Hunterdon County Department of Health

Public Health
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Karen DeMarco, MPH
Health Officer/Director

February 16, 2021

Carla Connor, Secretary
Clinton Township Board of Health
1225 Route 31, Suite 411
Lebanon NJ 08833

Re: Well Distance Alteration Waiver
Municipality: Clinton Township
Block: 91 Lot: 3.04
Location: 27 Hibbler Rd.

Dear Carla,

This department has septic alteration plans dated February 9, 2021 designed by Erica BUSCH, PE , to correct a malfunctioning system to an existing 4 bedroom dwelling with no expansion as stated in the application. The design incorporates an Ecoflo Coco Filter EC7-600P-P Advanced Treatment Unit.

The design is in full conformance with 7:9A "Standards for Individual Subsurface Sewage Disposal Systems" except for the following waiver requests that will need to be acted on by the Board:

1. The proposed disposal bed is only 74 feet from the existing well which does not meet the minimum setback requirement of 100 feet. According to 7;9a-4.3 the distance can be reduced to 50 feet provided there is 50 feet of casing. A well report provided by Stovers Wells and Pumps dated January 25, 2021 states there is 50 feet of casing, therefore the Board can approve the waiver request.

In addition, all the requirements for Advanced Treatment devices shall be met including engineer certification, service provider maintenance contract, deed notice, auto dialer and installer NEHA certifications which are referenced on sheets 1 and 2 of the plot plan.

Since this is a malfunctioning system, and according to 7:9A 3.3(e) 2 i and ii, and the system is closer to being in full conformance with the chapter than the original system, the Board can consider the waiver requests.

If you have any questions, please call.

Very truly yours,

ORIGINAL IS SIGNED AND ON FILE AT HUNTERDON COUNTY HEALTH DEPARTMENT

Robert Vaccarella, REHS
Principal Environmental Health Specialist

RV: dv

cc: Erica Busch, PE

ct91_304

STOVER'S
WELLS AND PUMPS
161 Highway 207
RINGOES, NJ 08551
908-782-5374
FAX-908-782-5362

January 25, 2021

Mary Anne & CJ Fernandez
27 Hibbler Road
Annandale, NJ 08801
908-334-9129
cjfernan54@gmail.com

Mr. Fernandez,

Stover's Wells and Pumps videoed the well at the above address to measure the casing. We found that the casing depth is 50' or more.

If you need any additional information, please let me know.

Thank you,

Tom Stover

Tom Stover
President

HUNTERDON SOIL CONSERVATION DISTRICT

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
2. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IS COMPLETE AND/OR THE DISTURBED AREAS ARE STABILIZED.
3. A CRUSHED STONE WHEEL CLEANING ANTI-TRACKING PAD SHALL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS ROAD INTERSECTS A PAVED ROADWAY. SAID ANTI-TRACKING PAD SHALL BE CONSTRUCTED FROM 2-1/2" DIA. CRUSHED STONE A MINIMUM OF 6" THICK, UNDERLAID WITH A SUITABLE SYNTHETIC FILTER FABRIC AND MAINTAINED IN GOOD ORDER.
4. ALL SOIL TO BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY STABILIZED AND PROTECTED WITH FILTER FABRIC FENCE AROUND THE BASE OF THE PILE. ALL DISTURBED AREAS NOT PERMANENTLY STABILIZED SHALL BE TEMPORARILY STABILIZED BY SEEDING OR MULCH AS REQUIRED.
5. ALL DISTURBED AREAS SHALL BE LIMED AND FERTILIZED PRIOR TO BOTH TEMPORARY AND PERMANENT SEEDING. SEEDING SHALL IMMEDIATELY FOLLOW FINE GRADING. PERMANENT STABILIZATION IS TO INCLUDE THE EXISTING FIELDS OF PREDOMINANTLY WEED COVER.
6. ALL DISTURBED AREAS INCLUDING ROAD BANKS SHALL BE MAINTAINED IN A ROUGH GRADE CONDITION AND TEMPORARILY SEEDED OR MULCHED UNTIL PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. STABILIZATION SHALL IMMEDIATELY FOLLOW GRADING.
7. ALL STORM DRAIN INLETS, EXCEPT AS NOTED, ARE TO BE TEMPORARILY CAPPED AND/OR PROTECTED BY A FILTER FABRIC FENCE OR HAY BALE FILTER PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF PERMANENT TO PREVENT ENTRY OF SEDIMENT CARRIED BY RUNOFF WATER, UNTIL PAVING OR VEGETATION IS ESTABLISHED AS PER PLAN.
8. ALL DIVERSION BERMS SHALL BE CONSTRUCTED FROM TOPSOIL AND SHALL BE IN PLACE IMMEDIATELY AFTER ROUGH GRADING OF THE R.O.W. IS COMPLETED.
9. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IS COMPLETED AND VEGETATIVE COVER IS ESTABLISHED.
10. ALL PAVED ROADWAYS SHALL BE KEPT CLEAN AT ALL TIMES.
11. ALL EXPOSED SURFACES SHALL BE TREATED WITH 6" OF TOPSOIL PRIOR TO LIMING, FERTILIZING, PLANTING, SEEDING OR MULCHING.
12. TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, THE SITE SHALL BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET, OR IN A MANNER CONFORMING WITH THE STANDARDS FOR DUST CONTROL AS SPECIFIED IN SECTION 16 OF THE STATE STANDARDS.

