkel recently installed a 5-bedroom panel block septic system for lot 50 of Cheval Subdivision in Mint Hill. The system requires an effluent pump with LPP 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
1278
STATE OF NORTH CAROLINA

State of North Carolina
County of MECKLENBURG

FILE #
Permit Number 9433B

THIS AGREEMENT is made and entered into this the 1 day of JUNE 20 17, by and between GRANDFATHER HOMES (hereinafter the "Owner") and Allen Hoke (hereinafter the "Contractor).

WITNESSETH

WHEREAS, the Owner owns or controls the property upon which a ground absorption sewage treatment system (hereinafter "system") is installed, such system being designated a Type IVA system under the Rules for Sanitary Sewage Collection, Treatment and Disposal found at 15A N.C. Admin. Code 18A.1900 et seq.; and

WHEREAS, 15A N.C. Admin Code 18A, 1961 requires a contract to be executed between the system owner and a management entity prior to the issuance of an Operation Permit for said system; and

WHEREAS, 15A N.C. Admin Code 18A, 1961 requires that a condition of the Operation Permit for said system be that a properly executed contract between the system owner and a management entity shall be in effect for as long as the system is in use; and

WHEREAS, the Contractor is a management entity of a type authorized by 15A N.C. Admin. Code 18A 1961 to manage a Type IVA system.

NOW THEREFORE, in consideration of the premises and of the mutual covenants and promises contained in this Agreement, it is hereby agreed by and between the Owner and the Contractor as stipulated below.

1. The Contractor's Obligations. The Contractor shall perform the following services on the owners system located at 3809 PIAFFE AVE MINT HILL, N.C.

A. The Contractor shall inspect the system at the least at the frequency required in Table V(b) of 15A N.C. Admin. Code 18A. 1961(b) for a Type IVA system.

B. The Contractor shall perform the following routine maintenance procedures in accordance with the conditions of the Operation Permit.

(1) Inspect the structural integrity and maintain all of the physical and mechanical components of the system.
(2) Inspect the performance and condition of the drain field.
(3) Flush and clean the laterals of the system.
(4) Check and set pressures in the system.
(5) Check and adjust pump delivery rate of the system.
(6) Clean septic tank filter if applicable and accessible.
(7) Perform any other requirements of the Operations Permit.

C. The Contractor shall report the result of its inspections to the home Owner after each inspection and to the local Health Department at the frequency specified in Table V(b) of 15A N.C. Admin. Code 18A. 1961(b) for a Type IVA System.

D. If an inspection indicates the need for system repairs, the Contractor shall notify the local Health Department within 48 hours of the inspection.

E. The Contractor shall notify the Owner of needed repairs which are outside the scope of routine maintenance described in subparagraph (b) above. The Contractor shall perform necessary repairs to the system that require the use of hand tools only at the request of the Owner and shall be entitled to payment therefore at the Contractors normal charge for services and materials. The Contractor shall not perform repairs that require the use of heavy equipment, electrical license or plumbing license.

2. The Owner's Obligations.

A. The Owner shall pay the Contractor upon signing this contract, the sum of S PAID for the first year of periodic inspections, routine maintenance procedures and periodic reports. The annual fee may be renewed at the end of each 12 month period. The annual fee may be amended upon sixty (60) days advance notice to the Owner but may not increase more than 20 percent per year. The Owner shall pay in the following methods;

( ) S_____ to be paid at the time of the signing of this agreement and S_____ to be paid before The second scheduled inspection of the calendar year.

( ) S PAID to be paid at the time of the signing of this agreement.

B. The Owner shall pay to the Contractor his normal and customary fees for any work performed on the system ($30.00 per hour, with minimum of one hour, plus cost of materials) as a result of nonscheduled service of maintenance calls. All fees for nonscheduled service or maintenance are due and payable within thirty (30) days of billing. Payments due to the Contractor and unpaid by the Owner after thirty (30) days shall accrue interest from the date due until paid at a rate of 1.5 percent per month.

C. The Owner shall keep the area of the septic system drain field properly mowed and protected from traffic. The Owner shall keep the designated repair area reserved for future repair to the septic system

D. The Owner shall provide to the Contractor with such access to the system as is reasonably necessary for the Contractor to comply with the terms of this Agreement.

3. Term - This agreement shall remain in effect until termination.

A. **Automatic Termination**
This agreement shall automatically terminate if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for taking an appeal has passed.

B. **Termination by Mutual Consent**
The Parties may mutually agree to terminate this Agreement by giving written notice of termination by mutual consent to the local Health Department thirty (30) days in advance of the date of termination.

C. **Termination by the Owner**
The Owner may terminate this Agreement by giving notice to the Contractor and to the local Health Department thirty (30) days in advance of the date of termination.

D. **Termination by the Contractor**

(1) The Contractor may terminate this Agreement for cause by giving written notice of intent to Terminate this Agreement to the Owner and to the local Health Department thirty (30) days in advance of the date of termination. Cause shall be defined as;

(a) failure to remit payment for any bill for services performed under and in accordance with this agreement if said bill is not paid within thirty (30) days of receipt by the Owner Of the bill. If said bill is paid after notice of termination is given but prior to the date of termination of this Agreement, this Agreement shall continue in effect; or

(b) failure of the Owner to allow the Contractor such access to the system as is reasonably necessary in order for the Contractor to comply with the terms of this agreement.

(2) The Contractor may not terminate this Agreement without cause, but may assign its rights and duties under this Agreement as provided in paragraph 4, below.

4. Assignment.

A. Assignment by the Owner. The Owner shall notify the Contractor of the name and address of any purchaser of the property on which the system is located. The Owner shall also notify any purchaser of the property on which the system is located of the existence of this Agreement and shall assign all rights and duties under this Agreement to said purchaser.

B. Assignment by the Contractor. The Contractor may assign its rights and duties under this Agreement to another management entity which is qualified pursuant to 15A N.C. Admin. Code 18A. 1961 to manage a Type IVA system upon thirty (30) days written notice to the Owner and the local Health Department.

5. Representations

The Parties represent to each other that each has the power, authority, and legal right to enter into and perform its obligations as set forth in this Agreement.

6. Regulatory Amendments

References in this Agreement to sections of the Administrative Code shall include such rules as they may be amended in the future.

7. No Implied Waiver

The waiver by either Party of a default or a breach by the other Party of any provision of this agreement shall not operate or be construed to operate as a waiver of any subsequent default or breach. The failure at any time of either Party to enforce any provision of this Agreement (a) shall not be construed to be waiver of such provisions, or of any other provision; and (b) shall not in any way affect the validity of this Agreement, or nay part of this Agreement, or the right of either Party thereafter to enforce each and every provision of the Agreement.

8. Notice.

Every notice required under this Agreement shall be in writing and shall be deemed sufficiently given if delivered in person or sent by mail and addressed as follows;

To the Owner

GRANDFATHER HOMES
1111 CENTRAL AVE SUITE 320
CHARLOTTE NC 28204

To the Contractor;

Allen Hoke
14402 Lucia Riverbend Highway
Mount Holly, North Carolina 28120

To the local Health Department;

MECKLENBURG COUNTY HEALTH DEPT
700 NORTH TRYON STREET
SUITE 208
CHARLOTTE NC 28202 - 2222

The date of any Notice shall be the date of delivery. Changes in the respective addresses to which notice may be made from time to time by either Party by notice to the other Party.

9. **Place of Agreement**

This Agreement and any questions concerning it's validity, construction of and performance shall be governed by the laws of the State of North Carolina, notwithstanding the place of execution, or the order in which the signatures of the Parties are affixed.

10. **Entire Agreement and Amendment**

This Agreement supersedes all prior negotiations, agreements and understandings between the Parties with respect to the subject matter hereof and constitutes the entire Agreement between the Parties with respect to the subject matter hereof. To be effective, any amendment or modification to the Agreement must be in writing and must be signed by the Parties.

11. **Severability**

In the event that any provision of the Agreement shall, for any reason, be determined to be invalid, illegal or unenforceable in any respect, the Parties shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement or such other appropriate actions as shall, to the maximum extend practicable in light of such determination, implement and give effect to the intentions of the Parties as reflected in the Agreement, and the other provisions of the Agreement shall as so amended, modified, supplemented or otherwise affected by such action remain in full force and effect.

IN TESTIMONY WHEREOF, the Parties hereto have executed this Agreement in duplicate originals, one of which is retained by each of the Parties, the day and year first above written.

