



**Smead®**  
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HASTINGS, MN

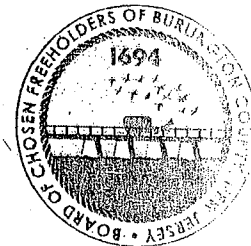


Mans

94-05



Board of Chosen Freeholders  
County of Burlington  
New Jersey



Burlington County Health Dept.  
Raphael Meadow Health Center  
15 Pioneer Boulevard, Westampton  
P.O. Box 6000  
Mount Holly, N.J. 08060

Tele: (609) 265-5515  
Fax: (609) 265-5541

05/16/2011

President & Members  
Board of Health  
MANSFIELD TWP.

Re: Well Application 94-05  
Block 24.04 Lot 1  
CRLEANS HOME BUILDERS  
MANSFIELD TWP.

Gentlemen:

Pursuant to instructions set forth in Chapter 199, Public Law 1954 and Standards for the Construction of Public Non-Community and Non-Public Water Systems, a final inspection of the individual water supply referenced above was conducted on 5/16/2011.

Our findings indicate that installation of said system appears to be in substantial compliance with state and local regulations. Analytical results for bacteriological, physical and chemical quality of the raw water from a certified laboratory have been received by this Department and found to be satisfactory at the time of sampling.

Sincerely,

bk

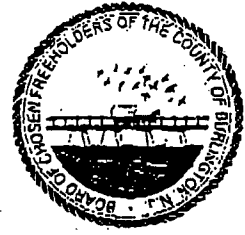
cc: Construction Code Official  
Owner  
File

Robert Lawrence  
Sr. Registered Environmental Health Specialist  
609-265-5568

# Board of Chosen Freeholders Of The County of Burlington MOUNT HOLLY, NEW JERSEY

Burlington County Health Dept.  
Raphael Meadow Health Center  
15 Pioneer Boulevard  
P.O. Box 6000  
Westampton, N.J. 08060

08060



Tele: (609) 265-5548  
Fax: (609) 265-5541

## CERTIFICATE OF COMPLIANCE

### Part A — General Information

Permit Number 94-05

#### 1 Permitted Activities (Check applicable categories):

- ☒ New Construction     
 ☐ Alteration/Expansion or Change in Use     
 ☐ Alteration/Malfunctioning System  
☐ Deviation from Standards     
 ☐ Repairs to Existing System     
 ☐ Alteration/No Expansion or Change of Use

#### 2. Location of Project:

Municipality Mansfield Twp.

Street Address WAVERLY DRIVE

Block: 24.04 Lot: 1

Zip

3. Name and Present Address of Applicant: Orleans Homebuilders; 455 Larchmont Blvd.  
 Applicant's Phone Number Suite 14B; Mt. Laurel, NJ 08054  
856-234-6255

### Part B — Professional Engineer's Certification

I certify under penalty of law that the subsurface sewage disposal system identified in Part A has been located, constructed, installed or altered in compliance with the requirements of N.J.A.C. 7:9A-1 and the Application to Construct/Alter/Repair an Individual Subsurface Sewage Disposal system which was approved by the administrative authority. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(Signature) \_\_\_\_\_

Gregg W. Barkley #34675

Name (Type or Print), License #

Date: 5/9/11

SEAL

### Part C — Certification by Administrative Authority

I certify under penalty of law that the subsurface sewage disposal system identified in Part A has been located, constructed, installed or altered in compliance with the requirements of N.J.A.C. 7:9A-1 and the Application to Construct/Alter/Repair an Individual Subsurface Sewage Disposal system which was approved by the administrative authority. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Authorized Signature \_\_\_\_\_

Type of License Held \_\_\_\_\_

Name (Typed or Printed) \_\_\_\_\_

License Number \_\_\_\_\_

Date: \_\_\_\_\_

### FOR AGENCY USE ONLY

Date Received: 5/16/11

Form Determined To Be:



Complete



Incomplete

Date Returned \_\_\_\_\_

Date Received \_\_\_\_\_

Date Certification Approved: 5/16/11

Authorized Signature: \_\_\_\_\_

PART A MUST BE COMPLETED.

EITHER PART B OR C MUST BE COMPLETED

## SOIL PERMEABILITY CLASS RATING

Date Collected: 4/4/11  
Collected By: JL  
Tested By: JL

Block: 24.04  
Lot: 1

Job #: 08-05-MFD  
Client: Orleans Homebuilders  
Lab ID #: \_\_\_\_\_  
Municipality: Mansfield Township  
County: Burlington

1. Test Number: 1

Replicate (Letter): A

2. Sample Identification: Select Fill EME LOI

### 3. Coarse Fragment Content:

Total Weight of Sample, ( W.T. ) = 944.7 grams  
Weight of Material Retained on 2 mm sieve, ( W.C.F. ) = 79.3 grams  
**Weight % Coarse Fragment (W.C.F./W.T. x 100), (Wt.) = 8.4 %**

4. Oven Dry Weight (24 hrs @ 105° C) of 40 gram Air Dry Sample, Wt. = 39.80 grams

|                                               | Direct Reading | Temp. F°  | Temp. Corrected to 68°F |
|-----------------------------------------------|----------------|-----------|-------------------------|
| 5. Hydrometer Calibration at 40 seconds, Rc = | <u>4.5</u>     | <u>69</u> | <u>4.7</u>              |
| 6. Hydrometer Reading - 40 seconds, R1 =      | <u>5.5</u>     | <u>71</u> | <u>6.1</u>              |
| 7. Corrected Hydrometer Reading, R1' =        | <u>1.0</u>     |           | <u>1.4</u>              |
| 8. Hydrometer Reading - 2 hours, R2 =         | <u>5.0</u>     | <u>70</u> | <u>5.4</u>              |
| 9. Corrected Hydrometer Reading, R2' =        | <u>0.5</u>     |           | <u>0.7</u>              |

10. % Sand = (Wt. - R1')/ Wt. x 100 = 96.5 %

11. % Clay = (R2'/Wt. x 100 =) 1.8 %

### 12. Sieve Analysis:

a. Oven Dry Weight (2 hrs., 105° C) Total Sand Fraction (Soil Retained on 0.045 mm Sieve)= 37.90 grams  
b. Weight of Fine Plus Very Fine Sand Fraction (Sand Passing 0.25 mm Sieve)= 9.30 grams  
c. % Fine Plus Very Fine Sand (a/b x 100) = 24.5 %

### 13. Soil Morphology (Natural Soil Samples Only):

Structure of Horizon Tested \_\_\_\_\_  
Consistence of Soil Horizon Tested: \_\_\_\_\_ Dry \_\_\_\_\_ Moist

14. Soil Permeability Class Rating (From NJAC 7:9A-6.3) (based upon textural analysis of this replicate) = K5

I hereby certify that the test data furnished above is true and accurate. I am aware that falsification of this data is a violation of the Water Pollution Control Act (NJSA 58:104-1, et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.

[Signature]  
Soil Evaluator

5/4/11  
Date

[Signature]  
Gregg W. Barkley, N.J.P.E. #34675

5/4/11  
Date

## SOIL PERMEABILITY CLASS RATING

Date Collected: 4/4/11  
Collected By: JL  
Tested By: JL  
Block: 24.04  
Lot: 1

Job #: 08-05-MFD  
Client: Orleans Homebuilders  
Lab ID #: \_\_\_\_\_  
Municipality: Mansfield Township  
County: Burlington

1. Test Number: 1

Replicate (Letter): B

2. Sample Identification: Select Fill EME LOI

### 3. Coarse Fragment Content:

Total Weight of Sample, (W.T.) = 944.7 grams  
Weight of Material Retained on 2 mm sieve, (W.C.F.) = 79.3 grams  
Weight % Coarse Fragment (W.C.F./W.T. x 100), (Wt.) = 8.4 %

4. Oven Dry Weight (24 hrs @ 105° C) of 40 gram Air Dry Sample, Wt. = 39.80 grams

|                                               | Direct Reading | Temp. F°  | Temp. Corrected to 68°F |
|-----------------------------------------------|----------------|-----------|-------------------------|
| 5. Hydrometer Calibration at 40 seconds, Rc = | <u>4.5</u>     | <u>69</u> | <u>4.7</u>              |
| 6. Hydrometer Reading - 40 seconds, R1 =      | <u>5.5</u>     | <u>71</u> | <u>6.1</u>              |
| 7. Corrected Hydrometer Reading, R1' =        | <u>1.0</u>     |           | <u>1.4</u>              |
| 8. Hydrometer Reading - 2 hours, R2 =         | <u>5.0</u>     | <u>70</u> | <u>5.4</u>              |
| 9. Corrected Hydrometer Reading, R2' =        | <u>0.5</u>     |           | <u>0.7</u>              |

10. % Sand = (Wt. - R1')/ Wt. x 100 = 96.5 %

11. % Clay = (R2'/Wt. x 100 =) 1.8 %

### 12. Sieve Analysis:

a. Oven Dry Weight (2 hrs., 105° C) Total Sand Fraction (Soil Retained on 0.045 mm Sieve)= 37.60 grams  
b. Weight of Fine Plus Very Fine Sand Fraction (Sand Passing 0.25 mm Sieve)= 9.10 grams  
c. % Fine Plus Very Fine Sand (a/b x 100) = 24.2 %

### 13. Soil Morphology (Natural Soil Samples Only):

Structure of Horizon Tested \_\_\_\_\_  
Consistence of Soil Horizon Tested: \_\_\_\_\_ Dry XX Moist

14. Soil Permeability Class Rating (From NJAC 7:9A-6.3) (based upon textural analysis of this replicate) = K5

I hereby certify that the test data furnished above is true and accurate. I am aware that falsification of this data is a violation of the Water Pollution Control Act (NJSA 58:104-1, et seq.) and is subject to penalties as prescribed in NJAC 7:14-8.

JL  
Soil Evaluator

Gregg W. Barkley, N.J.P.E. #34675

5/4/11  
Date

5/4/11  
Date

### Form 3b. Tube Permeameter Test Data

Job Number: **08-05-MFD**  
Client: **Orleans Homebuilders**  
Date Collected: **4/4/11**

11. I hereby certify that the information furnished on form 3b of this application is true and accurate. I am aware that falsification of this data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to the penalties as prescribed in N.J.A.C. 7:14-8.

Date : 3/4/11

### Form 3b. Tube Permeameter Test Data

Block: **24.04**  
 Lot: **1**  
 Municipality: **Mansfield Township**  
 County: **Burlington**

Job Number: **08-05-MFD**  
Client: **Orleans Homebuilders**  
Date Collected: **4/4/11**

1. Sample Identification: Select Fill LOI

2. Material Tested: Select Fill Depth = LOI

3. Type of Sample: XX Undisturbed \_\_\_\_\_ Disturbed

**Replicate**

4. Sample Dimensions: Inside radius of Sample Tube, R, in cm. = A B  
Length of Sample, L, in inches = 2.38 2.38 (1 7/8" ID)  
4.50 4.50

5. Bulk density determination (Disturbed Samples Only) :

|                                         | <u>A</u>          | <u>B</u>          |
|-----------------------------------------|-------------------|-------------------|
| Sample Weight, grams =                  |                   |                   |
| Sample Volume, Cubic centimeters (cc) = | <u>203</u>        | <u>203</u>        |
| <b>Bulk Density, grams/cc =</b>         | <b><u>N/A</u></b> | <b><u>N/A</u></b> |

6. Standpipe Used: \_\_\_\_\_ No XX Yes, Internal Radius, r, in cm. = A B  
(3/8" ID) (3/8" ID)  
0.476 0.476

7. Height of water level, in inches:

|                                              | <u>A</u>     | <u>B</u>     |
|----------------------------------------------|--------------|--------------|
| At the beginning of each test interval, H1 = | <u>14.00</u> | <u>14.00</u> |
| At the end of each test interval, H2 =       | <u>8.00</u>  | <u>8.00</u>  |

8. Rate of Water Level Drop:

| <u>Replicate A</u>  |                            | <u>Replicate B</u>  |                            |
|---------------------|----------------------------|---------------------|----------------------------|
| Time for Water Drop | Length of test (minutes) t | Time for Water Drop | Length of test (minutes) t |
| <u>22 sec</u>       | <u>0.37</u>                | <u>23 sec</u>       | <u>0.38</u>                |
| <u>22 sec</u>       | <u>0.37</u>                | <u>23 sec</u>       | <u>0.38</u>                |
| <u>22 sec</u>       | <u>0.37</u>                | <u>23 sec</u>       | <u>0.38</u>                |

9. Calculation of Permeability:

|                                         | <u>A</u>          | <u>B</u>          |
|-----------------------------------------|-------------------|-------------------|
| K = 60 x (L/t) x (r2/R2) x Ln (H1/H2) = | <u>16.3</u> in/hr | <u>15.9</u> in/hr |

10. Defects in Sample:

|                         |                   |                     |
|-------------------------|-------------------|---------------------|
| <u>XX</u> None          | _____ Cracks      | _____ Worm Channels |
| _____ Large Gravel      | _____ Large Roots | _____ Root Channels |
| _____ Dry soil          | _____ Smearing    | _____ Compaction    |
| _____ Soil/Tube contact | _____             | _____ Other         |

11. I hereby certify that the information furnished on form 3b of this application is true and accurate. I am aware that falsification of this data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to the penalties as prescribed in N.J.A.C. 7:14-8.

**Signature of Professional Engineer**

Gregg W. Barkley, #34675

Date : 5/4/11

94-05

My Workspace

User Profile

Certifications

Payments

Documents and Forms

Permit Folder

Version: 4.10

WBDR

Currently logged in: JEFFREY WINKOWSKI (WINKOMEL1)

W B DRILLING CO INC

Help | Logout

## APPLICATION DISPLAY

### WELL RECORD SUBMITTAL PDF

**PROPERTY OWNER:** Mike Emanuel  
**Organization:** Orleans Home Builders  
**Address:** One Greenwood Sq., 3333 Street Rd., Bensalem, Pennsylvania 19020

**WELL LOCATION:** Meadows @ Mansfield  
**Address:** 4 Waverly Drive sub-div, Leave as is per Jeff  
**County:** Burlington **Municipality:** Mansfield Twp **Lot:** 1 **Block:** 24.04  
**Easting(X):** 433571 **Northing(Y):** 451564 **Coordinate System:** NJ State Plane (NAD83) - USFEET  
**Method:** GPS **Point of Reference:** Well  
**GPS Manufacturer:** Magellan **Surveyor Name:**  
**GPS Model:** MMCX **Surveyor License #:**  
**Accuracy:** 3 **Accuracy units:** Feet

**WELL USE:** Domestic **DATE WELL STARTED:** 04/06/2011  
**Other Use(s):** **DATE WELL COMPLETED:** 04/06/2011

**WELL CONSTRUCTION**  
**Permit Number** Total Depth Drilled(ft): 300 **Drilling Company:**  
 E201100817 Finished Well Depth(ft): 300 **Driller Name:** JEFFREY WINKOWSKI  
**Local ID:** #1 **Well was finished:** Above Grade **License No.:** 0001204

|             | Depth to Top (ft.) | Depth to Bottom (ft.) | Diameter (inches) | Material | Wgt./Rating/Screen Slot # (lbs/sch no.) |
|-------------|--------------------|-----------------------|-------------------|----------|-----------------------------------------|
| blank row   |                    |                       |                   |          |                                         |
| Borehole(s) | 0                  | 300                   | 8                 | N/A      | N/A                                     |
| Casing(s)   | 0                  | 280                   | 4                 | PVC      | sch 40                                  |
| Screen(s)   | 280                | 300                   | 4                 | PVC      | .012                                    |

|             | Depth to Top (ft.) | Depth to Bottom (ft.) | Outer Diameter (in) | Inner Diameter (in) | Material | Bentonite (lbs.) | Neat Cement (lbs.) | Water (gal.) |
|-------------|--------------------|-----------------------|---------------------|---------------------|----------|------------------|--------------------|--------------|
| blank row   |                    |                       |                     |                     |          |                  |                    |              |
| Grout       | 0                  | 275                   | 8                   | 4                   |          | 1200             |                    | 729          |
| Gravel Pack | 275                | 300                   | 8                   | 4                   | #1 Sand  |                  |                    |              |

**Grouting Method:** Pressure method (Tremie Pipe) **Drilling Method:** Mud Rotary

**Additional Information:**  
**Attachments:**

**RECORD OF TEST**  
**Test Date:** 04/06/2011 **Depth to Pump:** 150 ft. below land surface  
**Static Water Level:** 90 ft. below land surface **Pump Capacity:** 10 gpm  
**Pumping Water Level:** 135 ft. below land surface **Total Design Head:** 90 ft.  
**Water Level Measure Tool:** **Pump Horsepower:** 1  
**Pumping Equipment:** Air Line **If pump tested** **Discharge Rate:** gpm  
**Well Yield:** 80 gpm **Duration of Test:** hours  
**Date Boring Decommissioned:**

**PUMPING EQUIPMENT AND ADDITIONAL INFORMATION**  
**Installed:** Installed **Well Development Period:** hours  
**Installer's Name:** Jeffery Winkowski **Method of Development:**  
**Installer's Registration No.:** 1204 **Protective Casing:**  
**Pump Type:** Submersible **Drilling Fluid:**  
**Health and Safety Plan:**

| Depth to Top | Depth to Bottom | Color | USCS                                                                  | Additional Description |
|--------------|-----------------|-------|-----------------------------------------------------------------------|------------------------|
| 0            | 20              | brown | SP - Poorly graded sands and gravelly sands, little or no fines       |                        |
| 20           | 160             | Gray  | OH - Organic clays of medium to high plasticity                       |                        |
| 160          | 200             | black | SM - Silty sands, sand-silt mixtures                                  |                        |
| 200          | 250             | gray  | SC - Clayey sands, sand-clay mixtures                                 |                        |
| 250          | 275             | white | OH - Organic clays of medium to high plasticity                       |                        |
| 275          | 300             | white | GW - Well-graded gravels and gravel-sand mixtures, little or no fines |                        |

# WELL COVER-UP

DATE 5/4/11

TOWNSHIP Mansfield

WELL NUMBER 94-05

Bl. 24.04 Lt. 1

INSTALLER \_\_\_\_\_

OWNER \_\_\_\_\_

PHONE # \_\_\_\_\_

APPROVED

DISAPPROVED

Well Seal

~~Internal~~  
~~Conditioner~~

Water Analysis

Well Record

RE 5/4/11  
RE 5/4/11  
RE 5/4/11

Date

Time

Inspector \_\_\_\_\_

Reason for Disapproval

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# WELL COVER-UP

DATE 04/11/2011

TOWNSHIP Mansfield Twp.

WELL NUMBER 94-05

Bl. 24.04 Lt. 1 4 way Drive

INSTALLER Eric of WB Well Drilling

OWNER O'Leary Construction

PHONE # 609-374-2843

APPROVED

DISAPPROVED

Well Seal [Signature] 4/13/11

Internal \_\_\_\_\_

Conditioner \_\_\_\_\_

Water Analysis \_\_\_\_\_

Well Record \_\_\_\_\_

Date \_\_\_\_\_ Time \_\_\_\_\_

Inspector \_\_\_\_\_

Reason for Disapproval

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SEPTIC COVER - UP

DATE 3/28/11

TOWNSHIP Mansfield

Bl. 24.040 Lt. 1

APPLICATION # 94-05

INSTALLER Luster

OWNER Orleans

PHONE # \_\_\_\_\_

READY FOR INSPECTION \_\_\_\_\_

INITIALS \_\_\_\_\_

☒ APPROVED *Luster*

☐ DISAPPROVED

REASON FOR DISAPPROVAL \_\_\_\_\_

Need Eng Cert.

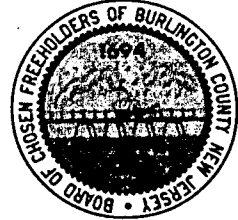
RL 3/28/11

3/10/11 RL

Date \_\_\_\_\_ Time \_\_\_\_\_

INSPECTOR \_\_\_\_\_

Board of Chosen Freeholders  
County of Burlington  
New Jersey



Burlington County Health Department  
Raphael Meadow Health Center  
15 Pioneer Boulevard, Westampton  
P.O. Box 6000  
Mount Holly, N.J. 08060

Tele: (609) 265-5548  
Fax: (609) 265-3152

MARCH 24, 2011

ORLEANS HOME BUILDERS  
ONE GREENWOOD SQ  
3333 STREET ROAD  
BENSALEM PA 19020

Re: WELL & SEPTIC Application 94-05  
Block 24.04 Lot 1  
MANSFIELD TWP.

Gentlemen:

Your application for the above referenced:

- ☒ Individual subsurface sewage disposal system.  
☒ Individual water supply system.

Has been recertified.

THIS RECERTIFICATION BECOMES NULL AND VOID 1-19-2013.

All provisions stipulated in our certification letters dated 5-13-05 remains in effect.

Should you have any questions regarding this matter, you may contact the undersigned.

Sincerely,

Robert Lawrence  
Senior Registered Environmental  
Health Specialist 609-265-5568

bk

c: Construction Code Official  
Board of Health  
file

Board of Chosen Freeholders  
County of Burlington  
New Jersey



Burlington County Health Dept.  
Raphael Meadow Health Center  
15 Pioneer Boulevard, Westampton  
P.O. Box 6000  
Mount Holly, N.J. 08060

Tele: (609) 265-5515  
Fax: (609) 265-5541

03/24/2011

Orleans Corp  
ONE GREENWOOD SQUARE  
3333 STREET ROAD  
BENSALEM, PA 19020

Re: Well Application 94-05  
Block 24.04 Lot 1  
Mansfield

Your application for the installation of a proposed individual water supply system is approved to be in compliance with provisions of applicable state and local laws.

THIS APPROVAL BECOMES NULL AND VOID 1/19/2013

This approval is not a permit to install the system. If a local permit is required, said permit must be obtained from your municipal agent.

Our office shall be notified three (3) working days in advance of starting installation. The installation must be inspected by a representative of this Department. The well inspection shall include but not be limited to the following:

**WELL LOCATION; WELL SEAL; PROPER VENTING; WATER SUPPLY LINE; STORAGE TANK; INSTALLATION OF TREATMENT SYSTEM & METHOD OF BACKWASH DISPOSAL when required.**

Final certification for use of the well will not be given until this Department has received the analytical results for bacteriological, physical and chemical quality of the raw water from a New Jersey Certified Laboratory. In addition to the bacteriological and limited chemistry water quality testing, new or replaced wells are to be tested for volatile organic compounds (VOCs). If results obtained in a VOC scan exceed maximum contaminant levels, a test shall be repeated for confirmation. The analytical report shall identify the property by the block, lot and county application number. Also, the responsible laboratory official shall certify that the laboratory has drawn the raw sample. Further, a WELL RECORD accurately completed and prepared by the well driller is required and shall be submitted on NJDEP FORM DWR-138, which shall serve as certification of construction.

PLEASE NOTE: It is YOUR RESPONSIBILITY, as the owner, to ensure that your building contractor, plumber, and the installer of the system are made aware of the approved application prior to the beginning of any construction. It is also your responsibility to ensure that the system is installed in strict accordance with this approved application.

Any discrepancy between the water system's installation and the certified well application shall be submitted as an as-built in accordance with NJAC 7:10-12.40(b). Any unauthorized deviation from the plan could result in legal action being instituted in Municipal Court against all parties concerned.

Sincerely,

Robert Lawrence  
Sr. Registered Environmental Health Specialist  
609-265-5568

bk

cc: Board of Health  
Construction Code Official  
Well Driller *Change*  
File

CHANGES OF  
WELL DRILLER  
+ RECENT

**BURLINGTON COUNTY HEALTH DEPARTMENT**  
15 Pioneer Blvd., P.O. Box 6000, Westampton, NJ 08060  
**APPLICATION FOR CERTIFICATION OF A PROPOSED INDIVIDUAL  
WATER SUPPLY SYSTEM**

- ☒ **NEW CONSTRUCTION**      *If property will also be served by a septic system, no action will take place until both applications have been received*
- ☐ **ALTERATION\***
- ☐ **REPLACEMENT \*\***
- ☐ **EMERGENCY (no water) \*\***

**FOR COUNTY USE ONLY**

County No. 94-05

Date Received 3/23/11

**INSTRUCTIONS TO THE APPLICANT:**

Four (4) copies of the application must be submitted. Only clear, legible copies will be accepted. The white copy must be original. Only one copy will be returned to the owner after approval. Each copy of the application must be accompanied by a surveyor's plot plan or sketch (preferably drawn to scale) showing all pertinent distances and locations of the following:

(SKETCH MAY BE OMITTED IF SUBMITTED IN CONJUNCTION WITH AS BUILT IN SUBMITTANCE)

- |                                                                                                                                                                                                                        |                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <input type="checkbox"/> Dimensions of lot with property lines labeled                                                                                                                                                 | <input type="checkbox"/> Location of all buildings within 150 feet of water source |
| <input type="checkbox"/> Location of proposed water supply system                                                                                                                                                      |                                                                                    |
| <input type="checkbox"/> Location of all existing water and sewerage facilities within 150 ft. radius of well & proximity to storm drains or other sources of pollution (200 ft. radius for public noncommunity wells) |                                                                                    |
| <input type="checkbox"/> Location of fuel storage tank, if any                                                                                                                                                         |                                                                                    |
| <input type="checkbox"/> Any other data which may affect the system should be included                                                                                                                                 |                                                                                    |

**APPROVED**  
**SEWAGE DISPOSAL DESIGN COMPLIANCE**  
**WITH CHAPTER 199, P.L. 1954**  
BY [Signature]  
DATE 3/23/11  
**BURLINGTON COUNTY HEALTH DEPARTMENT**  
COUNTY NUMBER 94-05

**NOTE:** The Health Department shall issue or deny certification of this application within fifteen (15) days after receipt. The certification will not be issued until the property has been physically inspected by a representative of this department.