AGRONOMIC SPECIFICATIONS FOR LAWNS AND CONSTRUCTION SITES:

1. ALL DISTURBED AREAS THAT ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION OR SCHEDULED TO BE PERMANENTLY SEEDED WITHIN 30 DAYS MUST BE TEMPORARILY STABILIZED AS PER THE SPECIFICATIONS BELOW.
2. ALL EXPOSED AREAS WHICH ARE TO BE PERMANENTLY VEGETATED ARE TO BE SEEDED AND MULCHED WITHIN 10 DAYS OF FINAL GRADING.
3. STRAW OR HAY MULCH IS TO BE APPLIED TO ALL SEEDINGS AT A RATE OF 1-1/2 TO 2 TONS PER ACRE (APPROXIMATELY 100-130 BALES PER ACRE)
4. MULCH ANCHORING IS REQUIRED AFTER MULCHING TO MINIMIZE LOSS BY WIND OR WATER. THIS IS TO BE DONE BY USING ONE OF THE METHODS (CRIMPING, LIQUID MULCH BINDERS, NETTINGS, ETC.) IN THE "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY".
5. EXISTING WEEDY AND POORLY-VEGETATED AREAS WITH LESS THAN 75% PERCENT PERENNIAL GRASS COVER MUST RECEIVE PERMANENT STABILIZATION (AS SPECIFIBBLOW).
6. ALL BAGS NEED TO BE SAVED FOR LIME, FERTILIZER, SEED AND LIQUID MULCH BINDER (IF USED FOR MULCH ANCHORING). SUCH PROOF NEED TO BE SUBMITTED TO THE DISTRICT INSPECTOR FOR VERIFICATION OF MATERIALS AND QUANITIES USED FOR ALL SEEDINGS.

SEED BED PREPARATION FOR ALL SEEDINGS:

SUB-SOIL PREPERATION: IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SURFACE SHOULD BE SCARIFIED TO A DEPTH OF 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION (e.g. AREAS OF HEAVY CONSTRUCTION TRAFFIC). THIS PRACTICE IS TO BE APPLIED TO ALL COMPACTED AREAS WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

TOPSOILING: AREAS TO BE SEEDED SHOULD HAVE A MINIMUM OF 5" OF TOPSOIL FREE OF OBJECTIONABLE STONES AND DEBRIS.

FINAL GRADING: GRADING IS TO BE SMOOTH AND FREE OF RUTS, OBJECTIONABLE STONES, DEPRESSIONS AND ROUGH EDGES. THERE IS TO BE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND DWELLINGS.

LIMING/FERTILIZING: APPLY LIMESTONE AND FERTILIZER TO SOIL TEST RECOMMENDATIONS OR AS FOLLOWS:

A: LIME TO BE APPLIED AT THE RATE OF 2 TONS PER ACRE (GROUND LIMESTONE) LIME CAN BE APPLIED AT A RATE OF 600 LBS. PER ACRE.)

B. OR PER MANUFACTURER RECOMMENDATIONS FOR OTHER TYPES. (PELLETIZED TYPE STARTER FERTILIZER, SPECIFIED AS 10-20-10, IS TO BE APPLIED AT A RATE OF 500 LBS PER ACRE.

C. LIME AND FERTILIZER ARE TO BE WORKED INTO THE SOIL TO A DEPTH OF 4 IN.

TEMPORARY STABILIZATION WITH MULCH ONLY:

STRAW MULCH IS TO BE SPREAD UNIFORMLY AT A RATE OF 2 TO 2-1/2 TONS PER ACRE (TOTAL GROUND SURFACE COVERAGE). THIS PRACTICE IS LIMITED TO PERIODS WHEN VEGETATIVE COVER CAN NOT BE ESTABLISHED DUE TO THE SEASON OR OTHER CONDITIONS. MULCH MUST BE ANCHORED IN ACCORDANCE WITH N. J. STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL. MULCH ALONE CAN ONLY BE USED FOR SHORT PERIODS AND WILL REQUIRE MAINTENANCE AND RENEWAL. HAY OR OTHER MULCH MATERIALS MAY BE UTILIZED IF APPROVED BY THE DISTRICT.

TEMPORARY SEEDING SPECIFICATIONS:

TEMPORARY SEEDING IS TO BE USED ON ALL DISTURBED AREAS WHERE PERMANENT STABILIZATION WILL NOT BE ACCOMPLISHED FOR A PERIOD UP TO 6 MONTHS.

PRODUCT	RATE	DATE
PERENNIAL RYEGRASS	100 LBS PER ACRE	3/15-5/15 & 8/15-10/01
SPRING OATS	86 LBS PER ACRE	3/15-6/01 & 8/01-10/01
WINTER CEREAL RYE	112 LBS PER ACRE	8/01-11/15
WINTER BARLEY	96 LBS PER ACRE	8/15-10/01
PEARL MILLIT	20 LBS PER ACRE	5/15-8/15
GERMAN OR HUNGARIAN MILLET	30 LBS PER ACRE	5/15-8/15

STABILIZATION WITH SOD:

STABILIZATION WITH SOD IS PERMITTED IN AREAS WHERE MAINTENANCE AND IRRIGATION ARE ADEQUATE TO INSURE PROPER ESTABLISHMENT AND LONGEVITY. SEEDBED PREPERATION IS TO BE CONSISTANT WITH ANY OTHER STABILIZATION REQUIREMENTS. (LINE AND FERTILIZER BAGS ARE TO BE RETAINED FOR DISTRICT INSPECTION). ON SLOPES GREATER THAN 3:1 SOD MUST BE ANCHORED TO THE SLOPE IN ACCORDANCE WITH THE N.J. STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.

