Supervisor/Administrative Professional Checklist

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

New Septic Fees Paid:

IP ($250.00) VW 3/19/15 Initials/Date

CA ($200.00) VAW 8/20/15 Initials/Date

OP ($200.00) VAW 8/20/15 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 ☑ SRP

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. ☐ _____

Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 9141B WASPS App #: 7345

Primary ES assigned to project: Jeremy Michael

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 ☐
.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: 8			
	Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR 0.25	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: _____

OP issued date: _____

Review performed by: JAM Date performed: _____

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 #: 30007345 GWS File #: 9141B

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.
- All drainage improvements (swales, interceptor drains, etc.) noted on the plot plan must be inspected and approved 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.
- This type of repair system requires periodic inspections by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- 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.
- 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 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: Jeremy Michael

Signature: Jeremy Michael

Date Issued: 8/14/2015

Owner/Legal Agent: Robert A. Voller
First Name

Signature: RAV

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 #: **30007345** GWS File #: **9141B** Tax Parcel #: **197-221-19**

- 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):** 8/14/2020

Type of Installation: Residential - New System Lot Number: 0

Structure Type: HOUSE Size (ft^2): 4000 # Bedrooms: 5 # Occupants: 6

Building Foundation: Crawl Space Water Supply: Municipal

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

Initial System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.25	Septic Tank Size (gal):	1000	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	960	Total Trench Length (ft):	320
Maximum Trench Depth (in):	36	Depth of Media (in):	22	Distribution Device:	Manifold (LPP Distri		

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

Repair System Specifications:

Design Flow (gpd):	120	LTAR (gpd/ft^2):	0.1	Septic Tank Size (gal):	1000	Pump Tank Size (gal):	1000
Trench Width (ft):	1	Trench Spacing (ft):	2	Absorption Area (ft^2):	1200	Total Trench Length (ft):	1200
Maximum Trench Depth (in):	8	Depth of Media (in):	12	Distribution Device:	Headworks (Drip Irr.		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The repair area is split between 1 Bedroom Drip Irrigation & 3 Bedroom T&J Panel. See engineers plan.

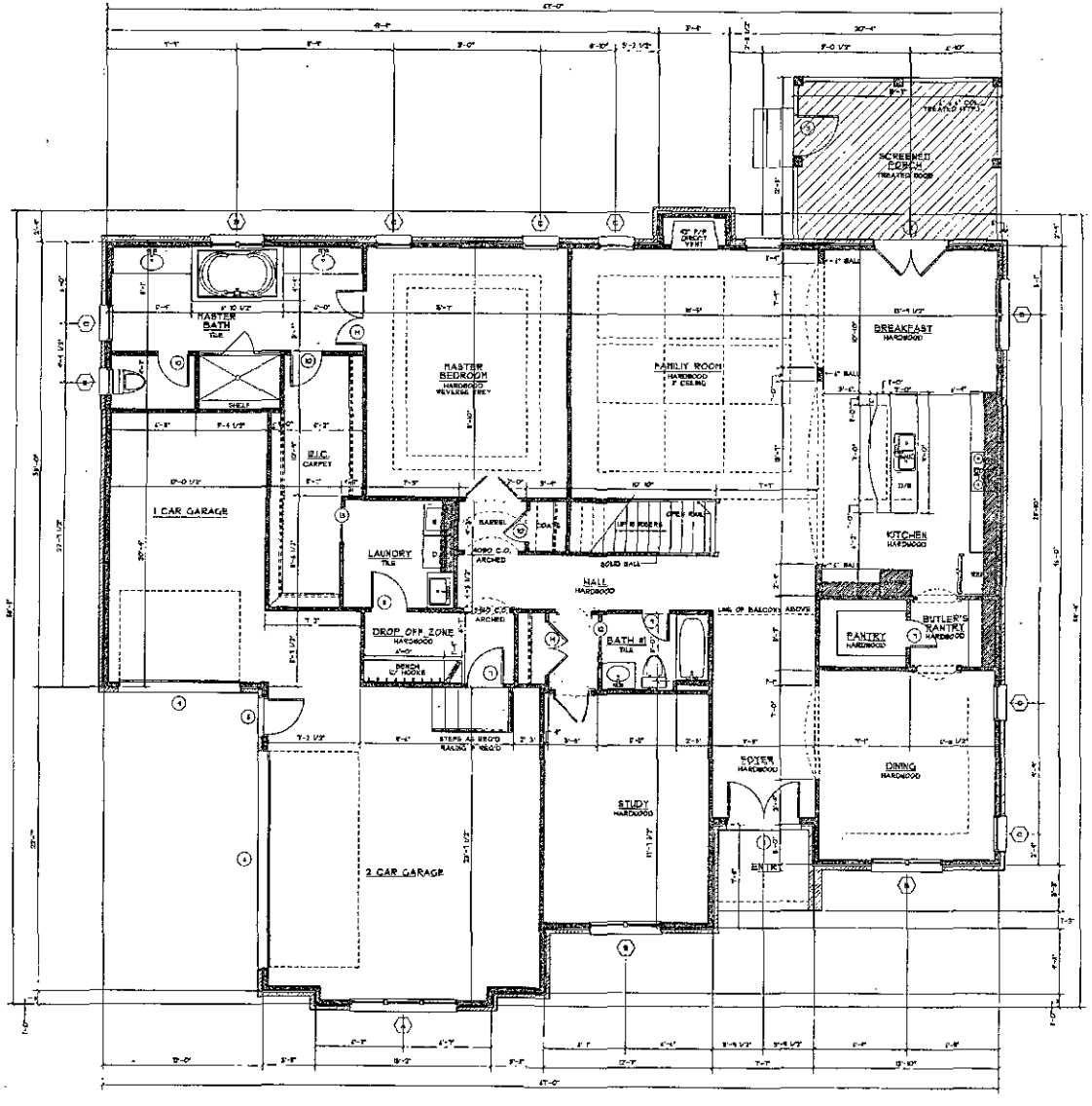
The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following 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: Jeremy Michael Owner/Legal Agent: Robert A Vollers
Print Name

Signature: Jeremy Michael Signature:

Date Issued: 8/14/2015



AREA:

BRICK:

1ST FLOOR HEATED	3492 SF
2ND FLOOR HEATED	1093 SF
TOTAL HEATED	4585 SF
ENTRY	16 SF
GARAGES	750 SF
SCREENED PORCH	112 SF
TOTAL UNDER ROOF	5463 SF

FIRST FLOOR PLAN

SCALE: 1/4"=1'-0"

REVISIONS	BY

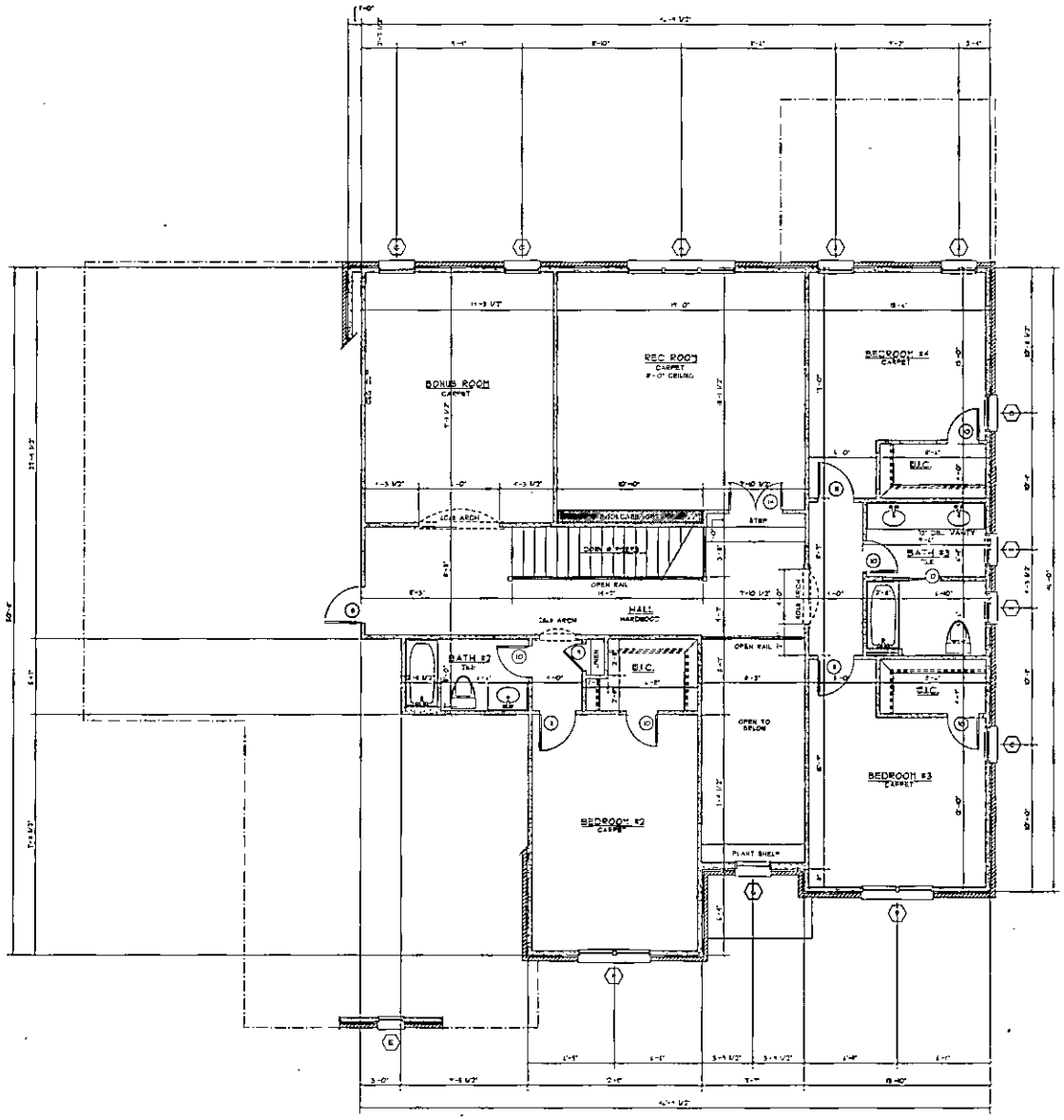
STRUCTURAL ENGINEER

Design Boutique Productions
Lexington Office Center
301 Fame, #100
Charlotte, NC 28217
704-525-5998