(OWNER) GRANDFATHER HOMES

(CONTRACTOR) Grant Allen Hoke Jr.
SS # 949653

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 #: **30008119** GWS File #: **9433B** Tax Parcel #: **195-073-55**

- 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):** 6/21/2021

Type of Installation: Residential - New System Lot Number: 50

Structure Type: HOUSE Size (ft^2): 5947 # Bedrooms: 5 # Occupants: 5

Building Foundation: Crawl Space Water Supply: Municipal

II. Initial System Type: PPBPS (pressurized) **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	.3	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	2	Trench Spacing (ft):	8	Absorption Area (ft^2):	666	Total Trench Length (ft):	333
Maximum Trench Depth (in):	32	Depth of Media (in):	12	Distribution Device:	Manifold (LPP Distri		

III. Repair System Type: Drip Irrigation **System Classification:** Va

Repair System Specifications:

Design Flow (gpd):	600	LTAR (gpd/ft^2):	.1	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	2	Trench Spacing (ft):	2	Absorption Area (ft^2):	6000	Total Trench Length (ft):	3000
Maximum Trench Depth (in):	29	Depth of Media (in):	12	Distribution Device:	Headworks (Drip Irr.		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, 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 a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Bryan Davenport Owner/Legal Agent: _____
Print Name

Signature: Bryan Davenport Signature: _____

Date Issued: 6/21/2016

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 #: **30008119** GWS File #: **9433B**

IV. Permit Conditions/Comments:

- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic system requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file prior to issuance of an Operation Permit.
- 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 components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- All components of the septic system must be located a minimum distance from the normal pool elevation or mean high water mark for the nearby body of water. See plot plan for minimum setback requirements.
- 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.
- The system must be water tested during the final inspection to verify proper operation and set system pressure.
- 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 septic system shall be located at least 10 feet from any foundation drain.

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, 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 a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Bryan Davenport

Signature: Bryan Davenport

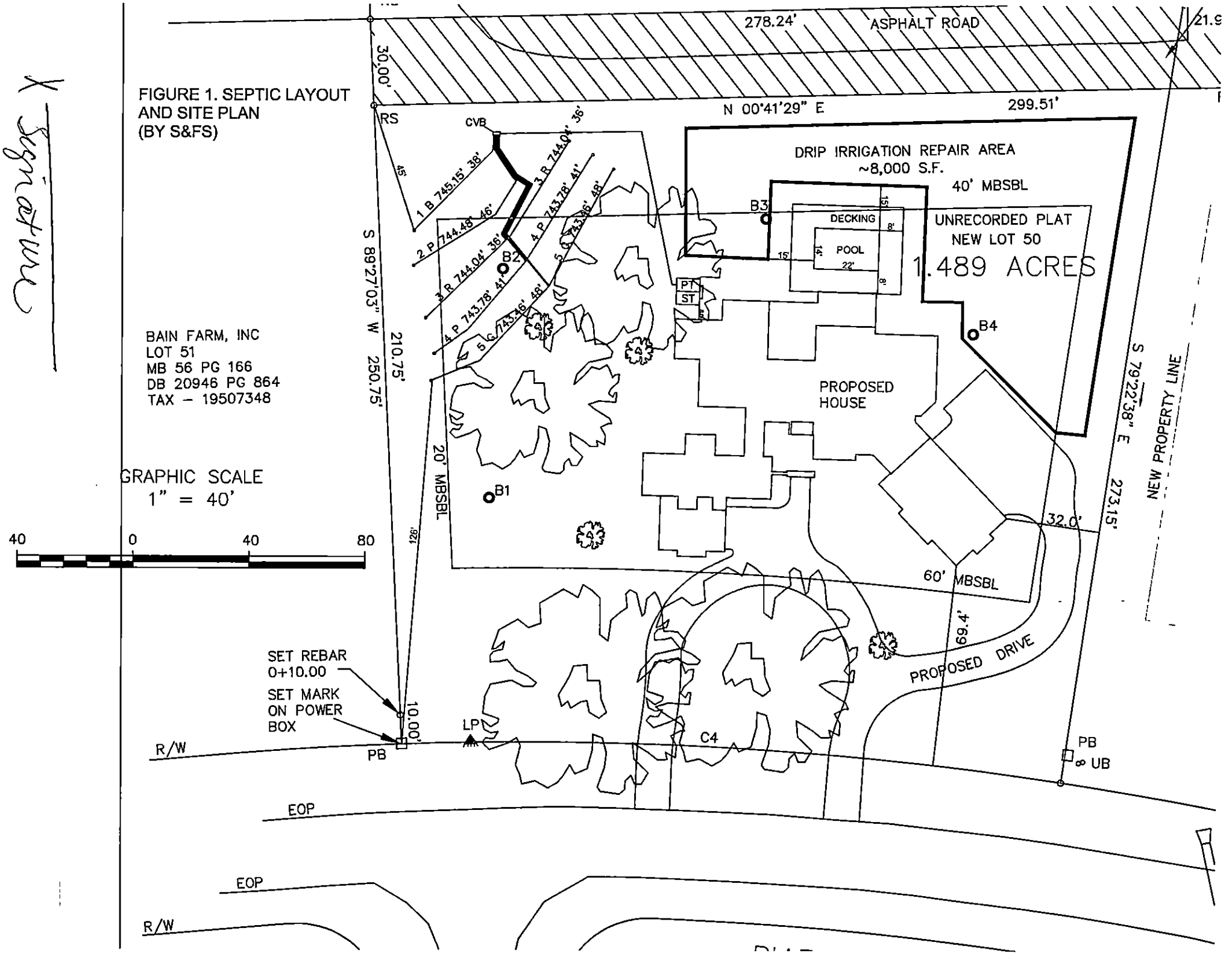
Date Issued: 6/21/2016

Owner/Legal Agent: _____
Print Name

Signature: _____

X Signature

FIGURE 1. SEPTIC LAYOUT
AND SITE PLAN
(BY S&FS)



SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

GWS Septic System Design Review — Approved ☐ Disapproved ☐

GWS File #: _____ Design Review: _____ Field Review: _____

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

A design for a 5 Bedroom PPBPS Septic System using LPP distribution for lot 50 of Cheval Subdivision
3809 Piaffe Avenue, Mint Hill, NC

Contents:

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Design Information	
Design Specifications	2-3
Layout Specifications	4
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Site Plan	6-7
Septic Tank Diagram	8
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Control Panel Specifications	10-13
Pump Specifications	14-15
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Valve Box Specifications	17

June 2016
Design By: W. Overby

NORTH CAROLINA PROFESSIONAL SEAL 10051 ENGINEER RILEY DEE BURGESS, JR.

6/10/16

GWS Software Design Review

GWS Entity	Approved	Disapproved
[illegible]	☐	☐
[illegible]	☐	☐
[illegible]	☐	☐

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

A design for a 5 Bedroom PPBPS Septic System using LPP distribution for lot 50 of Cheval Subdivision
3809 Piaffe Avenue, Mint Hill, NC

GWS Septic System Design Review

GWS File#: _____ **Approved** ☐ **Disapproved** ☐

Design Review: _____ ☑ ☐

Field Review: _____ ☑ ☐

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

Contents: **Page:**

Information for the Installer---- 1

Design Information
- Design Specifications---- 2-3
- Layout Specifications---- 4
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Site Plan---- 6-7

Septic Tank Diagram---- 8

Pump Tank Diagram---- 9

Control Panel Specifications---- 10-13

Pump Specifications---- 14-15

Calculations---- 16

Valve Box Specifications---- 17

June 2016
Design By: W. Overby

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
- 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 PPBPS type using LPP distribution**
- **System trench depth specified at 32"**
- **Repair specified as subsurface drip irrigation**
- **System trenches installed on 8' minimum; 2' wide trenches**
- **See Figure 1. Septic System Layout and House Plan**
- **Meck GWS has approval to move tanks and other system components**
- **Project landscape architect has approval to move tanks, cv box, etc.**

PPBPS PRESSURE DOSED SYSTEM
FOR WASTEWATER TREATMENT

Applicant:	Grandfather Homes
Contact:	John Gregory
Phone:	704 996-4749
County:	Mecklenburg
Location:	Cheval Lot 50

Source of Wastewater Flow:	5 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	600 gpd
System Flow:	30.34 gpm