PERMANENT SEEDING SPECIFICATIONS:

1. SEED IS TO BE INCORPORATED INTO THE SOIL 1/4" - 1/2".
2. LAWN SEEDINGS ARE TO BE A MIXTURE OF BLUEGRASS, TURF-TYPE FESCUES, AND TURF TYPE PERENNIAL RYEGRASSES TO INSURE LONGEVITY, TOLERANCE AND DURABILITY. NO SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD UNLESS RETESTED.
3. PROFESSIONAL SEED MIXTURES ARE RECOMMENDED, RATHER THAN MIXING SEEDS YOURSELF.
4. SEED MIXTURES (AS SPECIFIED BELOW) SHALL BE APPLIED AT A MINIMUM RATE OF 200 LBS. PER ACRE OF PERENNIAL SEED
5. OPTIMUM SEEDING PERIOD FOR HUNTERDON COUNTY IS FROM MARCH 1st. TO MAY 15th AND AUGUST 15th TO OCTOBER 1st. OUTSIDE OF THOSE PERIODS, THE SEEDING RATES ARE TO BE INCREASED BY 50% (Ie: 300 LBS. PER ACRES OF PERENNIAL SEED INSTEAD OF THE REQUIRED 200 LBS. PER ACRE DURING OPTIMUM PERIODS)
6. SEEDINGS SHOULD RECEIVE AN APPLICATION OF FERTILIZER SUCH AS 10-10-10 OR EQUILIVENT AT A RATE OF 400 LBS. PER ACRE APPROXIMATELY 6 MONTHS AFTER THE FIRST APPLICATION.

SEEDING MIXTURES FOR GENERAL SEEDINGS:

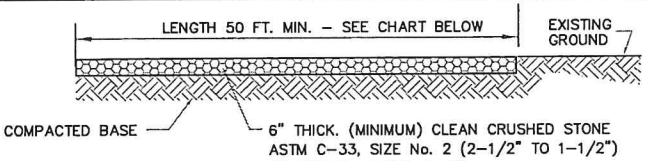
(EXAMPLE: LAWN AREAS)

40% TURF-TYPE TALL FESCUE		60% KENTUCKY BLUEGRASS
10% CREEPING RED FESCUE	OR	20% TURF-TYPE PERENNIAL RYEGRASS
10% CHEWINGS FESCUE		20% CHEWINGS FESCUE
10% KENTUCKY BLUEGRASS		
30% TURF-TYPE PERENNIAL RYEGRASS		

SEEDING MIXTURES FOR HIGH TRAFFIC AND CRITICAL AREAS:

(EXAMPLE: ATHLETIC FIELDS, WATERWAYS, DIVERSIONS ETC.)
80% TURF-TYPE TALL FESCUE
10% KENTUCKY BLUEGRASS
10% TURF-TYPE PERENNIAL RYEGRASS

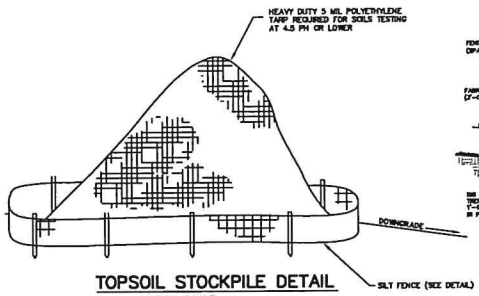
OTHER SEED MIXTURES, SUCH AS BLENDED VARIETIES OF PERENNIAL TURF-TYPE RYEGRASSES, TURF-TYPE TALL FESCUES, OR BLUEGRASSES MAY ALSO BE ACCEPTABLE IF APPROVED BY THE DISTRICT.



THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

ANTI-TRACKING PAD

NOT TO SCALE



TOPSOIL STOCKPILE DETAIL
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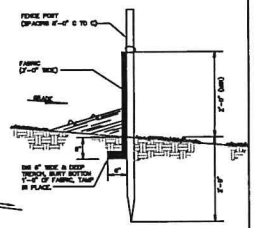

SILT FENCE DETAIL
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NO.	DATE	REVISION