OWNER of PROPERTY Orleans Home Builders PHONE [Redacted]

MAILING ADDRESS 1 Greenwood Sq. 3333 St. Road, Bensalem PA 19020

MUNICIPALITY Manfield Twp BLOCK 24.04 LOT 1

STREET ADDRESS 4 Waverly Dr. (Meadows @ Mansfield)

LOCATION: Give directions to property from Mt. Holly, to include landmarks & distances in order that the inspector may locate the site.

WELL HEAD: ☒ Pitless Well Cap ☐ Sanitary Well Seal

TYPE OF BUILDING TO BE SERVED: ☒ Individual Dwelling (non-public) ☐ Other-Specify \_\_\_\_\_

IS MUNICIPAL WATER LOCATED WITHIN 200 FEET OF PROPERTY LINE? YES ☐ NO ☒

Depth of Well 300' Diameter of Well 4" Type of Casing PVC

Pressure Line 1 1/4" Suction Line \_\_\_\_\_ Type of Screen PVC

Size of Annular Space 8" Grouting Material Bentonite Grouting Method Pressure grout

Type of Pump & Capacity 20 GPM, Submersible Type of Storage Facility & Capacity 62 Gal Pressure Tank

Method and Substance Used for Disinfection Chlorine

Method of Venting Well - Describe Vented Well Cap

Type of Water Treatment System (if required) Softner

Method of Backwash Disposal Outside (Sodium content of finished water should not exceed 50 mg/l)

**\*DESCRIPTION OF WORK TO BE PERFORMED:**

NJDEP PERMIT NO. E201100817 Distance from Supply Line to Building Sewer 70'

\*\* Existing well shall either be properly sealed or a permit for change of well use must be obtained from NJDEP. Evidence of either must be submitted to this department prior to final certification.

The undersigned agrees to construct the described water supply system in accordance with the provisions of the New Jersey Safe Drinking Water Act Regulations (NJAC 7:10-12) and those established by local ordinance, where said local ordinance prescribes higher standards than those promulgated by NJDEP.

**Certified by:**

NAME OF WELL DRILLER Jeffery Winkowski LICENSE NO. 1204

MAILING ADDRESS PO Box 2612 Hamilton Sq NJ 08690 PHONE NO. (609) 371-2843

NAME OF PUMP INSTALLER \_\_\_\_\_ LICENSE NO. \_\_\_\_\_

(if other than driller)

[Signature]  
SIGNATURE OF DRILLER

[Signature]  
SIGNATURE OF OWNER or AUTHORIZED AGENT

\_\_\_\_\_  
SIGNATURE OF PUMP INSTALLER

### WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

**Certifying Driller:** JEFFREY WINKOWSKI, JOURNEYMAN LICENSE # 0001204

**Permit Issued to:** W B DRILLING CO INC

**Company Address:** PO BOX 2612 HAMILTON, NJ 086902612

#### PROPERTY OWNER

**Name:** MIKE EMANUEL

**Organization:** Orleans Home Builders

**Address:** One Greenwood Sq. 3333 Street Rd.

**City:** Bensalem

**State:** Pennsylvania

**Zip Code:** 19020

#### PROPOSED WELL LOCATION

**Facility Name:** Meadows @ Mansfield

**Address:** 4 Waverly Drive sub-div, Leave as is per Jeff

**County:** Burlington **Municipality:** Mansfield Twp

**Lot:** 1

**Block:** 24.04

**Easting (X):** 433630 **Northing (Y):** 451629

**Local ID:** #1

**Coordinate System:** NJ State Plane (NAD83) - USFEET

#### SITE CHARACTERISTICS

**Distance to Nearest Road:** 35 ft

**Distance to Nearest Septic Field:** 111 to 150 ft

**Distance to Nearest Septic Tank:** 76 to 100 ft

**Distance to Nearest Wooden Structure:** 26 to 50 ft

#### PROPOSED CONSTRUCTION

**WELL USE:** DOMESTIC

**Other Use(s):**

**Diameter (in.):** 4

**Regulatory Program**

**Requiring Wells/Borings:**

**Depth (ft.):** 300

**Case ID Number:**

**Pump Capacity (gpm):** 20

**Deviation Requested:** N

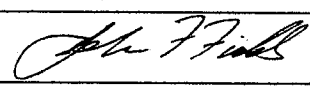
**Drilling Method:** Mud Rotary

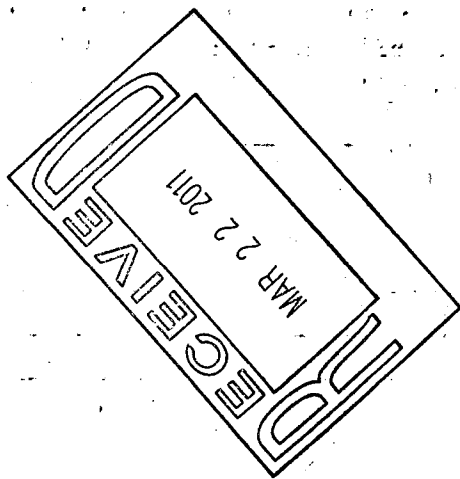
**Attachments:**

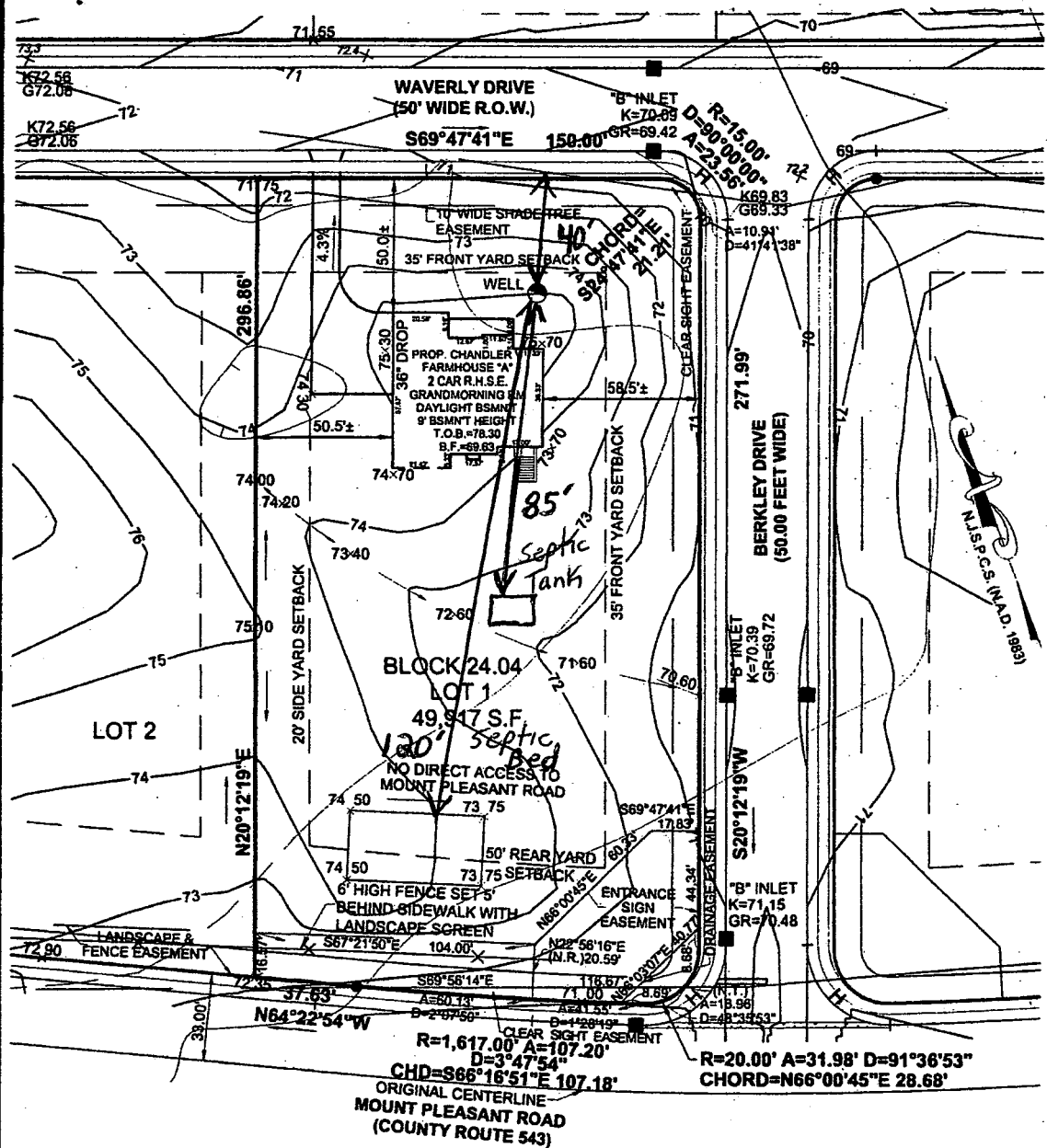
#### SPECIFIC CONDITIONS/REQUIREMENTS

**Approval Date:** January 20, 2011  
**Expiration Date:** January 19, 2013

Approved by the authority of:  
Bob Martin  
Commissioner

  
John Fields, Acting Bureau Chief  
Bureau of Water Systems and Well Permitting





- NOTES:
1. BUILDING DIMENSIONS SHOWN ARE TAKEN FROM ARCHITECTURAL DRAWINGS. IT IS THE BUILDERS RESPONSIBILITY TO VERIFY ALL DIMENSIONS, PRIOR TO CONSTRUCTION.
  2. TIES SHOWN ARE TO THE FOUNDATION WALLS.
  3. GRADING SHOWN IS TAKEN FROM "GRADING PLAN FOR THE MEADOWS AT MANSFIELD PHASE 1", PREPARED BY TAYLOR, WISEMAN & TAYLOR, DATED SEPTEMBER SEPTEMBER, 2005, LAST REVISED 4/07/06.
  4. OUTBOUND AND EASEMENT INFORMATION TAKEN FROM "SUBDIVISION PLAN FOR THE MEADOWS AT MANSFIELD, PHASE ONE" PREPARED BY TAYLOR, WISEMAN & TAYLOR, DATED JULY 2003, REVISED THROUGH 03/03/06.
  5. THIS PLAN WAS PREPARED FOR OBTAINING A BUILDING PERMIT ONLY, THE LICENSED PROFESSIONAL WHOSE SIGNATURE APPEARS HEREON ACCEPTS NO RESPONSIBILITY FOR ANY OTHER USE.

TOP OF BLOCK ELEVATION = 78.30  
 PROPOSED TOP OF BLOCK REPRESENTS T.O.B.  
 ELEVATION FOR LOWEST LIVING SPACE OF  
 DWELLING. TOP OF BLOCK ELEVATION MAY  
 BE ADJUSTED TO MEET FIELD CONDITIONS, IF  
 APPROVED BY THE DEVELOPER'S ENGINEER.

*Mark M. Thompson* 12/7/10  
 N.J. CERTIFICATE OF AUTHORIZATION NO. 24GA28032900  
 N.J. PROFESSIONAL ENGINEER NO. 24GE04661200  
**MARK M. THOMPSON**

**PERMIT PLAN**

**MEADOWS AT MANSFIELD**  
 PHASE ONE  
 BLOCK 24.04, LOT 1, #4 WAVERLY DRIVE  
 MANSFIELD TOWNSHIP  
 BURLINGTON COUNTY, NEW JERSEY

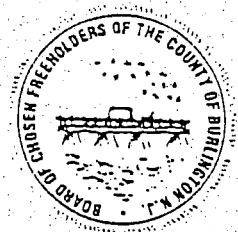


**TAYLOR, WISEMAN & TAYLOR**  
 ENGINEERS | SURVEYORS | SCIENTISTS  
 124 GATHER DRIVE, SUITE 150, MOUNT LAUREL, N.J. 08054  
 TELEPHONE: (856) 235-7200 FAX: (856) 722-9250  
 WWW.TAYLORWISEMAN.COM

DATE: 12/07/10 SCALE: 1" = 50' DRAWING NO. 19578-24.04\_01\_PP

C:\Users\jbs\Documents\Survey\Drawings\House\Drawings\PERMIT PLAN\BLOCK 24.04\LOT 1.dwg

Board of Chosen Freeholders  
Of The County of Burlington  
MOUNT HOLLY, NEW JERSEY



Burlington County Health Dept.  
Raphael Meadow Health Center  
15 Pioneer Boulevard  
P.O. Box 6000  
Westampton, N.J. 08060

08060

MAY 13, 2005

Tele: (609) 265-5548

Fax: (609) 265-5541

ORLEANS HOMEBUILDERS  
455 LARCHMONT BLVD  
SUITE 14A  
MT LAUREL NJ 08054

Re: Well Application 94-05  
Block 24.04 Lot 1  
Mansfield Township

Your application for the installation of a proposed individual water supply system is approved to be in compliance with provisions of applicable state and local laws.

THIS APPROVAL BECOMES NULL AND VOID 3-15-07.

This approval is not a permit to install the system. If a local permit is required, said permit must be obtained from your municipal agent.

Our office shall be notified three (3) working days in advance of starting installation. The installation must be inspected by a representative of this Department. The well inspection shall include but not be limited to the following: WELL LOCATION; WELL SEAL; PROPER VENTING; WATER SUPPLY LINE; STORAGE TANK; INSTALLATION OF TREATMENT SYSTEM & METHOD OF BACKWASH DISPOSAL when required.

Final certification for use of the well will not be given until this Department has received the analytical results for bacteriological, physical and chemical quality of the raw water from a New Jersey Certified Laboratory. In addition to the bacteriological and limited chemistry water quality testing, new or replaced wells are to be tested for volatile organic compounds (VOCs). If results obtained in a VOC scan exceed maximum contaminant levels, a test shall be repeated for confirmation. The analytical report shall identify the property by the block, lot and county application number. Also, the responsible laboratory official shall certify that the laboratory has drawn the raw sample. Further, a WELL RECORD accurately completed and prepared by the well driller is required and shall be submitted on NJDEP FORM DWR-138, which shall serve as certification of construction.

PLEASE NOTE: It is YOUR RESPONSIBILITY, as the owner, to ensure that your building contractor, plumber and the installer of the system are made aware of this approved application prior to the beginning of any construction. It is also your responsibility to ensure that the system is installed in strict accordance with this approved application. Any discrepancy between the water system's installation and the certified well application shall be submitted as an as-built in accordance with NJAC 7:10-12.40(b). Any unauthorized deviation from the plan could result in legal action being instituted in Municipal Court against all parties concerned

bk

Sincerely,

MICHAEL C GAVIO  
PRINCIPAL SANITARY INSPECTOR  
609-265-3735

cc: Board of Health  
Construction Code Official  
Well Driller  
file

**BURLINGTON COUNTY HEALTH DEPARTMENT**  
15 Pioneer Blvd., P.O. Box 6000, Westampton, NJ 08060  
**APPLICATION FOR CERTIFICATION OF A PROPOSED INDIVIDUAL  
WATER SUPPLY SYSTEM**

- ☒ NEW CONSTRUCTION
- ☐ ALTERATION\*
- ☐ REPLACEMENT \*\*
- ☐ EMERGENCY (no water) \*\*

*If property will also be served by a septic system, no action will take place until both applications have been received*

FOR COUNTY USE ONLY

County No. 94-05

Date Received 4/5/05

**PAID**  
4/5/05 86.25

**INSTRUCTIONS TO THE APPLICANT:**

Four (4) copies of the application must be submitted. Only clear, legible copies will be accepted. The white copy must be original. Only one copy will be returned to the owner after approval. Each copy of the application must be accompanied by a surveyor's plot plan or sketch (preferably drawn to scale) showing all pertinent distances and locations of the following:

(SKETCH MAY BE OMITTED IF SUBMITTED IN CONJUNCTION WITH SEWAGE DISPOSAL DESIGN)

- ☐ Dimensions of lot with property lines labeled
- ☐ Location of all buildings within 150 feet of water source
- ☐ Location of proposed water supply system
- ☐ Location of all existing water and sewerage facilities within 150 ft. radius of well or other sources of pollution (200 ft. radius for public noncommunity wells)
- ☐ Location of fuel storage tank, if any
- ☐ Any other data which may affect the system should be included

**APPROVED**  
**IN SUBSTANTIAL COMPLIANCE**  
**WITH CHAPTER 199, P.L. 1954**  
**SEWAGE DISPOSAL DESIGN**  
BY [Signature]  
DATE 5/10/05  
**BURLINGTON COUNTY HEALTH DEPARTMENT**  
COUNTY NUMBER 94-05

NOTE: The Health Department shall issue or deny certification of this application within fifteen (15) days after receipt. The certification will not be issued until the property has been physically inspected by a representative of this department.

OWNER of PROPERTY Orleans Corporation PHONE \_\_\_\_\_  
MAILING ADDRESS One Greenwood Sq. 3333 St. Rd. Bensalem, PA 19020  
MUNICIPALITY Mansfield Twsp BLOCK 24.04 LOT 1  
STREET ADDRESS 1 Waverly Drive

LOCATION: Give directions to property from Mt. Holly, to include landmarks & distances in order that the inspector may locate the site.

WELL HEAD: ☒ Pitless Well Cap ☐ Sanitary Well Seal  
TYPE OF BUILDING TO BE SERVED: ☒ Individual Dwelling (non-public) ☐ Other-Specify \_\_\_\_\_  
IS MUNICIPAL WATER LOCATED WITHIN 200 FEET OF PROPERTY LINE? YES ☐ NO ☐  
NJDEP PERMIT NO. 2800055121 Distance from Supply Line to Building Sewer 50+  
Depth of Well 260 Diameter of Well 4" Type of Casing PVC  
Pressure Line 1" Suction Line NA Type of Screen PVC slot  
Size of Annular Space 8" Grouting Material bentonite Grouting Method pressure  
Type of Pump & Capacity 20 gpm sub Type of Storage Facility & Capacity WX-251  
Method and Substance Used for Disinfection chlorine  
Method of Venting Well - Describe pitless cap  
Type of Water Treatment System (if required) NA  
Method of Backwash Disposal NA (Sodium content of finished water should not exceed 50 mg/l)

**\*DESCRIPTION OF WORK TO BE PERFORMED:**

Drilling of well and water system.

\*\* Existing well shall either be properly sealed or a permit for change of well use must be obtained from NJDEP. Evidence of either must be submitted to this department prior to final certification.

*The undersigned agrees to construct the described water supply system in accordance with the provisions of the New Jersey Safe Drinking Water Act Regulations (NJAC 7:10-12) and those established by local ordinance, where said local ordinance prescribes higher standards than those promulgated by NJDEP.*

**Certified by:**

NAME OF WELL DRILLER Keith Abrams LICENSE NO. 1547

MAILING ADDRESS 73 Flyatt Road Shamong, NJ 08088 PHONE NO. 609-268-0580

NAME OF PUMP INSTALLER same LICENSE NO. \_\_\_\_\_  
(if other than driller)

[Signature]  
SIGNATURE OF DRILLER

[Signature]  
SIGNATURE OF OWNER or AUTHORIZED AGENT

SIGNATURE OF PUMP INSTALLER

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
TRENTON, NJ

94-05

Permit No. 2800055121

MAIL TO:

NJDEP  
BUREAU OF WATER ALLOCATION  
PO BOX 426  
TRENTON, NJ 08625-0426

PERMIT TO-DRILL WELL

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 28.31.8 67

Property Owner Orleans Corporation  
Address One Greenwood Sq. 3333 St. Rd.  
Bensalem, PA 19020

Driller Abrams Water Well Service, LLC  
Address 73 Flyatt Road  
Shamong, NJ 08088

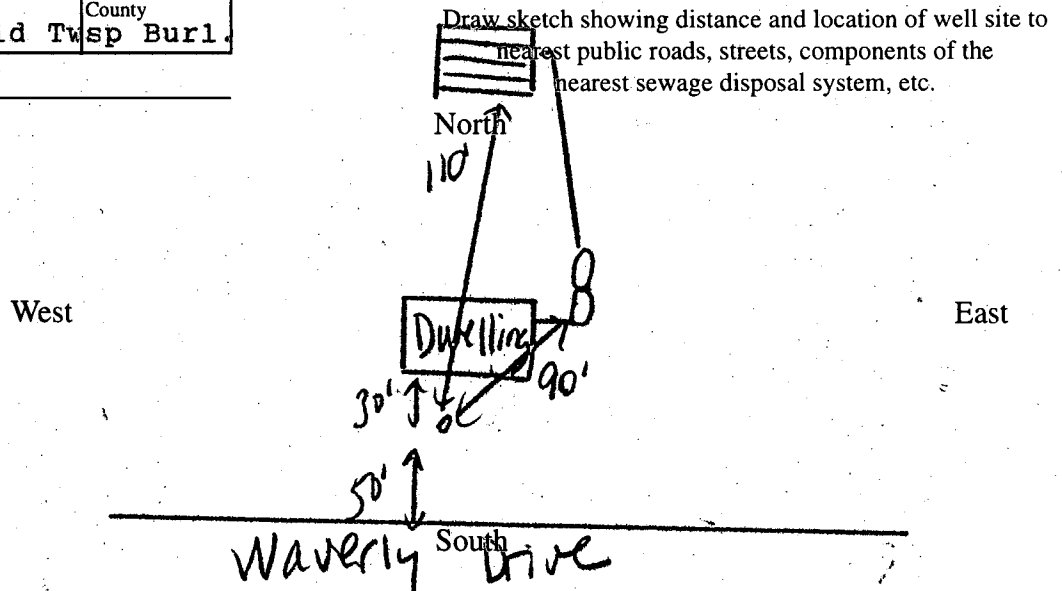
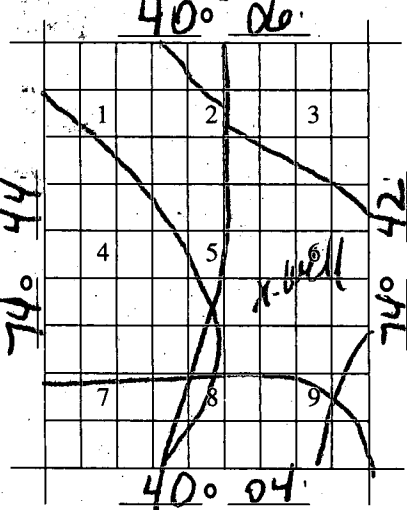
Name of Facility Dwelling  
Address 1 Waverly Drive  
Meadows at Mansfield

|                           |              |                         |                                               |        |      |
|---------------------------|--------------|-------------------------|-----------------------------------------------|--------|------|
| Diameter of Well          | 4            | Inches                  | Proposed Depth of Well                        | 260    | Feet |
| Proposed Capacity of Pump | 20           | GPM                     | Method of Drilling (Cable-tool, Rotary, etc.) | rotary |      |
| Use of Well (See Reverse) | domestic-new |                         |                                               |        |      |
| Drinking Water Supply?    | yes          | yes (see #7 on reverse) |                                               |        | no   |

LOCATION OF WELL

Lot # 1 Block # 24.04 Municipality Mansfield Twp County Burl.

State Atlas Map No. 28



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)  
NJ STATE PLANE COORDINATE IN US SURVEY FEET

|                                   |                                    |
|-----------------------------------|------------------------------------|
| NORTHING: _____                   | EASTING: _____                     |
| OR                                |                                    |
| LATITUDE: _____ ° _____ ' _____ " | LONGITUDE: _____ ° _____ ' _____ " |

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS MADE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- ☐ PUBLIC COMMUNITY Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.1 et seq.
- ☐ INDUSTRIAL SUPPLY - A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- ☐ IRRIGATION SUPPLY - A physical connection control permit may be required pursuant to the provisions of N.J.A.C. 7:10-10.1 et seq.
- ☐ REPLACEMENT WELL - Existing well must be sealed by a New Jersey licensed well driller of the proper class upon abandonment.
- ☐ PINELANDS - Well must be drilled and cased to a minimum depth of 100' unless the provisions of N.J.A.C. 7:50-6.84 (a)4.v. are met.
- ☐ MINIMUM distance requirements as per N.J.A.C. 7:9D-2.7 have not been met - see attached condition(s).
- ☐ The well shall be equipped with a totalizing flow meter per N.J.A.C. 7:19-2 et seq.
- ☒ Domestic use

This Space for Approval Stamp

WELL PERMIT APPROVED  
N.J. D.E.P.

MAR 15 2005

BUREAU OF WATER ALLOCATION

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 3-10-05 Signature of Driller [Signature] Registration No. 10747  
Signature of Property Owner Ken Neff

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

**USE OF WELL:**

Agricultural/Horticultural  
Dewatering  
Domestic  
Elevator Shaft  
Fire Protection  
Geothermal Closed Loop  
Geothermal Open Loop  
Industrial

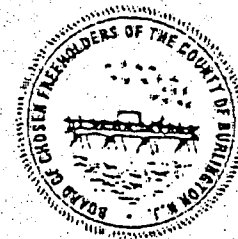
Irrigation  
Livestock  
Non-Public  
Public Community Water Supply  
Public Non-Community Water System  
Test  
Replacement Type of Well (Specify)

Make Checks Payable to: **"TREASURER - STATE OF NEW JERSEY"**

In accepting this permit the Owner and Driller agree to abide by the following terms and conditions:

1. All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq.
2. This permit conveys no rights, either expressed or implied, to divert water.
3. Well permits, submitted incomplete and/or illegible will be returned without approval for modification.
4. **If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Allocation.**
5. In the event this well is abandoned, the Owner or Well Driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the Department in accordance with the provisions of N.J.A.C. 7:9D-1 et seq.
6. Well permits are valid for one (1) year from date of approval except for permits issued for domestic use which are valid for a period of two years. Department must be notified in writing of permit cancellation.
7. Drinking Water Supplies must be classified as either:
  - a. **Domestic** (private household)
  - b. **Non-Public Water Supply** (Other Than Domestic Supply)
  - c. **Public Community Water Supply** - at least 15 service connections or serves at least 25 individuals daily (municipal supply, community well, mobile home parks, etc.)
  - d. **Public Non-Community Water Supply** (campgrounds, restaurants, hospitals, etc.)
8. A well record must be submitted by the well driller to the Bureau of Water Allocation within ninety (90) days after the well is completed.
9. This permit is **NONTRANSFERABLE**.
10. All wells to be used as a drinking water supply should be tested in accordance with the requirements of the appropriate county/municipality Health Department.
11. If the use of the well is to be changed, a well permit for the proposed use of the well must be submitted for review and approval. The existing well permit number must be referenced on the application form.