8145 ROLLING FIELD RD – CHARLOTTE, NC
THE CLARK & CRYSTAL WHALEN RESIDENCE

CYRAS CUSTOM HOMES
8554 SOUTH PARK DR.
CHARLOTTE, NC 28209
PHONE 704-295-6004
FAX 704-525-5995
INFO@CYRASCUSTOMHOMES.COM

DRAWN :	GJ
CHECKED :	GJ
DATE :	07/11/15
SCALE :	AS NOTED
JOB NO. :	
SHEET	5
OF	SHEETS



SECOND FLOOR PLAN

AREA:

BRICK:

1ST FLOOR HEATED	3972 SF
2ND FLOOR HEATED	493 SF
TOTAL HEATED	4395 SF
ENTRY	45 SF
GARAGES	740 SF
SCREENED ROOM	192 SF
TOTAL ROOF	5145 SF

REVISIONS	BY

STRUCTURAL ENGINEER

Design Board Productions
Huntington Office Center
19 Bull Street
Charlotte, NC 28203
704.343.9008

8145 ROLLING FIELD RD – CHARLOTTE, NC
THE CLARK & CRYSTAL WHALEN RESIDENCE
CYRAS CUSTOM HOMES
CRAIG CYRAS
CHARLOTTE, NC 28269
PHONE 704.295.4991
FAX 704.295.4998
CRAIG@CYRASCUSTOMHOMES.COM

DRAWN : GJ
CHECKED : GJ
DATE : 07/8/15
SCALE AS NOTED
JOB NO. :
SHEET 7
OF SHEETS

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	08/20/15	**Amount:**	200.00
Receipt #:	95828	**Tendered:**	200.00
Check / Auth #:	VISA 00697G	**Returned:**	0.00
Received By:	WALKEVA		

Account Information

Account #: 200000
Contractor: KUMAR, KOKILA
Attn:
Address: 9935 D REA ROAD, SUITE 210
Address:
City/State/Zip: CHARLOTTE, NC 28277

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Septic Operational Permit 8145 ROLLING FIELDS ROAD		1	200.00	200.00

Outstanding Balances

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

S

FEE: 200.00
DATE:8/21/2015

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 9141B

PERMIT NUMBER: 30007345

PARCEL NUMBER: 19722119

JOB LOCATION INFORMATION

ADDRESS: *8145 ROLLING FIELDS RD*

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

ISSUED TO: LJW LAND LLC

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 8/21/2015

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30007345, 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.

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	08/20/15	**Amount:**	200.00
Receipt #:	95827	**Tendered:**	200.00
Check / Auth #:	VISA 00697G	**Returned:**	0.00
Received By:	WALKEVA		

Account Information

Account #: 200000
Contractor: KUMAR, KOKILA
Attn:
Address: 9935 D REA ROAD, SUITE 210
Address:
City/State/Zip: CHARLOTTE, NC 28277

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Septic Construction Authorizat 8145 ROLLING FIELDS ROAD		1	200.00	200.00

----------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: KOKILA KUMAR

Bill To:

KOKILA KUMAR
9935 D REA ROAD, SUITE 210

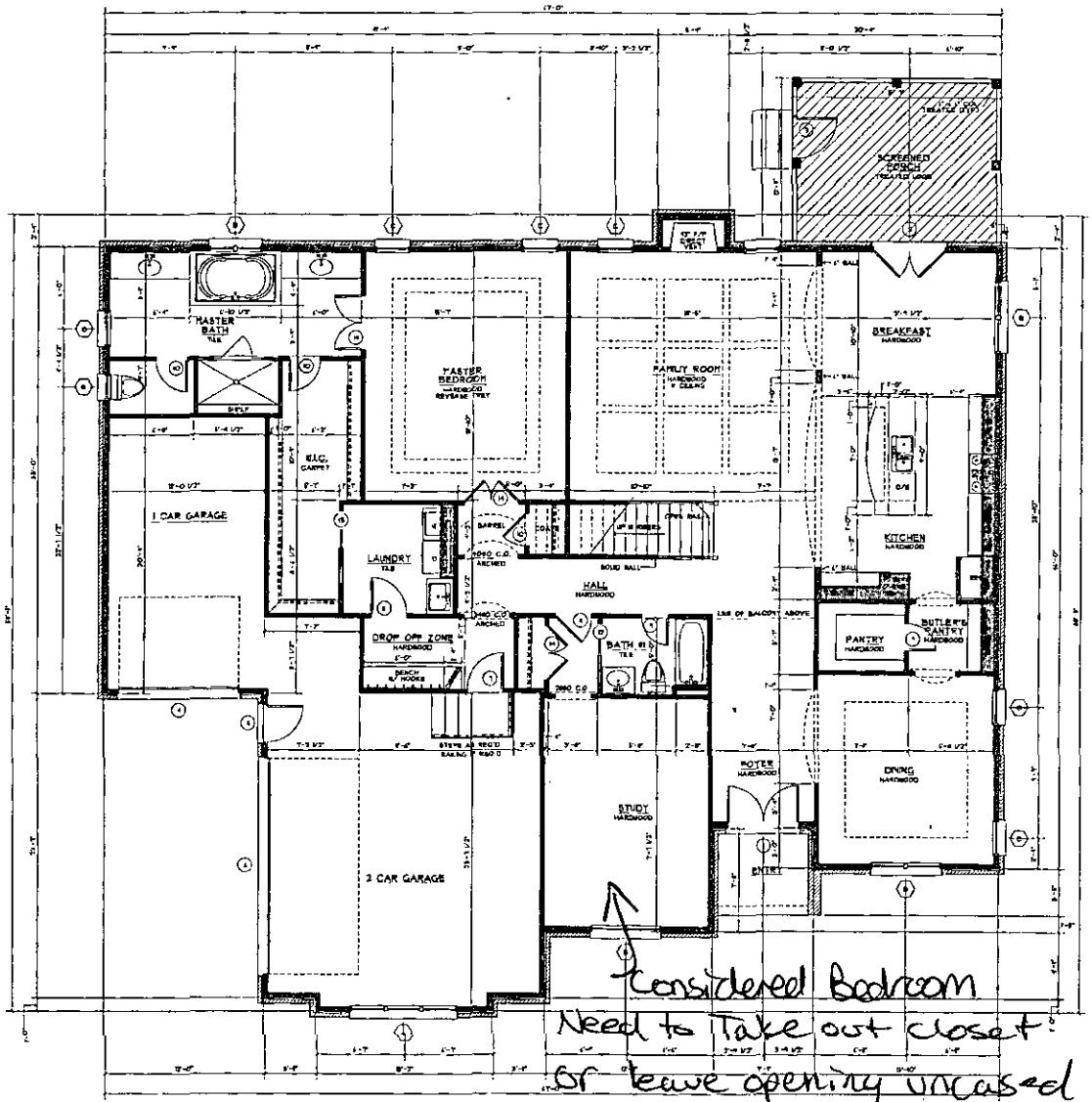
Charlotte, NC 28277

Single Payment

Transaction Date:	08/20/2015 10:50 AM Pacific Time
Pay Method:	VISA **********0853
Approval #:	00697G
Trace Number:	e5d5a6c6-d753-4792-8df5-e9d3369ae226
Amount:	$400.00

Payment Amount:	$400.00
Total:	**$400.00**

Thank you for your payment.



AREA:

FIRST FLOOR PLAN

REVISIONS	BY

STRUCTURAL ENGINEER

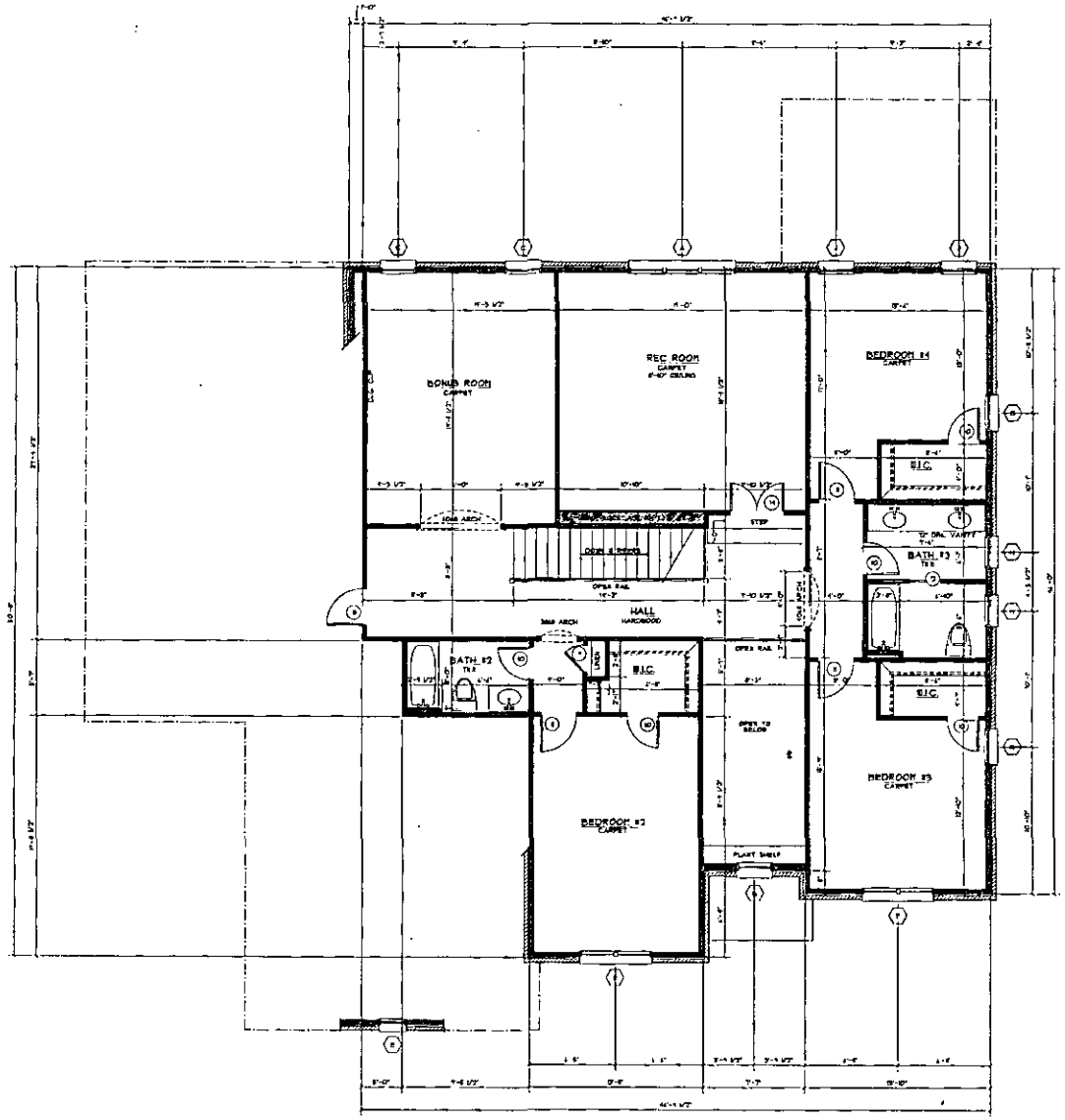
Design Board Productions

Torrington Office Center
PO Box 672633
Charlotte, NC 28267
704-545-9608

8145 ROLLING FIELD RD – CHARLOTTE, NC
THE CLARK & CRYSTAL WHALEN RESIDENCE
CYRAS CUSTOM HOMES

4436 B SOUTH BLVD.
CHARLOTTE, NC 28209
PHONE: 704.295.8004
FAX: 704.295.8496
INFO@CYRASCUSTOMHOMES.COM

DRAWN : EJ
CHECKED : GJ
DATE : 07/16/15
SCALE : AS NOTED
JOB NO. :
SHEET 5
OF SHEETS



SECOND FLOOR PLAN

SCALE: 1/4"=1'-0"

AREA:

BRICK:

1ST FLOOR HEATED	3995 SF
2ND FLOOR HEATED	873 SF
TOTAL HEATED	4868 SF
ENTRY	46 SF
GARAGES	740 SF
SCREENED PORCH	293 SF
TOTAL UNDER ROOF	5948 SF

REVISIONS	BY

STRUCTURAL ENGINEER

Design Board Productions

Farmington Office Center
PO Box #12231
Charlotte, NC 28217
704-543-5888

8145 ROLLING FIELD RD – CHARLOTTE, NC
THE CLARK & CRYSTAL WHALEY RESIDENCE
CYRAS CUSTOM HOMES

4136 S SOUTH BLVD.
CHARLOTTE, NC 28209
OFFICE: 704-525-1664
FAX: 704-525-6098
INFO@CYRASCUSTOMHOMES.COM

DRAWN : EJ
CHECKED : CJ
DATE : 01/1/15
SCALE : AS NOTED
JOB NO. :
SHEET 2
OF SHEETS

9141B

MECKLENBURG COUNTY
HEALTH DEPARTMENT

APP# 7345

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: 19722119

STREET ADDRESS: 8145 Rolling Fields Rd

CITY: Charlotte

STATE: NC ZIP: 28227

SUBDIVISION NAME: Plantation Falls

LOT #: 4 LOT SIZE (acres): 1.10

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: 4,000

NUMBER OF BEDROOMS: 4

NUMBER OF OCCUPANTS: 6

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 ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ 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? 1/1/75 ☐ UNKNOWN

11. WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? _____ ☑ N/A

12. PROPERTY OWNER:

NAME: LJW LAND LLC

ADDRESS: 7620 BALTUSROL LN

CITY: CHARLOTTE

STATE: NC ZIP: 28210

WORK PHONE: _____

MOBILE PHONE: (704) 451-1020

FAX: (704) 553-9005

E-MAIL: wwwaters@aol.com

13. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:

NAME: Bob Jacobs

ADDRESS: 4240 Rea Rd

CITY: Charlotte

STATE: NC ZIP: 28226

WORK PHONE: _____

MOBILE PHONE (704) 904-1800

FAX: _____

E-MAIL: bobjacobs@carolina.rr.com

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.

_____ (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.

_____ Property Owner's or Owner's Legal Representative Signature

March 18 2015 Date

OFFICE USE ONLY

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

SEPTIC APPLICATION FEE RECEIVED: $ 250 00 DATE FEE RECEIVED: 3/19/15

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

APPLICATION PROCESSED BY: BJA

GWS FILE NUMBER ASSIGNED: 9141B

APPLICATION ID NUMBER ASSIGNED: 7345

COMMENTS:

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

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

Sheet: 1 of 3
Property ID: 197-221-19
Lot #: 4
File #: 9141B
AppID: 7345

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Property Owner: LJW Land LLC
Address: 7620 Baltusrol Ln, Charlotte, NC 28210
Proposed Facility: 5 Bedroom House
Design Flow (.1949): ~~600~~ 480 GPD
Location: 8145 Rollings Fields Rd, Charlotte, NC 28227
Water Supply: [ ] Public [ ] Individual [ ] Well [ ] Spring [X] Municipal
Evaluation Method: [X] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Bob Jacobs
Date Evaluated: 4/7/15
Property Size: 1.1 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
Boring #1	LS 10%	0 - 7	gr SIL	SS SP FR SEXP	2 chroma @ 14"	20	NA	NA		US	NA
		7 - 20	wfsbk SIC	S P FI SEXP							
Boring #2	LS 10%	0 - 14	wfsbk CL	SS SP FR SEXP	>30"	20	NA	NA	manganese 20 - 30"	US (Drip 0.1)	NA
		14 - 20	wfabk C	S P FI SEXP							
		20 - 30	mass C								
Boring #3	LS 8%	0 - 10	wfsbk CL	SS SP FR SEXP	2 chroma @ 23"	23	NA	NA		US (Drip 0.1)	NA
		10 - 23	wfsbk C	S P FI SEXP							
		23 - 30	mass C								
Boring #4	LS 3%	0 - 4	wfsbk CL	SS SP FR SEXP	>33"	31	NA	NA		PS IV 0.225	18"
		4 - 31	wfsbk C	S P FI SEXP							
		31 - 33	Weathered Rock with Saprolite								
Boring #5	LS 5%	0 - 4	wfsbk CL	SS SP FR SEXP	>35"	32	NA	NA		PS IV 0.225	18"
		4 - 26	wfsbk C	S P FI SEXP							
		26 - 32	wfsbk CL	SS SP FR SEXP							
		32 - 35	mass Sap								
Boring #6	LS 5%	0 - 8	wfsbk CL	SS SP FR SEXP	>50"	50	NA	NA	few 3 chroma mottles around root channels 33 - 40"	PS IV 0.25	36"
		8 - 50	wfsbk C	S P FI SEXP							

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

* LTAR only valid in area of borings 6, 7, & 8.

Other Factors (.1946):
Soil Evaluation By: Jacob Presley, REHS, LSS
Others Present:
Site Classification (.1948): PS
Site Evaluation By: Jeremy Michael
Others Present: Paul Penniger

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
CONTINUED

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
Boring #7	LS 5%	0 - 15	wfsbk CL	SS SP FR SEXP	>50"	50	NA	NA		**PS IV 0.25**	**36"**
		15 - 50	wfsbk C	S P FI SEXP							
Boring #8	LS 6%	0 - 7	Fill		>50"	50	NA	NA		**PS IV 0.275**	**36"**
		7 - 16	wfsbk CL	SS SP FR SEXP							
		16 - 36	mfsbk C	S P FI SEXP							
		36 - 50	wfsbk CL	S P FR SEXP							

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
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 Moist	Consistence Wet	Mineralogy
VFR-Very Friable	SS-Slightly Sticky	SEXP-Slightly Expansive
FR-Friable	S-Sticky	EXP-Expansive
FI-Firm	VS-Very Sticky	
VFI-Very Firm	NP-Non-Plastic	**Classification**
EFI-Extremely Firm	SP-Slightly Plastic	US-Unsuitable
	P-Plastic	PS-Provisionally Suitable
	VP-Very Plastic	S-Suitable
		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 #: **30007345** GWS File #: **9141B**

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.
- All drainage improvements (swales, interceptor drains, etc.) noted on the plot plan must be inspected and approved 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.
- This type of repair system requires periodic inspections by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- 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.
- 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 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: Jeremy Michael

Signature: Jeremy Michael

Date Issued: 8/14/2015

Owner/Legal Agent: _____
Print Name

Signature: _____

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 #: **30007345** GWS File #: **9141B** Tax Parcel #: **197-221-19**

- 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):** 8/14/2020

Type of Installation: Residential - New System Lot Number: 0

Structure Type: HOUSE Size (ft^2): 4000 # Bedrooms: 5 # Occupants: 6

Building Foundation: Crawl Space Water Supply: Municipal

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

Initial System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.25	Septic Tank Size (gal):	1000	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	960	Total Trench Length (ft):	320
Maximum Trench Depth (in):	36	Depth of Media (in):	22	Distribution Device:	Manifold (LPP Distri		

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

Repair System Specifications:

Design Flow (gpd):	120	LTAR (gpd/ft^2):	0.1	Septic Tank Size (gal):	1000	Pump Tank Size (gal):	1000
Trench Width (ft):	1	Trench Spacing (ft):	2	Absorption Area (ft^2):	1200	Total Trench Length (ft):	1200
Maximum Trench Depth (in):	8	Depth of Media (in):	12	Distribution Device:	Headworks (Drip Irr.		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The repair area is split between 1 Bedroom Drip Irrigation & 3 Bedroom T.) Panel. See engineers plan

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: Jeremy Michael Owner/Legal Agent: _____
Print Name

Signature: Jeremy Michael Signature: _____

Date Issued: 8/14/2015

PIEDMONT DESIGN ASSOCIATES, P.A.
125 East Plaza Drive, Suite #101
Mooresville, NC 28115
Phone: 704-664-7888 Fax: 704-664-1778
Email: dmunday@pdapa.com
NCBELS License No.: C-1007

Engineering
Surveying
Planning

GWS Septic System Design Review

GWS File #: 9141B

	Approved	Disapproved
Design Review:	☑	☐
Field Review:	☑	☐

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

August 12, 2015

Mecklenburg County Health Department
Groundwater & Wastewater Services
700 North Tryon Street, Suite 211
Charlotte, NC 28202
Attn: Jacob Presley, LSS, RS

Re: Lot 4 Plantation Falls Subdivision
8145 Rolling Fields Road
Mecklenburg County, NC
MCHD File No.: 9141B

Dear Mr. Presley,

We have reviewed the revised design calculations (dated 07/20/15) for the proposed four bedroom single family Low Pressure T&J Panel primary system with a split repair design consisting of both T&J Panel and TS-1 subsurface drip system. This review was conducted to comply with the North Carolina Board of Examiners for Engineers and Surveyors policy number BP-1007-1 with regards to on-site wastewater system design. We have found that the system is designed correctly and should function as intended.