SEPTIC SYSTEM ALTERATION

BLOCK 91 LOT 3.04

TOWNSHIP OF CLINTON

HUNTERDON COUNTY, NEW JERSEY

Erica Busch
ERICA L. BUSCH
NEW JERSEY PROFESSIONAL ENGINEER LIC. NO. 32145
PO BOX 486, HAMPTON, NEW JERSEY 08827

DATE	SCALE	SHEET
2/9/21	1"=30'	5 OF 5

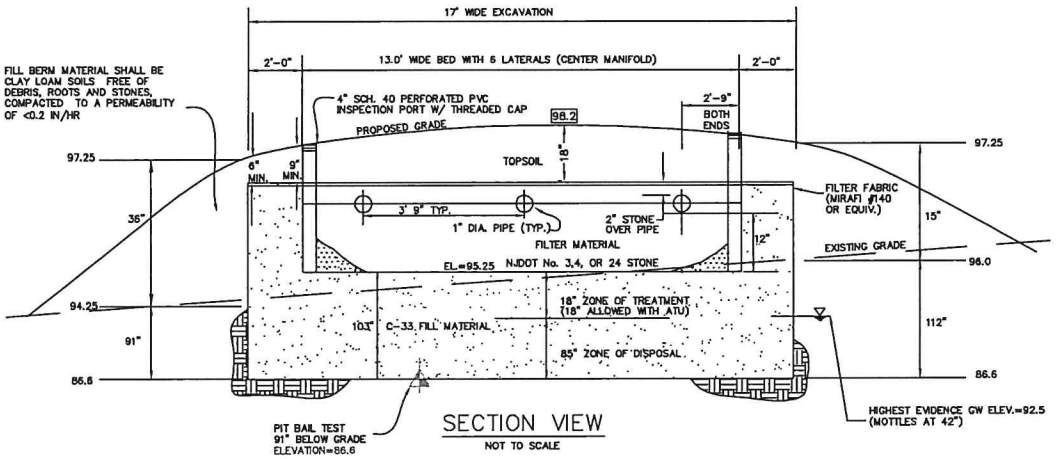
DISPOSAL BED

GENERAL NOTES:

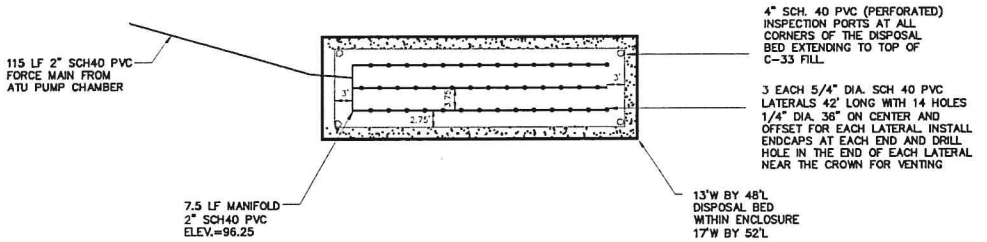
1. LOCATION OF DISPOSAL SYSTEM AND COMPONENTS SHALL BE STAKED OUT BY DESIGN ENGINEER
2. EXCAVATION PRIOR TO THE PLACEMENT OF FILL MATERIAL SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF N.J.A.C. 7:9–10.3(c)
   A. CONSTRUCTION SHALL NOT TAKE PLACE WHEN THE SOIL MOISTURE CONTENT IS ABOVE THE LOWER PLASTIC LIMIT.
   B. IF HEAVY EXCAVATING EQUIPMENT IS OPERATED WITHIN THE DISPOSAL BED THE EQUIPMENT SHALL NOT BE DRIVEN DIRECTLY ON THE INFILTRATIVE SURFACE OF THE EXCAVATION. A MINIMUM OF ONE FOOT OF FILL MATERIAL SHALL BE MAINTAINED BELOW THE VEHICLE TRACKS AT ALL TIMES.
   C. ALL SIDEWALL AND BOTTOM AREAS SHALL BE SCARIFIED BEFORE PLACEMENT OF FILTER MATERIAL
   D. ALL SIDEWALL AND BOTTOM AREAS SHALL BE CLEANED OF SILT DEPOSITED WITHIN THE EXCAVAION DUE TO RAIN OR SNOW.
3. AN EXCAVATION SHALL BE MADE TO THE REQUIRED DEPTH EXTENDING THROUGHOUT THE ENTIRE AREA TO BE OCCUPIED BY THE DISPOSAL FIELD AND BEYOND THE PERIMETER OF THE DISPOSAL FIELD A MINIMUM OF TWO FEET IN ALL DIRECTIONS FOR SRE, FILL ENCLOSED DISPOSAL BEDS
4. THE EXCAVATION SHALL BE FILLED WITH SUITABLE FILL MATERIAL AND FOR SRE AND MSR THE FILL MATERIAL MOUNDED UP OVER THE EXCAVATION A MINIMUM OF TWO FEET BEYOND THE PARAMETER OF THE DISPOSAL FIELD.
5. FILL MATERIAL USED IN THE ZONE OF DISPOSAL AND ZONE OF TREATMENT SHALL MEET THE REQUIREMENTS OF NJAC7:9A–10.1(f)4 AND 5
   A. TEXTURAL ANALYSIS (COMPOSITION BY WEIGHT OF SIZE FRACTION PASSING EACH SIEVE)