Board of Chosen Freeholders  
County of Burlington  
New Jersey



Burlington County Health Dept.  
Raphael Meadow Health Center  
15 Pioneer Boulevard, Westampton  
P.O. Box 6000  
Mount Holly, N.J. 08060

MAY 13, 2005

Tele: (609) 265-5515  
Fax: (609) 265-5541

ORLEANS HOMEBUILDERS  
455 LARCHMONT BLVD  
SUITE 14A  
MT LAUREL NJ 08054

Re: Septic Application 94-05  
Block 24.04 Lot 1  
MANSFIELD TWP.

Your application for the installation of a proposed individual subsurface sewage disposal system is certified to be in compliance with the provisions of N.J.A.C. 7:9A and regulations as otherwise provided by N.J.S.A. 58:11-25.

☐ Based on Engineering Data Only.

☒ Based on Engineering data and Percolation Test(s) and Soil Boring(s) being witnessed by a representative of this Dept.

THIS CERTIFICATION BECOMES NULL AND VOID 3-15-07.

Should this system not be installed by this date, contact this office for recertification instructions.

This certification and approved design is not a permit to install the system.

Such permit must be obtained from the municipal agent responsible for insuring compliance with other applicable state & local laws.

**NO CHANGE IN THE PLAN SHALL TAKE PLACE WITHOUT PRIOR APPROVAL OF THIS DEPARTMENT.**

At the time of installation, the system shall not be covered from view until it has been inspected by a representative of this Department and permission to cover same has been given by that representative. Request for such inspection shall be made to this Department no later than 72 hours prior to the date of installation.

**FINAL CERTIFICATION WILL NOT BE GIVEN BY THIS DEPARTMENT UNTIL THE DESIGN ENGINEER HAS CERTIFIED IN WRITING, BY SIGNATURE & SEAL TO THE FOLLOWING;**

☒ Excavation to a depth of 72 inches and back-filled to the bottom of the disposal field with material placed and compacted in conformance with NJAC 7:9A-10.4(f)3; and shall meet the requirements of NJAC 7:9A-10.1(f). Results of permeability tests shall be indicated on this Department's standardized form.

☐ \_\_\_\_\_ inches of fill extending \_\_\_\_\_ beyond the limits of the disposal field with material placed and compacted in conformance with NJAC 7:9A-10.4(f)3; and shall meet the requirements of NJAC 7:9A-10.1(f). Results of permeability tests shall be indicated on this Department's standardized form.

☒ Pumping Equipment ☒ Alarm System ☒ Final Grading & Stabilization ☐ None of the above

☐ Other:

PLEASE NOTE: It is YOUR RESPONSIBILITY, as the owner, to ensure that your building contractor, plumber, and the installer of the system are made aware of the approved application prior to the beginning of any construction. It is also your responsibility to ensure that the system is installed in strict accordance with this approved plan. Any unauthorized deviation from the plan could result in legal action being instituted in Municipal Court against all parties concerned.

bk

cc: Board of Health,  
Construction Code Official  
Design Engineer  
file

Sincerely,

MICHAEL C GAVIO  
PRINCIPAL SANITARY INSPECTOR  
609-265-3735

**BURLINGTON COUNTY HEALTH DEPARTMENT**  
 15 PIONEER BOULEVARD, WESTAMPTON  
 P O Box 6000 MOUNT HOLLY, NEW JERSEY 08060

**APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR AN INDIVIDUAL SUBSURFACE  
 SEWAGE DISPOSAL SYSTEM**

## GENERAL INFORMATION - Form 1

1. Type of Permit needed (Check applicable categories):  
☒ New Construction ☐ Alteration/Expansion or Change in Use ☐ Alteration/Malfunctioning System  
☐ Deviation from Standards ☐ Repairs to Existing System ☐ Alteration/No Expansion or Change of Use
2. Location of Project:  
 Municipality Mansfield Township Block: 24.04 Lot: 1  
 Street Address \_\_\_\_\_ Zip \_\_\_\_\_
3. Name of Applicant (print): Orleans Homebuilders
4. Applicant's Present Address: 455 Larchmont Blvd. Suite 14A 5. Phone number: \_\_\_\_\_  
Mt. Laurel, NJ 08054
6. Type of Facility:  
☒ Residential ☐ Commercial/Institutional ☐ Specify Type of Establishment: \_\_\_\_\_
7. Type of Wastes to be discharged:  
☒ Sanitary Sewage ☐ Industrial Wastes ☐ Other - Specify \_\_\_\_\_
8. Other Approvals/Certification/Waivers/Exemptions (Attach to Application)  
☐ Pinelands Commission ☐ NJDEP - Bureau of Flood Plain Management
9. I hereby certify that the information furnished above on Form 1 of this application is true. I am aware that falsification is a crime in this State and subject to prosecution.
- Signature of Applicant Sam Wetters Date 2-21-05

**ATTENTION**  
**BUILDERS, INSTALLERS,**  
**OWNERS & INSPECTOR**  
**SPECIAL INSTALLATION REQUIREMENTS**  
**MUST BE COMPLIED WITH PRIOR TO**  
**COVER UP AND FINAL APPROVAL BY**  
**THIS DEPARTMENT**  
**BURLINGTON COUNTY HEALTH**  
**DEPARTMENT**

## FOR AGENCY USE ONLY

☐ Application Denied - Reason For Denial/Citation Of Rules Violated: \_\_\_\_\_☒ Application ApprovedDate of Action 5/10/05☐ Application Approved Subject To Approval By NJDEP

Name &amp; Title \_\_\_\_\_

Signature of Authorized Agent M. C. GAYLO, P.S.I.

## GENERAL SITE EVALUATION DATA - Form 2A

1. Name of Site Evaluator (print) John Luyben; Russell Reid Engineering
2. Business Address of Site Evaluator 332 Bismark Rd, Jackson, NJ 08527 3. Business Phone 732-928-8011
4. Special Site Limitations Identified (Check Appropriate Categories):  
☐ Flood Plains ☐ Bedrock Outcrop ☐ Wetlands ☐ Excessively Stony ☐ Disturbed Ground  
☐ Sink Holes ☐ Sand Dunes ☐ Steep Slopes ☐ Other - Specify \_\_\_\_\_
5. Soil Logs - Enter on form 2B - Use one sheet for each soil log
6. Considerations Relating to Disturbed Ground:  
 a.) Type of Disturbance (Check appropriate categories):  
☐ Filled area ☐ Excavated Area ☐ Re-graded Area  
 b.) Pre-existing Natural Ground Surface  
 Elevation Relative to Existing Ground Surface \_\_\_\_\_  
 c.) Suitability of Disturbed Ground  
☐ Unsuitable: Objects Subject to Disintegration or Change in Volume ☐ Excessively Coarse  
☐ Proctor Test Performed - % Standard Proctor Density = \_\_\_\_\_
7. Hydraulic Head Test:  
 a.) Hydraulically Restrictive Horizon: Depth Top to Bottom \_\_\_\_\_  
 b.) Piezometer A: Depth to Bottom \_\_\_\_\_ Depth of Water Level (24hrs) \_\_\_\_\_  
 c.) Piezometer B: Depth to Bottom \_\_\_\_\_ Depth of Water Level (24hrs) \_\_\_\_\_  
 d.) Witnessed by \_\_\_\_\_
8. Attachments (Check items included):  
☒ Site Plan ☐ Key Map Showing Location Of Site on U.S.G.S. Quadrangle or Other Accurate Map  
☒ Key Map Showing Location of Site on U.S.D.A. Soil Survey Map ☐ Other - Specify \_\_\_\_\_

**THIS PLAN FOR A SEWERAGE FACILITY IS**  
**CERTIFIED**  
**TO BE IN SUBSTANTIAL COMPLIANCE WITH**  
**THE PROVISIONS OF CHAP 199 P.L. 1984**  
**THE STANDARDS FOR CONSTRUCTION**  
**PROMULGATED BY THE NJDEP AND THOSE**  
**PROMULGATED BY LOCAL ORDINANCE.**

BY M. C. Gaylo DATE 5/10/05  
 BURLINGTON COUNTY HEALTH DEPARTMENT  
 COUNTY NUMBER 94-05  
 Signature \_\_\_\_\_ Date \_\_\_\_\_

9. I hereby certify that the information furnished on Form 2A of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator John LuybenDate 2/18/05

Signature of Professional Engineer \_\_\_\_\_

License # 34675

(please seal this form)

## SOIL LOG &amp; INTERPRETATION - Form 2B

Municipality Mansfield Township Block 24.04 Lot 11. Log Number 1-1216-1Method (Check One): ☒ Profile Pit ☐ Boring

2. Soil Log

DATE SOIL LOG CONDUCTED 12/16/04

Depth

Munsell Color Name &amp; Symbol; Estimated Textural Class; Estimated

(inches)

Volume % Coarse Fragment, if present; Structure; Moist or Dry

Top-Bottom

Consistence; Mottling - Abundance, Size &amp; Contrast, if present

## Lot 1

## Soil Log 1-1216-1

Date Performed 12/16/04

0 - 10" 10YR 3/3 Dark brown sandy loam topsoil  
10 - 30" 7.5YR 4/4 Brown silty clay loam. Moderate subangular blocky, moist, firm.  
30 - 66" 5YR 4/3 Reddish brown sandy clay loam. Moderate subangular blocky, moist, friable.  
66 - 125" 7.5YR 6/8 Reddish yellow medium grained loamy sand. Weak single grained, moist, very friable, 10% gravel. Common medium distinct mottles of 10YR 7/1 (light gray) at 66 - 125".  
> 125" Stopped test No groundwater encountered SHWT = 66"

## 3. Ground Water observations:

☐ Seepage - Indicate Depth \_\_\_\_\_☐ Pit/Boring Flooded - Depth after \_\_\_\_\_ Hours \_\_\_\_\_

## 4. Soil Limiting Zones ( Check Appropriate Categories):

☐ Fractured Rock substratum - Depth to Top \_\_\_\_\_☐ Massive Rock Substratum - Depth to Top \_\_\_\_\_☐ Excessively Coarse Horizon - Depth Top to Bottom \_\_\_\_\_☐ Excessively Coarse Substratum - Depth to Top \_\_\_\_\_☐ Hydraulically Restrictive Horizon-Depth Top to Bottom \_\_\_\_\_☐ Hydraulically Restrictive Substratum - Depth to Top \_\_\_\_\_☐ Perched Zone of Saturation - Depth Top to Bottom \_\_\_\_\_☒ Regional Zone of Saturation - Depth to Top 66"5. Soil Suitability Classification: I

6. I hereby certify that the information furnished on Form 2B of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator \_\_\_\_\_

Date 2/18/05

Signature of Professional Engineer \_\_\_\_\_

License # 34675

(please seal this form)

## SOIL LOG &amp; INTERPRETATION - Form 2B

Municipality Mansfield Township Block 24.04 Lot 1

1. Log Number 1-1216-2
2. Soil Log
- Depth
- (inches)
- Top-Bottom

Method (Check One): ☒ Profile Pit☐ BoringDATE SOIL LOG CONDUCTED 12/16/04

Munsell Color Name &amp; Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, if present; Structure; Moist or Dry Consistence; Mottling - Abundance, Size &amp; Contrast, if present

## Soil Log 1-1216-2

Date Performed 12/16/04

- 0 - 10" 10YR 3/3 Dark brown sandy loam topsoil
- 10 - 30" 7.5YR 4/4 Brown sandy clay loam. Moderate subangular blocky, moist, firm.
- 30 - 68" 5YR 4/3 Reddish brown sandy clay loam. Moderate subangular blocky, moist, friable.
- 68 - 84" 5YR 4/3 Reddish brown sandy loam. Weak subangular blocky, moist, with 30% gravel sized ironstone. Common medium distinct mottles of 10YR 7/1 (light gray) at 68 - 84".
- 84 - 132" 7.5YR 6/8 Reddish yellow medium grained loamy sand. Weak single grained, moist, very friable, 10% gravel
- > 132" Stopped test No groundwater encountered SHWT = 68"

## 3. Ground Water observations:

- ☐ Seepage - Indicate Depth \_\_\_\_\_
- ☐ Pit/Boring Flooded - Depth after \_\_\_\_\_ Hours \_\_\_\_\_

## 4. Soil Limiting Zones ( Check Appropriate Categories):

- ☐ Fractured Rock substratum - Depth to Top \_\_\_\_\_
- ☐ Excessively Coarse Horizon - Depth Top to Bottom \_\_\_\_\_
- ☐ Hydraulically Restrictive Horizon-Depth Top to Bottom \_\_\_\_\_
- ☐ Perched Zone of Saturation - Depth Top to Bottom \_\_\_\_\_
- ☐ Massive Rock Substratum - Depth to Top \_\_\_\_\_
- ☐ Excessively Coarse Substratum - Depth to Top \_\_\_\_\_
- ☐ Hydraulically Restrictive Substratum - Depth to Top \_\_\_\_\_
- ☒ Regional Zone of Saturation - Depth to Top 68"

5. Soil Suitability Classification: I

6. I hereby certify that the information furnished on Form 2B of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator 12/16/04Date 2/18/05Signature of Professional Engineer \_\_\_\_\_  
(please seal this form)License # 34675

## SOIL PERMEABILITY DATA - Form 3A

Municipality Mansfield Township Block 24.04 Lot 1

Assign a number for each test and a letter for each test replicate. Show test data and calculations on form 3B, 3C, 3D, 3E, 3F, or 3G.  
Use one sheet for each separate test or test replicate.

## 1. Summary of Data - Enter data for each test replicate on a separate line.

| Type of Test            | Test<br>(number) | Replicate<br>(letter) | Depth<br>(inches) | Result*    |
|-------------------------|------------------|-----------------------|-------------------|------------|
| TUBE PERMEAMETER        | 1-1216-1         | A                     | 66-125"           | 17.4 in/hr |
| "                       | "                | B                     | 66-125"           | 18.2 in/hr |
| SOIL PERM. CLASS RATING | 1-1216-1         | A                     | 66-125"           | K4         |
| "                       | "                | B                     | 66-125"           | K4         |

\* For tube permeameter, pit-bailing and piezometer tests report results in inches per hour. For soil permeability class rating, give soil permeability class number. For percolation test, report result in minutes per inch. For basin flooding test, report result as positive if basin drains completely within 24 hours after second filling, negative otherwise.

## 2. Design Permeability/Percolation Rate: Specify Test Number \_\_\_\_\_

☐ Average of Test Replicates☐ Single Replicate☐ Slowest of Replicates

## 3. Type of Limiting Zone Identified

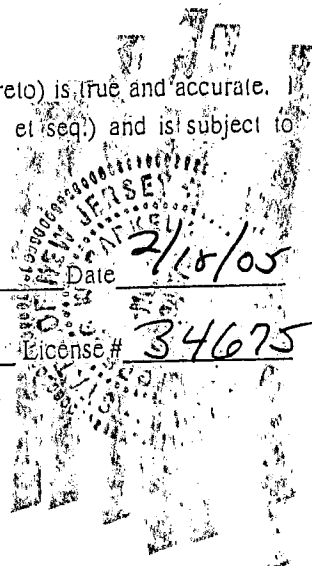
Test Number

## 4. Attachments (Check items included):

☒ Form 3B - Tube Permeameter Test Data - Number of Sheets 2☒ Form 3C - Soil Permeability Class Rating Test Data - Number of Sheets 2☐ Form 3D - Percolation Test Data - Number of Sheets \_\_\_\_\_☐ Form 3E - Pit - Bailing Test Data - Number of Sheets \_\_\_\_\_☐ Form 3F - Piezometer Test Data - Number of Sheets \_\_\_\_\_☐ Form 3G - Basin Flooding Test Data - Number of Sheets \_\_\_\_\_

5. I hereby certify that the information furnished on Form 3A of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator \_\_\_\_\_

Signature of Professional Engineer \_\_\_\_\_  
(please seal this form)

TUBE PERMEAMETER TEST DATA - Form 3B

1. Test Number 1-1216-1 Replicate (Letter) A Date Collected 12/16/04

2. Material Tested: ☐ Fill ☒ Test in Native Soil - Indicate Depth 66 - 125"

3. Type of Sample: ☐ Undisturbed ☒ Disturbed

4. Sample Dimensions: Inside radius of Sample Tube, R, in cm. 2.38  
Length of Sample, L, in inches 4.75

5. Bulk Density Determination (Disturbed Samples Only):  
Sample Weight (Wt. Tube Containing Sample - Wt. of Empty Tube), grams 300  
Sample Volume (L x 2.54 cm./inch x 3.14 R<sup>2</sup>), cc 215  
Bulk Density (Sample Wt./Sample Volume), grams/cc 1.40

6. Standpipe Used: ☐ NO ☒ YES  
Indicate internal radius, cm 0.476

7. Height of Water Level Above Rim of Test Basin, in Inches:  
At the Beginning of Each Test Interval, H<sub>1</sub> 14  
At the End of Each Test Interval, H<sub>2</sub> 8

| 8. Rate of Water Level Drop (Add additional lines if needed): |                                                  |                                           |
|---------------------------------------------------------------|--------------------------------------------------|-------------------------------------------|
| Time, Start<br>of Test<br>Interval, T <sub>1</sub>            | Time, End<br>of Test<br>Interval, T <sub>2</sub> | Length of Test<br>Interval, T,<br>minutes |
| <u>0</u>                                                      | <u>22 sec</u>                                    | <u>0.37</u>                               |
| <u>0</u>                                                      | <u>22 sec</u>                                    | <u>0.37</u>                               |
| <u>0</u>                                                      | <u>22 sec</u>                                    | <u>0.37</u>                               |
|                                                               |                                                  |                                           |
|                                                               |                                                  |                                           |
|                                                               |                                                  |                                           |
|                                                               |                                                  |                                           |

9. Calculation of Permeability:  
  
K, (in/hr) = 60 min/hr x r<sup>2</sup>/R<sup>2</sup> x L(in)/T(min) x ln(H<sub>1</sub>/H<sub>2</sub>)  
= 60 min/hr x .476<sup>2</sup>/2.38<sup>2</sup> x 4.75/.37 x ln(14/8)  
= 17.4 in/hr

10. Defects in the sample (Check appropriate items):  
☒ None ☐ Cracks ☐ Worm Channels ☐ Root Channels ☐ Soil/Tube Contact  
☐ Large Gravel ☐ Large Roots ☐ Dry Soil ☐ Smearing  
☐ Compaction ☐ Other - Specify \_\_\_\_\_

11. I hereby certify that the information furnished on Form 3B of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator \_\_\_\_\_ Date 2/18/05  
Signature of Professional Engineer \_\_\_\_\_ License # 34675  
(please seal this form)

## TUBE PERMEAMETER TEST DATA - Form 3B

1. Test Number 1-1216-1 Replicate (Letter) B Date Collected 12/16/04
2. Material Tested: ☐ Fill ☒ Test in Native Soil - Indicate Depth 66-125"
3. Type of Sample: ☐ Undisturbed ☒ Disturbed
4. Sample Dimensions: Inside radius of Sample Tube, R, in cm. 2.38  
Length of Sample, L, in inches 4.75

## 5. Bulk Density Determination (Disturbed Samples Only):

Sample Weight (Wt. Tube Containing Sample - Wt. of Empty Tube), grams 300  
 Sample Volume ( $L \times 2.54 \text{ cm./inch} \times 3.14 R^2$ ), cc 215  
 Bulk Density (Sample Wt./Sample Volume), grams/cc 1.40

6. Standpipe Used: ☐ NO ☒ YES  
 Indicate internal radius, cm 0.476

## 7. Height of Water Level Above Rim of Test Basin, in Inches:

At the Beginning of Each Test Interval,  $H_1$  14  
 At the End of Each Test Interval,  $H_2$  8

## 8. Rate of Water Level Drop (Add additional lines if needed):

| Time, Start<br>of Test<br>Interval, $T_1$ | Time, End<br>of Test<br>Interval, $T_2$ | Length of Test<br>Interval, $T$ ,<br>minutes |
|-------------------------------------------|-----------------------------------------|----------------------------------------------|
| <u>0</u>                                  | <u>21 sec</u>                           | <u>0.35</u>                                  |
| <u>0</u>                                  | <u>21 sec</u>                           | <u>0.35</u>                                  |
| <u>0</u>                                  | <u>21 sec</u>                           | <u>0.35</u>                                  |
|                                           |                                         |                                              |
|                                           |                                         |                                              |
|                                           |                                         |                                              |

## 9. Calculation of Permeability:

$$\begin{aligned}
 K, (\text{in/hr}) &= 60 \text{ min/hr} \times r^2/R^2 \times L(\text{in})/T(\text{min}) \times \ln(H_1/H_2) \\
 &= 60 \text{ min/hr} \times \frac{.476^2}{2.38^2} \times \frac{4.75}{.35} \times \ln(14/8) \\
 &= \underline{18.2 \text{ in/hr}}
 \end{aligned}$$

## 10. Defects in the sample (Check appropriate items):

- ☒ None    ☐ Cracks    ☐ Worm Channels    ☐ Root Channels    ☐ Soil/Tube Contact  
☐ Large Gravel    ☐ Large Roots    ☐ Dry Soil    ☐ Smearing  
☐ Compaction    ☐ Other - Specify \_\_\_\_\_

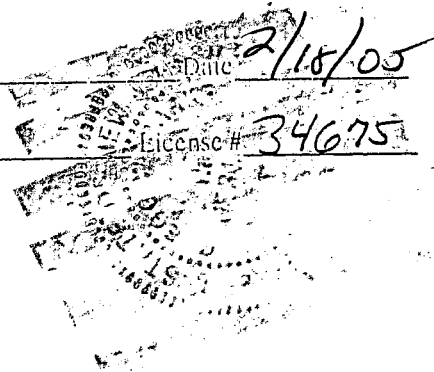
11. I hereby certify that the information furnished on Form 3B of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator \_\_\_\_\_ Date 2/18/05  
 Signature of Professional Engineer \_\_\_\_\_ License # 34675  
 (please seal this form)

## SOIL PERMEABILITY CLASS RATING DATA - Form 3C

1. Test Number 1-1216-1 Replicate (Letter) A
2. Sample Depth 66-125" Soil Pit/Boring Number 1-1216-1 Date Collected 12/16/04
3. Coarse Fragment Content:  
 Total Weight of Sample, WT, grams 786.3  
 Weight of Material Retained on 2mm sieve, WCF, grams 3.2  
 Weight % Coarse Fragment (WCF/WT. x 100): 0.4
4. Oven Dry Weight (24 hrs., 105°C) of 40 Gram Air Dry Sample, grams, Wt. 39.90
5. Hydrometer Calibration, Rc 4.0
6. Hydrometer Reading - 40 seconds, grams, R1 7.0  
 Temperature of Suspension, °F 68
7. Corrected Hydrometer Reading, grams, R1' 2.9
8. Hydrometer Reading - 2 hours, grams, R2 6.5  
 Temperature of Suspension, °F 68
9. Corrected Hydrometer Reading, grams, R2' 2.4
10. % Sand = (Wt. - R1')/Wt. x 100 =  $(39.9 - 2.9) / 39.9 \times 100 = 92.7$
11. % Clay = R2'/Wt. x 100 =  $2.4 / 39.9 \times 100 = 6.0$
12. Sieve Analysis:  
 a. Oven Dry Wt. (2 hrs., 105°C) Total Sand Fraction  
 (Soil Retained in 0.047 mm Sieve ), grams 36.10  
 b. Wt. of Fine Plus Very Fine Sand Fraction  
 (Sand Passing 0.25 mm Sieve), grams 28.80  
 c. % Fine Plus Very Fine Sand (b/a) 79.82
13. Soil Morphology ( Natural Soil Samples Only ):  
 Structure of Soil Horizon Tested Weak single grain  
 Consistence of Soil Horizon Tested: Dry \_\_\_\_\_ Moist X
14. Soil Permeability Class Rating (Based upon average textural analysis of this replicate and other replicate samples) K4
15. I hereby certify that the information furnished on Form 3C of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator \_\_\_\_\_

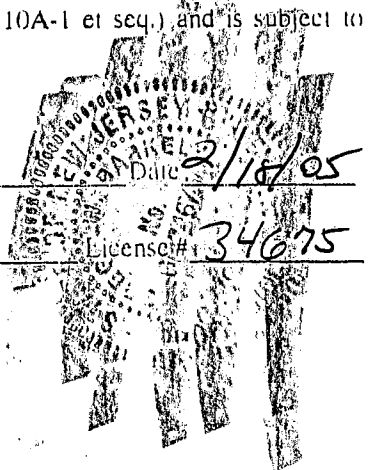
Signature of Professional Engineer \_\_\_\_\_  
(please seal this form)