We have also been asked to review and specify a control panel that has the ability to dose two separate drain field locations and types. We understand this would be for a future repair of the system and would require flow from three bedrooms going to a T&J Panel field and a fourth going to a subsurface drip field.

We have determined that an Orenco MVP-Duplex Control Panel (see attached cut sheet) has the programmability to run duplex pumps for **"X"** time per pump at **"X"** times per day. Dosing of each of the drain fields will not be by demand, but will operate on a timed dose schedule as long as the liquid level in pump tank is at or above the dose enable float.

As an example, LPPPBPS requires 4 doses per day and subsurface drip field requires 8 doses per day. The duplex control panel PLC intelligence is programmable for this setup and will allow for the drip field to be dosed for a set period of time, dosed again after a set amount of rest time and then the PPBPS receives one dose for a set period of time and then back to the drip field and so on.

These comments and recommendations are based on observations made at the time of this review (August 12, 2015) and are limited to that discussed in this letter. Any conditions that may come forth and are different from that discussed herein should be reported to the Engineer for further evaluation. Any questions regarding the recommendations should be addressed to the Engineer for elaboration. Thank you for allowing us to provide this service to you.

Yours truly,

Piedmont Design Associates, P. A.

Donald L. Munday, P.E.
N. C. Registration No. 17327



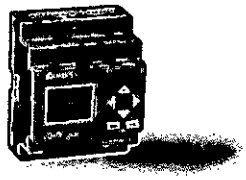
cc: Paul Penniger, LSS
Paul Kumar

MVP-Duplex Control Panels

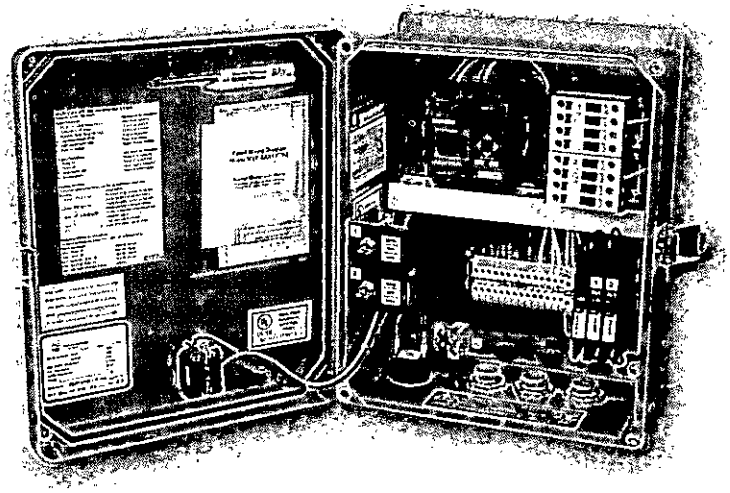
Technical Data Sheet

Applications

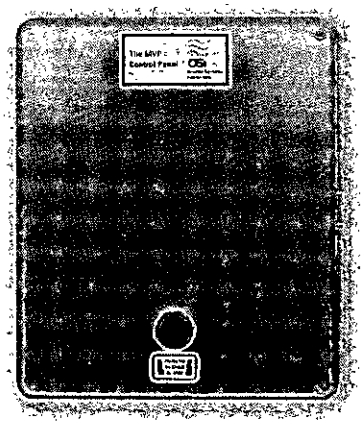
Orenco's MVP line of control panels is specifically engineered for demand and timed dosing of onsite wastewater and water treatment systems and is especially suited for applications that require a programmable timer. The MVP Duplex Panels are ideal for timed dosing in two-pump alternating systems.



The programmable logic module is the brain of the MVP line of control panels



Model shown is MVP-DAX1 PTRO



The enclosure is NEMA 4X rated

Features/Unique Specifications

To specify this panel for your installation, require the following:

- Digital timing accurate within 1%
- Multiple settings for optimized dosing during normal and peak flow conditions
- Pump alternation continues during override conditions
- Built-in programming keys for adjusting timer settings in the field without a portable computer
- Built-in elapsed time meters and counters
- Port on logic unit for easy insertion of EEPROM card to change panel functions
- High and low-level alarm conditions differentiated by steady or blinking light
- Silenced alarms automatically reactivated after 12 hours if condition is not corrected
- Timed delays on float inputs to prevent chattering
- Ability to use one model of float for all functions
- Visual indicators of float position
- UL 508 listing in U.S. and Canada

Standard Model

MVP-DAX1 PTRO, MVP-DAX2 PTRO, MVP-DAX1 RO, MVP-DAX2 RO

Nomenclature

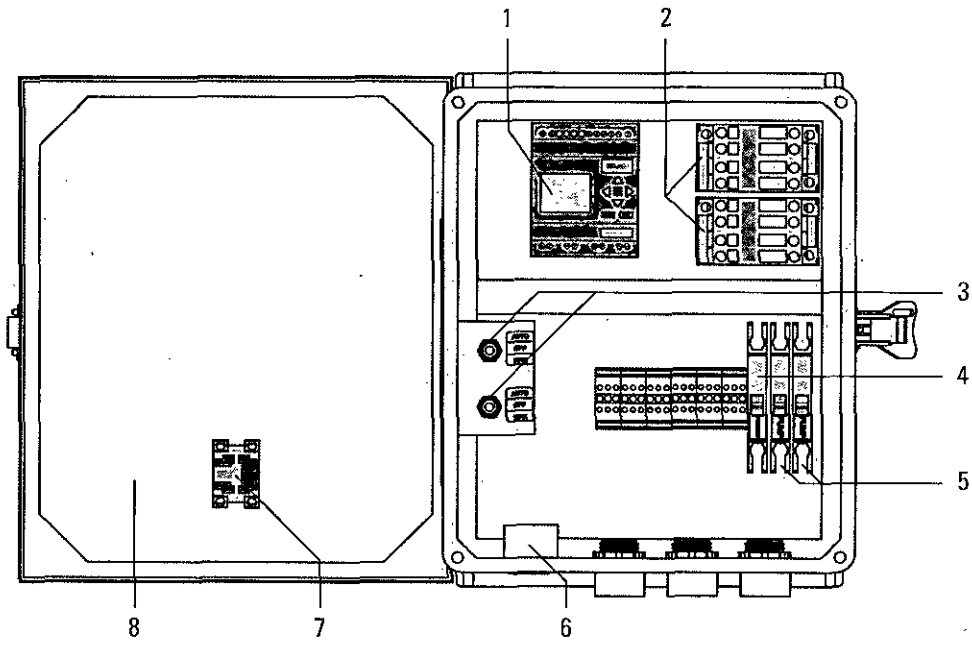
VP-DAX□□□□ □□RO □□□□

- Indicates additional options:
  HT = heater
  CS = current sensor
  PRL = pump run light
- PT = indicates timed dosing
  Blank = indicates demand dosing
- Intrinsically safe relays
- (Intrinsically safe relays)
- Indicates voltage:
  1 = 120 VAC
  2 = 240 VAC

Orenco Systems®
Incorporated

Changing the Way the World Does Wastewater®

www.orenco.com



Standard Components

Feature	Specification(s)
1. Programmable Logic Unit	120/240 VAC programmable logic unit with built-in LCD screen and programming keys. Provides control functions and timing for panel operation.
2. Motor-Start Contactors	120 VAC: 16 FLA, 1 hp, 60 hz; 2.5 million cycles at FLA (10 million at 50% of FLA). 240 VAC: 16 FLA, 3 hp, 60 hz; 2.5 million cycles at FLA (10 million at 50% FLA).
3. Toggle Switches	Single-pole, double-throw HOA switch. 20 amps, 1hp.
4. Controls Circuit Breaker	10 amps, OFF/ON switch. Single pole 120 VAC. DIN rail mounting with thermal magnetic tripping characteristics.
5. Pump Circuit Breakers	20 amps, OFF/ON switch. Single-pole 120 VAC, double-pole 240 VAC. DIN rail mounting with thermal magnetic tripping characteristics.
6. Audio Alarm	95 dB at 24", warble-tone sound.
7. Visual Alarm	7/8" diameter red lens, "Push-to-silence." NEMA 4, 1 Watt bulb, 120 VAC.
8. Panel Enclosure	Measures 13.51" high x 11.29" wide x 5.58" deep. NEMA 4X rated. Constructed of UV-resistant fiberglass; hinges and latch are stainless steel. Conduit couplings provided.
MVP-DAX1 PTRO Panel Ratings	120 VAC, 3/4 hp, 14 amps, single phase, 60 Hz.
MVP-DAX2 PTRO Panel Ratings	240 VAC, 2 hp, 14 amps, single phase, 60 Hz.