⅜" SIEVE	100%
#8 SIEVE	80–100%
#16 SIEVE	50–85%
#30 SIEVE	25–60%
#50 SIEVE	10–30%
#100 SIEVE	2–10%

   B. COARSE FRAGMENT (MATERIAL RETAINED ON THE #8 SIEVE) CONTENT LESS THAN 15% BY VOLUME 20% BY WEIGHT.
   C. PERMEABILITY RATE FROM 6–20 IN/HR OR PERCOLATION RATE FROM 3–15 MIN/IN.
6. PLACEMENT AND COMPACTION OF FILL MATERIAL SHALL MEET THE REQUIREMENTS AS SPECIFIED BY NJAC 7:9A–10.1(f).
   A. INSTALL FILTER MATERIAL IN 8" – 12" LIFTS AND COMPACT LIGHTLY WITH A TRACKED VEHICLE. RUBBER TIRE EQUIPMENT SHALL NOT BE USED TO COMPACT THE FILL
   B. THE FILL MATERIAL IS TO BE SAMPLED AND TESTED BY THE ENGINEER TO INSURE COMPLIANCE WITH NJDEP SPECIFICATIONS. A COMPOSITE SAMPLE SHALL BE OBTAINED BY SAMPLING AN ON–SITE STOCKPILE PRIOR TO INSTALLATION. THE TESTING SHALL INCLUDE A MECHANICAL ANALYSIS TEST INCLUDING SIEVE AND HYDROMETER TESTING.
   C. PLACEMENT AND COMPACTION OF APPROVED FILL MATERIAL SHALL BE UNDER THE OBSERVATION AND APPROVAL OF THE DESIGN ENGINEER. COMPACTION OF THE FILL SHALL BE SUFFICIENT TO ADEQUATELY PREVENT FAILURE OF ANY COMPONENT OF THE SYSTEM DUE TO EXCESSIVE SETTLEMENT OR DIFFERENTAL SETTLEMENT. THE ENGINEER SHALL PERFORM PERCOLATION TESTS IN THE FILTER MATERIAL AS IT IS BEING INSTALLED.
7. A PROFESSIONAL ENGINEER SHALL CERTIFY BY SIGNATURE AND SEAL THE TEXTURAL ANALYSIS AND AND COMPACTION OF THE FILL.
8. THE FILTER MATERIAL SHALL BE WASHED GRAVEL OR CRUSHED STONE FREE OF FINES, DUST, ASHES, OR CLAY. FILTER MATERIAL SHALL CONFORM IN SIZE AND GRADATION TO NJDOT NUMBERS 3,4, OR 24 STONE
9. SLOPE OF PIPE IN THE DISPOSAL BED IS TO BE 0' – 2"/ 100 FEET. ~~TWO ROW PERFORATED PVC PIPE TO BE IN ACCORDANCE WITH ASTM – D2729. PERFORATIONS SHALL BE EVENLY SPACED ALONG TWO ROWS RUNNING THE LENGTH OF THE PIPE, ON EACH, MIDWAY BETWEEN THE INVERT AND THE CENTER LINE WHICH SEPARATES THE UPPER AND LOWER HALVES OF THE PIPE.~~ INSTALL ENDCAPS AT THE END OF ALL DISPOSAL LINES.
10. INSTALL 4" SCH. 40 PVC (PERFORATED) INSPECTION PORTS AT ALL CORNERS OF THE DISPOSAL BED.
11. THE MANIFOLD PIPE/S ~~FROM THE DISTRIBUTION BOX~~ MUST BE SOLID PIPE.
12. FILTER MATERIAL SHALL BE COVERED WITH FILTER FABRIC. (MIRAFI # 140 OR EQUIV.) EDGES OF ADJACENT SHEETS OF FILTER FABRIC SHALL OVERLAP 6 INCHES.
13. THE SIDE SLOPES OF THE DISPOSAL BED SHALL BE CONSTRUCTED WITH SLOPES OF THREE TO ONE OR LESS
14. FIILL BERM MATERIAL SHALL BE SILTY CLAY, CLAY SOILS, FREE OF STONES, AND DEBRIS COMPACTED TO A PERMEABILITY OF <0.2 IN/HR
15. BACKFILL MATERIAL SHALL BE TOPSOIL FREE OF LARGE STONES, STUMPS, AND OTHER WASTE MATERIAL.
16. PROVIDE GRADING OF THE DISPOSAL BED AND SURROUNDING AREA TO DIVERT SURFACE WATER AWAY FROM THE DISPOSAL AREA.



SECTION VIEW
NOT TO SCALE



DISPOSAL SYSTEM PLAN VIEW
NOT TO SCALE

SEPTIC SYSTEM DESIGN:

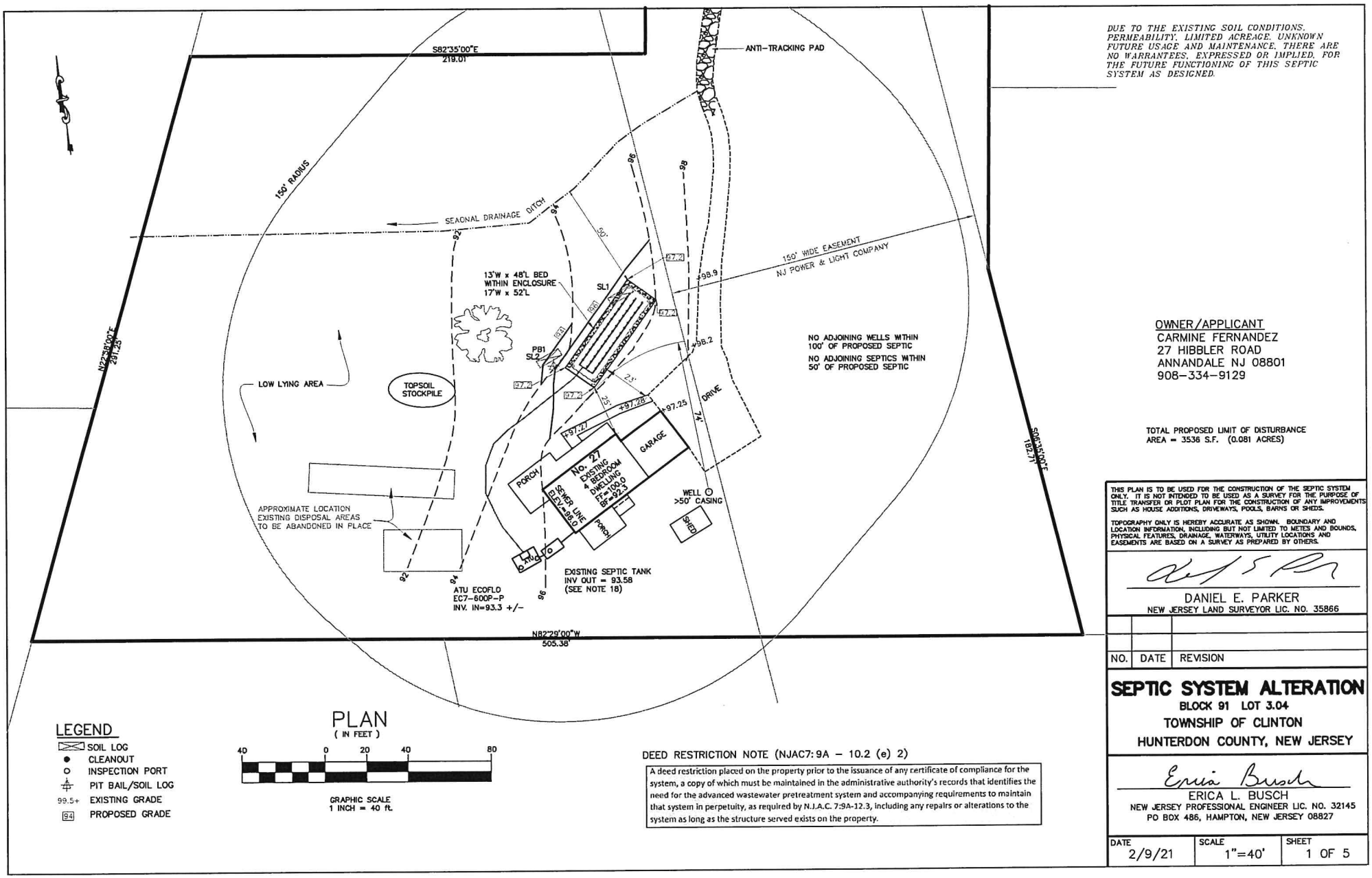
DESIGNED FOR A 4 BEDROOM HOUSE
TOTAL DAILY SEWAGE VOLUME = 650 GPD
DESIGN PERMEABILITY RATE = 6–20 IN./HR.
REQUIRED BOTTOM AREA/DAY = 0.956 S.F./GPD (ATU/PRESS DOSE)
650 GAL./DAY X 0.956 S.F./GAL./DAY = 621.4 S.F.
THEREFORE, CONSTRUCT A 13' WIDE BY 48' LONG DISPOSAL BED WITHIN A FILL ENCLOSURE 17' WIDE BY 52' LONG

NO.	DATE	REVISION

SEPTIC SYSTEM ALTERATION
BLOCK 91 LOT 3.04
TOWNSHIP OF CLINTON
HUNTERDON COUNTY, NEW JERSEY

Erica Busch
ERICA L. BUSCH
NEW JERSEY PROFESSIONAL ENGINEER LIC. NO. 32145
PO BOX 486, HAMPTON, NEW JERSEY 08827

DATE	SCALE	SHEET
2/9/21	1"=30'	3 OF 5



DUE TO THE EXISTING SOIL CONDITIONS. PERMEABILITY. LIMITED ACREAGE. UNKNOWN FUTURE USAGE AND MAINTENANCE. THERE ARE NO WARRANTEES. EXPRESSED OR IMPLIED. FOR THE FUTURE FUNCTIONING OF THIS SEPTIC SYSTEM AS DESIGNED.

OWNER/APPLICANT
CARMINE FERNANDEZ
27 HIBBLER ROAD
ANNANDALE NJ 08801
908-334-9129

TOTAL PROPOSED LIMIT OF DISTURBANCE
AREA = 3536 S.F. (0.081 ACRES)

THIS PLAN IS TO BE USED FOR THE CONSTRUCTION OF THE SEPTIC SYSTEM ONLY. IT IS NOT INTENDED TO BE USED AS A SURVEY FOR THE PURPOSE OF TITLE TRANSFER OR PLOT PLAN FOR THE CONSTRUCTION OF ANY IMPROVEMENTS SUCH AS HOUSE ADDITIONS, DRIVEWAYS, POOLS, BARNS OR SHEDS.

TOPOGRAPHY ONLY IS HEREBY ACCURATE AS SHOWN. BOUNDARY AND LOCATION INFORMATION, INCLUDING BUT NOT LIMITED TO METES AND BOUNDS, PHYSICAL FEATURES, DRAINAGE, WATERWAYS, UTILITY LOCATIONS AND EASEMENTS ARE BASED ON A SURVEY AS PREPARED BY OTHERS.

DANIEL E. PARKER
NEW JERSEY LAND SURVEYOR LIC. NO. 35866

NO.	DATE	REVISION

SEPTIC SYSTEM ALTERATION

BLOCK 91 LOT 3.04
TOWNSHIP OF CLINTON
HUNTERDON COUNTY, NEW JERSEY

ERICA L. BUSCH
NEW JERSEY PROFESSIONAL ENGINEER LIC. NO. 32145
PO BOX 486, HAMPTON, NEW JERSEY 08827

DATE	SCALE	SHEET
2/9/21	1"=40'	1 OF 5

LEGEND

- SOIL LOG
- CLEANOUT
- INSPECTION PORT
- PIT BAIL/SOIL LOG
- 99.5+ EXISTING GRADE
- [94] PROPOSED GRADE

PLAN
(IN FEET)

40 0 20 40 80

GRAPHIC SCALE
1 INCH = 40 ft.