## SOIL PERMEABILITY CLASS RATING DATA - Form 3C

1. Test Number 1-1216-1 Replicate (Letter) B
2. Sample Depth 66-125" Soil Pit/Boring Number 1-1216-1 Date Collected 12/16/04
3. Coarse Fragment Content:  
 Total Weight of Sample, WT., grams 786.3  
 Weight of Material Retained on 2mm sieve, WCF, grams 3.2  
 Weight % Coarse Fragment (WCF/WT. x 100): 0.4
4. Oven Dry Weight (24 hrs., 105°C) of 40 Gram Air Dry Sample, grams, Wt. 39.90
5. Hydrometer Calibration, Rc 4.1
6. Hydrometer Reading - 40 seconds, grams, R1 7.0  
 Temperature of Suspension, °F 68
7. Corrected Hydrometer Reading, grams, R1' 2.9
8. Hydrometer Reading - 2 hours, grams, R2 6.0  
 Temperature of Suspension, °F 68
9. Corrected Hydrometer Reading, grams, R2' 1.9
10. % Sand = (Wt. - R1')/Wt. x 100 =  $(39.9 - 2.9) / 39.9 \times 100 = 92.7$
11. % Clay = R2'/Wt. x 100 =  $1.9 / 39.9 \times 100 = 4.8$
12. Sieve Analysis:  
 a. Oven Dry Wt. (2 hrs., 105°C) Total Sand Fraction  
 (Soil Retained in 0.047 mm Sieve ), grams 36.50  
 b. Wt. of Fine Plus Very Fine Sand Fraction  
 (Sand Passing 0.25 mm Sieve), grams 29.40  
 c. % Fine Plus Very Fine Sand (b/a) 80.5
13. Soil Morphology ( Natural Soil Samples Only ):  
 Structure of Soil Horizon Tested weak single grain  
 Consistence of Soil Horizon Tested: Dry \_\_\_\_\_ Moist X
14. Soil Permeability Class Rating (Based upon average textural analysis of this replicate and other replicate samples) K4

15. I hereby certify that the information furnished on Form 3C of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator \_\_\_\_\_

Signature of Professional Engineer \_\_\_\_\_  
 (please seal this form)

## GENERAL DESIGN DATA - Form 4

1. Volume of Sanitary Sewage, gal. 800☒ Residential: No. of Dwelling Units 1 Total No. of Bedrooms 5☐ Commercial/Institutional - Indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading  
\_\_\_\_\_

## 2. Alterations or Repairs

a.) Reason for Alteration or Repair (Check appropriate categories):

☐ Expansion or Change in Use☐ Upgrade Existing Facilities☐ Correct Malfunctioning System☐ Other - Specify \_\_\_\_\_

b.) Describe Nature of Alteration or Repairs: \_\_\_\_\_

## 3. System Components:

a.) Grease Trap Capacity, gals \_\_\_\_\_

Show Calculation Used \_\_\_\_\_

b.) Septic Tank Capacities, gals: ☒ first (single) compartment 1,250 gal☐ second compartment \_\_\_\_\_☐ third compartment \_\_\_\_\_

c.) Effluent Distribution

Method: ☐ Gravity Flow☒ Gravity Dosing☐ Pressure Dosing

Dosing Device:

☐ Pump☐ Siphond.) Dosing Tank Capacities, gals: Total Capacity 1,500 Dose Volume 200 Reserve Capacity 870e.) Laterals: Number 8 Total Length 386' Pipe Size 4" Spacing 3'f.) Connecting Pipe: Size 2" Length 126'

g.) Manifold: Size \_\_\_\_\_ Length \_\_\_\_\_

h.) Disposal Field: Type of Installation ~~SRB~~ SRBDesign Permeability (Percolation rate) 6-20"/hr☐ Trenches: Width \_\_\_\_\_ Total Length \_\_\_\_\_☒ Bed: Area 26' x 50' = 1,300 sf

i.) Seepage Pits: Design Percolation Rate \_\_\_\_\_

Number of Pits \_\_\_\_\_ Total Percolating Area Provided \_\_\_\_\_

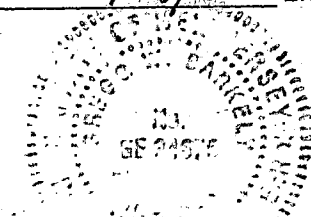
## 4. Attachments (Check items included):

☒ General Plan Showing Location of All System Components☒ X - Sections of Each System Component Including Grease Traps, Septic Tank, Dosing Tank, Disposal field, Seepage Pits and Interceptor Drains☒ Pump Performance Curve☐ Other - Specify \_\_\_\_\_

5. I hereby certify that the information furnished on Form 4 of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer \_\_\_\_\_  
(please seal this form)

2/18/05 License # 34675



## DESIGN OF PRESSURE DOSING SYSTEM - Form 5

## 1. Configuration of Distribution network:

Type of manifold: ☐ End ☐ Central

Distribution Laterals: Number \_\_\_\_\_ Length, ft. \_\_\_\_\_ Spacing, ft. \_\_\_\_\_

Hole Diameter, in. \_\_\_\_\_ Hole Spacing, in. \_\_\_\_\_

Diameter of Laterals, in. \_\_\_\_\_

## 2. Lateral Discharge Rate:

Design Pressure Head at Distal End of Laterals,  $H_p$ , ft. \_\_\_\_\_Hole Discharge Rate,  $Q$ , gpm \_\_\_\_\_Number of Holes per Lateral,  $n$  \_\_\_\_\_Lateral Discharge Rate,  $(Q \times n)$ , gpm \_\_\_\_\_

3. Manifold Length, ft. \_\_\_\_\_ Manifold Diameter, in. \_\_\_\_\_

4. System Discharge Rate, gpm \_\_\_\_\_

## 5a. Pump Selection:

Diameter of Delivery Pipe 2" Length of Delivery Pipe 126'Friction Loss in Delivery Pipe,  $H_f$ , ft. 11'Elevation of Dosing Tank Low Water Level 68.53Elevation of Lateral Invert 72.67Elevation Head,  $H_e$ , ft. 4.0Total Operating Head,  $H_t$  ( $H_p + H_f + H_e$ ), ft. 15'Pump Model Goulds W503B Rated Horsepower 0.3Pump Discharge Rate at Total Operating Head, gpm 51 gpm

## 5b. Siphon Elevation:

Diameter of Delivery Pipe \_\_\_\_\_ Length of Delivery Pipe \_\_\_\_\_

Friction Loss in Delivery Pipe,  $H_f$ , ft. \_\_\_\_\_Velocity Head,  $H_v$ , ft. \_\_\_\_\_Total Operating Head,  $H_t$  ( $H_p + H_f + H_v$ ), ft. \_\_\_\_\_

Elevation of Lateral Invert \_\_\_\_\_

Elevation of Siphon Invert \_\_\_\_\_

## 6. Dose Volume:

Design Volume of Sewage, gal/day 800Design Permeability, in/hr 6-20 in/hr or Percolation Rate, min/in \_\_\_\_\_Internal Volume of Distribution Network Delivery Pipe = 126' x .16 gal/ft = 20 galDose Volume .25 Q + Drain Back = 200 + 20 = 220 galPump Tank Interior = 5' x 10' = 50 sf  $\Rightarrow$  374 gal/ft. $220 \text{ gal} / 374 \text{ gal/ft} = 0.59 \text{ ft} = 7" \text{ draw down}$ 

7. I hereby certify that the information furnished on Form 5 of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer \_\_\_\_\_  
(please seal this form)

2/18/05 License # 34675



B1 24.04

L 1

## Submersible Sewage Pump

MODEL

# 3886

### NEWLY IMPROVED PERFORMANCE AND 2" SOLIDS HANDLING

See order number chart for new order number.

Prosurance available for residential applications.

#### APPLICATIONS

Specifically designed for the following uses:

- Homes
- Sewage systems
- Dewatering/Effluent
- Water transfer

#### SPECIFICATIONS

##### Pump:

- Solids handling capabilities: 2" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 185 GPM.
- Total heads: up to 38 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, dynamically balanced, non-clog with pump out vanes for mechanical seal protection. Optional Silicon bronze impeller available.

■ **Casing:** Cast iron volute type for maximum efficiency. Designed for easy installation on A10-20 slide rail.

■ **Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE** sealing faces for superior abrasive resistance, stainless steel metal parts, BUNA-N elastomers.

■ **Shaft:** Corrosion-resistant stainless steel. Threaded design. Locknut on three phase 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. All ratings are within the working limits of the motor.

■ **Class B insulation.**

**Single phase (60 Hz):**

- All single phase models feature capacitor start motors for maximum

starting torque.

- Built-in overload with automatic reset.
- 1/4 and 1/2 HP – 16/3 SJTOW with 115V or 230V three prong plug.
- 3/4 and 1 HP – 14/3 STOW with bare leads.

**Three phase (60 Hz):**

- Overload protection must be provided in starter unit.
- 1/2-1 HP – 14/4 STOW with bare leads.

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

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

■ **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. 20 foot standard with optional lengths available.

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

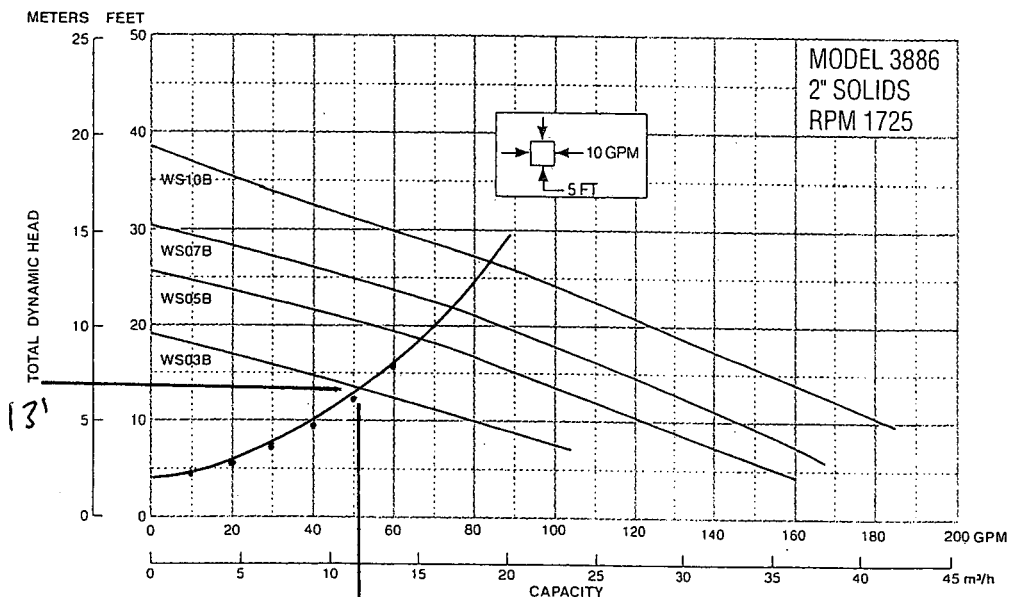
■ Consult factory for information on CSA listed models.

#### AGENCY LISTINGS

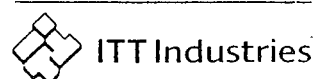
CSA Canadian Standards Association  
File #LR38549

UL Underwriters Laboratories  
File #83318

Goulds Pumps is ISO 9001 Registered.



Goulds Pumps





BARKLEY  
Engineering, L.L.C.  
163 Burlington Path Road  
Suite N  
Cream Ridge, NJ 08514

Township Mansfield  
County Burlington  
Block 24.04  
Lot 1

Project \_\_\_\_\_  
Sheet \_\_\_\_\_  
Engineer \_\_\_\_\_  
Checked By \_\_\_\_\_  
Date 2/21/05

### Pump Design Calculations

Discharge Inv. = 72.67  
Pump Off Elev. = - 68.53  
Static Head = 4.14

#### Fittings (Equivalent Pipe Length)

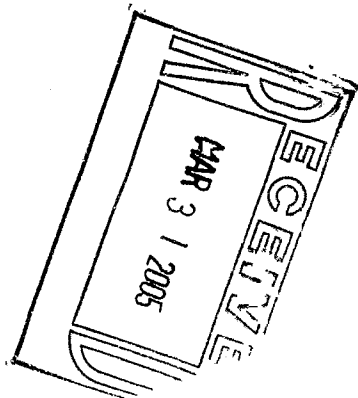
90° Elbows 3 @ 9 ft = 27 ft  
45° Elbows 2 @ 3 ft = + 6 ft  
Check Valve 1 @ 19 ft = + 19 ft  
Gate Valve - @ 1 ft = + - ft  
Tee - Branch Flow - @ 12 ft = + - ft  
Equivalent length of pipe = 52 ft

Equivalent length of pipe = 52 ft  
Length of pipe from tank to discharge point = + 126 ft  
Total equivalent length of pipe = 178 ft

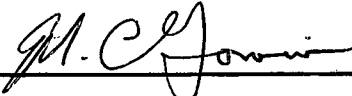
### 2" Sch. 40 PVC Pipe

| Flow<br>(gpm) | Loss/100 ft* | Loss/ <u>178</u> ft | Static Head | Total Head  |
|---------------|--------------|---------------------|-------------|-------------|
| 10            | <u>0.24</u>  | <u>0.4</u>          | <u>4.0</u>  | <u>4.4</u>  |
| 20            | <u>0.86</u>  | <u>1.5</u>          |             | <u>5.5</u>  |
| 30            | <u>1.80</u>  | <u>3.2</u>          |             | <u>7.2</u>  |
| 40            | <u>3.10</u>  | <u>5.5</u>          |             | <u>9.5</u>  |
| 50            | <u>4.65</u>  | <u>8.3</u>          |             | <u>12.3</u> |
| 60            | <u>6.53</u>  | <u>11.6</u>         |             | <u>15.6</u> |

\*From Published Tables



**BURLINGTON COUNTY HEALTH DEPARTMENT  
N.J.A.C. 7:9A APPLICATION REVIEW FORM**

|                                                                                                                                                                     |                                   |                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Applicant(s)</b><br>ORLEANS CORP.                                                                                                                                | <b>Application #</b><br>94-05     | <b>Date Received:</b><br>4/5/05                                                                                     |
| <b>Signature of Reviewing Official</b><br>                                         | <b>Municipality</b><br>MANSEFIELD | <b>Block:</b> 24.04<br><b>Lot:</b> 1                                                                                |
| <b>Type Establishment</b><br><input type="checkbox"/> Commercial <input type="checkbox"/> Institution<br><input checked="" type="checkbox"/> Single Family Dwelling |                                   | <b>Disposition</b><br><input checked="" type="checkbox"/> Certified      5/10/05<br><input type="checkbox"/> Denied |

**CONFORMANCE**  
Y N NA

**GENERAL CRITERIA**

- |          |   |   |   |                                                                                         |
|----------|---|---|---|-----------------------------------------------------------------------------------------|
| 3.5(d)   | / | — | — | Four (4) copies of entire application submitted on standardized forms                   |
| 3.5(d)   | / | — | — | All copies of application, plans, specifications and other are legible                  |
| 3.5(c) 7 | / | — | — | Detailed engineering plans and specifications for all components of system are provided |
| 3.5(d)   | / | — | — | Inclusion of other approvals, certifications, waivers and exemptions attached           |
| 3.5(c) 1 | / | — | — | USGS quadrangle or other accurate map and a USDA soil survey map provided               |
| 3.5(c)   | / | — | — | All information submitted in connection with the design signed and sealed by a P.E.     |
| 3.5(d)   | / | — | — | Application for an individual water supply system is included if required               |
| 1.6(e)   | / | — | — | Public sewerage is not available within 100 feet of property                            |
| 58:11-25 | / | — | — | Individual Sewerage Disposal Code applies (municipal ordinance)                         |
| 1.8      | / | — | — | Sanitary waste only                                                                     |
| 1.8(a) 2 | / | — | — | Less than 2000 GPD                                                                      |
| 1.8(a) 2 | / | — | — | The system is connected to a single building, commercial unit or realty improvement     |
| 3.9      | / | — | — | TWA permit is not required                                                              |
| 3.10     | / | — | — | NJPDES permit not required                                                              |

# CONFORMANCE

Y N NA

|                                  |                                     |                          |                                     |                                                                                                                                 |
|----------------------------------|-------------------------------------|--------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 3.6(a)                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Soil evaluation and testing witnessed or legally waived                                                                         |
| <b><u>SITE PLAN CRITERIA</u></b> |                                     |                          |                                     |                                                                                                                                 |
| 3.5(c)                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Signed and sealed by a P. E.                                                                                                    |
| 3.5(c)2                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Prepared in accordance with NJAC 13:40-7 and drawn at a scale adequate to depict the system's features within a 150 foot radius |
| 3.5(c)2i                         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Locates all components i.e. ST, GT, DT, DBox, Dis. Lat, Dis.fields, Interceptor Drains, SP                                      |
| ii                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Boundaries of lot are depicted                                                                                                  |
| iii                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Existing and proposed buildings, roadways, subsurface drains, wells and disposal areas on same and adjacent lots indicated      |
| iv                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Existing and finished grade topography (2ft contour interval) using absolute or relative elevations provided                    |
| v                                | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Locates all surface water bodies, natural and artificial, and all springs or areas of ground water seepage                      |
| vi                               | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Locates existing and proposed surface water diversions                                                                          |
| vii                              | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Locates outcrops of bedrock if discovered                                                                                       |
| viii                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Conforms with setback requirements as required in NJAC 7:9A-4.3                                                                 |
| ix                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Locates all soil profile pits, soil borings and permeability tests                                                              |
| x                                | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Locates stream encroachment boundaries for streams within the near vicinity of the site                                         |
| xi                               | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | State approved boundaries of any wetlands areas or transition areas                                                             |
| 3.5(c)3                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Soil logs prepared as prescribed in NJAC 7:9A-5.3                                                                               |
| 3.5(c)4                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Soil suitability class(es) determined as prescribed in NJAC 7:9A-5.4                                                            |
| 3.5(c)5                          | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Results of permeability test as prescribed in NJAC 7:9A-6 including all test data and calculations are included                 |
| 3.5(c)6                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Maximum expected daily volume of sanitary sewage and method of calculation is provided                                          |
| 3.5(c)7                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Detailed engineering plans and specifications for all components of the system are included                                     |
| 3.5(c)8                          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | All data and calculations used in the design of the sewage system are included                                                  |

# CONFORMANCE

Y N NA

|                                                                                                     |   |   |   |                                                                                                                               |
|-----------------------------------------------------------------------------------------------------|---|---|---|-------------------------------------------------------------------------------------------------------------------------------|
| 3.16(a) 2                                                                                           | ✓ | — | — | Soil tests were conducted after December 31, 1989                                                                             |
| 3.18                                                                                                | ✓ | — | — | Compliance with >10 realty improvement criteria (NJAC 7:9A-3.18)                                                              |
| 3.18 (b,d-h)                                                                                        | — | — | ✓ | Compliance with 50 or more realty improvement criteria (NJAC 7:9A-3.18b,d-h)                                                  |
| <b><u>SPECIAL LIMITATIONS ARE ADEQUATELY ADDRESSED AND COMPLY WITH ALL STATE AND LOCAL LAWS</u></b> |   |   |   |                                                                                                                               |
| 4.2(b) 1                                                                                            | — | — | — | Bedrock outcrops or areas with excessive stones                                                                               |
| (b) 2                                                                                               | — | — | — | Sink-holes                                                                                                                    |
| (b) 3                                                                                               | — | — | — | Steep slopes with unstable soil such as landslide scars, slump blocks, fence posts or lower trunks of trees bending downslope |
| (b) 4                                                                                               | — | — | — | Bare eroded ground, denuded of vegetation or with deep wheel ruts                                                             |
| (b) 5                                                                                               | — | — | — | Highly disturbed ground i.e. remnants of foundations or pavements, buried building debris or plants                           |
| (b) 6                                                                                               | — | — | — | Sand dunes                                                                                                                    |
| (b) 7                                                                                               | — | — | — | Mine spoils, burrow pits, dumps or landfills                                                                                  |
| (b) 8                                                                                               | — | — | — | Low-lying coastal areas exhibiting signs of tidal inundation or tidal marsh vegetation                                        |
| (b) 9                                                                                               | — | — | — | Low-lying inland areas showing signs of ponding or freshwater wetland vegetation                                              |
| (b) 10                                                                                              | — | — | ✓ | Flat low-lying areas adjoining streams                                                                                        |
| 4.3                                                                                                 | ✓ | — | — | The minimum separation distance between components of the system and other features conform with table 4.3                    |
| 4.4(a)                                                                                              | ✓ | — | — | Disposal field or seepage pit is not located in an area where the slope is >25%                                               |
| 4.4(c)                                                                                              | — | — | ✓ | Modification of slopes by regrading meets the requirements of NJAC 7:9A-10.3(b)                                               |
| 4.5(a)                                                                                              | ✓ | — | — | Disposal field or seepage pit is not subject to surface runoff (drainage)                                                     |
| 4.6(a)                                                                                              | ✓ | — | — | Disposal system is not subject to surface flooding                                                                            |
| 4.6(a)                                                                                              | — | — | ✓ | Disposal area adjacent to a stream or coastline and relative elevations does not subject system to flooding                   |
| 4.6(b) 1                                                                                            | ✓ | — | — | Flooding not observed during a site inspection nor are there records or knowledge of past flooding                            |
| 4.6(b) 2                                                                                            | ✓ | — | — | Maps in County Soil Survey Report do not indicate the presence of a soil type subject to flooding                             |

# CONFORMANCE

Y N NA

|         |   |   |   |                                                                                                                   |
|---------|---|---|---|-------------------------------------------------------------------------------------------------------------------|
| 4.6(c)  | — | — | ✓ | Fill material proposed to elevate the ground surface subject to flooding meets requirements of 4.6(d) and 10.3(b) |
| 4.7(a)  | — | — | ✓ | Site evaluation process considered the possible presence of freshwater wetlands                                   |
| 4.7(a)  | — | — | ✓ | Potential presence of wetlands is not within the proposed area of disturbance                                     |
| 4.7(a)  | — | — | ✓ | Evidence that the applicant has complied with applicable wetlands regulations                                     |
| 4.7(b)1 | ✓ | — | — | Periodic or seasonal surface ponding is not observed                                                              |
| 4.7(b)2 | ✓ | — | — | Soil profile evaluation does not indicate a seasonally high water table shallower than 1.5ft                      |
| 4.7(b)3 | ✓ | — | — | Maps contained in the County Soil Survey Report do not indicate a wetlands soil type (4.7(b)3)                    |
| 4.8     | ✓ | — | — | Disposal area free from encroachments i.e. driveways, patios, decks, trees, additions                             |
| 5.2(b)  | ✓ | — | — | Minimum number of profile pits and/or soil borings were conducted (as per 5.2(b))                                 |
| 5.2(c)1 | ✓ | — | — | Soil profile pits and borings are properly located in accordance with Figure 1 Appendix A                         |
| 5.2(c)3 | — | — | ✓ | One profile pit or two soil borings performed for each seepage pit                                                |
| 5.2(c)1 | ✓ | — | — | Profile pits or borings excavated to 10ft. depth or no less than 8ft below level of infiltration 5.3(b)           |
| 5.3(b)  | ✓ | — | — | Soil logs contain depth and thickness of horizon                                                                  |
| 5.3(c)  | ✓ | — | — | Soil color indicated using Munsell System which includes alpha-numeric symbol and name                            |
| 5.3(d)  | ✓ | — | — | Soil textural class noted using USDA system of classification                                                     |
| 5.3(e)  | ✓ | — | — | Estimated volume percentage of coarse fragments noted, if present                                                 |
| 5.3(f)  | ✓ | — | — | Abundance, size and contrast of mottles are indicated, if present                                                 |
| 5.3(g)  | ✓ | — | — | Soil structural class (profile pits only) is noted                                                                |
| 5.3(b)  | ✓ | — | — | Soil consistence is referenced                                                                                    |
| 5.2(h)  | ✓ | — | — | Soil profile characteristics are reported in log form                                                             |
| 5.6     | — | — | ✓ | Fractured rock or excessively coarse substratum                                                                   |
| 5.6     | — | — | ✓ | Excessively coarse horizon, identified if present                                                                 |
| 5.7     | — | — | ✓ | Massive rock or hydraulically restrictive substratum are identified, if present                                   |

# CONFORMANCE

Y N NA

|         |   |   |   |                                                                                                                                                                           |
|---------|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.7     | — | — | ✓ | Hydraulically restrictive horizon, permeable substratum identified, if present                                                                                            |
| 5.8(a)  | ✓ | — | — | Zone of saturation, regional, identified if present                                                                                                                       |
| 5.8(c)  | — | — | ✓ | Zone of saturation, perched, identified, if present                                                                                                                       |
| 6.1(a)  | — | — | ✓ | Soil permeability testing conducted within the disposal field                                                                                                             |
| 6.1(a)  | — | — | ✓ | Soil perm test conducted at the level of infiltration                                                                                                                     |
| 6.1(a)  | — | — | ✓ | Conventional disposal field test conducted one to three feet below ground surface                                                                                         |
| 6.1(b)  | — | — | ✓ | Additional test depths other than the depth of infiltration, required for other limiting zones, were conducted                                                            |
| 6.1(d)  | — | — | ✓ | Tube perm. and soil permeability class rating consists of a minimum of two test replicates                                                                                |
| 6.1(d)1 | — | — | ✓ | Variability of test results do not exceed limits in 6.2(i)2 which requires additional test                                                                                |
| 6.1(d)1 | ✓ | — | — | Profile pits or borings do not indicate the presence of more than 1 soil type which requires additional tests                                                             |
| 6.1(d)1 | ✓ | — | — | Is the system designed based upon the most restrictive conditions found within the D. F.                                                                                  |
| 6.1(d)2 | — | — | ✓ | Piezometer test required for identification of limiting zone(s) was conducted and a minimum of one test conducted within or no further than 15ft. beyond D. F. boundaries |
| 6.1(e)6 | — | — | ✓ | Percolation test uniformly spaced in D. F. in acceptable patterns (Appendix C)                                                                                            |
| 6.1(g)  | — | — | ✓ | Questionable results of permeability testing require that the test be repeated and the results are acceptable                                                             |
| 6.2(1)2 | — | — | ✓ | Results of all tube permeability tests fall within one soil permeability class or two adjacent classes                                                                    |
| 6.2(j)1 | — | — | ✓ | Tube permeability acceptable range for design permeability at the LOI, the slowest replicate result was used                                                              |
| 6.2(j)2 | — | — | ✓ | Is the average tube permeability test replicate used to identify a hydraulically restrictive horizon or substratum                                                        |