Optional Components

Feature	Specification(s)	Product Code Adder
Pump Run Lights	7/8" green lens. NEMA 4, 1 Watt bulb, 120 VAC.	PRL
Heater	Anti-condensation heater. Self-adjusting: radiates additional wattage as temperature drops.	HT
Intrinsically Safe Control Relays	120 VAC. Listed per UL 698A, for Class 1 Div. 1, Groups A, B, C, D hazardous locations. Larger enclosure required.	IR
Current Sensor	120 VAC. Go/no-go operation. Pump fail indicator light on panel. Manual reset switch.	CS

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	03/19/15	**Amount:**	250.00
Receipt #:	94016	**Tendered:**	250.00
Check / Auth #:	MC 02117Z	**Returned:**	0.00
Received By:	WALKEVA		

Account Information

Account #: 200000
Contractor: JACOBS, ROBERT A.
Attn:
Address: 4240 REA ROAD
Address:
City/State/Zip: CHARLOTTE, NC 28226

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 8145 ROLLING FIELDS ROAD		1	250.00	250.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
120.00					

Payment Receipt

Mecklenburg County POS

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

Enter Account # or Customer Name Here:
ROBERT A. JACOBS

Bill To:

ROBERT A. JACOBS
4240 REA ROAD

Charlotte, NC 28226

Single Payment

Transaction Date:	03/19/2015 12:34 PM Pacific Time
Pay Method:	**********5545
Approval #:	02117Z
Trace Number:	be00528b-7a11-47d0-b425-141a3b1206a3
Amount:	$250.00

Payment Amount:	$250.00
Total:	**$250.00**

Thank you for your payment.

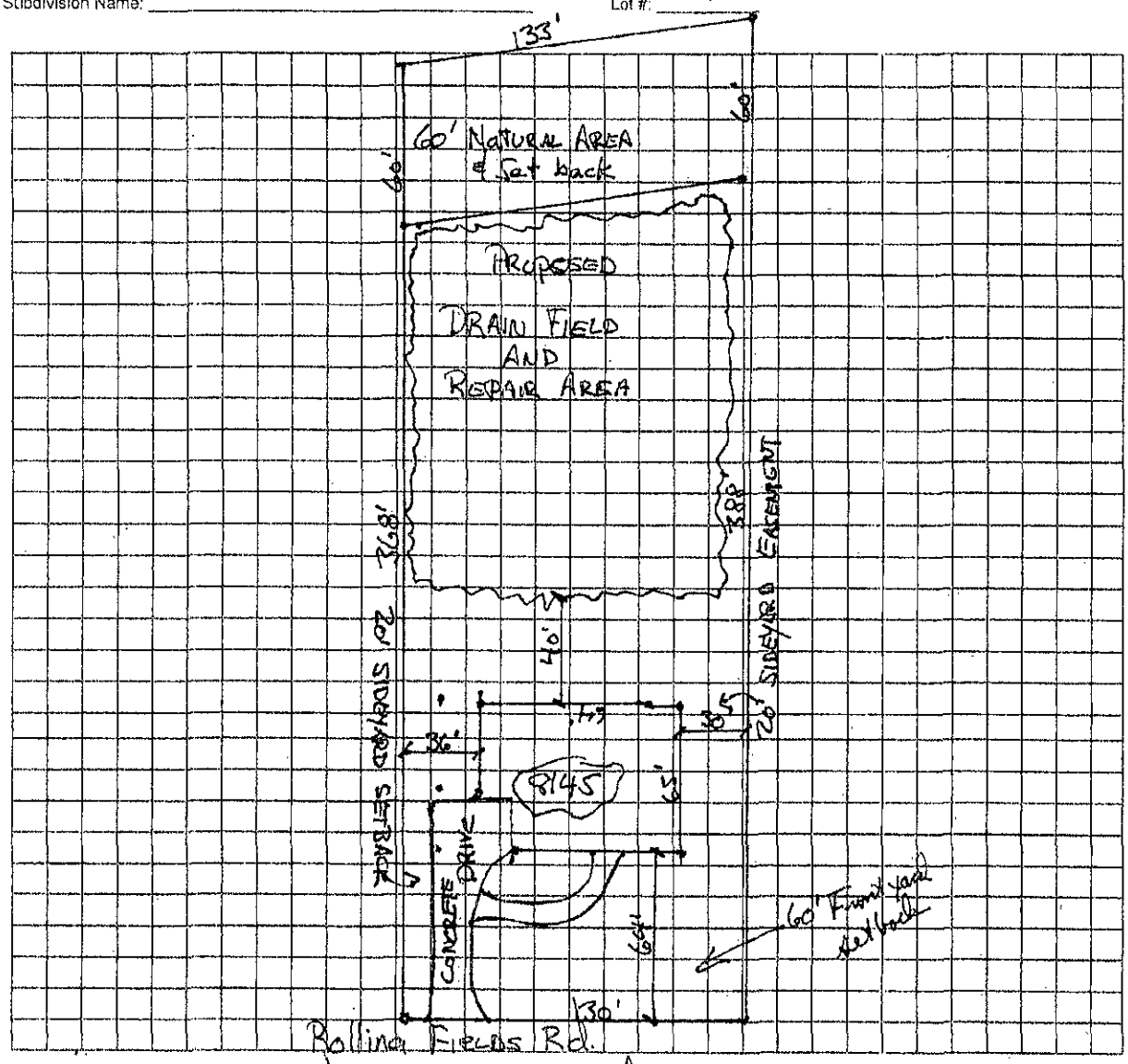
File #: _____

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: 8145 Rolling Fields Rd Tax Parcel #: 19722119

Subdivision Name: Plantation Falls Lot #: 4



Property Owner's or Owner's Legal Representative Signature

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

MCHD

Penninger Soil Consulting, PLLC
Ph: 704-996-6330 Email: pgpenninger@gmail.com

GWS Septic System Design Review

GWS File #: 9141B

Design Review: Approved ☐ Disapproved ☐

Field Review: ☐ ☐

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

July 20, 2015

Harris Construction Group
9935D Rey Road, #210
Charlotte, North Carolina 28277

Attention: Mr. Bob Volles

Reference: **Technical Assistance with Septic Permitting**
Plantation Falls Subdivision – Lot 4
8145 Rolling Fields Road
MCHD File No.: 9141B
Mecklenburg County, North Carolina
Project No. 15-107

Dear Mr. Volles:

Penninger Soil Consulting, PLLC has provided technical assistance to obtain a possible four bedroom septic Improvement Permit from the Mecklenburg County Health Department (MCHD) for the above referenced lot. The technical assistance was performed in general accordance with our written proposal dated July 2, 2015.

Mr. Jacob Presley, L.S.S., R.S. with the MCHD evaluated the soils on the lot with hand auger borings on April 7, 2015. Attached is the MCHD Soil and Site Evaluation report. Mr. Presley determined the soils on the front of the lot were provisionally suitable to 50 inches below the ground surface (bgs) at a 0.25 gpd/sqft LTAR. The soils near the middle of the lot were only provisionally suitable for a subsurface drip system and the soils at the rear of the lot were unsuitable. The MCHD started a system layout and then requested that a consultant complete the system layout for the system proposal.

Your surveyor has staked the property corners and has located the proposed, flagged septic lines as shown on the attached site plan. We are proposing a four bedroom Low Pressure T&J Panel Primary System. Based on the MCHD August 8, 2010 Engineer Policy, the proposed system will require a Professional Engineer design. The proposed repair area will be a partial T&J Panel system and a partial TS-I subsurface drip system. The attached information is to assist you with the permitting process and is to be included in an engineer review submittal to the MCHD by Piedmont Design Associates, PA. We understand the engineer must field verify the proposed system has been installed as designed before an operation permit can be issued by the MCHD.

Once the proposed septic area is permitted, it should be fenced off for protection during home construction. Access to the lot should only be by the proposed drive. There shall not be cuts of 2 feet or greater within 15 feet of any part of the permitted septic drainfield. The minor

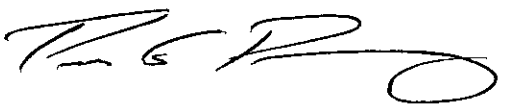
ditch/drain between the primary system and the proposed drip repair area must be filled with clean soil material. Any minor topographical features in the drainfield area should be filled with clean soil material or smoothed prior to system installation. Do not grade the drainfield area and use care when removing trees from the system area. Surface stormwater runoff should be diverted away from the drainfield and tank locations. We recommend a small berm or swale along the south property line to divert any stormwater runoff from the adjoining lot around the drainfield. The storm drain long the north property line should be improved to channel water along the property line.

Penninger Soil Consulting, PLLC appreciates the opportunity to provide these services to you. The attached information is not an Improvement Permit or Authorization to Construct, and is only to assist you and the MCHD with the site evaluation. The MCHD must approve each lot and only the MCHD can issue these permits. The attached site plan is intended to be included in a Professional Engineer review by Piedmont Design Associates, PA. The MCHD should verify all soils and system specifications, and required setbacks. Penninger Soil Consulting, PLLC did not provide any soil evaluations for this system layout or report. System layouts are done based on interpretations of the rules governing wastewater treatment and disposal systems and are not guarantees for site approval or future septic system performance.

If you have any questions or require additional information please contact us at your convenience.

Sincerely,

Penninger Soil Consulting, PLLC



Paul G. Penninger, L.S.S.

Attachments:

1. Site Plan and System Specifications
2. MCHD Soil and Site Evaluation Report

Copy: MCHD

C:\Users\Paul G. Penninger\Documents\2015 Projects\15-107 Harris Construction Group - Farms 434 and 379\Plantation Falls Lot 4\Lot 4 Plantation Falls Summary Letter.doc

1. Site Plan and System Specifications

NOTES .....

IRON PINS ON ALL CORNERS UNLESS OTHERWISE NOTED

AREAS WERE CALCULATED BY COORDINATE METHOD.

NO NCGS TRAVERSE WAS FOUND TO BE WITHIN 2000'

THIS PROPERTY SUBJECT TO ANY OTHER EASEMENTS, AGREEMENTS, OR RIGHTS-OF-WAY OF RECORD.