DEED RESTRICTION NOTE (NJAC7:9A – 10.2 (e) 2)

A deed restriction placed on the property prior to the issuance of any certificate of compliance for the system, a copy of which must be maintained in the administrative authority's records that identifies the need for the advanced wastewater pretreatment system and accompanying requirements to maintain that system in perpetuity, as required by N.J.A.C. 7:9A-12.3, including any repairs or alterations to the system as long as the structure served exists on the property.

TANK/PUMP PIT
GENERAL NOTES:

1. ~~ALL INSIDE SURFACES OF TANKS SHALL BE SEALED WITH TWO COATINGS OF AN APPROPRIATE INERT COATING TO MINIMIZE CORROSION. COATING OF PRECAST TANKS SHALL BE APPLIED~~
2. SEPTIC TANKS SHALL BE PLACED UPON A FIRM AND STABLE FOUNDATION SO THAT THE POTENTIAL FOR UNEVEN SETTLEMENT OR SHIFTING IS MINIMIZED. TANKS ARE TO BE INSTALLED DIRECTLY ON UNDISTURBED NATURAL SOIL. IF THE EXCAVATION IS DUG TOO DEEP, IT SHALL BE BACKFILLED TO THE PROPER ELEVATION WITH COMPACTED SAND. COMPACTED SAND IS TO BE OBSERVED BY THE DESIGN ENGINEER PRIOR TO INSTALLATION OF TANK.
3. ~~MAXIMUM OF 4' COVER OVER THE SEPTIC TANK.~~
4. ALL MANHOLES SHALL BE EXTENDED FLUSH WITH FINISHED GRADE BY MEANS OF A RISER FITTED WITH A REMOVABLE WATER TIGHT COVER. COVERS SHALL BE BOLTED OR LOCKED, PER NJAC7:9A–8.2
5. AN INSPECTION PORT EXTENDING TO FINISHED GRADE SHALL BE PROVIDED OVER EACH TANK OR COMPERTMENT INLET OR OUTLET WHICH IS NOT DIRECTLY BELOW A MANHOLE. INSPECTION PORTS SHALL EXTEND TO FINISHED GRADE AND SHALL BE CONSTRUCTED OF 4" CAST IRON OR PVC PIPE WITH BOLTED CAP.
6. THE INSTALLATION OF ALL TANKS SHALL PREVENT FLOTATION.
7. ALL SEPTIC TANK CONNECTIONS AND ALL RISERS, SHALL BE SEALED WITH AN EXPANDING WATERPROOF CEMENT. IN ADDITION, TAR GASKETS ARE REQUIRED UNDER ALL CAST IRON MANHOLE COVERS
8. PROPOSED SEPTIC TANK SHALL HAVE INSTALLED A POLY LOK PL122 SEPTIC EFFLUENT FILTER PROVIDED BY PREMIER TECH AQUA
9. ~~SEPTIC TANK, RISER AND INSPECTION PORT SHALL BE TESTED FOR WATER TIGHTNESS AFTER INSTALLATION AND BEFORE BACKFILLING USING HYDROSTATIC OR VACUUM TEST. ENGINEER SHALL CERTIFY THE TEST.~~
10. A PERMANENT, NON–CORROSIVE MARKER, MINIMUM OF 6 SQIN SHALL BE ATTACHED TO THE MANHOLE COVER OR RISER IMMEDIATLY BELOW THE COVER WITH THE FOLLOWING INFORMATION:
    1. ADMINISTRATIVE AUTHORITY NAME AND PERMIT NUMBER
    2. DATE OF INSTALLATION
    3. TYPE OF SYSTEM
    4. TOTAL DESIGN CRITERIA IN GALLONS PER DAY

GENERAL NOTES:

1. CONTRACTOR MUST CONTACT DEPARTMENT OF HEALTH PRIOR TO ELECTRICAL WIRING AND INSTALLATION OF COMPONENTS.
2. ALL ELECTRICAL SERVICE LINES FROM THE HOME TO THE PUMP PIT SHALL BE PROTECTED BY ELECTRICAL CONDUIT.
3. ELECTRICAL CONNECTIONS FOR PUMP TO BE MADE OUTSIDE OF THE PUMP PIT IN NEMA 3 ENCLOSURE MOUNTED ON ADJACENT POST.
4. A GAS TIGHT SEAL SHALL BE PROVIDED WHERE THE ELECTRICAL CONDUIT ENTERS THE ATU AND THE BUILDING.
5. PROVIDE HIGH WATER ALARM (BELL AND LIGHT) INSIDE BUILDING WITH AUTOMATIC RESET SILENCING SWITCH.
6. PUMP AND ALARM TO EACH HAVE THEIR OWN SEPARATE DEDICATED CIRCUITS. ALL ELECTRIC WORK TO BE DONE IN ACCORDANCE WITH NEC.
7. PUMP CHAMBER TO CONTAIN SINGLE PUMP WITH THE FOLLOWING SPECIFICATIONS:
    - MAKE: CHAMPION
    - MODEL: CPE4
    - VOLTAGE: _____
    - HORSEPOWER: 1/4
8. PUMP TO BE CAPABLE OF 50 G.P.M. AT 16.0 T.D.H.
9. PROVIDE LEVEL CONTROLS AT HEIGHTS INDICATED FOR PUMP PIT.
10. ON/OFF FLOAT SETTINGS ARE BASED UPON MANUFACTURER RECOMMENDATIONS. SLEEVE LENGTH 1 1/2"
11. CONTRACTOR MUST SECURE ALL NECESSARY ELECTRICAL PERMITS FOR CONNECTION OF THE PUMP PIT