Design Specifications

Drainfield Size:	334 lf
Loading Rate:	0.3 gpd/ft.^{2}
Depth of Gravel in Trench:	n/a
Gravel Size:	n/a
Trench Depth:	32 in
Trench Width:	24 in.
Septic Tank Size:	1500 gal.
Pump Tank Size:	1500 gal.
Estimated Supply Line Length:	105 lf
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	11.13 gal
Dosing Volume:	266.40 gal

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.
Pressure Head:	2 ft.
Friction Head:	1.87 ft
Elevation Head:	9.00 ft
Total Dynamic Head:	14.15 ft
Threaded Union:	In Tank
Gate Valves:	1 in Tank 8 in valve box
Check Valves:	In Tank
Anti-Siphon Hole:	n/a
Recommended Pump:	Myers Model ME3H or County Approved Effluent Rated Pump Capable of Delivering 14' of Head at 30 gpm Total Flow

Cheval Lot 50
PPBPS Design

DESIGN FLOW:	600	gpd
SOIL APPLICATION RATE:	0.3 gpd/ft.^{2}	
TOTAL AREA TRENCH BOTTOM:	1002	sf
TOTAL LATERAL LENGTH:	334	lf
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	333	lf
SUPPLY LINE LENGTH:	105	lf
TOTAL DYNAMIC HEAD:	14.15	gpm
DOSING VOLUME:	266.40	gal
PUMP TANK DRAW DOWN*:	9.2	in
SEPTIC TANK SIZE:	1500 gal.	
PUMP TANK SIZE:	1500 gal.	
RECOMMENDED PUMP:	Myers Model ME3H or County Approved Effluent Rated Pump Capable of Delivering 14' of Head at 30 gpm Total Flow	

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

Cheval Lot 50

Layout for a 5 bedroom home — June 2016

LINE #	FLAG COLOR	BS	HI	FS	ELEV	FLAGGED LINE LENGTH	DESIGN LENGTH
TBM							
INSTR. 1							
			SYSTEM				
1	Blue				745.15	38	38
2	Pink				744.48	46	46
3a	Red				744.04	78	36
3b	Red				744.04		36
4a	Pink				743.78	88	41
4b	Pink				743.78		41
5a	Green				743.78	98	48
5b	Green				743.78		48
			REPAIR				

>6,000 sf of subsurface drip irrigation area

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	REDUCTION TYPE	DIST	TRENCH DEPTH
SYSTEM	334	0.300	MOD	50%	LPP	32
REPAIR	3000	0.100	DRIP	0%	DRIP	10

Notes:

**Layout lines were surveyed with elevations from surveyor

**All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

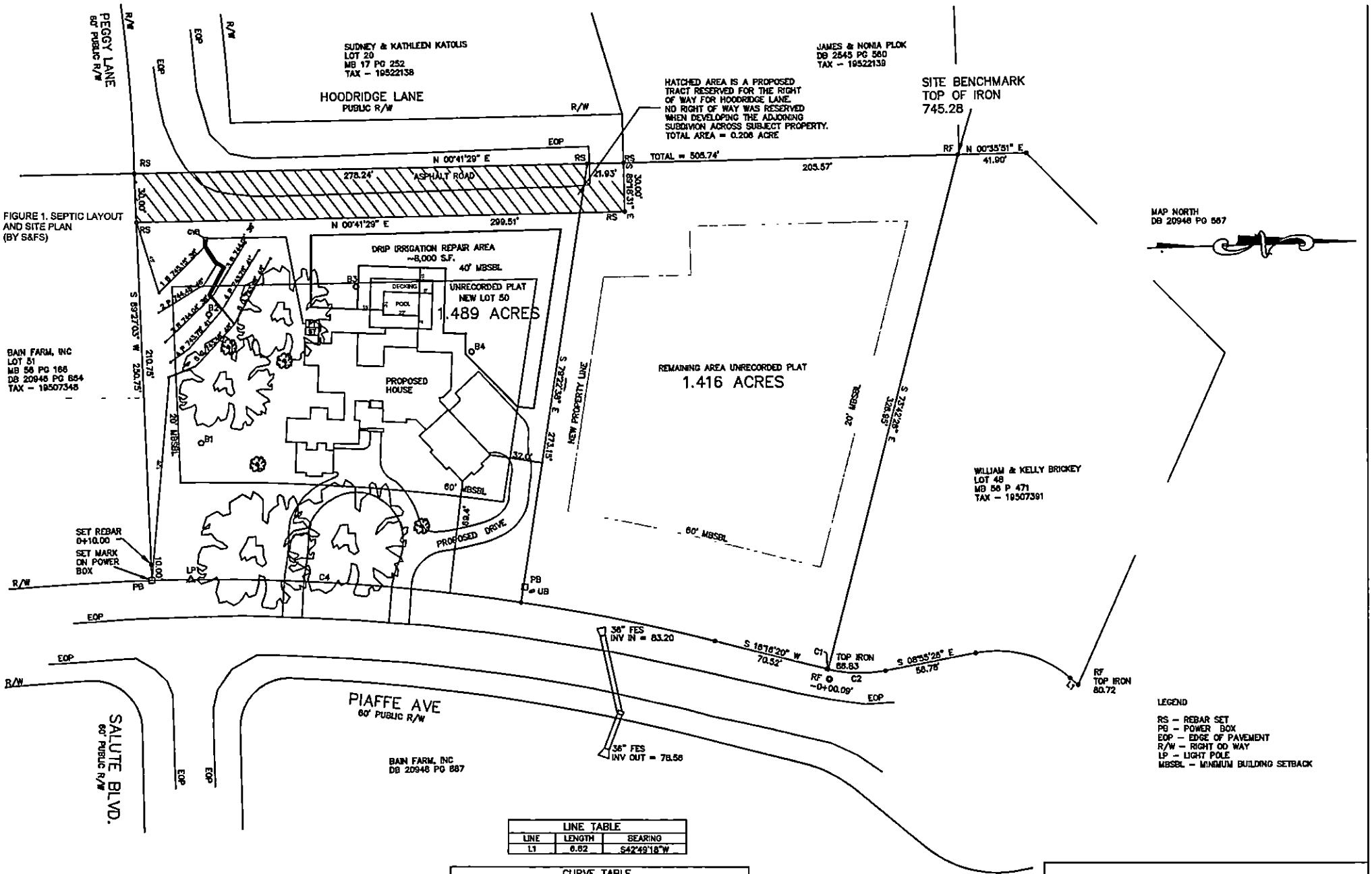
**BS and FS indicate rod readings

Cheval Lot 50

System (PPBPS)

DESIGN SPECIFICATIONS

Line #	Color	#Panels	#Holes Panel	ft Line Length	Hole Size	ft Line Head	gpm Line Flow
1	Blue	8	1	38	5/32"	2	3.28
2	Pink	10	1	46	5/32"	2	4.10
3a	Red	8	1	36	5/32"	2	3.28
3b	Red	8	1	36	5/32"	2	3.28
4a	Pink	9	1	41	5/32"	2	3.69
4b	Pink	9	1	41	5/32"	2	3.69
5a	Green	11	1	48	5/32"	2	4.51
5b	Green	11	1	48	5/32"	2	4.51
		74		334			30.34



LINE TABLE		
LINE	LENGTH	BEARING
L1	6.62	S42°49'18"W

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	BEARING	CHORD	DELTA
C1	0.53	82.00	0.27	N16°05'15"E	0.53	0°22'14"
C2	35.53	82.00	18.05	N03°29'20"E	35.25	24°49'32"
C3	81.90	68.50	33.24	S16°56'02"W	89.82	81°46'31"
C4	226.76	1230.00	113.70	S05°20'28"W	226.44	10°33'47"
C5	121.28	1230.00	60.69	S13°26'51"W	121.23	5°38'56"

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

NO.	DATE	DESCRIPTION	BY

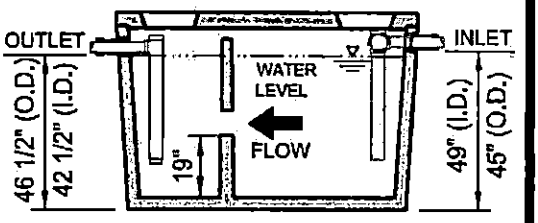
Survey of:
2.905 ACRES TRACT IN CHEVAL SUBDIVISION
FOR THE BENEFIT OF:
GRANDFATHER HOMES
LEGAL REFERENCE: DB 20946 PG 887
MINT HILL, MECKLENBURG COUNTY, NC