# CONFORMANCE

Y N NA

|         |   |   |   |                                                                                                                                                |
|---------|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.2(j)2 | — | — | / | Does the acceptable range average tube permeability test replicate, used to I.D. a Hr horizon or substratum, fall in KO class                  |
| 6.2(j)3 | — | — | / | Does the acceptable range average tube permeability test replicate, used to I.D. an excessively coarse horizon or substratum, fall in K5 class |
| 6.2(k)1 | — | — | / | Was the slowest tube permeability test replicate used for design purposes where results exceed the limits of variability                       |
| 6.2(k)3 | — | — | / | Was the fastest tube permeability test replicate used to I.D. an excessively coarse horizon or substratum where results exceed variability     |
| 6.2(k)2 | — | — | / | Was the slowest tube permeability test replicate used to I.D. a Hr horizon or substratum where results exceed variability                      |
| 7.3(a)1 | — | — | / | Separate systems designed to receive only greywater or only blackwater conform with 7:9A-7.5                                                   |
| 7.3(b)  | / | — | — | Backwash from water softener or other drainage other than sanitary does not enter the system                                                   |
| 7.3(c)  | / | — | — | The facility does not engage in an activity which may result in the discharge of industrial waste                                              |
| 7.4(b)  | / | — | — | Criteria for estimating the volume of sanitary sewage from residential sources is in conformance with 7:9A-7.4                                 |
| 7.4(c)  | — | — | / | The volume of sanitary sewage from commercial or institutional establishment is based on size and type of facility                             |
| 7.4(c)  | — | — | / | The maximum expected number of persons that may be served during any single day of operation for commercial or institute is used               |
| 7.5     | — | — | / | Was a variance from the Uniform Construction Code NJAC 5:23-3.5 obtained for a waterless toilet                                                |
| 7.5     | — | — | / | Greywater system and blackwater system are a minimum of 75% the volume of sanitary sewage as per 7:9A-7.4                                      |
| 7.6     | — | — | / | Seepage pit is only for greywater system (7:9A-7.5) or alteration to existing systems 7:9A-3.3                                                 |
| 7.7     | / | — | — | Construction note indicates building sewer is to be in conformance with the Uniform Construction Code NJAC 5:23                                |
| 8.1(a)  | — | — | / | Establishment does not discharge large quantities of grease which requires a grease trap                                                       |

# CONFORMANCE

Y N NA

|                            |   |   |   |                                                                                                                            |
|----------------------------|---|---|---|----------------------------------------------------------------------------------------------------------------------------|
| 8.1(b)                     | — | — | / | Grease trap is designed with a separate line located close to source with easy access for cleaning                         |
| 8.1(e)                     | — | — | / | Grease trap is not smaller than 750 gallons in capacity                                                                    |
| 8.1(f)                     | — | — | / | Minimum requirements for construction, materials and foundation of grease trap same as septic tank                         |
| 8.1(g)                     | — | — | / | Inlet and outlet of G.T. provided with "T" baffles extending 12" above tank floor and well above the liquid level          |
| 8.1(h)                     | — | — | / | Manholes for G.T. extending to finished grade provided with gas tight covers to withstand expected loads                   |
| <b><u>SEPTIC TANKS</u></b> |   |   |   |                                                                                                                            |
| 8.2(a) 1                   | — | — | / | The S.T. precedes in series the aerobic treatment unit for batch processing aerobic treatment units                        |
| 8.2(a) 2                   | — | — | / | The S.T. follows in series the aerobic treatment unit for gravity flow aerobic treatment units                             |
| 8.2(b) 1                   | / | — | — | Minimum capacity 250 gal/bedroom and not less than 1000 gallons                                                            |
| 8.2(b) 1                   | — | — | / | Expansion attic is considered a bedroom if indicated on design                                                             |
| 8.2(b) 2                   | — | — | / | Other than single family dwellings, S.T. capacity 1.5 x Q when Q is less than 1500 GPD, not less than 1000 gallon tank     |
| 8.2(b) 3                   | — | — | / | Each tank connected in series is at least as large as the succeeding tank                                                  |
| 8.2(c)                     | — | — | / | Multiple compartments and 50% greater liquid capacity is provided for proposed garbage grinder units                       |
| 8.2(d)                     | — | — | / | Institution or commercial establishment is provided with multiple compartment when flow >1000 gallons                      |
| 8.2(d) 1                   | — | — | / | The total capacity of multiple compartments S.T. is not less than 1000 gallons                                             |
| 8.2(d) 1                   | — | — | / | The first compartment has a liquid capacity of 2/3 the total required liquid capacity                                      |
| 8.2(d) 2                   | — | — | / | Not more than two compartments are provided for tanks having liquid capacities less than 1250 gallons                      |
| 8.2(d) 3                   | — | — | / | Multiple compartments are provided by partitions within a single tank or by connecting individual tanks in series          |
| 8.2(d) 3                   | — | — | / | Single partitioned tank has vent holes near top of partition and two compartments are connected by pipe tee, baffle or SSR |

# CONFORMANCE

Y N NA

|         |   |   |   |                                                                                                                          |
|---------|---|---|---|--------------------------------------------------------------------------------------------------------------------------|
| 8.2(e)1 | ✓ | — | — | Water-tight and constructed of sound durable materials. resistant to corrosion, decay, frost damage                      |
| 8.2(e)2 | ✓ | — | — | Precast slab covers water-tight and 3" minimum thickness reinforced                                                      |
| 8.2(e)3 | — | — | ✓ | Walls for poured-in-place concrete tanks not less than 6" thick, not less than 6" base                                   |
| 8.2(e)3 | ✓ | — | — | Sides and bottom of precast concrete tanks minimum 3" thick and adequately reinforced                                    |
| 8.2(e)4 | — | — | ✓ | P.E. certified to (ACI) standards for frost protection and water tightness for poured tanks                              |
| 8.2(e)4 | ✓ | — | — | Precast tanks provided by manufacturer have (ACI) certification displayed on tank                                        |
| 8.2(e)6 | — | — | ✓ | Poured-in-place tank is proposed to be cast in one piece and not until 48 hr after base                                  |
| 8.2(e)7 | — | — | ✓ | Pre-fabricated polyethylene tanks conform with CSA standards                                                             |
| 8.2(e)8 | — | — | ✓ | Pre-fabricated fiberglass tanks conform to ASTM standard D4021                                                           |
| 8.2(f)  | — | — | ✓ | Calculations indicating tank is of sufficient weight or will otherwise be secured to prevent shift or float              |
| 8.2(e)5 | ✓ | — | — | All inside concrete surfaces are sealed with two coatings of an appropriate inert coating                                |
| 8.2(h)  | ✓ | — | — | S.T. material is poured-in-place concrete, precast reinforced concrete, fiberglass, polyethylene or other approved by AA |
| 8.2(i)1 | ✓ | — | — | The depth below the liquid level of the tank is not less than 36" or greater than 72"                                    |
| 8.2(i)2 | ✓ | — | — | Inlet and outlet arranged so flow is directed along the longest horizontal dimension of the tank                         |
| 8.2(i)3 | ✓ | — | — | Rectangular tank in cross-section has an inside length at least twice the inside width                                   |
| 8.2(i)3 | ✓ | — | — | Rectangular tank inside length measured inlet side to outlet side is not less than 72"                                   |
| 8.2(i)3 | ✓ | — | — | Rectangular tank inside width is not less than 36"                                                                       |
| 8.2(i)4 | — | — | ✓ | Upright cylindrical tank has a minimum diameter of 52"                                                                   |
| 8.2(i)4 | — | — | ✓ | Horizontal cylindrical tanks have a minimum length of 72"                                                                |
| 8.2(i)4 | — | — | ✓ | Horizontal cylindrical tanks have a minimum width at the liquid level of 36"                                             |

# CONFORMANCE

Y N NA

|         |   |   |   |                                                                                                                                                                                                  |
|---------|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.2(j)2 | ✓ | — | — | A baffle or a pipe tee, no less than 4" in diameter, is utilized at the inlet of the tank                                                                                                        |
| 8.2(j)2 | ✓ | — | — | Bottom of inlet baffle or tee extends below the liquid level 25-33% of liquid depth                                                                                                              |
| 8.2(j)2 | ✓ | — | — | The invert elevation of the inlet is not less than 2" higher than the invert elevation of outlet                                                                                                 |
| 8.2(j)2 | — | — | ✓ | The invert of the inlets of subsequent compartments are a minimum of 1" higher than outlets                                                                                                      |
| 8.2(j)3 | ✓ | — | — | Outlet connections of tank or compartment is provided with a tee not less than 4" diameter or equivalent baffle                                                                                  |
| 8.2(j)3 | ✓ | — | — | Outlet bottom opening extends below the liquid level 25-40% of the total liquid depth                                                                                                            |
| 8.2(j)3 | ✓ | — | — | Outlet baffle or tee is provided with a gas deflection baffle (as per fig. 12) except when a septic solids retainer is used in lieu of a baffle tee connection NSF approved for the specific use |
| 8.2(K)  | ✓ | — | — | The space between the liquid surface and the top of the outlet tee or baffle is not less than 15% of total liquid depth                                                                          |
| 8.2(l)1 | ✓ | — | — | Each tank or compartment is provided with at least one access opening (manhole) minimum 24"                                                                                                      |
| 8.2(l)2 | ✓ | — | — | Manhole, as a minimum, extends within 6 inches of finished grade with permanent marker 3 inches in diameter at ground surface                                                                    |
| 8.2(l)2 | ✓ | — | — | Manhole is extended flush with grade by a riser with a water-tight cover                                                                                                                         |
| 8.2(l)2 | ✓ | — | — | Manhole cover is bolted or locked                                                                                                                                                                |
| 8.2(l)2 | ✓ | — | — | Manhole cover is cast-iron when a concrete riser is used                                                                                                                                         |
| 8.2(l)3 | ✓ | — | — | Inspection port extends to finished grade                                                                                                                                                        |
| 8.2(l)3 | ✓ | — | — | Inspection port is 4" cast-iron or pvc                                                                                                                                                           |
| 8.2(l)3 | ✓ | — | — | Inspection port is locked or has a bolted cap                                                                                                                                                    |
| 8.2(l)3 | ✓ | — | — | Inspection port is over each tank or compartment inlet and outlet which is not directly below a manhole except for those outlets where a SSR is used                                             |
| 8.2(l)4 | — | — | ✓ | Fiberglass or polyethylene tanks are constructed with manhole risers and I.P. of the same material                                                                                               |
| 8.2(m)  | ✓ | — | — | Construction note indicates backfill around S.T. is to be placed in thin 8" layers                                                                                                               |

CONFORMANCE

Y N NA

METHOD OF DISTRIBUTION

- 9.1(a)1 — — ✓ GRAVITY FLOW METHOD - discharges into a S.T. then into a single dis. lateral, an interconnected network of dis. laterals or to a distribution box discharging to two or more individual dis. laterals
- 9.1(a)2 ✓ — — GRAVITY DOSING METHOD - S. T. discharges to a D. T. with a pump or siphon which in turn discharges to a single distribution lateral, an inter-connected network of dis. laterals or to a distribution box discharging to two or more individual distribution laterals
- 9.1(a)3 — — ✓ PRESSURE DOSING METHOD - S. T. discharges to a D. T. with a pump or siphon which in turn discharges to an interconnected network of distribution laterals designed to distribute effluent under pressure
- 9.1(b) ✓ — — Each lateral in the distribution network receives an equal hydraulic loading
- 9.1(b) ✓ — — Distribution network conforms with serial distribution prohibitions
- 9.1(c) ✓ — — Less than 600 linear feet of distribution laterals are used for gravity flow
- 9.1(d) — — ✓ Alternately dosed disposal fields receive not more than the max. hydraulic loading rate as per (10.2)
- 9.1(d) — — ✓ Dis. fields with soil permeability >6"/hr are not rested >1 day unless pressure dosed with dose 25% Q

DOSING TANK

- 9.2(b)1 ✓ — — D. T. using pump has sufficient capacity to distribute effluent equally to all parts of D.F. during each dose cycle
- 9.2(b)1 ✓ — — D. T. provides adequate reserve storage capacity in the event of a pump malfunction
- 9.2(b)1 ✓ — — The D. T. total liquid capacity is great enough to accommodate the minimum dose volume plus the minimum required reserved storage capacity
- 9.2(b)1 ✓ — — Additional D. T. volume is provided above the pumping level to accommodate Vcp & Vpd
- 9.2(b)1 ✓ — — Additional D. T. volume is provided below pumping level so that the pump is placed on pedestal
- 9.2(b)2 ✓ — — The dose volume is based upon the soil permeability or perc, daily volume (Q) and internal volume of the distribution network (V). Pressure dose; V = Volume of delivery pipe, manifold and laterals. Gravity dose; V = Volume of laterals only
- 9.2(b)3 — — ✓ Stand-by pump is provided in lieu of reserve capacity volume req. which will automatically switch on in the event the primary pump malfunctions

# CONFORMANCE

Y N NA

|         |   |   |              |                                                                                                                                                                            |
|---------|---|---|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.2(d)1 | / | — | —            | Construction criteria for D. T. is the same as those prescribed for septic tanks                                                                                           |
| 9.2(d)1 | / | — | —            | Dosing tank is constructed as a separate unit or it shares a common wall with the S. T.                                                                                    |
| 9.2(d)2 | / | — | —            | Dosing tank material is the same as those allowed for S. T. 8.2(h)                                                                                                         |
| 9.2(d)3 | / | — | —            | Dosing tank is constructed in a manner that will permit venting of the D. F.                                                                                               |
| 9.2(d)4 | / | — | —            | Dosing tank which is prefabricated meets the installation requirements for S. T. 8.2(f)                                                                                    |
| 9.2(d)5 | / | — | —            | Construction note indicates dosing tank is placed on a firm and stable foundation to minimize shifting or settling                                                         |
| 9.2(d)6 | / | — | —            | Inlet of D. T. is above the highest water level attained when the entire reserve capacity is full                                                                          |
| 9.2(d)7 | / | — | —            | D. T. is readily accessible for service and repair                                                                                                                         |
| 9.2(d)7 | / | — | —            | D. T. is provided with a removable water-tight cover or a manhole with a removable w.t. cover                                                                              |
| 9.2(d)7 | / | — | —            | Manhole for D. T. is 24" dia. or 24" square and is located directly over the pump                                                                                          |
| 9.2(d)7 | / | — | —            | The top of D. T. or manhole riser extends to within 6 inches of finished grade as a minimum, with permanent 3 inch marker at ground surface                                |
| 9.2(d)7 | / | — | —            | The top of D. T. or manhole riser extends to finish grade and is locked or bolted                                                                                          |
| 9.2(d)7 | / | — | —            | When a concrete riser is used, that extends to finished grade the cover is of cast iron                                                                                    |
| 9.2(d)8 | / | — | —            | Construction note indicates backfilling D. T. requirements are the same as for S. T.                                                                                       |
| 9.2(f)  | / | — | —            | Duplicate pumps are not required by the administrative authority                                                                                                           |
| 9.2(f)1 | / | — | —            | D. T. pump is rated by the manufacturer to handle septic tank effluent                                                                                                     |
| 9.2(f)1 | / | — | —            | All pumping equipment is listed and identified for the intended use as determined in design                                                                                |
| 9.2(f)2 | / | — | —            | G. D. system pump rated and demonstrated to deliver total dose volume within 15 minutes or less.<br>(Sum of elevation head and the friction head as calculated in 9.7(a)7) |
| 9.2(f)3 | — | — | /            | Pump for pressure dosing system is in conformance with 7:9A-9.7(a)                                                                                                         |
| 9.2(f)4 | / | — | <del>/</del> | Pump is set on a pedestal and intake is elevated several inches above bottom of D. T.                                                                                      |
| 9.2(f)5 | / | — | <del>/</del> | Easy or "quick-disconnect" couplings are used to facilitate removal of the pump                                                                                            |

# CONFORMANCE

Y N NA

|             |   |   |   |                                                                                                                                                                                                                                       |
|-------------|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.2(f) 6    | ✓ | — | — | Pump discharge rate will not be exceeded by the max. expected rate of inflow at times of peak flow                                                                                                                                    |
| 9.2(f) 7    | ✓ | — | — | The pump is controlled by means of automatic switches controlled by levels of effluent                                                                                                                                                |
| 9.2(f) 7i   | ✓ | — | — | Pump switches are able to withstand the humid and corrosive atmosphere in the D. T.                                                                                                                                                   |
| 9.2(f) 7i   | ✓ | — | — | Mercury or weighted float type switches are utilized in system design                                                                                                                                                                 |
| 9.2(f) 7i   | ✓ | — | — | Pressure-diaphragm type switches are prohibited and not utilized                                                                                                                                                                      |
| 9.2(f) 7ii  | ✓ | — | — | Pump-on and off switches provide a dose volume as required in 7:9A-9.2(b)2                                                                                                                                                            |
| 9.2(f) 7ii  | ✓ | — | — | The pump-off switch is set 6" above the pump intake                                                                                                                                                                                   |
| 9.2(f) 7ii  | ✓ | — | — | Pump-on switch is set at a distance, "d", above the pump-off switch. "d" formula is "d", in inches = $(Vd + Vcp + Vpd) \times (1ft^3/7.48 \text{ gal.}) \times (12in/1ft) / A$ or; "d" inches = $(Vd + Vcp + Vpd) \times 1.6042781/A$ |
| 9.2(f) 7iii | ✓ | — | — | High water alarm switch is 4" above pump-on switch and activates visible and audible alarms                                                                                                                                           |
| 9.2(f) 7iii | ✓ | — | — | Alarm and its switches are not on the same electrical circuit as the pump and its switches                                                                                                                                            |
| 9.2(f) 7iv  | ✓ | — | — | Electrical contacts and relays are located outside of the D. T.                                                                                                                                                                       |
| 9.2(f) 7iv  | ✓ | — | — | Gas-tight seal is provided where electrical conduits enter the dosing tank                                                                                                                                                            |
| 9.2(f) 7v   | ✓ | — | — | All electrical lines from building to the pump control panel are protected by a conduit                                                                                                                                               |
| 9.3(a)      | ✓ | — | — | Connecting pipes and delivery pipes are not less than 1.5" in diameter                                                                                                                                                                |
| 9.3(b)      | — | — | ✓ | Delivery pipe for P. D. network is PVC schedule 40, SDR-21, SDR-26, or ABS plastic ASTM 2661                                                                                                                                          |
| 9.3(b)      | ✓ | — | — | Connecting pipe material is PVC sch. 40 (ASTM D2665), SDR-21 or SDR-26 or ABS ASTM 2661, cast iron or other material acceptable to the AA                                                                                             |
| 9.3(c)      | ✓ | — | — | Construction note indicates pipe joints in connecting pipes or delivery pipe are water-tight and protected against damage by roots                                                                                                    |
| 9.3(d)      | ✓ | — | — | Construction note indicates connecting pipe and/or delivery pipe is to be laid on a firm foundation satisfactory to AA                                                                                                                |

# CONFORMANCE

Y N NA

|           |   |   |   |                                                                                                                                                                             |
|-----------|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.3(e)i   | / | — | — | Construction note indicates connecting pipe has a minimum grade of 1/4" per ft. unless otherwise authorized by AA                                                           |
| 9.3(e)ii  | / | — | — | Connecting pipe is laid in a continuous grade and in a straight line (as nearly as possible)                                                                                |
| 9.3(e)ii  | — | — | / | Drop manholes to be installed if found necessary                                                                                                                            |
| 9.3(e)ii  | / | — | — | Horizontal bends, where required, are not sharper than 45 degrees                                                                                                           |
| 9.3(e)ii  | / | — | — | The inside angle between adjacent sections of pipe is not less than 135 degrees                                                                                             |
| 9.3(f)    | / | — | — | When delivery pipe is subject to frost penetration, the delivery pipe will drain after dose cycle                                                                           |
| 9.3(f)1   | / | — | — | When low-water level in D. T. is lower than invert of dis. network, the delivery pipe slopes back to D. T.                                                                  |
| 9.3(f)1   | / | — | — | There is no check valve at the pump and delivery pipe drains back to D.T.                                                                                                   |
| 9.3(f)1   | / | — | — | 1/8" weep hole is provided at the invert of the pump discharge pipe, above the high water level in D. T.                                                                    |
| 9.2(f)2   | — | — | / | 1/8" weep hole is drilled in delivery pipe highest point in D. T. where L-W-L is higher than D.Box or dis. laterals                                                         |
| 9.4(a)    | / | — | — | A distribution box is required for all GF systems and all GD systems where the effluent is being distributed between two or more dis. laterals which are not interconnected |
| 9.4(a)1   | / | — | — | D. Boxes are water-tight and constructed of sound durable material                                                                                                          |
| 9.4(a)2   | / | — | — | Construction note indicates D. Box is to be set perfectly level                                                                                                             |
| 9.4(a)2i  | / | — | — | D. Box is installed directly on the filter material within disposal bed                                                                                                     |
| 9.4(a)2ii | — | — | / | D. Box in dis. trenches is set on a layer of gravel extending 6" laterally or concrete footing                                                                              |
| 9.4(a)3   | / | — | — | D. Box provides a separate outlet for each dis. lateral                                                                                                                     |
| 9.4(a)3   | / | — | — | Inverts of all outlet are set at the same elevation and minimum 2" above bottom of box                                                                                      |
| 9.4(a)4   | / | — | — | Invert of inlet is at least 1" higher than inverts of outlets                                                                                                               |
| 9.4(a)4   | / | — | — | D. Box has baffle or elbow for GD system or steep slope from S.T. or two D. Boxes                                                                                           |

# CONFORMANCE

Y N NA

|                                    |   |   |   |                                                                                                                                                                                                               |
|------------------------------------|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.4(a)5                            | / | — | — | D. Boxes are provided with a means of access                                                                                                                                                                  |
| 9.4(a)5                            | / | — | — | Small D. Boxes provided access by means of a removable lid                                                                                                                                                    |
| 9.4(a)5                            | — | — | / | Access to large D. Box is provided by means of manhole and inspection ports with watertight covers                                                                                                            |
| 9.4(a)5i                           | / | — | — | D. Box access openings are adequate in size and located to facilitate removal of accumulated solids and inspection of the inlet and all outlets                                                               |
| 9.4(a)5ii                          | / | — | — | All access openings are extended to within 12" to 18" of the finished grade surface                                                                                                                           |
| 9.4(a)5iii                         | / | — | — | Access openings to D. Box will be constructed in a manner to prevent the entrance of water                                                                                                                    |
| <b><u>DISTRIBUTION NETWORK</u></b> |   |   |   |                                                                                                                                                                                                               |
| 9.5(a)                             | / | — | — | GF and GD networks consist of a single dis. lateral, two or more laterals connected by elbows or tees, or two or more separate distribution laterals connected independently or to a D. Box                   |
| 9.5(a)1                            | / | — | — | Distribution laterals are a minimum of 3" in diameter                                                                                                                                                         |
| 9.5(a)2                            | / | — | — | Distribution laterals consist of lengths of rigid perforated pipe connected with tight joints                                                                                                                 |
| 9.5(a)3                            | / | — | — | Distribution lateral spacing and arrangement conforms with 7:9A-10.3(d)                                                                                                                                       |
| 9.5(a)4                            | / | — | — | Perforations in distribution laterals are evenly spaced along two rows running the length of pipe, on each side, midway between the invert and the center-line which separates upper and lower halves of pipe |
| 9.5(a)4                            | / | — | — | Perforations are no smaller than 3/8" and no larger than 3/4" in diameter                                                                                                                                     |
| 9.5(a)5                            | / | — | — | Each distribution line is approximately level and capped or closed looped at end                                                                                                                              |
| 9.5(a)5                            | / | — | — | The slope of the distribution lateral is not greater than 2"/100ft.                                                                                                                                           |
| 9.5(a)6                            | / | — | — | Inspection port is provided in each corner of disposal bed or at each end of disposal trench                                                                                                                  |
| 9.5(a)6                            | / | — | — | Inspection port for distribution laterals consist of a perf. pipe with a removable cap                                                                                                                        |
| 9.5(b)                             | / | — | — | Distribution laterals are of acceptable material i.e. clay pipe; plastic; ABS(ASTMD-2751); PVC(ASTMD-2729, D-3033, D-3034); styrene-rubber(ASTMD-2852, D3298); or polyethylene, straight wall (ASTMD-1248)    |