THIS PROPERTY MAY BE SUBJECT TO WETLANDS REGULATIONS. INDIVIDUAL PROPERTY OWNERS NEED TO REVIEW CURRENT GOVERNMENTAL REGULATIONS PRIOR TO CONSTRUCTION

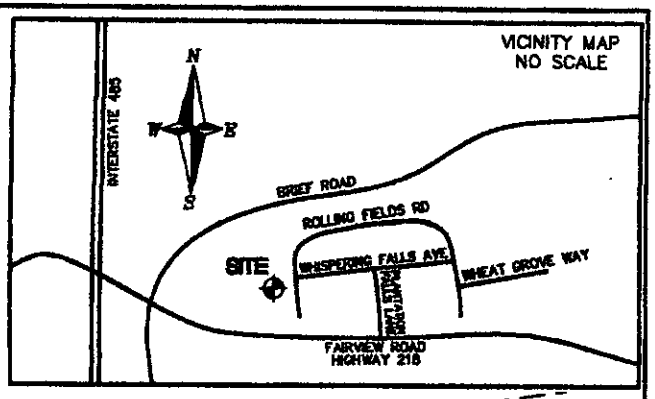
MONUMENT EASEMENTS, COMMON OPEN SPACE, MEDIANISLANDS, LANDSCAPE EASEMENTS AND SIDEWALKS SHALL BE MAINTAINED AND DEDICATED BY THE HOMEOWNER'S ASSOCIATION.

STORM SEWER PIPE SYSTEMS AND/OR CHANNELS LOCATED WITHIN LANDSCAPE AND DRAINAGE EASEMENTS (LSE) ARE THE MAINTENANCE RESPONSIBILITY OF THE HOMEOWNER'S ASSOCIATION.

THIS PROPERTY DOES NOT LIE WITHIN A FEMA FLOODPLAIN PER FEMA FRIM PANEL 3710445600K DATED 03-02-2009.

THE PURPOSE OF THE STORM DRAINAGE EASEMENT (SDE) IS TO PROVIDE STORM WATER CONVEYANCE AND ANY STRUCTURES AND/OR OBSTRUCTION TO STORM WATER FLOW IS PROHIBITED. MAINTENANCE OF THE SDE'S IS THE RESPONSIBILITY OF THE INDIVIDUAL HOME OWNER

THE LOTS WITHIN THE BUILDING RESTRICTION FLOODLINE ARE SUBJECT TO FLOODING DURING HEAVY RAINFALL AND THE CONSTRUCTION OF BUILDING OR STRUCTURES BELOW THE FLOOD PROTECTION ELEVATION IS PROHIBITED, AS FURTHER DESCRIBED BY SECTION 7.200 OF THE MECKLENBURG COUNTY, SUBDIVISION ORDINANCE.



S21°36'57"E 131.54'

Panel System

= T&J + T&I
Drip Repair

GRAPHIC SCALE

50 0 25 50 100

1 inch = 50 ft.

MAP FOR

PLOT PLAN FOR CYRAS CUSTOM HOMES

SCALE	TOWNSHIP	COUNTY	STATE	DATE
1" = 50'	TOWN OF MINT HILL	MECK.	N.C.	07/17/15

8145 ROLLING FIELDS ROAD, CHARLOTTE NC 28227

LOT 4 OF PLANTATION FALLS

SURVEYED

DRAWN YWH

YARBROUGH-WILLIAMS & HOULE, INC.
730 WINDSOR OAK COURT CHARLOTTE, NC., 28273
704-556-1980 NCBELS LICENSE # C-0475

MAP RECORDED 46-561
DEED RECORDED

Plantation Falls Subdivision Lot 4 Septic System Site Plan – MCHD File No. 9141B

Harris Construction Group, Inc.

July 20, 2015

**Site plan must accompany Penninger Soil Consulting, PLLC written report dated July 20, 2015*

Lot 4 Plantation Falls Subdivision Design Spe
Harris Construction Group, Inc.
Number of Bedrooms
Basement or Crawl
Design Flow (gpd)
Primary System LTAR (gpd/ft2)

Primary System Type

No. Lines
Total Linear Feet

Trench Width
Trench Spacing

Pump Required
Distribution Device

Maintenance Agreement Required

Length and Diameter of Supply Pipe
Diameter of laterals

Flow Rate through the system
Elevation head
Pressure head
Friction head
20% Contingency
Total Head

Pump Requirements

Maximum Dosing Volume

Volume of water pumped per dose

Pump Run per dose

Check Valve
Siphon Break hole

Repair Systems

Repair LTAR

Repair LTAR

Panels	Holes	Hole Spacing	Hole Size (In.)
8	8	1 per panel	5/32"
11	11	1 per panel	5/32"
11	11	1 per panel	5/32"
11	11	1 per panel	5/32"
11	11	1 per panel	5/32"
11	11	1 per panel	5/32"
11	11	1 per panel	5/32"
Total: 74	Total:74 (1 in each panel turned up)		

nd elevations prior to installation.
e elevation of 100 ft in road)

center of the field should be
per into air chambers of panel.
verflow is observed.

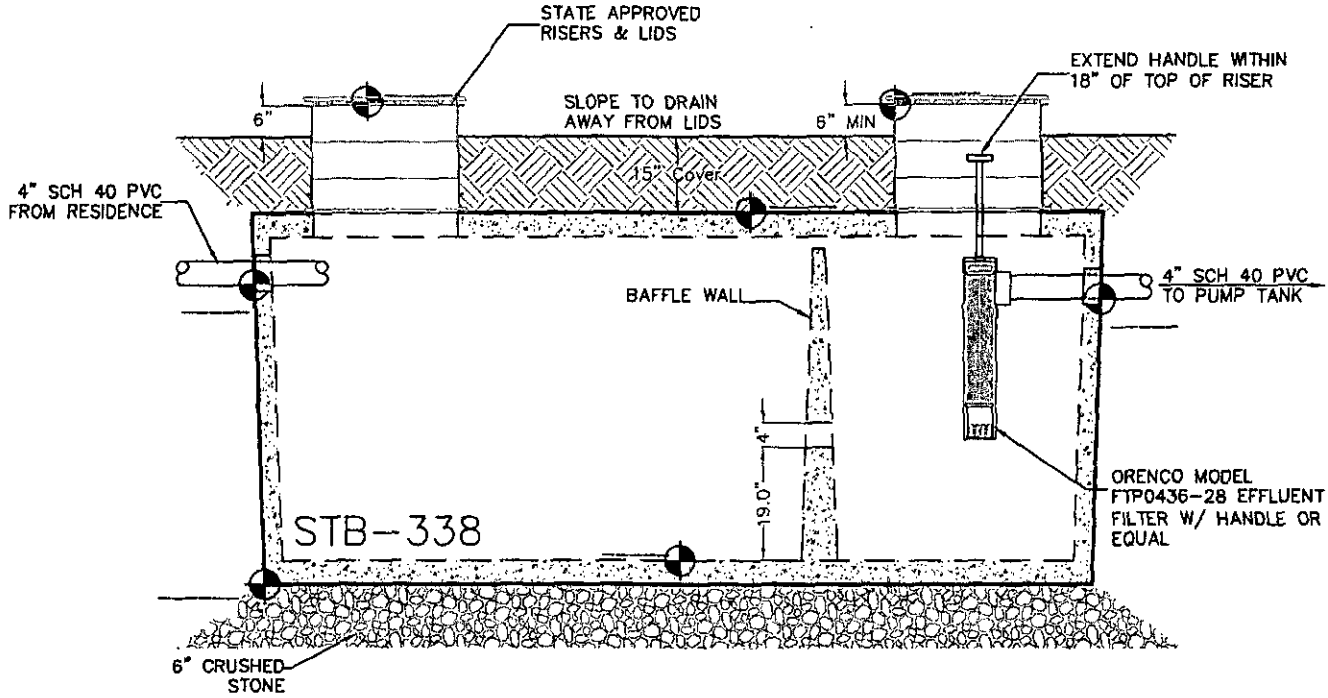
icated on MCHD Soil Report.

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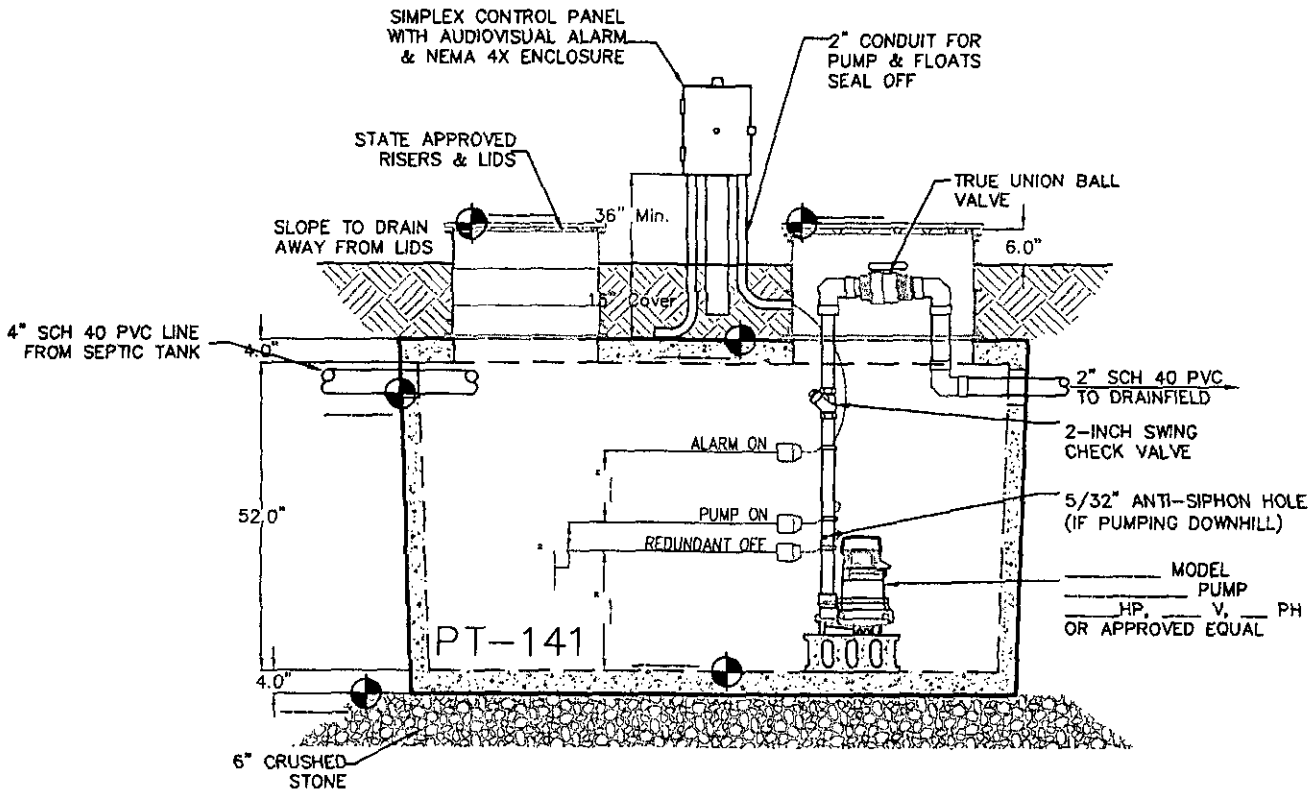
3 Be