Scale: 1" = 40' Date: OCTOBER 2, 2015

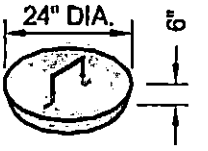
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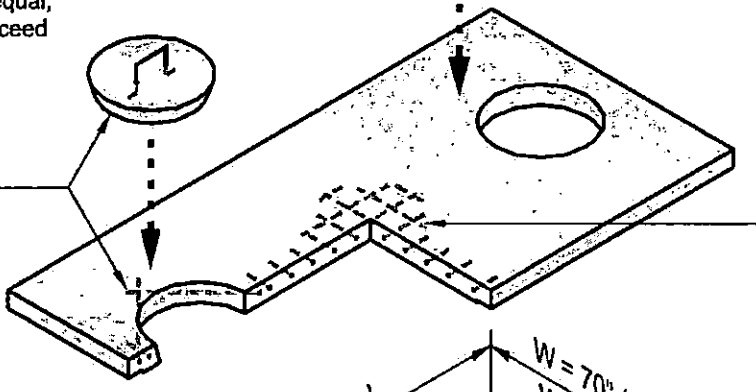
GENERAL NOTES:

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

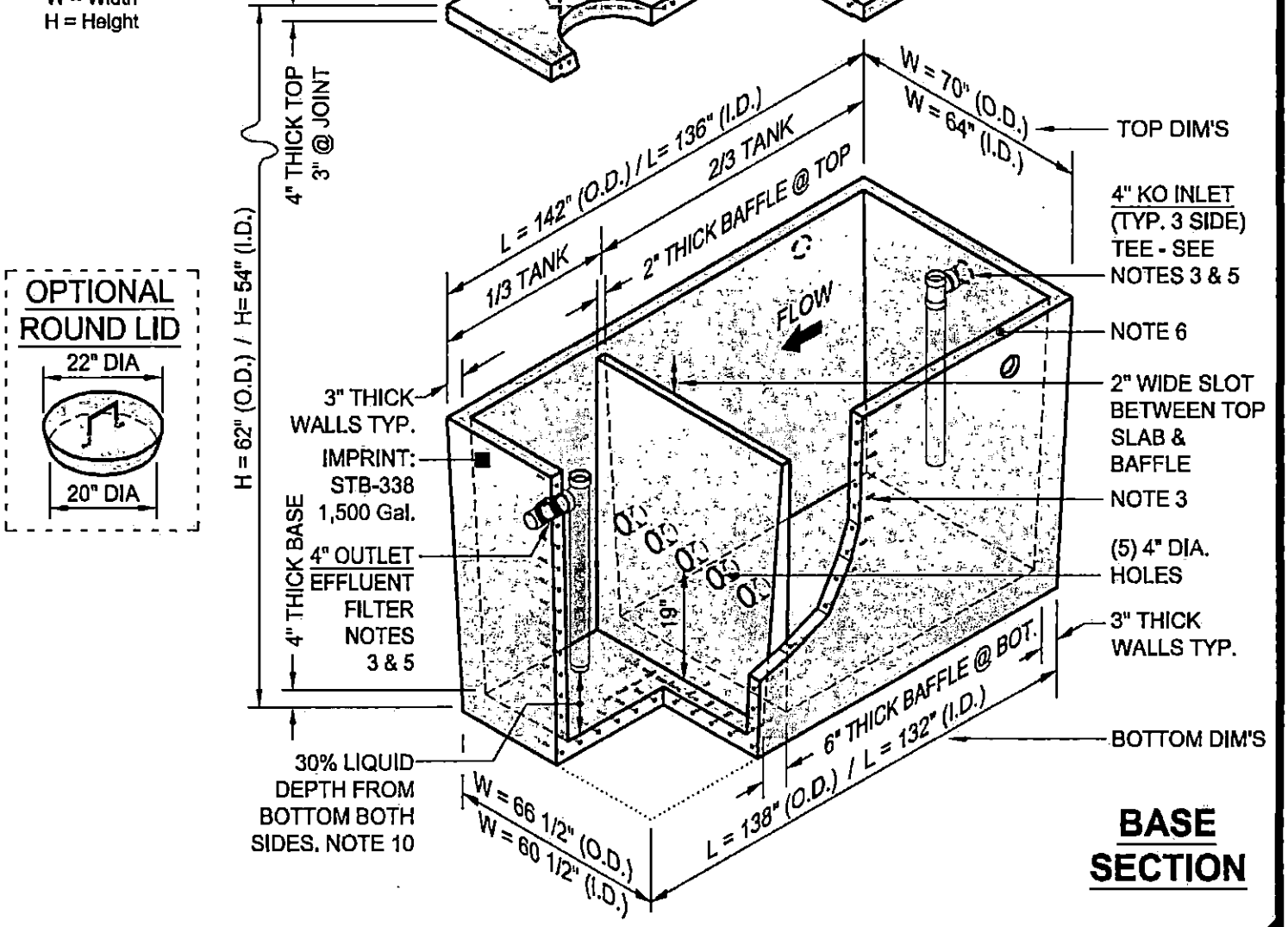


ELEVATION





TOP SLAB



BASE SECTION

OPTIONAL ROUND LID

1,500 Gallon (Top Slab) SEPTIC TANK

Scale: Not To Scale

Revision Date: February 2008

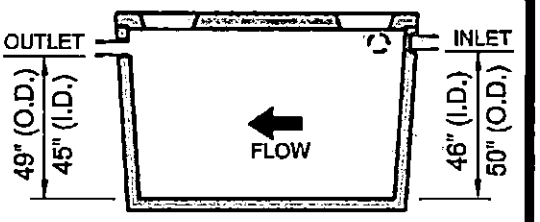
Detail # ST-1,500-TS

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

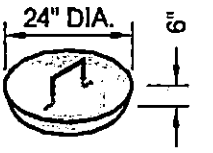
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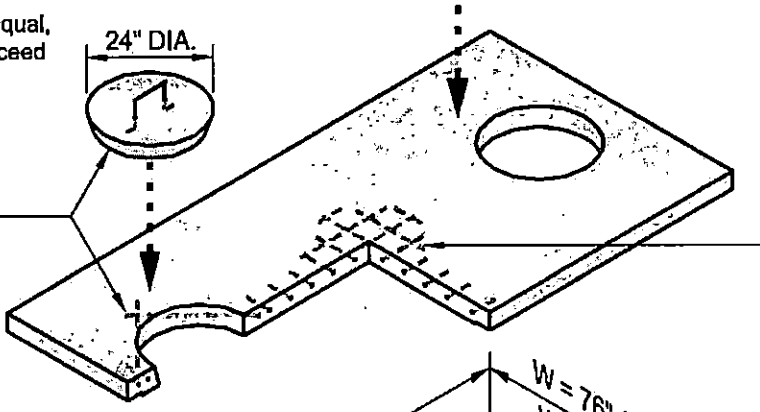
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2. Concrete compressive strength 4,000 psi minimum.
3. Steel reinforcing design to conform to the requirements of ASTM C890 specifications for "Structural Design Loading for Water and Wastewater Structures" and shall utilize grade 60 re-bars conforming 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. Pipe supplied & Installed 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:
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   Base Section 7,453 ± lbs.
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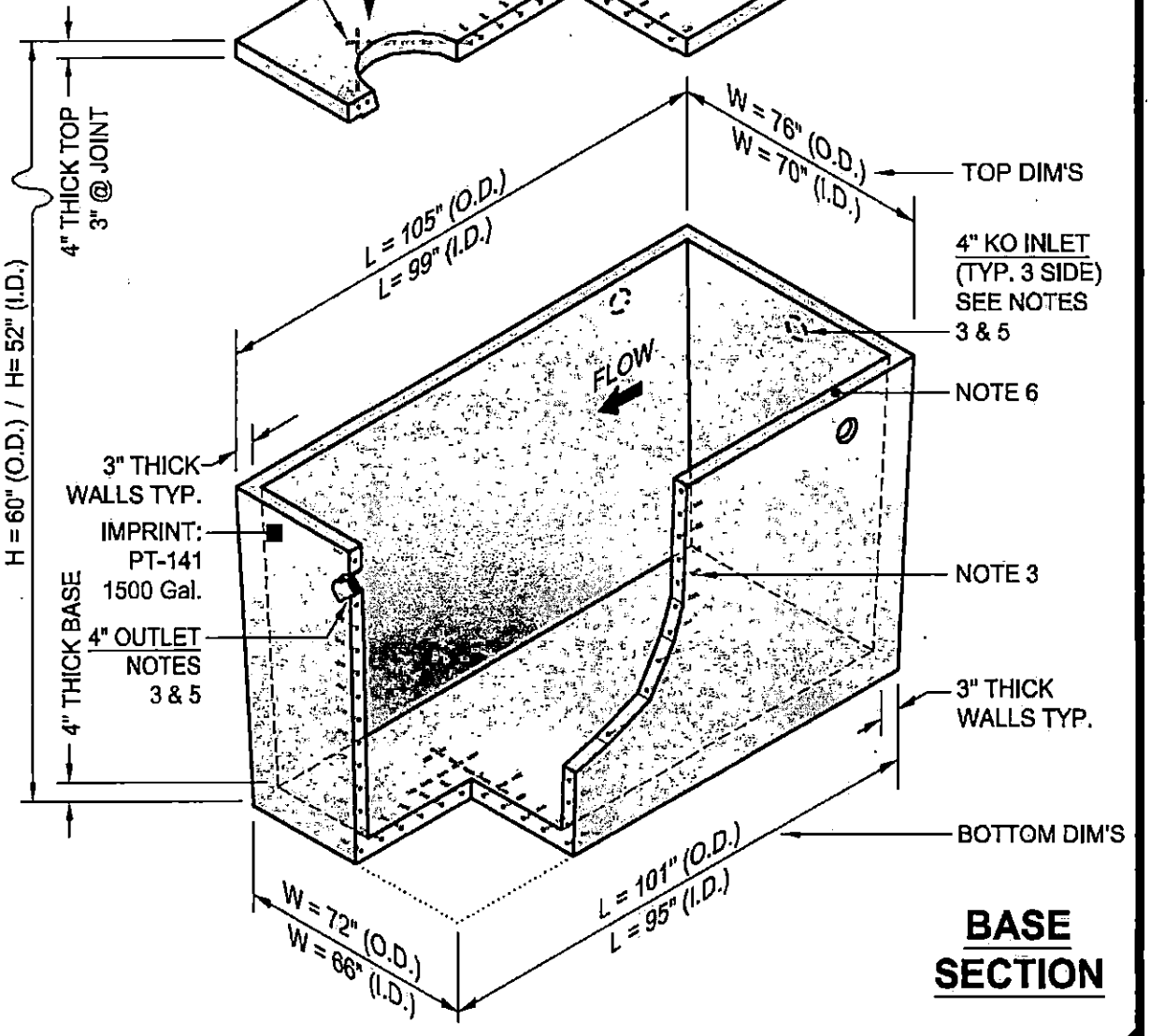