# CONFORMANCE

Y N NA

|         |   |   |   |                                                                                                                                                                                                                                                                 |
|---------|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.6(a)  | — | — | ✓ | Pipe network for P.D. system consists of two or more distribution laterals connected to central or end manifold                                                                                                                                                 |
| 9.6(a)1 | — | — | — | P.D. laterals are 1" to 3" in diameter and chosen in conformance with 7:9A-9.7(a)3                                                                                                                                                                              |
| 9.6(a)1 | — | — | — | P.D. system manifold pipe was chosen in conformance with 7:9A-9.7(a)5                                                                                                                                                                                           |
| 9.6(a)2 | — | — | — | Spacing and arrangement of P.D. laterals conform with requirements of 7:9A-9.7(a)5                                                                                                                                                                              |
| 9.6(a)3 | — | — | — | Construction note indicates all joints and connections water-tight. Solvent weld joints are used                                                                                                                                                                |
| 9.6(a)4 | — | — | — | Holes are spaced evenly, in a straight line along the invert of each lateral                                                                                                                                                                                    |
| 9.6(a)4 | — | — | — | Hole diameter is from 1/4"-1/2"                                                                                                                                                                                                                                 |
| 9.6(a)4 | — | — | — | Hole spacing is from 30"-60" (36" max when soil perm.> 6"/hr)                                                                                                                                                                                                   |
| 9.6(a)4 | — | — | — | In bed systems, holes in adjacent laterals are offset by 1/2 the hole spacing                                                                                                                                                                                   |
| 9.6(a)4 | — | — | — | Construction note indicates all holes are to be deburred                                                                                                                                                                                                        |
| 9.6(a)5 | — | — | — | The ends of the P.D. laterals are capped                                                                                                                                                                                                                        |
| 9.6(a)5 | — | — | — | A small hole is drilled horizontally in the end cap of each lateral, near the crown                                                                                                                                                                             |
| 9.6(a)6 | — | — | — | P.D. dis. lateral is approximately level or no >2"/100ft                                                                                                                                                                                                        |
| 9.6(a)7 | — | — | — | Inspection port is provided at each corner of disposal bed or at each end of disposal trench                                                                                                                                                                    |
| 9.6(a)8 | — | — | — | P.D. network is constructed of PVC plastic (ASTM D-2662), schedule 40, SDR-21 or SDR-26, or ABS plastic (ASTM 2661) pipe                                                                                                                                        |
|         |   |   |   | <b><u>DESIGN PROCEDURE FOR PRESSURE DOSING SYSTEMS</u></b>                                                                                                                                                                                                      |
| 9.7(a)  | — | — | — | Disposal bed or disposal trenches are at equal elevations unless designed with the provisions of 9.7(b)                                                                                                                                                         |
| 9.7(a)1 | — | — | — | Distribution lateral's length, number, and spacing was determined based upon the required size of D.F. as per 10.2 and the requirements for spacing of dis. trenches or the requirements for spacing of dis. laterals within dis. beds as prescribed in 10.3(d) |
| 9.7(a)1 | — | — | ✓ | The number of dis. laterals is based on central or end manifold arrangements                                                                                                                                                                                    |

# CONFORMANCE

Y N NA

|                                     |   |   |   |                                                                                                                                                                                                                |
|-------------------------------------|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.7(a)2                             | — | — | ✓ | Hole diameter is a minimum of 1/4" but no larger than 1/2"                                                                                                                                                     |
| 9.7(a)2                             | — | — | — | The minimum allowed hole spacing is 30"                                                                                                                                                                        |
| 9.7(a)2                             | — | — | — | The maximum allowed hole spacing is 60" except system installed in soil or fill with permeability >6"/hr or less than 15 MPI the maximum spacing is 36"                                                        |
| 9.7(a)3                             | — | — | — | Based upon the hole diameter, hole spacing selected and length of laterals, the required diameter of laterals was determined using Fig. 14, Appendix A or if beyond scope, acceptable methods provided to A.A. |
| 9.7(a)4                             | — | — | — | Minimum pressure head of 2.5ft. is maintained at the distal end of laterals                                                                                                                                    |
| 9.7(a)4                             | — | — | — | Based upon the hole diameter and the design pressure head at the distal end of the laterals, the hole discharge rate was determined from chart in 9.7(a)4                                                      |
| 9.7(a)4                             | — | — | — | The lateral discharge rate was determined by multiplying the hole discharge rate by the number of holes per lateral                                                                                            |
| 9.7(a)5                             | — | — | — | Based upon the number of laterals and the lateral spacing the manifold length was determined                                                                                                                   |
| 9.7(a)5                             | — | — | — | The required manifold diameter was determined based upon the manifold length, the lateral discharge rate and the number of laterals, using Fig. 15 of Appendix A or if beyond scope, acceptable to A.A.        |
| 9.7(a)6                             | — | — | — | The system discharge rate was determined by multiplying the lateral discharge rate by the number of laterals                                                                                                   |
| <b><u>PROPER PUMP SELECTION</u></b> |   |   |   |                                                                                                                                                                                                                |
| 9.7(a)7                             | — | — | — | The friction head was determined based upon the system discharge rate and diameter and length of delivery pipe using Fig. 16 or if beyond scope, acceptable to A.A.                                            |
| 9.7(a)7                             | — | — | — | The total operating head (Ht) was calculated using the formula $H_t = H_f + H_e + H_p$                                                                                                                         |
| 9.7(a)7                             | — | — | — | A pump was chosen which is rated by the manufacturer to deliver a flow rate equal to or greater than the system discharge rate when working against a total dynamic head equal to the total operating head     |
| 9.7(b)                              | — | — | ✓ | If a trench system is proposed where the elevation of the LOI will not be the same as all trenches, P.E. has demonstrated with calculations to satisfaction of AA, equal hydraulic loading                     |

# CONFORMANCE

Y N NA

## DISPOSAL FIELDS

|            |   |   |   |                                                                                                                                                                                                                                                                                                                                                         |
|------------|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1(a)    | ✓ | — | — | Disposal field is proposed for all new systems except as allowed in 7.6 (seepage pits)                                                                                                                                                                                                                                                                  |
| 10.1(a)    | ✓ | — | — | Disposal field consists of one or more dis. trenches or a disposal bed                                                                                                                                                                                                                                                                                  |
| 10.1(b)    | ✓ | — | — | D. F. is underlain by a suitable ZOT and a suitable ZOD                                                                                                                                                                                                                                                                                                 |
| 10.1(b)1   | — | — | ✓ | "C" D. F. is installed directly within the native soil and the LOI is 1-3ft below existing ground                                                                                                                                                                                                                                                       |
| 10.1(b)2   | ✓ | — | — | "SRB" -the excavation for D.Bed or each individual trench is extended below LOI and backfilled up to the LOI with suitable fill. The dis. bed or trenches are installed on top of the fill with the LOI 1-3ft below existing ground surface                                                                                                             |
| 10.1(b)3   | — | — | ✓ | "SRE" installation-the excavation is made below LOI and extends laterally minimum 2ft. beyond perimeter of D. F. on all sides. The excavation is backfilled with suitable fill, the dis. bed or trenches installed within the fill, and the LOI is 1-3ft below existing ground. (Fig.19)                                                                |
| 10.1(b)4   | — | — | ✓ | "M" installation-fill material is placed above ground surface, D. F. is installed within the fill, and the LOI is 1-4ft above existing ground surface (measured on the upslope side of the dis. bed or each individual dis. trench) as per fig. 20                                                                                                      |
| 10.1(b)5   | — | — | ✓ | "MSR" installation-excavation is made below ground surface, fill material is placed within the excavation and mounded up above the existing ground surface. The disposal field is installed within the fill and the LOI is between 1-4ft above the ground surface (measured on the upslope side of the disposal bed or each individual disposal trench) |
| 10.1(c)    | ✓ | — | — | The type of D. F. installation permitted is determined based upon soil suitability class table 10.1                                                                                                                                                                                                                                                     |
| Table 10.1 | — | — | ✓ | Depth is measured from the existing ground surface to the top of the limiting zone                                                                                                                                                                                                                                                                      |
| 10.1       | — | — | ✓ | Disturbed ground-the depth to limiting zone is measured from pre-existing natural ground surface, as prescribed in 7:9A-5.10(c), or the existing ground surface, whichever is lowest                                                                                                                                                                    |

CONFORMANCE

Y N NA

|             |   |   |   |                                                                                                                                                                                                                                                 |
|-------------|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1        | — | — | ✓ | Interceptor drain or other means of removing perched zone of saturation is required for "C" and "SRB" if perched zone of saturation is 2-5ft or less than 2ft.                                                                                  |
| 10.1        | — | — | ✓ | Soils with compound soil suitability class, where > 1 limiting zone, the type of installation listed in table 10.1 is acceptable option for each soil suitability class                                                                         |
| 10.1(d)     | ✓ | — | — | ZOT a minimum of 4ft in thickness is present below the disposal field                                                                                                                                                                           |
| 10.1(d) 1   | ✓ | — | — | ZOT is composed of suitable soil which meets 10.1(d) 2 criteria, suitable fill material which meets 10.1(f) or a combination of suitable soil and suitable fill                                                                                 |
| 10.1(d) 2i  | ✓ | — | — | ZOT suitable soil has a coarse fragment content less than 50% by volume                                                                                                                                                                         |
| 10.1(d) 2ii | ✓ | — | — | ZOT suitable soil has a permeability less than 20 in/hr and > 0.2 in/hr or perc. 3-60 MPI                                                                                                                                                       |
| 10.1(d) 3   | ✓ | — | — | ZOT does not contain or is interrupted by fractured or massive rock substrata, hydraulically restrictive horizons or substrata, perched zones of saturation or regional zones of saturation                                                     |
| 10.1(d) 3   | — | — | ✓ | When excessively coarse horizons or substrata are present above, within or below the ZOT, these horizons are not considered part of the ZOT                                                                                                     |
| 10.1(d) 4   | ✓ | — | — | The bottom of the ZOT does not extend greater than 8ft below finished grade                                                                                                                                                                     |
| 10.1(e)     | ✓ | — | — | ZOD (Fig. 22, 23, & 24) is a minimum of 4ft in thickness and is present below ZOT                                                                                                                                                               |
| 10.1(e) 1   | — | — | ✓ | ZOD is composed of "native" soil or rock material which has a perm. >.2"/hr or perc less than 60 MPI                                                                                                                                            |
| 10.1(e) 2   | — | — | ✓ | When perm. of ZOD 2"/hr or >, the min. thickness may be reduced to 2ft. This determination was not made using the percolation test or basin flooding test                                                                                       |
| 10.1(e) 3   | ✓ | — | — | ZOD does not contain nor is interrupted by any hydraulically restrictive horizon unless the entire thickness of the horizon has been removed throughout the entire area of the D. F. and has been replaced with fill material meeting 10.1(f) 5 |
| 10.1(e) 3   | — | — | ✓ | In ZOD, the thickness of any restrictive horizon which has been removed is not counted                                                                                                                                                          |

# CONFORMANCE

Y N NA

|             |   |   |   |                                                                                                                                                                                                         |
|-------------|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1(f)1    | / | — | — | "Soil replacement" installation-ZOT consists partly or entirely of fill material provided requirements of 7:9A-10.4 are satisfied and the fill material meets requirements of 7:9A-10.4(f)4             |
| 10.1(f)1    | / | — | — | "Soil replacement" installation-the ZOD may contain a layer of fill provided that the fill material used within the zone of disposal meets the requirements of 10.1(f)5                                 |
| 10.1(f)2    | — | — | / | "M" installation-the ZOT consists partly or entirely of fill material provided that the requirements of 7:9A-10.5 are satisfied and the fill material meets requirements of 7:9A-10.1(f)4               |
| 10.1(f)3    | — | — | / | "MSR"-the ZOT consists partly or entirely of fill material provided requirements of 7:9A-10.1(f)4 are satisfied. The ZOD may contain a layer of fill provided the requirements of 7:9A-10.1(f)5 are met |
| 10.1(f)4i   | / | — | — | Fill material used in ZOT has coarse fragment content less than 15% by volume or less than 25% by weight                                                                                                |
| 10.1(f)4ii  | / | — | — | Fill material used in ZOT has a textural analysis (composition by weight, of size fraction passing the two millimeter sieve): from 85-95% sand, from 5-15% silt plus clay, minimum 2% clay              |
| 10.1(f)4iii | / | — | — | Fill material used in ZOT has a permeability from 2-20in/hr or perc. 3-30 MPI                                                                                                                           |
| 10.1(f)5i   | / | — | — | Fill material used in ZOD has a textural analysis (composition by weight, of size fraction passing the two millimeter sieve) 85% or more sand                                                           |
| 10.1(g)1    | — | — | / | In "sloping ground", the interface between filter material and the underlying soil or fill material at the bottom of each individual trench or bed is level                                             |
| 10.1(g)2    | — | — | / | On strongly sloping sites the shape of the D. F. is elongated with the long axis parallel to topo contour                                                                                               |
| 10.1(g)3    | — | — | / | Slope > 10%, trenches are used rather than beds                                                                                                                                                         |
| 10.1(g)4    | — | — | / | "M" and "MSR" installations are restricted to slopes less than 10%                                                                                                                                      |
| 10.1(g)5    | — | — | / | When disposal trenches are installed at different elevations and GF or GD are used, the distribution of effluent between trenches is accomplished by means of D. Box                                    |
| 10.1(h)     | / | — | — | "C", "SRB" and "SRE"-the bottom of D. F. is 1-3ft below existing ground surface                                                                                                                         |

CONFORMANCE

Y N NA

|                                                                                                                                                           |   |   |   |                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1(h)                                                                                                                                                   | — | — | ✓ | "M" or "MSR"—the LOI is at an elevation no higher than 4ft above existing ground surface. (measured from the upslope side of the dis. bed or each individual dis. trench)                          |
| 10.1(h)                                                                                                                                                   | ✓ | — | — | In no case is the LOI > 3ft. below the finished grade                                                                                                                                              |
| 10.2(a)                                                                                                                                                   | ✓ | — | — | Minimum required D.F. size or maximum allowable hydraulic loading rate is determined using sizing criteria based upon the volume of sanitary sewage and the results of perm. or perc.              |
| 10.2(a)1                                                                                                                                                  | ✓ | — | — | The D. F. sizing criteria to be used is determined based upon the type of D. F. (trench or bed), D. F. installation (C, SRE, SRB, M or MSR) and the method of effluent distribution (GF, GD or PD) |
| <b><u>ALL D. F. USING "TRENCHES", EXCEPT SRB INSTALLATIONS, MEET THE FOLLOWING SIZE REQUIREMENTS:</u></b>                                                 |   |   |   |                                                                                                                                                                                                    |
| 10.2(b)1                                                                                                                                                  | — | — | ✓ | The minimum required length of trenches per gallon of daily sewage volume, L/Q is determined from Table 10.2 (b) based upon the trench width selected and the results of perm. or perc. test       |
| 10.2(b)2                                                                                                                                                  | — | — | ✓ | The minimum required length of trenches, L, was determined by multiplying the value of L/Q obtained from the table by the daily volume of sewage, Q. (As prescribed in 7:9A-7.4)                   |
| <b><u>ALL D.BEDS USING GF OR GD, ALL "C" DIS.BED USING P. D. AND ALL SRB TRENCH INSTALLATION USING GF OR GD MEET THE FOLLOWING SIZE REQUIREMENTS:</u></b> |   |   |   |                                                                                                                                                                                                    |
| 10.2(c)1                                                                                                                                                  | ✓ | — | — | The minimum required bottom area of D. F. per gallon of daily sewage volume, A/Q, is determined from Table 10.2(c), based upon the results of perm. test or perc. test as prescribed in 7:9A-6     |
| 10.2(c)2                                                                                                                                                  | — | — | ✓ | The minimum required bottom area was determined by multiplying the value of A/Q obtained from the table by the daily volume of sewage, Q, in gallons, determined as prescribed in 7:9A-7.4         |
| 10.2(d)                                                                                                                                                   | — | — | ✓ | All D.Beds using P.D. except for "C" and all "SRB" trench installations using P.D. have a minimum size of 1.33 square feet of bottom area per gallon of daily sewage volume                        |

CONFORMANCE

Y N NA

|                                                               |   |   |   |                                                        |
|---------------------------------------------------------------|---|---|---|--------------------------------------------------------|
| 10.2                                                          | — | — | / | Where garbage disposal units are installed or          |
| add. regs.                                                    |   |   |   | proposed, the value obtained from Table 10.2(b) or     |
|                                                               |   |   |   | (c) is increased by a factor of 25% for use in         |
|                                                               |   |   |   | disposal field sizing                                  |
| <b><u>SPECIFIC REQUIREMENTS FOR CONVENTIONAL DISPOSAL</u></b> |   |   |   |                                                        |
| <b><u>FIELD INSTALLATIONS.</u></b>                            |   |   |   |                                                        |
| 10.3(a)                                                       | — | — | / | A "C" installation is made by placing the D.Bed or     |
|                                                               |   |   |   | each individual D.trench in an excavation made         |
|                                                               |   |   |   | directly within the natural soil or, in disturbed      |
|                                                               |   |   |   | ground, within pre-existing fill material              |
| 10.3(b)1                                                      | — | — | / | Sites which have been re-graded prior to site          |
|                                                               |   |   |   | evaluation, soil evaluation or permeability testing    |
|                                                               |   |   |   | are considered to be disturbed ground and all regs.    |
|                                                               |   |   |   | relating to disturbed ground are met                   |
| 10.3(b)2                                                      | — | — | / | When a site is re-graded after evaluation, soil        |
|                                                               |   |   |   | evaluation or permeability testing, the re-grading     |
|                                                               |   |   |   | is carried out in conformance with an engineering      |
|                                                               |   |   |   | design approved by the AA                              |
| 10.3(b)3                                                      | — | — | / | On a re-graded site, the D. F. is placed only in those |
|                                                               |   |   |   | areas which have been lowered by cutting and no        |
|                                                               |   |   |   | portion of the D. F. is placed within those areas      |
|                                                               |   |   |   | raised by filling                                      |
| <b><u>CONSTRUCTION NOTES INDICATE:</u></b>                    |   |   |   |                                                        |
| 10.3(c)1                                                      | / | — | — | Adequate measures shall be used to insure bottom of    |
|                                                               |   |   |   | D.Bed or each individual trench is level               |
| 10.3(c)2                                                      | / | — | — | In soil textures other than sands or loamy sands,      |
|                                                               |   |   |   | excavation which exposes the infiltrative surface      |
|                                                               |   |   |   | of the D. F. is not carried out when the soil moisture |
|                                                               |   |   |   | content is above the lower plastic limit               |
| 10.3(c)3                                                      | / | — | — | Excavation will be carried out in a manner that will   |
|                                                               |   |   |   | avoid unnecessary compaction of D. F.                  |
| 10.3(c)3                                                      | / | — | — | Heavy equipment (bulldozers/front end loaders) will    |
|                                                               |   |   |   | not be driven over the exposed infiltrative surface    |
|                                                               |   |   |   | of D. F.                                               |
| 10.3(c)3                                                      | / | — | — | Excavation carried out with a backhoe operating from   |
|                                                               |   |   |   | between D.Trenches or outside the perimeter of         |
|                                                               |   |   |   | previously excavated portions of the disposal bed      |
| 10.3(c)3                                                      | / | — | — | If necessary to walk on Dis. field bottom, a suitable  |
|                                                               |   |   |   | board shall be laid over soil                          |

# CONFORMANCE

Y N NA

|                                                    |          |   |          |                                                                                                                                                                                                        |
|----------------------------------------------------|----------|---|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.3(c) 4                                          | <u>/</u> | — | —        | Smeared or compacted soil surfaces produced on bottom or sidewall of the excavation shall be removed to expose a fresh soil surface which is rough and uneven                                          |
| 10.3(c) 5                                          | <u>/</u> | — | —        | Work should be scheduled so that the bottom and sidewalls of the excavation will not be exposed to rainfall or wind-blown silt between time of excavation and time of final inspection and backfilling |
| 10.3(c) 5                                          | <u>/</u> | — | —        | Any loose soil or debris which is washed into or deposited within the excavation shall be removed                                                                                                      |
| <b><u>CONSTRUCTION OF DISTRIBUTION NETWORK</u></b> |          |   |          |                                                                                                                                                                                                        |
| 10.3(d)                                            | —        | — | <u>/</u> | "Disposal trenches" minimum spacing (sidewall to sidewall) is 6ft                                                                                                                                      |
| li                                                 | —        | — | <u>/</u> | "Disposal trench" minimum width is 1.5ft                                                                                                                                                               |
| iii                                                | —        | — | <u>/</u> | "Disposal trench" maximum width is 3ft                                                                                                                                                                 |
| iv                                                 | —        | — | <u>/</u> | "Disposal trench" has 1 distribution line per trench                                                                                                                                                   |
| 10.3(d)                                            | <u>/</u> | — | —        | "Disposal bed" has a minimum of two distribution lines                                                                                                                                                 |
| 2i                                                 | —        | — | —        |                                                                                                                                                                                                        |
| ii                                                 | <u>/</u> | — | —        | The maximum distance from edge of bed to nearest distribution line shall be three feet                                                                                                                 |
| iii                                                | <u>/</u> | — | —        | The minimum distance from edge of bed to nearest distribution line shall be one foot                                                                                                                   |
| iv                                                 | <u>/</u> | — | —        | The maximum spacing between distribution lines for gravity distribution shall be 3ft                                                                                                                   |
| v                                                  | —        | — | <u>/</u> | The required spacing between dis. lines for P.D. is from 3/4 to 5/4 of hole spacing                                                                                                                    |
| vi                                                 | <u>/</u> | — | —        | The spacing between all distribution lines is equal and uniform                                                                                                                                        |
| vii                                                | —        | — | <u>/</u> | Holes in P.D. lines are aligned so that holes in adjacent laterals are offset by 1/2 the hole spacing                                                                                                  |
| 10.3(e) i                                          | <u>/</u> | — | —        | "Filter material" covers the dis. lines and extends the full width of the trench or bed                                                                                                                |
| 10.3(e) 1                                          | <u>/</u> | — | —        | Filter material extends between 12"-18" deep beneath bottom and 2" above the top of lines                                                                                                              |
| 10.3(e) 2                                          | <u>/</u> | — | —        | Filter material is washed gravel or crushed stone, free of fines, dust, ashes or clay                                                                                                                  |
| 10.3(e) 2                                          | <u>/</u> | — | —        | Filter material conforms in size and gradation to size #24, #3 or #4                                                                                                                                   |
| (e) 2                                              | —        | — | —        |                                                                                                                                                                                                        |

# CONFORMANCE

Y N NA

|                                                                              |                                     |                          |                                     |                                                                                                                                                                                                         |
|------------------------------------------------------------------------------|-------------------------------------|--------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.3(e)3                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Filter material is covered with drainage fabric, untreated building paper or 4"-8" of salt hay or straw                                                                                                 |
| i                                                                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Drainage fabric or untreated building paper shall be overlaid a minimum of 6"                                                                                                                           |
| ii                                                                           | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Drainage fabric is specified in the eng. design to have requisite qualities                                                                                                                             |
| 10.3(e)4                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Construction note indicates filter material is to be laid into excavation using a backhoe, front-end loader or dump truck from sides                                                                    |
| 10.3(e)4                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Construction note indicates tracked equipment may be used in large beds provided not > 8lb./sq. in. and filter material 1ft. below vehicle                                                              |
| 10.3(f)1                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Minimum 9" and no more than 18" of backfill is placed over top of D. F. filter material                                                                                                                 |
| 10.3(f)2                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Backfill material is of earth similar to that found at site free of stones, stumps or waste material                                                                                                    |
| 10.3(f)3                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Backfill material is not more permeable than the surrounding soil                                                                                                                                       |
| 10.3(f)4                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Backfill completely covers the entire disposal bed or each dis. trench and is to be graded into surrounding topography on all sides                                                                     |
| 10.3(f)5                                                                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Backfilled area over D. F. is seeded or sodded or otherwise stabilized acceptable to AA                                                                                                                 |
| <b><u>SPECIFIC REQUIREMENTS FOR SOIL REPLACEMENT D. F. INSTALLATIONS</u></b> |                                     |                          |                                     |                                                                                                                                                                                                         |
| 10.4(a)                                                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | A soil replacement D. F. installation is made by installing the DIS. BED or each individual dis.trench on top of or within suitable fill material placed in an excavation below existing ground surface |
| 10.4(a)                                                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Bottom-lined installation (SRB)-the fill material is placed below the D. F. only                                                                                                                        |
| 10.4(a)                                                                      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Fill enclosed installations (SRE)-the fill is placed around the sides as well as below the D. F.                                                                                                        |
| <b><u>A FILL ENCLOSED INSTALLATION SHALL BE REQUIRED WHEN:</u></b>           |                                     |                          |                                     |                                                                                                                                                                                                         |
| 10.4(a)                                                                      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | the limiting zone is a perched zone of sat. underlain by a Hr horizon and the slope across the dis. field is less than 5%                                                                               |
| 1. ii                                                                        | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | when the limiting zone is an excessively coarse horizon or substratum                                                                                                                                   |
| 10.4(a)                                                                      | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | SRE required when the limiting zone is a fractured rock substratum                                                                                                                                      |
| 1. iii                                                                       | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                                                                                                                                                                                                         |

CONFORMANCE

Y N NA

- A BOTTOM-LINED INSTALLATION MAY BE PERMITTED WHERE:**
- 10.4(a)       ✓ the limiting zone is a Hr horizon and no perched  
2i zone of sat. is present
- 10.4(a)       ✓ when the limiting zone is a perched zone of  
2ii saturation underlain by Hr Horizon and the slope  
across the D. F. is 5% or greater
- SRB SHALL BE CONSTRUCTED AS FOLLOWS:**
- 10.4(b)1 ✓       SRB excavation is made within the area occupied by the  
dis. bed or by each individual dis.trench and, where  
the limiting zone is a Hr. Horizon, the excavation  
extends a min. 2ft. below the bottom of Hr horizon
- 10.4(b)2 ✓       SRB excavation is backfilled to the L.O.I. with  
suitable fill material
- 10.4(b)3 ✓       SRB-D. F. is constructed on top of the fill material  
within the excavation
- 10.4(b)4 ✓       SRB system requires an interceptor drain to divert  
away from the D. F. laterally moving ground water  
which may be perched above any Hr. horizon penetrated  
by the excavation
- SRE INSTALLATIONS SHALL BE CONSTRUCTED AS FOLLOWS:**
- 10.4(c)1       ✓ SRE excavation is made to required depth extending  
throughout the entire area to be occupied by the  
disposal field and beyond the perimeter of the D. F.  
minimum 2ft. in all directions
- 10.4(c)2       ✓ SRE excavation is backfilled with suitable fill  
material
- 10.4(c)3       ✓ SRE D. F. is constructed within fill material so that  
the entire disposal bed or each individual trench is  
surrounded by a minimum of 2ft. of fill material on  
all sides
- 10.4(d) ✓       Requirements and restrictions relating to site  
regrading are the same as those prescribed for "C"  
installations 10.3(b)
- 10.4(e) ✓       Construction note indicates excavation prior to  
the placement of fill material is to be carried  
out according to 10.3(c)2 thru 5
- 10.4(f)1 ✓       SRE or SRB fill material used below the D. F. meets  
the requirements for texture and perm. as stated in  
10.1(f)
- 10.4(f)2 ✓       The minimum depth of fill below the D. F. is one foot  
for soil replacement D. F. installations