1 Bedroom TS-



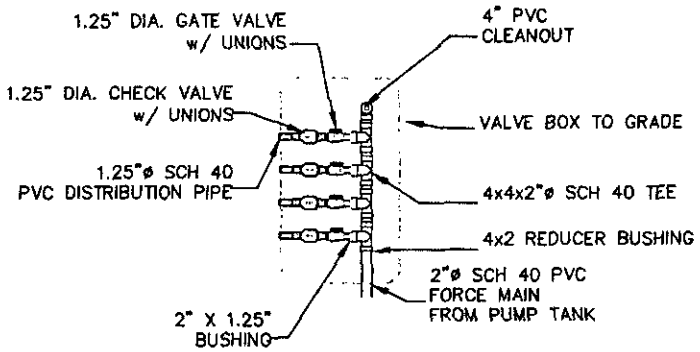
ELEVATION VIEW – 1,500 GAL SEPTIC TANK

N.T.S.



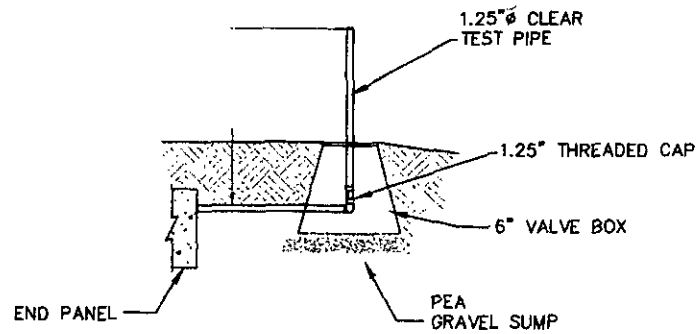
ELEVATION VIEW – 1,000 GAL PUMP TANK

N.T.S.



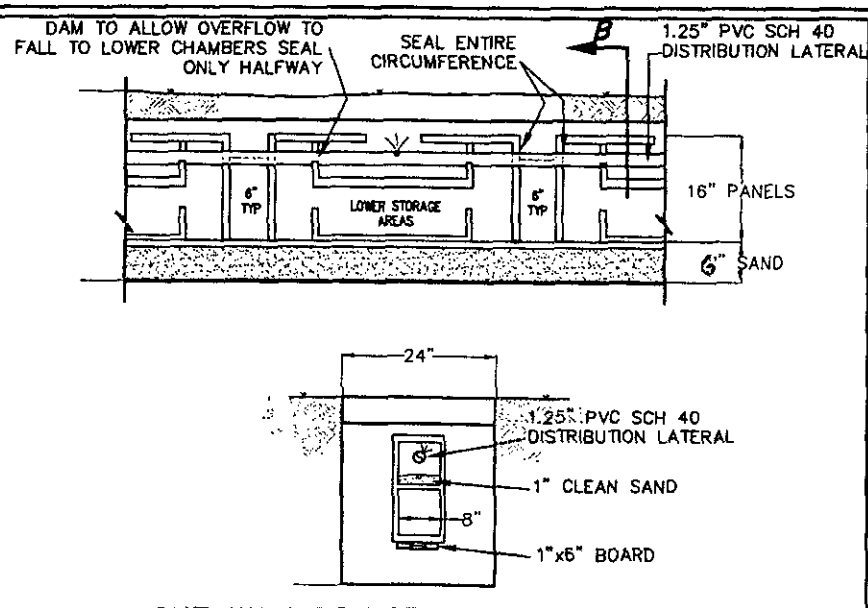
VALVE BOX DETAIL

N.T.S.



TURN UP DETAIL

N.T.S.



CUTAWAY OF PRESSURE PANEL

N.T.S.

GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

■ **Impeller:** Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

■ **Casing:** Cast iron volute type for maximum efficiency. 2" NPT discharge.

■ **Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE** sealing faces. Stainless steel metal parts, BUNA-N elastomers.

■ **Shaft:** Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

■ **Fasteners:** 300 series stainless steel.

■ Capable of running dry without damage to components.

■ Designed for continuous operation when fully submerged.

MOTORS

■ Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.

■ Class B insulation on ⅓-1½ HP models.

■ Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ and ½ HP models have NEMA three prong grounding plugs.
- ¾ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

■ **Designed for Continuous Operation:** Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

■ **Bearings:** Upper and lower heavy duty ball bearing construction.

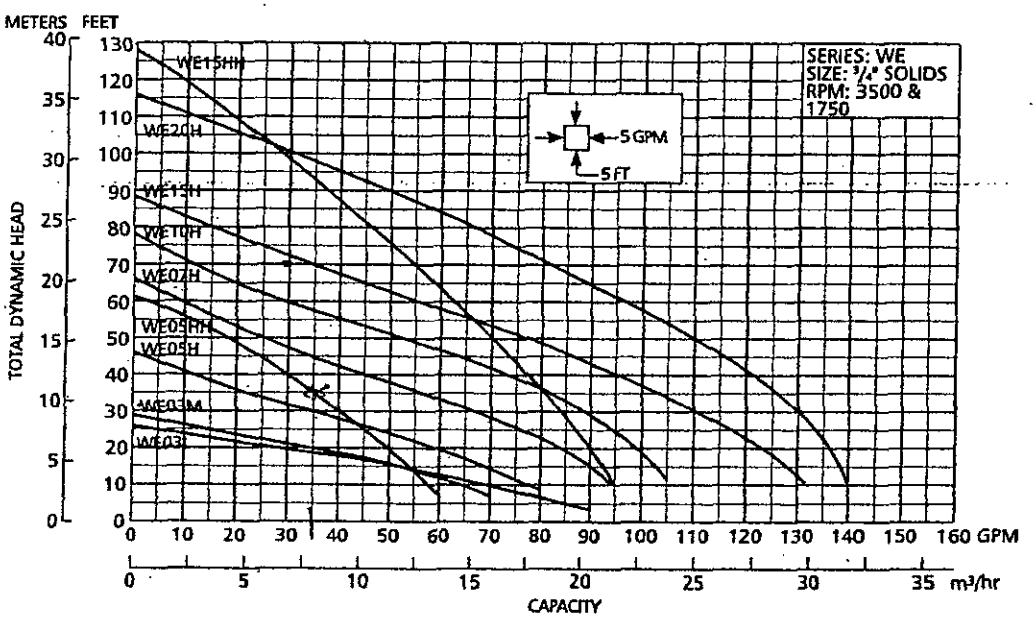
■ **Power Cable:** Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

■ **O-ring:** Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

C SP US — Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR38549

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps

ITT Industries

© 2003 Goulds Pumps
Effective July, 2003

FOUNDATION PLAN NOTES:

1. DESIGN SOIL BEARING PRESSURE IS ASSUMED TO BE 2000 PSF
2. FLOOR, ROOF, WIND AND EARTHQUAKE DESIGNS ARE IN ACCORDANCE WITH THE NC INTERNATIONAL RESIDENTIAL CODE - LATEST APPROVED EDITION
3. FOOTINGS TO BE MINIMUM 24" x 12" @ 3 - #4 CONT. UNLESS NOTED OTHERWISE
4. FOOTING SIZES FOR EXPOSED AREAS INCLUDING 4'-0" SIDE SEE 24" x 12" FOOTING AND 4" x 12" WIDE WALL 24" x 24" x 12" FOOTING UNLESS OTHERWISE NOTED
5. INTERIOR PIERS TO BE 8" x 16" CMU CONCRETE WITH 4" #4 @ HARDENED DOWEL INTO FOOTING AT 8" ON TWO STEMS ATTACHED AT 12 1/2" HIGH. ALL PIERS OVER 24" HIGH MUST BE CROSS TIED WITH 8" CMU BOND BEAM 3 COURSES. MAXIMUM HEIGHT FOR 8" x 16" FILLED PIER IS 8'-0" - SEE 8" x 16" PIERS 4'-0" TO 10'-0" HIGH AND 8" x 16" PIERS 10'-0" TO 12'-0" HIGH
6. CHIMNEY FOOTINGS SHALL BE 8" LARGER THAN FOOTPRINT x 8" THICK
7. CONCRETE SHALL BE 3000 PSI @ 28 DAYS UNLESS OTHERWISE NOTED
8. CONCRETE EXPOSED TO WEATHER SHALL BE 4000 PSI @ 28 DAYS WITH 4 - 6% AIR ENTRAINMENT (U.N.O.
9. MORTAR: ASTM C270 TYPE S
10. PROVIDE SOLID OR GROUT SOLID MASONRY BEARING 3 COURSES x 16" WIDE WALLING ALL RECREATION/UNHEATED SLAB/PIER LINTELS AND BEAM BEARING POINTS
11. RE-BAR SPLICING SHALL BE PERMIT OF 40" U.N.O.
12. FIBERMESH IS NOT A SUBSTITUTE FOR WELDED WIRE FABRIC (W.W.F.)
13. ALL 1ST FLOOR FRAMING IS 2" x 10" @ 16" O.C. U.N.O.
14. DJ - INDICATES DOUBLE JOISTS LOCATION
15. PROVIDE SOLID WOOD BLOCKING UNDER ALL POINT LOADS U.N.O.
16. SEE PLANS FOR GARAGE AND RETAINING WALL WATERPROOFING AND DRAIN
17. DEVIATION FROM THE STRUCTURAL REQUIREMENTS OF THESE PLANS WITHOUT CONSULTING THE ENGINEER IS PROHIBITED AND IF DONE, RELEASES THE ENGINEER FROM ANY RESPONSIBILITY