ELEVATION



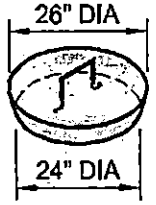


TOP SLAB



BASE SECTION

OPTIONAL ROUND LID



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

1,500 Gallon (Top Slab) PUMP TANK

Scale: Not To Scale

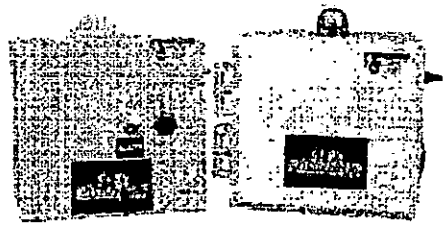
Revision Date: February 2008

Detail # PT-1,500-TS

MODEL 112 Control Panel

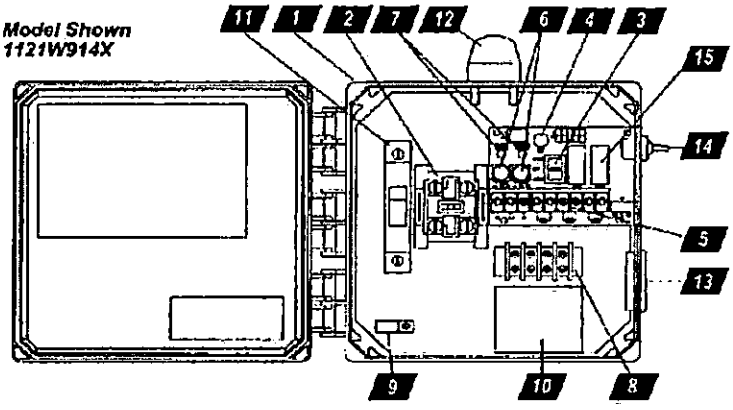
Single phase, simplex motor contactor control.

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)

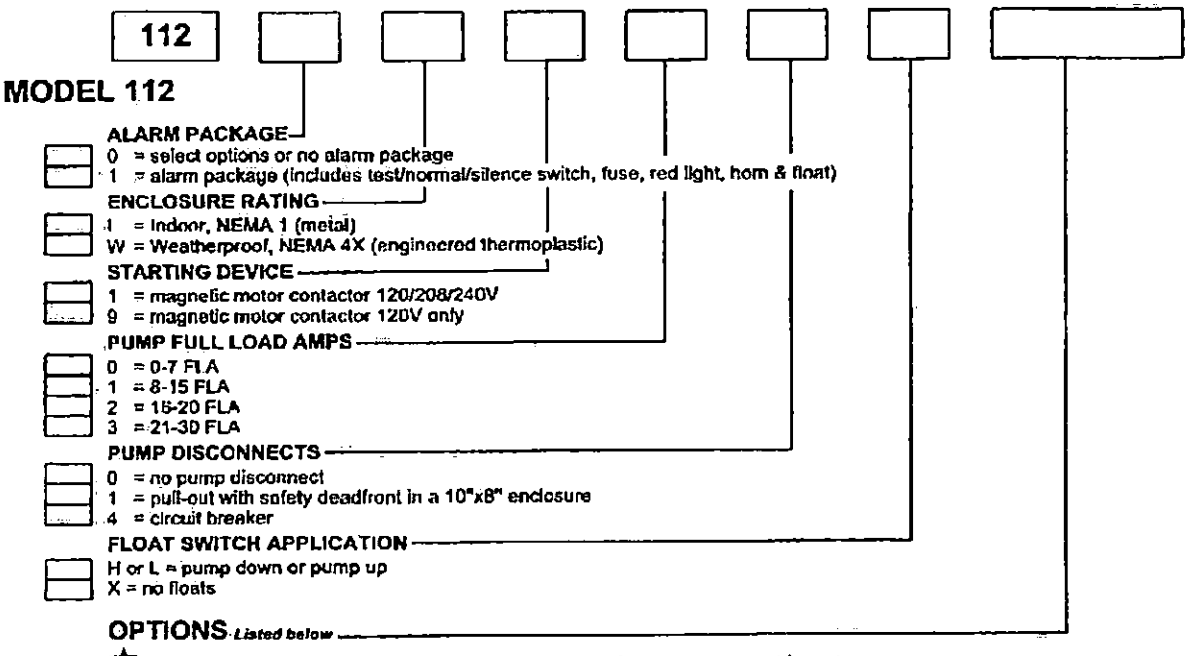
12. **Red Alarm Beacon** provides 360° visual check of alarm condition. **Note:** NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating). **Note:** NEMA 1 style utilizes an internally mounted buzzer (83 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

c UL us
LISTED

SJE Rhombus CONTROLS
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



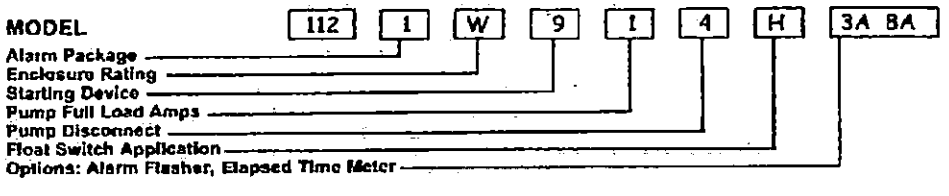
If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

	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
☐	3A	Alarm flasher
☐ ★	4A	Low level cutout *select option 4D if floats included*
☐ ★	4B	Red low-level indicator & alarm *must select 4A also*
☐	4D	Low-level float
☐	8A	Auxiliary alarm contact, form C type
☐ ★	8A	Elapsed time meter
☐ ★	8C	Event (cycle) counter
☐	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*
☐	15A	Control / alarm circuit breaker *Does not include the circuit board as in standard.*
☐	16A	10' cord in lieu of 20'
☐	16B	15' cord in lieu of 20'
☐	16C	30' cord in lieu of 20'
☐	16D	40' cord in lieu of 20'
☐	17A	SJE SignalMaster® / mounting strap ●
☐	17B	SJE SignalMaster® / externally weighted ●
☐	17C	Sensor Float® / internally weighted ▲
☐	17D	Sensor Float® / externally weighted ▲
☐	17E	Sensor Float® Mini / pipe clamp ▲
☐	17F	Sensor Float® Mini / externally weighted ▲
☐	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

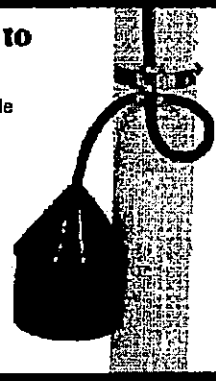
SAMPLE



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SENSOR FLOAT® control switch

Mercury-activated, narrow-angle float switch designed to activate pump control panels and alarms.