# CONFORMANCE

Y N NA

|         |   |   |   |                                                        |
|---------|---|---|---|--------------------------------------------------------|
| 10.4    | / | — | — | Compaction of fill method is indicated on the design   |
| (f) 3i  | / | — | — |                                                        |
| 10.4(f) | / | — | — | Design notes fill material to be spread and compacted  |
| 3iii    | / | — | — | in layers 1ft. or less in thickness                    |
| 10.4(e) | / | — | — | Compaction will be accomplished manually or            |
| 3iv     | / | — | — | mechanically by tamping, rolling, or driving over fill |
|         | / | — | — | in controlled pattern                                  |
| 10.4(f) | / | — | — | Heavy equipment will not be driven directly on exposed |
| 3v      | / | — | — | area of the excavation. Minimum 1ft. fill below        |
|         | / | — | — | tracks all times                                       |
| 10.4(g) | / | — | — | Construction of the D. F. and dis. network are as      |
|         | / | — | — | prescribed for conventional installations 7:9A-10.3(d) |
| 10.4(h) | / | — | — | Filter material is as prescribed for conventional      |
|         | / | — | — | installations 7:9A-10.3(e)                             |
| 10.4(i) | / | — | — | Backfill and final grading is as prescribed for        |
|         | / | — | — | conventional installations 10.3(f) and extends minimum |
|         | / | — | — | 5ft. in all directions, beyond the perimeter of the    |
|         | / | — | — | filled area                                            |

## SPECIFIC REQUIREMENTS FOR "MOUNDED" DISPOSAL FIELD

### INSTALLATIONS (M)

|           |   |   |   |                                                        |
|-----------|---|---|---|--------------------------------------------------------|
| 10.5(a)   | — | — | / | (M) D. F. installation is made by installing the D. F. |
|           | — | — | / | within suitable fill which has been placed above the   |
|           | — | — | / | existing ground surface                                |
|           | — | — | / | Construction notes indicate:                           |
| 10.5(b)   | — | — | / | Requirements and restrictions relating to site         |
|           | — | — | / | regrading are the same as "C" systems 10.3(b)          |
| 10.5(c)   | — | — | / | On sloping sites, the (M) D. F. is elongated in shape  |
|           | — | — | / | with the long axis parallel to the topo contour        |
| 10.5      | — | — | / | Prior to placement of fill, excessive vegetation shall |
| (d) 1.    | — | — | / | be cut and removed                                     |
| 10.5      | — | — | / | Large trees including the stumps shall be removed      |
| (d) 1.    | — | — | / |                                                        |
| 10.5      | — | — | / | Large holes left as a result of stump removal shall be |
| (d) 1.    | — | — | / | filled with select fill (10.1(f) 4)                    |
| 10.5(d) 2 | — | — | / | The delivery pipe from the D. T. is to be installed    |
|           | — | — | / | and the excavation backfilled and completed prior to   |
|           | — | — | / | preparation of the ground surface for fill placement   |
| 10.5      | — | — | / | The area within the perimeter of the mound is to be    |
| (d) 3.    | — | — | / | plowed or disked to produce a roughened surface        |

# CONFORMANCE

Y N NA

|           |   |   |   |                                                                                                                                                                                                                                                                                                                                                            |
|-----------|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.5(d)3  | — | — | ✓ | Plowing is to be done using two bottom or larger moldboard plow or chisel plow and shall be parallel to the topographic contour in such a direction that each plow furrow will be thrown upslope                                                                                                                                                           |
| 10.5(d)3  | — | — | — | The soil will be broken up to a depth of 6" to 8", alternatively, rototilling is acceptable in "S" or "LS"                                                                                                                                                                                                                                                 |
| 10.5(e)   | — | — | — | Mound constructed by placing a layer of fill material over the ground within and adjacent to D. F.                                                                                                                                                                                                                                                         |
| 10.5(e)1  | — | — | — | (M) installation-the area of the fill layer includes the area of the D. F. plus a lateral extension of fill                                                                                                                                                                                                                                                |
| 10.5(e)2. | — | — | — | The minimum width of the lateral fill extension is 20ft. for G.F. and 5ft. for P. D.                                                                                                                                                                                                                                                                       |
| 10.5(e)3. | — | — | — | Within the area of the lateral fill extension, the top surface of the fill material is level with or higher than the inverts of the distribution laterals                                                                                                                                                                                                  |
| 10.5(e)4. | — | — | — | On sloping sites, the width of the lateral fill extension may be reduced on the upslope side of the D. F. provided that the top surface of the fill material is kept level with or higher than the invert of the distribution laterals up until the point where the top surface of the fill material intersects with the existing slope                    |
| 10.5(e)5  | — | — | — | At outside edge of the lateral fill extension, the mound terminates by sloping the top surface of the fill layer downward at a slope of 3 to 1 or less. Alternatively, lateral support for the fill layer may be provided by a retaining wall or a berm of soil material meeting the requirements of 7:9A-10.3(f)2 and sloped at a grade of 3 to 1 or less |
| 10.5(e)6  | — | — | — | Fill material below the disposal field and within the area of the lateral fill extension shall meet 10.1(f)4 reg.                                                                                                                                                                                                                                          |
| 10.5(f)   | — | — | — | Construction and installation of the D. F. and distribution network is as prescribed for "C" installations (10.3d)                                                                                                                                                                                                                                         |
| 10.5(g)   | — | — | ✓ | Filter material is as prescribed for conventional installations in 7:9A-10.3(e)                                                                                                                                                                                                                                                                            |

# CONFORMANCE

Y N NA

|                                                                            |   |   |   |                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.5                                                                       | — | — | ✓ | Immediately above the D. F. filter material, which has been covered with suitable barrier material, (as per 10.3e3), a layer of topsoil, 12"-18" in thickness at the center of the mound and 6"-12" in thickness at the edges, is placed over the entire mound, covering the top and side slopes |
| (h)1.                                                                      | — | — | — |                                                                                                                                                                                                                                                                                                  |
| 10.5(h)1                                                                   | — | — | — | The topsoil is built up thicker along the long axis of the mound so that a convex profile is produced parallel to the direction of the slope                                                                                                                                                     |
| 10.5                                                                       | — | — | — | Construction note indicates the topsoil will be lightly compacted by tamping or rolling to prevent settlement                                                                                                                                                                                    |
| 10.5(h)2                                                                   | — | — | — | Construction note indicates immediately after completion of final grading, the mound surface will be mulched and seeded or sodded                                                                                                                                                                |
| <b><u>SPECIFIC REQUIREMENTS FOR "MSR" DISPOSAL FIELD INSTALLATIONS</u></b> |   |   |   |                                                                                                                                                                                                                                                                                                  |
| 10.6(a)1                                                                   | — | — | — | MSR—an excavation is made to the required depth throughout the entire area of the D. F. and extended laterally in all directions a minimum of 2ft. beyond the perimeter of the D. F.                                                                                                             |
|                                                                            |   |   |   | Construction notes indicate:                                                                                                                                                                                                                                                                     |
| 10.6                                                                       | — | — | — | The excavation will be backfilled with suitable fill material and the fill material mounded up over the excavation to produce a mound of the desired height in which to install the D. F.                                                                                                        |
| 10.6(a)3                                                                   | — | — | — | The sides of the mound will be constructed with slopes of 3 to 1 or less                                                                                                                                                                                                                         |
| 10.6(b)                                                                    | — | — | — | Requirements and restrictions relating to site regrading are the same as those prescribed for "C" (10.3b)                                                                                                                                                                                        |
| (c)                                                                        | — | — | — | Excavation prior to placement of fill material will be carried out as specified in 7:9A-10.3(c)2 thru 5                                                                                                                                                                                          |
| 10.6(d)                                                                    | — | — | — | Fill material will meet the requirements of 10.1(f)4                                                                                                                                                                                                                                             |
| 10.6(e)                                                                    | — | — | — | Construction of the D. F. and dis.network will be as prescribed for "C" installations 7:9A-10.3(d)                                                                                                                                                                                               |
| 10.6(f)                                                                    | — | — | — | Filter material is as prescribed for "C" installations 7:9A-10.3(e)                                                                                                                                                                                                                              |
| 10.6(g)                                                                    | — | — | ✓ | Backfill and final grading is as prescribed for mounded installations (7:9A-10.5h)                                                                                                                                                                                                               |

**CONFORMANCE**

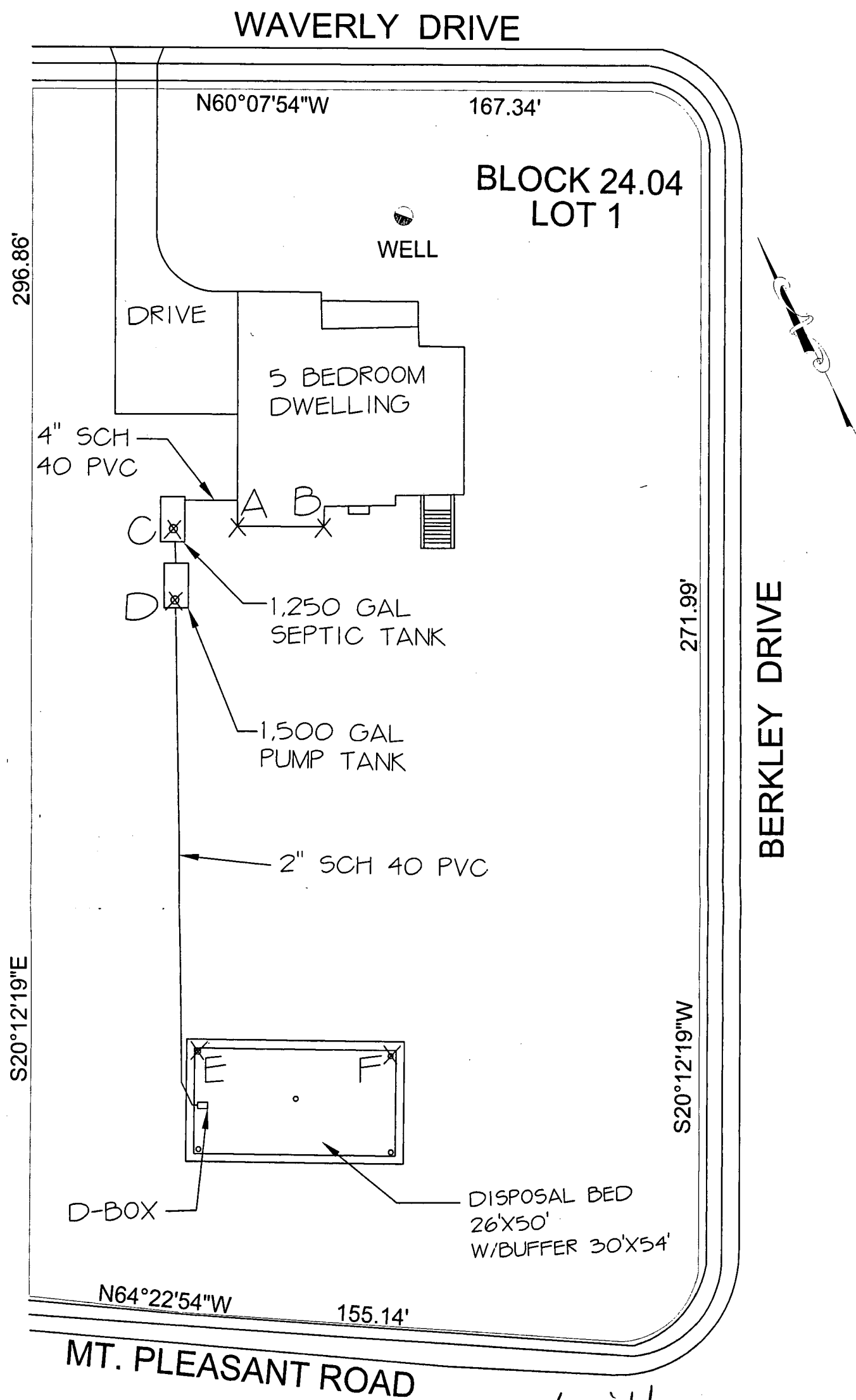
**Y N NA**

3.5c

☒ ☐ ☐

Information supplied on this Department's application form is correct and correlates with the plot plan and other engineering data

**NOTES:**



*AS-built  
94-05*

| AS - BUILT DIMENSIONS |  |              |  |
|-----------------------|--|--------------|--|
| A - C = 16'           |  | B - C = 37'  |  |
| A - D = 23'           |  | B - D = 41'  |  |
| A - E = 131'          |  | B - E = 133' |  |
| A - F = 136'          |  | B - F = 132' |  |

Property boundary, dwelling, driveway and existing features obtained from survey map prepared by Taylor, Wiseman, Taylor entitled "Permit Plan, Lot 1, Block 24.04, Meadows at Mansfield, Mansfield Township, Burlington County, NJ" dated 10-15-09..

SITE PLAN  
SCALE  
1"=30'

|                                         |                              |
|-----------------------------------------|------------------------------|
| DATE: 5/4/11                            |                              |
| SCALE: SHOWN                            |                              |
| DESIGNED BY: GB                         |                              |
| DRAWN BY: GB                            |                              |
| CHECKED BY:                             |                              |
| REVISIONS                               | AUTH. DATE JOB NO. 08-05-MFD |
| BY:<br>GREGG W. BARKLEY, N.J.P.E.#34675 |                              |

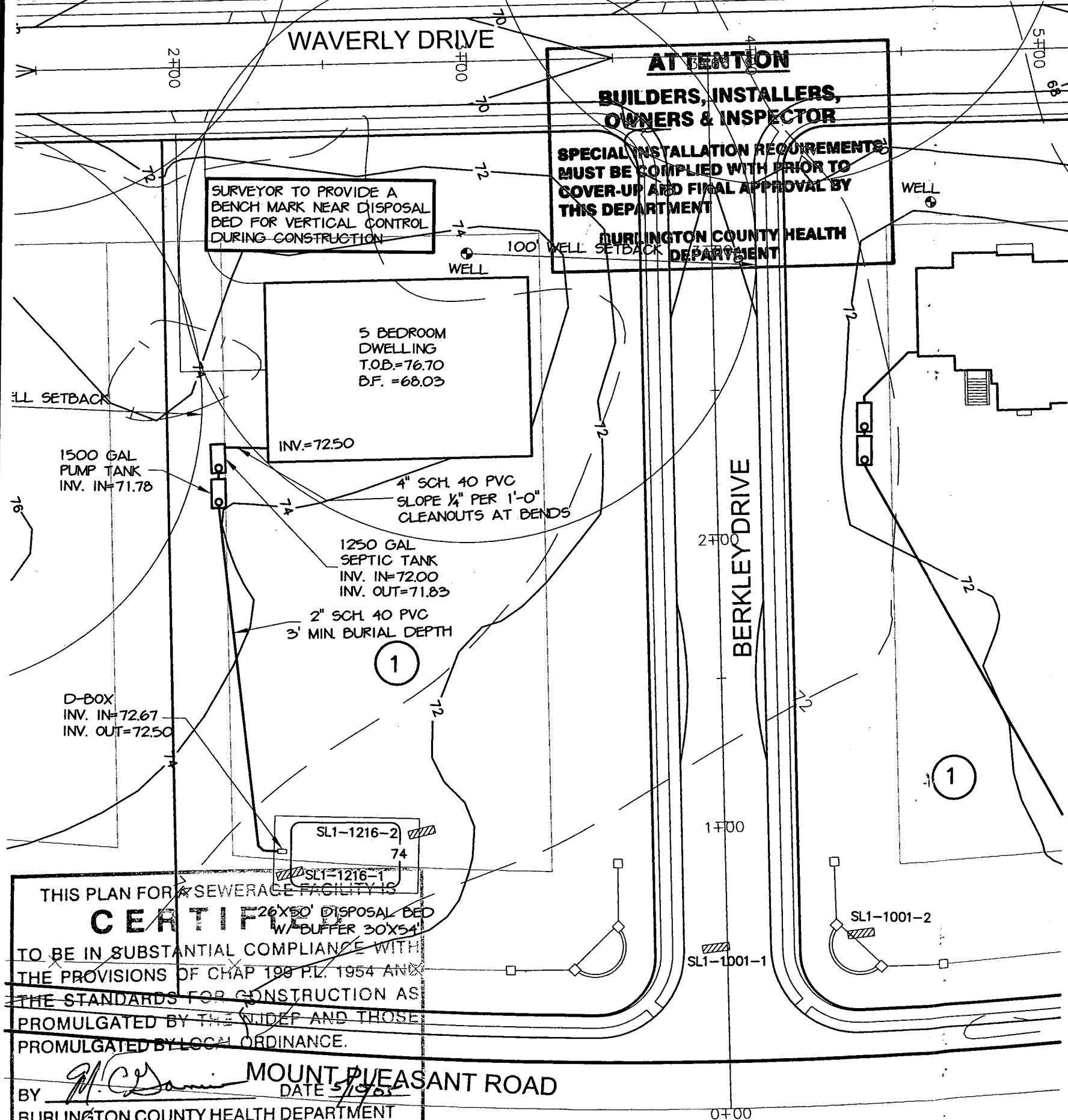
**Van Cleef**  
ENGINEERING ASSOCIATES

SOUTHCENTRAL NEW JERSEY OFFICE  
4 AAA DRIVE, SUITE 102, HAMILTON, NJ 08691  
EMAIL: VCE@VCEA.ORG WEB: WWW.VCEA.ORG  
PHONE (609) 589-1100 FAX (609) 589-1120

Consulting Civil Engineering  
Environmental Engineering  
Municipal Engineering  
Land Surveying  
Professional Planning  
Landscape Architecture

NJ LLC CERT. No. 24GA28132300

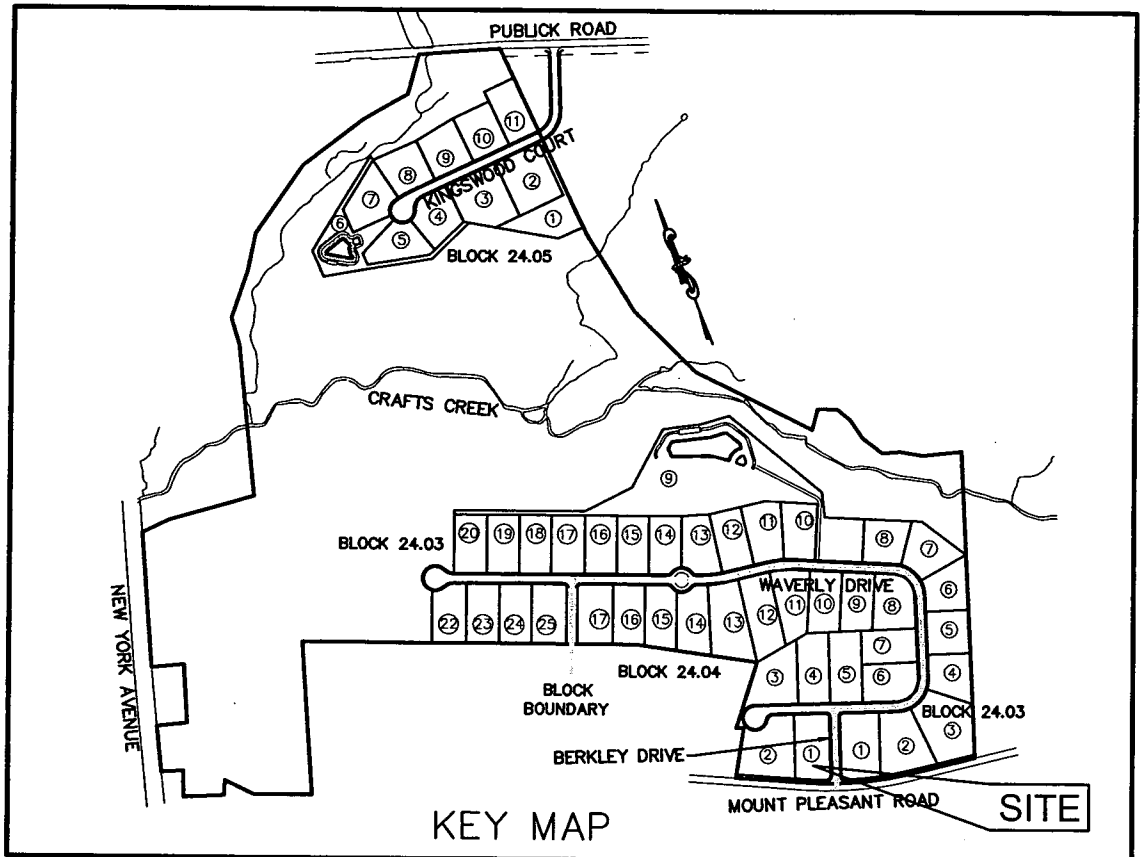
**SEPTIC AS - BUILT**  
FOR  
**WAVERLY DRIVE**  
**BLOCK 24.04, LOT 1**  
**MANSFIELD TOWNSHIP**  
**BURLINGTON COUNTY, NEW JERSEY**



THIS PLAN FOR SEWERAGE FACILITY IS  
**CERTIFIED**  
 TO BE IN SUBSTANTIAL COMPLIANCE WITH  
 THE PROVISIONS OF CHAP 198 P.L. 1954 AND  
 THE STANDARDS FOR CONSTRUCTION AS  
 PROMULGATED BY THE NJDEP AND THOSE  
 PROMULGATED BY LOCAL ORDINANCE.

BY M. C. D. DATE 5/19/05  
 BURLINGTON COUNTY HEALTH DEPARTMENT  
 COUNTY NUMBER 94-05

**SITE PLAN** SCALE 1"=40'



**SOIL LOG 1-1216-1** DATE PERFORMED 12/16/04  
 0 - 10" 10YR 3/3 DARK BROWN SANDY LOAM TOPSOIL  
 10 - 30" 7.5YR 4/4 BROWN SILTY CLAY LOAM. MODERATE SUBANGULAR BLOCKY, MOIST, FIRM  
 30 - 66" 5YR 4/3 REDDISH BROWN SANDY CLAY LOAM. MODERATE SUBANGULAR BLOCKY, MOIST, FRIABLE  
 66 - 125" 7.5YR 6/8 REDDISH YELLOW MEDIUM GRAINED LOAMY SAND. WEAK SINGLE GRAINED, MOIST, VERY FRIABLE, 10% GRAVEL. COMMON MEDIUM DISTINCT MOTTLES OF 10YR 7/1 (LIGHT GRAY) AT 66 - 125".  
 > 125" STOPPED TEST NO GROUNDWATER ENCOUNTERED SHWT = 66"

**SOIL LOG 1-1216-2** DATE PERFORMED 12/16/04  
 0 - 10" 10YR 3/3 DARK BROWN SANDY LOAM TOPSOIL  
 10 - 30" 7.5YR 4/4 BROWN SANDY CLAY LOAM. MODERATE SUBANGULAR BLOCKY, MOIST, FIRM  
 30 - 68" 5YR 4/3 REDDISH BROWN SANDY CLAY LOAM. MODERATE SUBANGULAR BLOCKY, MOIST, FRIABLE  
 68 - 84" 5YR 4/3 REDDISH BROWN SANDY LOAM. WEAK SUBANGULAR BLOCKY, MOIST, WITH 30% GRAVEL SIZED IRONSTONE. COMMON MEDIUM DISTINCT MOTTLES OF 10YR 7/1 (LIGHT GRAY) AT 68 - 84".  
 84 - 132" 7.5YR 6/8 REDDISH YELLOW MEDIUM GRAINED LOAMY SAND. WEAK SINGLE GRAINED, MOIST, VERY FRIABLE, 10% GRAVEL  
 > 132" STOPPED TEST NO GROUNDWATER ENCOUNTERED SHWT = 68"

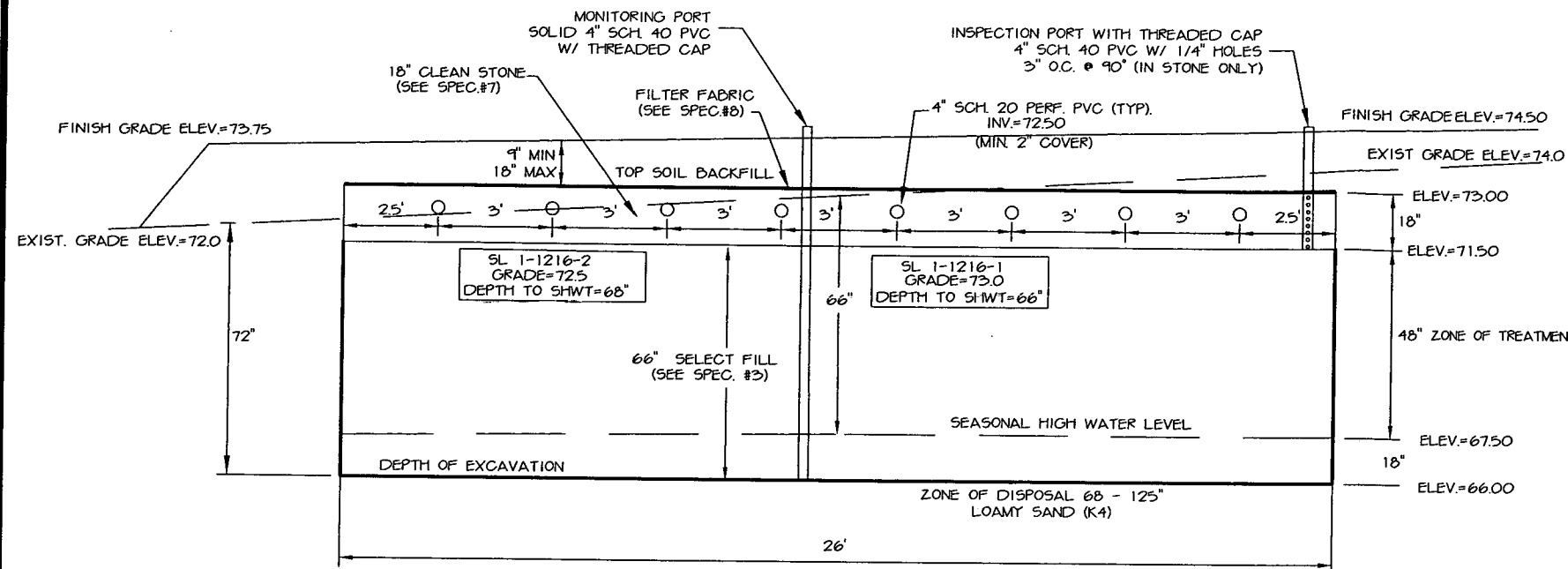
94-05

SOIL PERMEABILITY CLASS RATING ANALYSIS WAS PERFORMED ON A SAMPLE OF THE LOAMY SAND FROM SL1-1216-1 AT A DEPTH OF 66 - 125". BOTH REPLICATES OF THE TEST YIELDED A K4 CLASS RATING.