FOUNDATION KEY

- P — POINT LOAD
- 8" x 8" CMU PIER OVER 24" x 24" x 12" CONC. FOOTING (TURN)
- 8" x 8" CMU PIER OVER 24" x 24" x 12" CONC. FOOTING (DROPPED)
- 12" x 12" CMU PIER (TURN)
- 12" x 12" CMU PIER (DROPPED)
- 24" x 24" x 12" CONC. FOOTING W/ 4 - #4 BARS EACH WAY
- 12" x 12" x 8" CONC. FOOTING W/ 2 - #4 BARS EACH WAY
- 24" x 24" x 12" CONC. FOOTING W/ #4 BARS @ 8" O.C. EACH WAY

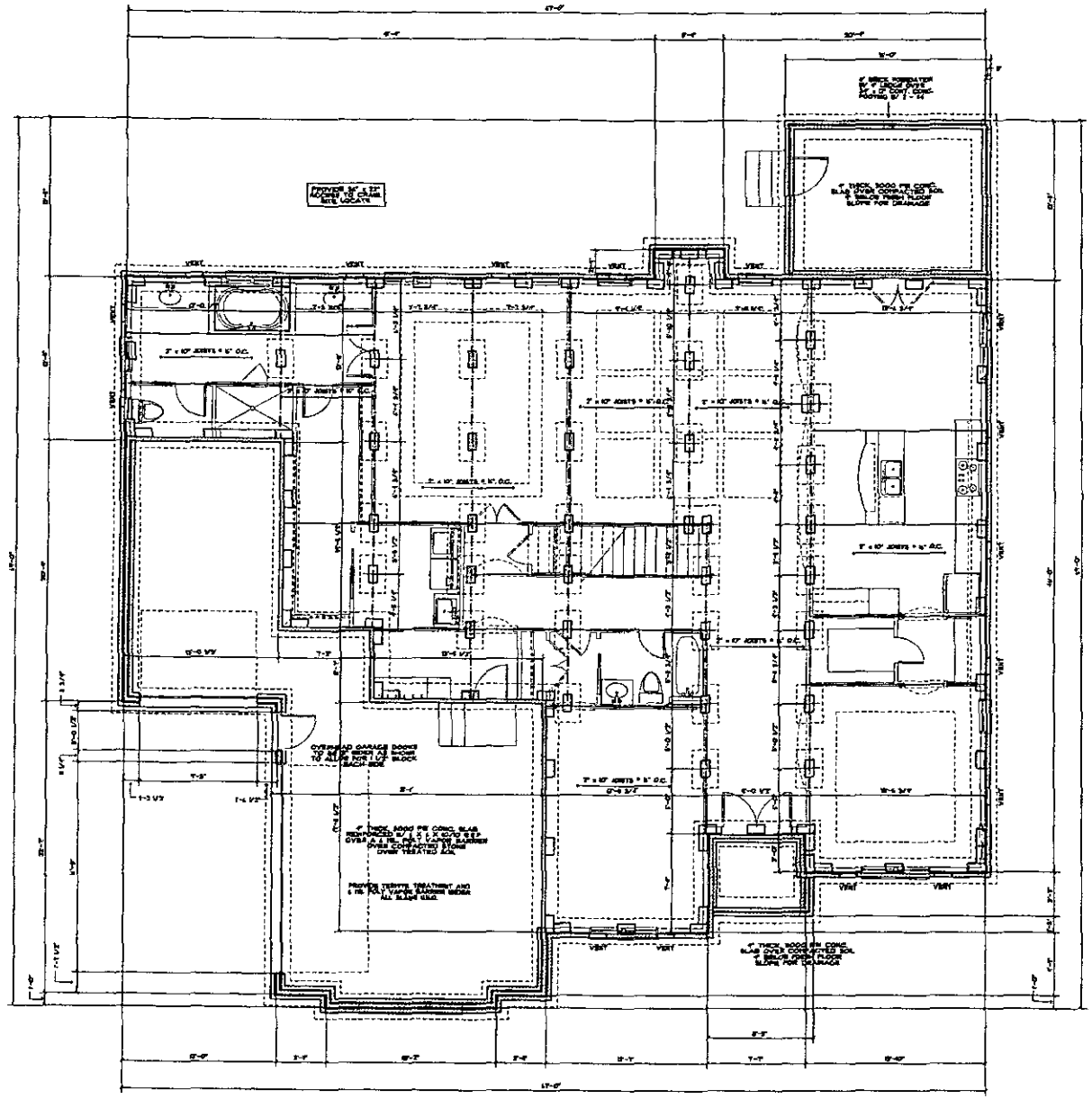
FOUNDATION PLAN

SCALE: 1/4"=1'-0"

VENTILATION REQUIREMENTS

2,418 SF CRAWL SPACE AREA DIVIDED BY 500 SF = 4.84 SF (SEE EXCEPTION)
4.84 SF OF VENTILATION REQUIRED
1 VENT = 60 SI NFA FOR OVERSIZED BRICK
4.84 SF DIVIDED BY 60 SI = 1.16
12 VENTS REQUIRED
8 VENTS PROVIDED

EXCEPTIONS:
THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1500TH OF THE CRAWL FLOOR AREA WHEN THE GROUND SURFACE IS TREATED WITH AN APPROVED VAPOR RETARDER MATERIAL IN ACCORDANCE WITH PRCTION 408.3.1 AND THE INSURED OPENINGS ARE PLACED SO AS TO PROVIDE CROSS VENTILATION OF THE CRAWL SPACE. THE INSTALLATION OF OPERABLE LOUVERS SHALL NOT BE PROHIBITED.



FOUNDATION PLAN

SCALE: 1/4"=1'-0"

REVISIONS	BY

STRUCTURAL ENGINEER

Design Board Productions
Terrington Office Center
Post Office Box 240511
Charlotte, NC 28224
704-543-9636

8145 ROLLING FIELD RD - CHARLOTTE, NC
THE CLARK & CRYSTAL WHALEN RESIDENCE
CYRUS CUSTOM HOMES

4146 B SOUTH BLVD.
CHARLOTTE, NC 28210
PHONE 704-295-4994
FAX 704-295-4996
INFO@CYRUSCUSTOMHOMES.COM

DRAWN : GJ
CHECKED : GJ
DATE : 04/21/15
SCALE : AS NOTED
JOB NO. :
SHEET 2
OF SHEETS

2. MCHD Soil and Site Evaluation Report

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

Sheet: 1 of 3
Property ID: 197-221-19
Lot #: 4
File #: 9141B
AppID: 7345

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Property Owner: LJW Land LLC
Address: 7620 Baltusrol Ln, Charlotte, NC 28210
Proposed Facility: 5 Bedroom House
Design Flow (.1949): 600 GPD
Location: 8145 Rollings Fields Rd, Charlotte, NC 28227
Water Supply: [ ] Public [ ] Individual [ ] Well [ ] Spring [X] Municipal
Evaluation Method: [X] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Bob Jacobs
Date Evaluated: 4/7/15
Property Size: 1.1 ac
Property Recorded: Unknown

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 Structure/ Texture	SOIL MORPHOLOGY 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 10%	0 - 7	gr SIL	SS SP FR SEXP							
		7 - 20	wfsbk SIC	S P FI SEXP	2 chroma @ 14"	20	NA	NA		US	NA
Boring #2	LS 10%	0 - 14	wfsbk CL	SS SP FR SEXP							
		14 - 20	wfsbk C	S P FI SEXP	>30"	20	NA	NA		US	NA
		20 - 30	mass C						manganese 20 - 30"	(Drip 0.1)	
Boring #3	LS 8%	0 - 10	wfsbk CL	SS SP FR SEXP							
		10 - 23	wfsbk C	S P FI SEXP	2 chroma	23	NA	NA		US	NA
		23 - 30	mass C		@ 23"					(Drip 0.1)	
Boring #4	LS 3%	0 - 4	wfsbk CL	SS SP FR SEXP							
		4 - 31	wfsbk C	S P FI SEXP	>33"	31	NA	NA		PS IV	18"
		31 - 33	Weathered Rock with Saprolite							0.225	
Boring #5	LS 5%	0 - 4	wfsbk CL	SS SP FR SEXP							
		4 - 26	wfsbk C	S P FI SEXP	>35"	32	NA	NA		PS IV	18"
		26 - 32	wfsbk CL	SS SP FR SEXP						0.225	
		32 - 35	mass Sap								
Boring #6	LS 5%	0 - 8	wfsbk CL	SS SP FR SEXP							
		8 - 50	wfsbk C	S P FI SEXP	>50"	50	NA	NA	few 3 chroma mottles around root channels 33 - 40"	PS IV 0.25	36"

Description	Initial System	Repair System
Available Space (.1945)		
System Type(s)		
Site LTAR (gpd/sq ft)	0.25*	0.25*

*LTAR only valid in area of borings 6, 7, & 8.

Other Factors (.1946):
Soil Evaluation By: Jacob Presley, REHS, LSS
Others Present:
Site Classification (.1948):
Site Evaluation By:
Others Present:

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
CONTINUED

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 Structure/ Texture	SOIL MORPHOLOGY 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
Boring #7	LS 5%	0 - 15	wfsbk CL	SS SP FR SEXP	>50"	50	NA	NA		PS IV 0.25	36"
		15 - 50	wfsbk C	S P FI SEXP							
Boring #8	LS 6%	0 - 7	Fill		>50"	50	NA	NA		PS IV 0.275	36"
		7 - 16	wfsbk CL	SS SP FR SEXP							
		16 - 36	mfsbk C	S P FI SEXP							
		36 - 50	wfsbk CL	S P FR SEXP							

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
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
		SIL-Silt Loam		m-moderate
				s-strong
				f-fine
	IV	SC-Sandy Clay	0.4 - 0.1	m-medium
		SIC-Silty Clay		c-coarse
		C-Clay		

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

Soil Boring Location Sketch