This narrow-angle sensing device is used to accurately monitor liquid levels in sewage and non-potable water applications. The Sensor Float® control switch is not sensitive to rotation and is suitable for use with intrinsically safe circuits. Contact SJE-Rhombus regarding specific intrinsically safe applications.

Normally Open Model (high level)
The control switch turns on (closes) when the float tips slightly above horizontal signaling a high level, and turns off (opens) when the float drops slightly below horizontal.

Normally Closed Model (low level)
The control switch turns on (closes) when the float drops slightly below horizontal signaling a low level, and turns off (opens) when the float tips slightly above horizontal.

FEATURES

- Suitable for use with intrinsically safe circuits.
- Not sensitive to rotation.
- Control differential of .5 inches (1 cm) above or below horizontal.
- UL Listed for use in non-potable water and sewage.
- CSA Certified.
- Three-year limited warranty.

LR54245 LISTED E342

Hydraulic

OPTIONS

This switch is available:

- for normally open (high level) applications or normally closed (low level) applications.
- in standard cable lengths of 10, 15, 20, or 30 feet and 3, 5, 6, or 10 meters.
- with three mounting options that allow for flexibility in installation:

  Mounting Clamp: for applications where the switch can be attached to a discharge pipe or similar mounting device.

  Internally Weighted: for applications where the switch can be suspended from above.

  Externally Weighted: for applications where the switch can be suspended from above.

SPECIFICATIONS

CABLE: flexible 18 gauge, 2 conductor (UL,CSA) SJOW, water-resistant (CPE) jacket

FLOAT: 3.38 inch diameter x 4.55 inch long (8.58 cm x 11.56 cm), high-impact, corrosion resistant, PVC housing for use in sewage and non-potable water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi

MERCURY TILT SWITCH: single pole, single throw, mercury-to-mercury contacts, hermetically sealed in a steel capsule and epoxy sealed in the float housing

ELECTRICAL: 5 amp, 120/230 VAC, 50/60 Hz

SJE Rhombus CONTROLS
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

Sensor Float® control switch installation instructions

⚠WARNING **ELECTRICAL SHOCK HAZARD**
Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.

⚠WARNING **EXPLOSION OR FIRE HAZARD**
Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.

MOUNTING THE SWITCH

1. Place the cord into the clamp as shown in Figure B.
2. Locate clamp at desired activation level and secure the clamp to the discharge pipe as shown in Figures A and B. **Note:** Do not install cord under hose clamp.
3. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.
4. Bring cable leads back to control device and wire according to Figure C.
5. Check installation. Allow system to cycle to insure proper operation.

Note: All hose clamp components are made of 18-8 stainless steel material. See your SJE-Rhombus supplier for replacements.

Figure A

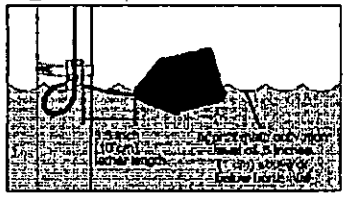
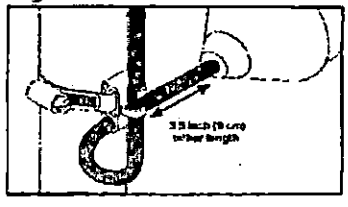


Figure B



INTERNAL WEIGHT

1. Determine desired activation level.
2. Suspend switch 7 inches (18 cm) below desired activation level as shown in Figure D. Switch remains partially submerged during the "on" tipping action. Switch can be totally submerged and still continue to operate properly.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Figure C - Wiring Diagram

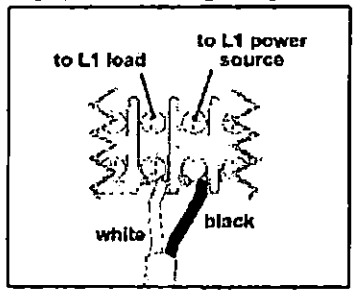
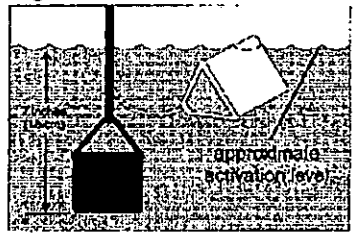


Figure D



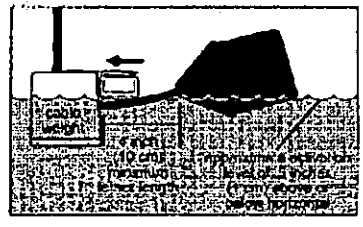
CABLE WEIGHT

1. Determine desired activation level.
2. Suspend switch and cable weight at desired activation level as shown in Figure E.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Cable weight is attached to switch cable at the factory. To adjust:

1. Release clip.
2. Adjust cable weight to desired position.
3. Lay switch cable in weight channel.
4. Align clip with weight channel and slide towards switch cable as shown in Figure E.
5. Snap clip snugly up to cable, moving clip to tightest possible position.

Figure E



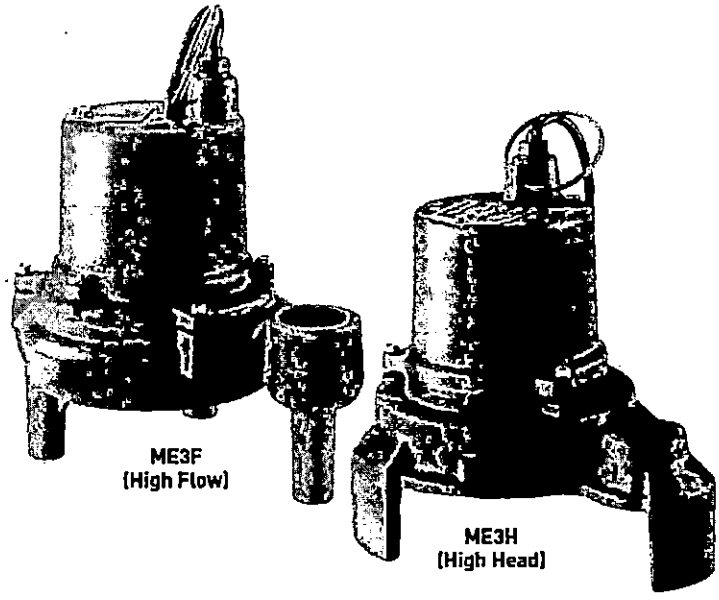
CONTROLS SJE Rhombus
SJ ELECTRO SYSTEMS, INC.
22650 County Highway 6 ■ P.O. Box 1708 ■ Detroit Lakes, Minnesota 56502 USA
1-888-DIAL-SJE (1-888-342-5753) ■ Phone: 218-847-1317 ■ Fax: 218-847-1617
e-mail: sjc@sjerhombus.com

Brd. Instr. PN 1009640A
Cal. Page PN 1009639A

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MYERS® ME3 SERIES

The Myers® ME3 series submersible effluent pumps are constructed of the most durable combination of materials to withstand the harshest environments. The ME3 is available with a recessed impeller for high-head applications or an enclosed impeller for high-flow installations. Available in tethered automatic piggyback models or manual models for use with external controls.