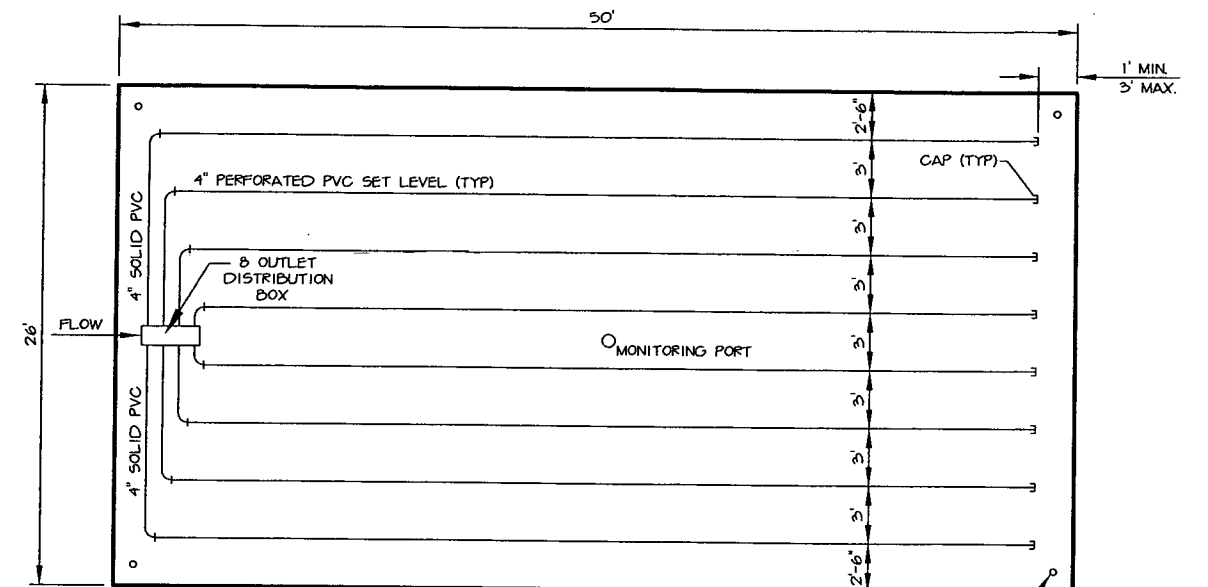
CORE TUBE PERMEAMETER TESTS WERE PERFORMED ON A SAMPLE OF THE LOAMY SAND FROM SL1-1216-1 AT A DEPTH OF 66 - 125". THE 2 REPLICATES YIELDED RESULTS OF 17.4 & 18.2 IN/HR.

5 BEDROOM DWELLING PROPOSED = 800 GPD 800 GPD X 1.61 SF/GPD = 1,288 SF REQUIRED  
 PROPOSED 26' X 50' = 1,300 SF PROVIDED

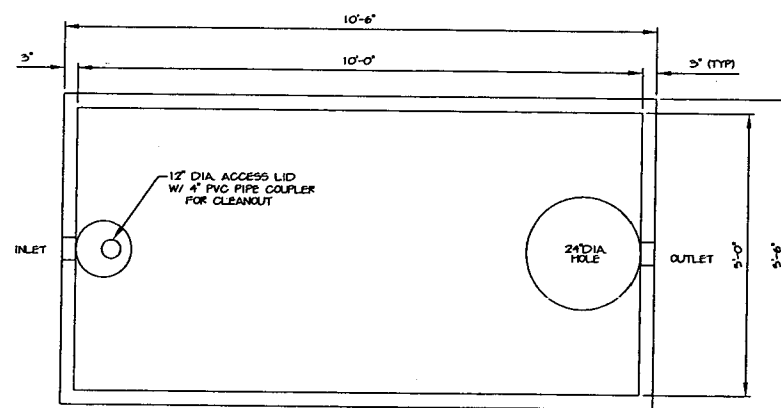
|                                                                                                                           |              |               |                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SEPTIC SYSTEM DESIGN</b><br>WAVERLY DRIVE<br>BLOCK 24.04, LOT 1<br>MANSFIELD TOWNSHIP<br>BURLINGTON COUNTY, NEW JERSEY |              |               | <b>BARKLEY Engineering, LLC</b><br>163 Burlington Path, Suite N<br>Cream Ridge, NJ 08514<br>phone: 609-758-8170<br>Certificate of Authorization<br>#24GA28104200<br>GE 2-1373<br><b>GREGG W. BARKLEY</b><br>New Jersey Professional Engineer<br>License No. 34675 |
| REVISIONS                                                                                                                 | DESIGNED: GB | DATE: 2/21/05 |                                                                                                                                                                                                                                                                   |
|                                                                                                                           | CAD: GB/KT   | SCALE: SHOWN  |                                                                                                                                                                                                                                                                   |
| FILE: 221-01-06                                                                                                           | CHECKED:     | SHEET: 1 OF 3 |                                                                                                                                                                                                                                                                   |



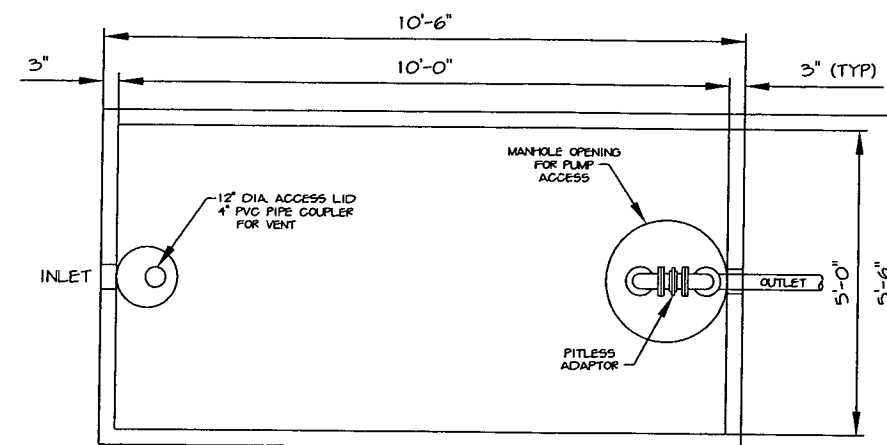
26' WIDE DISPOSAL BED  
CROSS SECTION



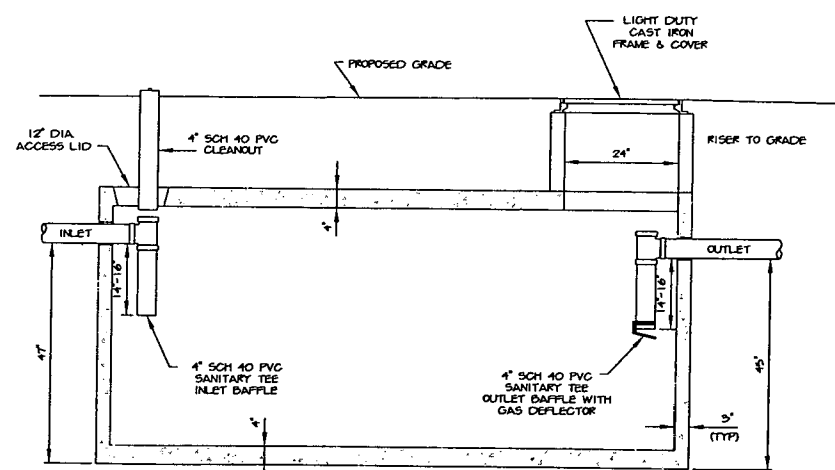
26' X 50' DISPOSAL BED



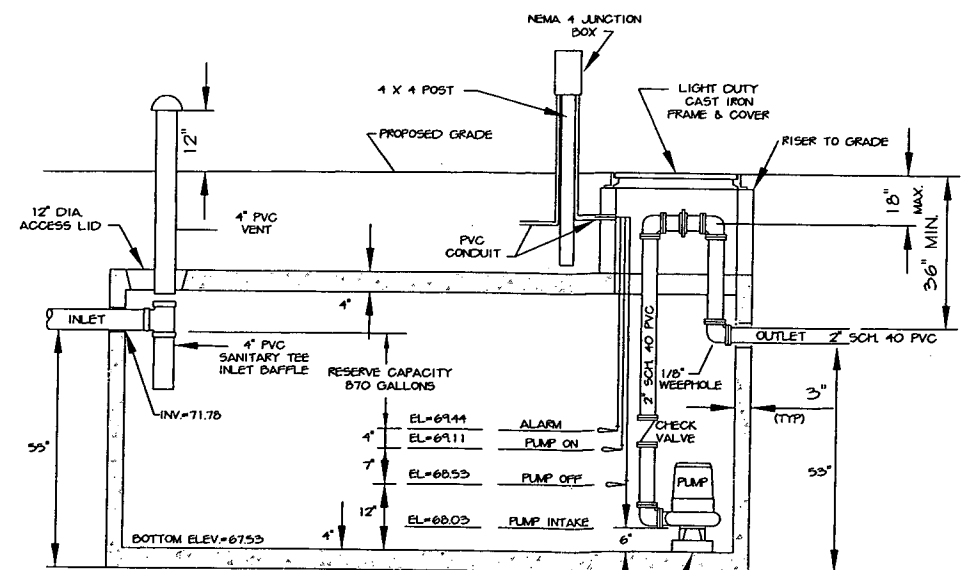
PLAN



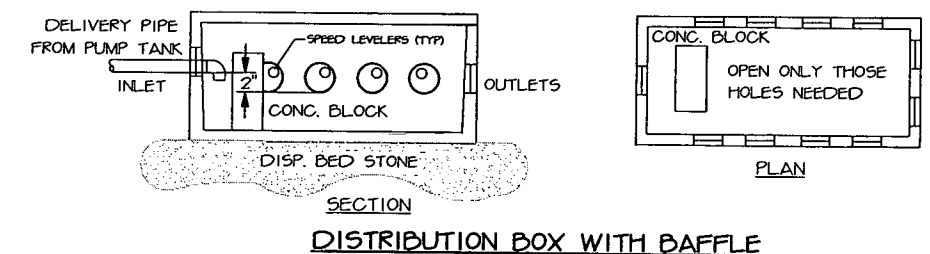
PLAN



1250 GALLON SEPTIC TANK



1500 GALLON PUMP TANK



DISTRIBUTION BOX WITH BAFFLE

94-05

# SEPTIC SYSTEM DESIGN

WAVERLY DRIVE  
BLOCK 24.04, LOT 1  
MANSFIELD TOWNSHIP  
BURLINGTON COUNTY, NEW JERSEY

## REVISIONS

DESIGNED:

GB

DATE:

2/21/05

CAD:

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CHECKED:

FILE:

221-01-06

DESIGNED:

GB

DATE:

2/21/05

CAD:

GB/KT

CHECKED:

FILE:

221-01-06

SCALE:

NONE

SHEET:

2 OF 3

SCALE:

NONE

SHEET:

2 OF 3

SCALE:

NONE

**BARKLEY Engineering LLC**  
163 Burlington Path Road, Suite N  
Cream Ridge, NJ 08514  
Phone: 609-758-8170  
Certificate of Authorization  
#24GA28104200  
GREGG W. BARKLEY  
New Jersey Professional Engineer  
License No. 34675

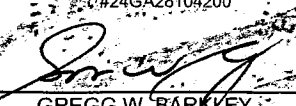
# SPECIFICATIONS

- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE HEALTH DEPARTMENT A MINIMUM OF 24 HOURS PRIOR TO CONSTRUCTION SO THAT ALL INSPECTIONS MAY BE SCHEDULED. ALL PHASES OF THE CONSTRUCTION SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO BACKFILLING. THE CONTRACTOR SHALL SCHEDULE, AT A MINIMUM, THE FOLLOWING INSPECTIONS:
  - STAKE OUT, IDENTIFICATION OF THE BENCHMARK TO BE USED THROUGHOUT THE CONSTRUCTION, AND STOCKPILE SAND FOR SAMPLING AND ANALYSIS.
  - OPEN BED EXCAVATION.
  - SELECT FILL EMPLACEMENT AND COMPACTION.
  - STONE AND LATERALS, CONSTRUCTION OF DISTRIBUTION SYSTEM, DISTRIBUTION BOX IF APPLICABLE.
  - TANKS, RISERS, AND CONNECTING LINES.
  - PUMPS, FLOATS, ALARM, IF APPLICABLE.
  - FINAL GRADING AND SEEDING.
- THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A REPRESENTATIVE SAMPLE OF THE SELECT FILL AND SAND INTENDED TO BE USED FOR THE SYSTEM, PRIOR TO THE DELIVERY OF THE MATERIAL TO THE SITE. THE ENGINEER SHALL ADVISE THE CONTRACTOR OF THE SUITABILITY OF THE MATERIAL RELATIVE TO THE SPECIFICATIONS PRIOR TO THE CONTRACTOR STOCKPILING THE REQUIRED VOLUME OF MATERIAL AT THE SITE. FOLLOWING DELIVERY OF ALL MATERIAL TO THE SITE, A COMPOSITE SAMPLE OF THE STOCKPILED MATERIAL WILL BE OBTAINED BY THE ENGINEER FOR ANALYSIS AND TESTED PRIOR TO THE PLACEMENT OF THE MATERIAL IN THE DISPOSAL AREA.
- NJDEP SPECIFICATION FOR SELECT FILL (PER N.J.A.C. 7:9A-10.1(F)4)  
 SELECT FILL SHALL HAVE A COARSE FRAGMENT CONTENT OF LESS THAN 15% BY VOLUME OR LESS THAN 25% BY WEIGHT. A TEXTURAL ANALYSIS (COMPOSITION, BY WEIGHT, OF SIZE FRACTION PASSING THE 2 MM SIEVE) OF 85-95% SAND, 5-15% SILT PLUS CLAY, (MINIMUM OF 2% CLAY) AND SHALL EXHIBIT A PERMEABILITY RATE OF 2-20 IN/HR OR A PERCOLATION RATE OF 3-30 MIN/IN.  
  
ENGINEER'S REQUIRED SPECIFICATION FOR SELECT FILL  
 SELECT FILL SHALL HAVE A COARSE FRAGMENT CONTENT OF LESS THAN 15% BY VOLUME OR LESS THAN 25% BY WEIGHT, A TEXTURAL ANALYSIS (COMPOSITION, BY WEIGHT, OF SIZE FRACTION PASSING THE 2 MM SIEVE) OF 90-95% SAND\*, 5-10% SILT AND CLAY (MINIMUM 2% CLAY) AND AN IN-PLACE PERMEABILITY BETWEEN 8-20 IN/HR.  
 \*THE AMOUNT OF FINE + VERY FINE SAND SHALL NOT EXCEED 25% OF THE TOTAL SAND FRACTION, AND SHALL HAVE A COEFFICIENT OF UNIFORMITY LESS THAN 5.
- CLEAN FILL SHALL HAVE A TEXTURAL ANALYSIS (COMPOSITION, BY WEIGHT, OF SIZE FRACTION PASSING THE 2MM SIEVE) OF 90% OR MORE SAND AND A PERMEABILITY RATE GREATER THAN 8 IN/HR OR A PERCOLATION RATE FASTER THAN 10 MIN/IN.
- SELECT FILL AND CLEAN FILL SHALL BE INSTALLED WITH A TRACKED MACHINE IN CONFORMANCE WITH N.J.A.C. 7:9A 10.4(F)3. NO WHEELED VEHICLES ARE TO BE DRIVEN OVER ANY PART OF THE DISPOSAL AREA.
- PERCOLATION TESTS AND/OR PERMEABILITY TESTS ARE TO BE PERFORMED BY A REPRESENTATIVE OF THE CERTIFYING ENGINEER WITHIN THE FILL MATERIAL AT THE LEVEL OF INFILTRATION. WITNESSING OF THE PERCOLATION TESTS BY THE HEALTH DEPARTMENT MAY BE REQUIRED. PERMEABILITY TESTS WILL INCLUDE UNDISTURBED AND DISTURBED CORE TUBE SAMPLES FOR THE DETERMINATION OF THE IN PLACE PERMEABILITY.
- CLEAN WASHED CRUSHED STONE SHALL CONFORM TO SIZE AND GRADATION SPECIFIED IN THE N.J. D.O.T. SPECIFICATIONS FOR STANDARD SIZES OF COARSE AGGREGATE, SIZE NUMBER 3, 4, OR 24.
- FILTER FABRIC IS TO BE A NON-WOVEN GEOTEXTILE PRODUCT (MIRAFI 140NL, AMOCO 4545 OR EQUAL).
- SEPTIC AND PUMP TANKS: CONCRETE USED IN THE TANK CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE (ACI) STANDARDS FOR FROST RESISTANCE (ACI 318-16-4.5.1) AND WATER TIGHTNESS (ACI 318-16-4.5.2). CONSTRUCTION JOINTS FOR TWO OR MORE PIECE TANKS SHALL BE SEALED WITH A BUTYL SEALANT SUCH AS CONSEAL CS-101 OR EQUIVALENT. THE INSIDE SURFACES OF THE TANKS SHALL BE SEALED WITH TWO COATS OF AN APPROPRIATE INERT COATING. TANK PENETRATIONS INCLUDING THOSE FOR ACCESS OPENINGS, PIPING, RISERS AND ELECTRICAL CONDUITS SHALL MAINTAIN A WATER TIGHT SEAL.
- PUMPS: THE PUMP CONTROL PANEL SHALL BE COMPATIBLE WITH THE PUMPS PROVIDED. ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC). SEPARATE CONDUITS SHALL BE PROVIDED FOR THE PUMP POWER AND CONTROL CIRCUITS. CONDUITS ENTERING THE PUMP TANKS SHALL BE SEALED TO PREVENT GASSES FROM ENTERING THE JUNCTION BOX AND LEAKAGE OF WATER INTO THE TANK.
- MATERIAL USED IN THE CONSTRUCTION OF THE BERM TO HAVE A PERMEABILITY LESS THAN THAT OF THE MATERIAL WITHIN THE ZONE OF TREATMENT.
- DISPOSAL AREA SHALL BE GRADED SO THAT SURFACE RUNOFF IS DIVERTED AWAY FROM THE DISPOSAL AREA.
- AFTER COMPLETION OF THE BACKFILLING AND ROUGH GRADING, TOPSOIL SHALL SPREAD OVER THE ENTIRE DISTURBED AREA. THE DISTURBED AREA SHALL THEN BE FERTILIZED, SEEDED AND MULCHED ACCORDING TO THE FOLLOWING:
  - FERTILIZER: (10-20-10) AT A RATE OF 14 LBS PER 1000 SF
  - SEED: PERENNIAL RYEGRASS 10 LBS/ACRE, KENTUCKY BLUEGRASS 25 LBS/ACRE, RED FESCUE 15 LBS/ACRE, AND SPREADING FESCUE 15 LBS/ACRE
  - MULCH: UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING AT 90 LBS/1000 SF

# GENERAL NOTES

- THIS WASTEWATER DISPOSAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF N.J.A.C. 7:9A "STANDARDS FOR INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEMS", AND THOSE OF THE BURLINGTON COUNTY HEALTH DEPARTMENT.
- ALL SOIL TESTING WAS CONDUCTED BY RUSSELL REID ENGINEERING, L.L.C. AND WITNESSED BY BOB LAWRENCE OF THE BURLINGTON COUNTY HEALTH DEPARTMENT.
- PROPERTY LINE, DRIVEWAY, DWELLING, STORM DRAINAGE AND TOPOGRAPHIC INFORMATION OBTAINED FROM PLANS PREPARED BY TAYLOR WISEMAN TAYLOR FOR THE MEADOWS AT MANSFIELD.
- CONSTRUCTION INFORMATION BASED ON TOPOGRAPHY PROVIDED. ELEVATIONS MAY REQUIRE MODIFICATION AT TIME OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL NECESSARY PERMITS INCLUDING BUT NOT LIMITED TO SEPTIC CONSTRUCTION, ELECTRICAL, PLUMBING, SOIL DISTURBANCE OR OTHER RELATED PERMITS PRIOR TO THE START OF CONSTRUCTION.
- PRIOR TO THE DISPOSAL BED STAKEOUT AND ANY CONSTRUCTION, THE CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITIES LOCATED BY THE APPROPRIATE UTILITY COMPANIES. NJ ONE-CALL 800-272-1000
- THE FOLLOWING DISTANCES SHALL BE MAINTAINED:
  - DISPOSAL FIELD TO BE A MINIMUM OF 100' FROM ALL WELLS
  - SEPTIC TANK TO BE A MINIMUM OF 50' FROM ALL WELLS
  - DISPOSAL FIELD TO BE A MINIMUM OF 25' FROM DWELLING
  - SEPTIC TANK TO BE A MINIMUM OF 10' FROM DWELLING
  - NO TREES WITHIN 15' OF DISPOSAL BED
  - DISPOSAL BED TO BE A MINIMUM OF 25' FROM THE PROPERTY LINE.
- THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY TO INSURE THAT ALL MATERIALS USED ARE IN ACCORDANCE WITH N.J.A.C. 7:9A ET. SEQ. AND MEET THE SPECIFICATIONS OF THIS PLAN.
- FIELD CHANGES TO THE DESIGN SHALL NOT BE PERMITTED. THE ENGINEER AND HEALTH DEPARTMENT SHALL REVIEW AND APPROVE ANY DEVIATIONS FROM THIS DESIGN.
- ADEQUATE MEASURES SHALL BE USED TO INSURE BOTTOM OF DISPOSAL BED OR INDIVIDUAL TRENCH IS LEVEL.
- IN SOIL TEXTURES OTHER THAN SANDS OR LOAMY SANDS, EXCAVATION WHICH EXPOSES THE INFILTRATIVE SURFACE OF THE DISPOSAL FIELD SHOULD NOT BE CARRIED OUT WHEN THE SOIL MOISTURE CONTENT IS ABOVE THE LOWER PLASTIC LIMIT.
- EXCAVATION SHALL BE CARRIED OUT IN A MANNER THAT WILL AVOID UNNECESSARY COMPACTION OF THE DISPOSAL FIELD.
- HEAVY EQUIPMENT (TRACKED OR WHEELED) SHALL NOT BE DRIVEN OVER THE EXPOSED INFILTRATIVE SURFACE OF THE DISPOSAL FIELD.
- EXCAVATION SHALL BE CARRIED OUT WITH A BACKHOE OPERATING FROM BETWEEN THE DISPOSAL TRENCHES OR OUTSIDE THE PERIMETER OF THE PREVIOUSLY EXCAVATED PORTIONS OF THE DISPOSAL BED.  
 IF IT IS NECESSARY TO WALK ON THE DISPOSAL FIELD BOTTOM, A SUITABLE BOARD SHALL BE LAID OVER THE SOIL TO PREVENT COMPACTION.
- SMEARED OR COMPACTED SOIL SURFACES PRODUCED ON THE BOTTOM OR SIDEWALLS OF THE EXCAVATION SHALL BE REMOVED TO EXPOSE A FRESH SOIL SURFACE WHICH IS ROUGH AND UNEVEN.  
 WORK SHOULD BE SCHEDULED SO THAT THE BOTTOM AND SIDEWALLS OF THE EXCAVATION WILL NOT BE EXPOSED TO RAINFALL OR WIND-BLOWN SILT BETWEEN THE TIME OF EXCAVATION AND TIME OF FINAL INSPECTION AND BACKFILLING.
- ANY LOOSE SOIL OR DEBRIS WHICH IS WASHED INTO OR DEPOSITED WITHIN THE EXCAVATION SHALL BE REMOVED.

94-05

|                                                                                                                           |                 |                  |                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SEPTIC SYSTEM DESIGN</b><br>WAVERLY DRIVE<br>BLOCK 24.04, LOT 1<br>MANSFIELD TOWNSHIP<br>BURLINGTON COUNTY, NEW JERSEY |                 |                  | <br>163 Burlington Path Road, Suite N<br>Cream Ridge, NJ 08514<br>phone: 609-758-8170<br>Certificate of Authorization<br>#24GA28104200<br><br><b>GREGG W. BARKLEY</b><br>New Jersey Professional Engineer<br>License No: 34675 |
| REVISIONS                                                                                                                 | DESIGNED:<br>GB | DATE:<br>2/21/05 |                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                           | CAD:<br>GB/KT   | SCALE:<br>NONE   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| FILE:<br>221-01-06                                                                                                        | CHECKED:        | SHEET:<br>3 OF 3 |                                                                                                                                                                                                                                                                                                                                                                                                          |