APPLICATIONS

Effluent removal, sump drainage, water transfer, flood control

SPECIFICATIONS

Capacities – ME3H: 36 GPM (136 LPM); ME3F: 66 GPM (249 LPM)
Shut-off Head – ME3H: 35' (10.7 m); ME3F: 31' (9.5 m)
Maximum Spherical Solids – 3/4" (19 mm)
Liquids Handling – Domestic effluent and drain water
Intermittent Liquid Temperature – Up to 140°F (60°C)
Motor/Electrical Data – 1/3 HP, 1550 RPM, shaded pole, oil-filled; 115V, 12A, 1Ø, 60Hz; 230V, 6A, 1Ø, 60Hz
Acceptable pH Range – 6-9
Specific Gravity – .9-1.1
Viscosity – 28-35 SSU
Discharge, NPT – 1-1/2" (50.8 mm)
Housing – Heavy cast iron
Minimum Sump Diameter –
Simplex: 24" (61 cm)
Duplex: 36" (91.4 cm)
Power Cord – 20', 16/3, SJTW

FEATURES

Two Powerful Pumps
High head (ME3H), High flow (ME3F)

Maximum Heat-handling
Durable, oil-filled motor for continuous bearing lubrication and maximum heat dissipation

Powerful Starts
High-torque, no starting switches or relays to wear out

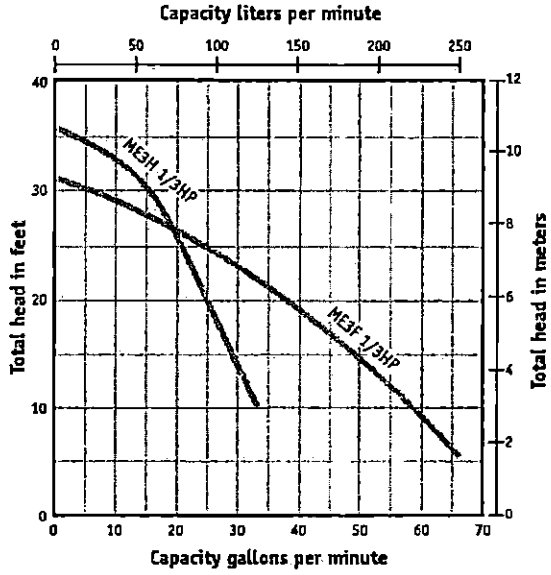
Thermal Protection
Heat sensor overload protection with automatic reset when motor cools to a safe operating temperature

Longer-lasting Motor
Lower ball bearing eliminates sleeve bearing wear and reduces motor wear

Manual Operation
Tethered automatic models can be operated manually by unplugging piggyback switch and plugging pump directly into outlet

MYERS® ME3 SERIES

PUMP PERFORMANCE

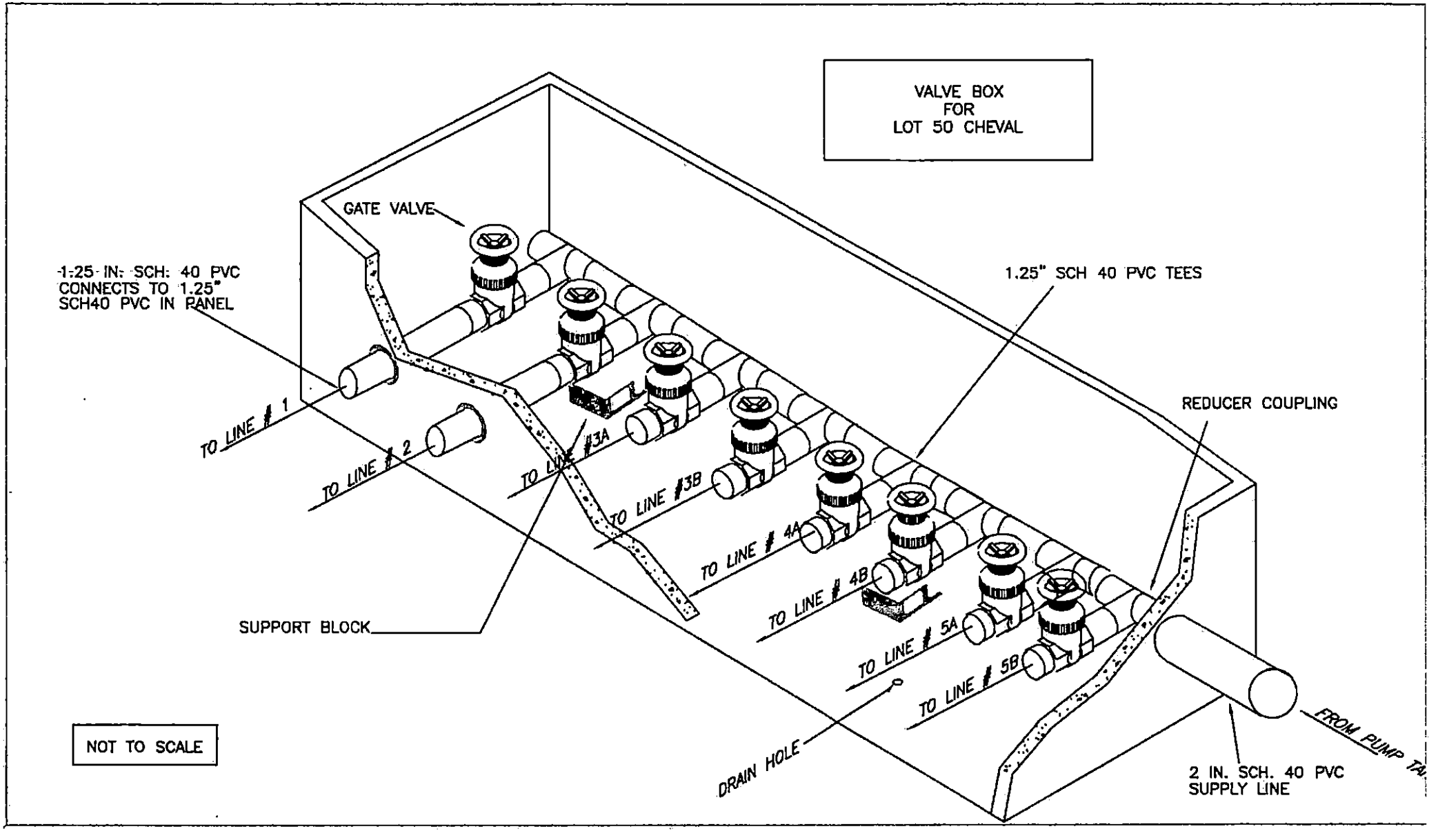


CALCULATIONS

Location	Cheval	
Project Number		
Lot No:	50	
No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2 day}$
Innovative? (YES OR NO)	NO	
Supply Line Length	105	ft.
Supply Line Volume	11.13	gal.
Required Feet of Line	333	ft.
Amount of Line from Layout	334	ft.
Gallons per Minute	30.34	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500 gal.	
Lateral Line Volume	218.102	gal.
Dosing Volume	266.40	gal.
	Note: Dosing Volume=74 panels x 3.6g	
Tank Draw Down	9.2	in.
	Generic Draw Down of 29 gal.per in.	
Pump Run Time	8.78	minutes
Elevation Head	9	ft.
Pressure Head	2	ft.
Friction Factor	1.78	ft./100 ft. *(USING 2" SCH 40.)*
Friction Head	1.87	ft.
Lateral Friction	1	
Friction Head +15%	2.14935	
Total Dynamic Head	14.15	ft.

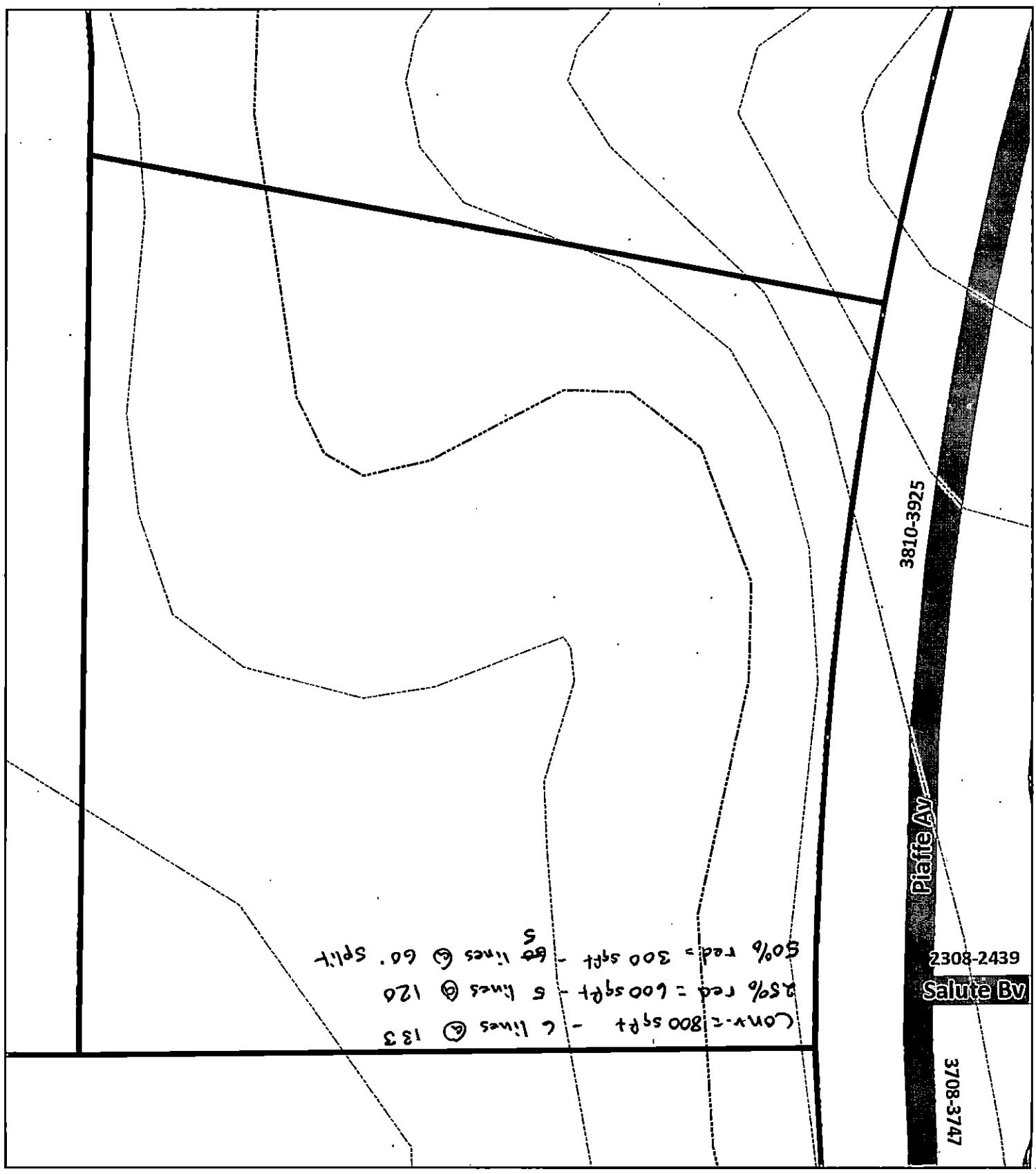
FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

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


VALVE BOX
FOR
LOT 50 CHEVAL
GATE VALVE
1.25 IN. SCH. 40 PVC
CONNECTS TO 1.25"
SCH40 PVC IN PANEL
1.25" SCH 40 PVC TEES
REDUCER COUPLING
TO LINE # 1
TO LINE # 2
TO LINE # 3A
TO LINE # 3B
TO LINE # 4A
TO LINE # 4B
TO LINE # 5A
TO LINE # 5B
SUPPORT BLOCK
DRAIN HOLE
FROM PUMP
2 IN. SCH. 40 PVC
SUPPLY LINE
NOT TO SCALE

On-site Wastewater Improvement Permit Diagram

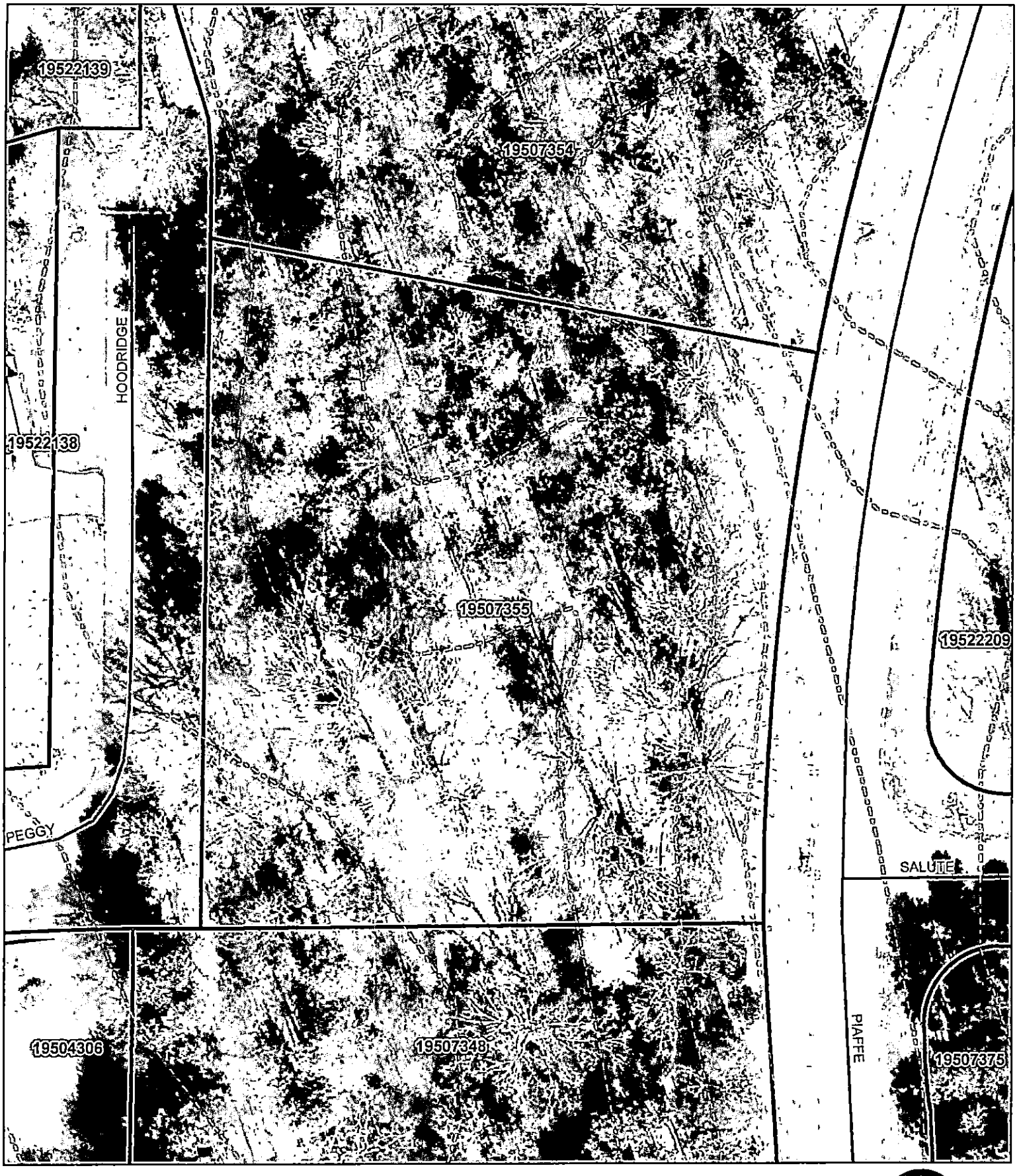
PARCEL #: 195-073-55
WASPS APPLICATION #: 8119



Map Created By: Bryan Davenport
Map Created On: 4/11/2016

1 inch = 40 feet

PID: 195-073-55
FILE # 9433B
APP ID: 8119



Drawn By:
Date:

1 inch = 50 feet

N

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 06/12/17
Receipt #: 106251
Check / Auth #: CHARGE
Received By: ELLISLW

Amount: 200.00
Tendered: 200.00
Returned: 0.00

Account Information

Account #: X40433
Contractor: GRANDFATHER HOMES INC
Attn:
Address: 2536 SHENANDOAH AVE
Address:
City/State/Zip: CHARLOTTE, NC 28205

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Septic Construction Authorizat 3809 PIAFFE AVE		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
400.00	15,595.85				

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	06/12/17	**Amount:**	200.00
Receipt #:	106250	**Tendered:**	200.00
Check / Auth #:	CHARGE	**Returned:**	0.00
Received By:	ELLISLW		

Account Information

Account #: X40433
Contractor: GRANDFATHER HOMES INC
Attn:
Address: 2536 SHENANDOAH AVE
Address:
City/State/Zip: CHARLOTTE, NC 28205

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Septic Operational Permit 3809 PIAFFE AVE		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
200.00	15,595.85				