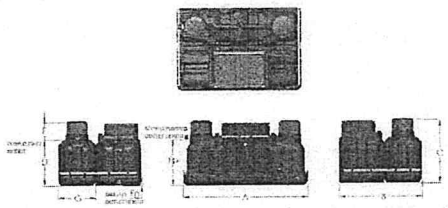
Ecoflo® Coco Filter - Polyethylene-PACK

Technical data sheet

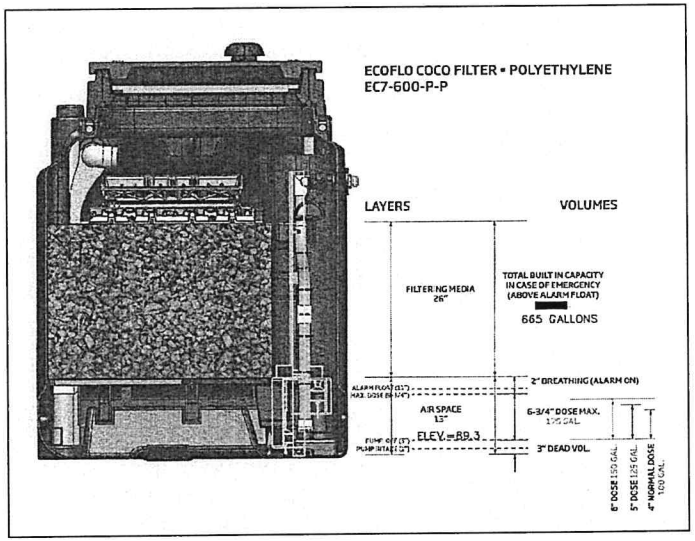
This is the technical data sheet of the Ecoflo® Coco Polyethylene. If you have any questions or comments, please contact the customer service at 1 800 632-6356.

Material used

- Shell: polyethylene;
- Monobloc configuration: Pack
- Lid, central support, tipping bucket and distribution plates: plastic;
- Filtering media: organic natural fibers.



Models	Ecoflo Coco 2.8 - PACK		Ecoflo Coco 3.4 - PACK	
	EC7-500-P-P-PACK-USA EC7-1900-P-P-PACK-CAN	EC7-500-P-G-PACK-USA EC7-1900-P-G-PACK-CAN	EC7-600-P-P-PACK-USA EC7-2200-P-P-PACK-CAN	EC7-600-P-G-PACK-USA EC7-2200-P-G-PACK-CAN
Type of disposal	pumped	gravity	pumped	gravity
Type of bottom	closed	closed	closed	closed
Treatment surface area	2,8 m² (32 ft²)		3,4 m² (37 ft²)	
Daily Flow	500 US gallons per day (1 895 Liters per day)		600 US gallons per day (2 270 Liters per day)	
Length (A)	3 120 mm (10' 3")		3 530 mm (11' 6")	
Width (B)	2 580 mm (7' 9")		2 580 mm (7' 9")	
Height (C)	1 770 mm (5' 10")		1 770 mm (5' 10")	
Inlet height (D)	1265 mm (4' 4")		1265 mm (4' 4")	
Inlet height (E)	485 mm (1' 7")		485 mm (1' 7")	
Outlet height (Fg and Fd)	38 mm (1½")	1 140 mm (3' 9")	38 mm (1½")	1 140 mm (3' 9")
Total Storage volume under the filtering media	595 L (155 USG)		1 135 L (300 USG)	
Built-in effective volume available for dosing	605 L (160 USG)	N/A	682 L (180 USG)	N/A
Weight (including internal components and dry filtering media)	720 kg (1 570 lb)	780 kg (1 650 lb)	850 kg (1 870 lb)	940 kg (1 550 lb)



USE SLEEVE LENGTH 1 1/2" – 180 GALLONS

NO.	DATE	REVISION

SEPTIC SYSTEM ALTERATION

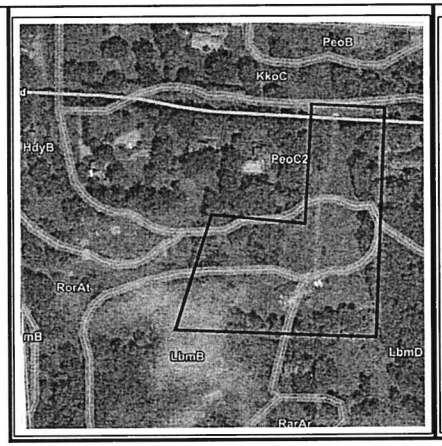
BLOCK 91 LOT 3.04
TOWNSHIP OF CLINTON
HUNTERDON COUNTY, NEW JERSEY

Erica Busch
ERICA L. BUSCH
NEW JERSEY PROFESSIONAL ENGINEER LIC. NO. 32145
PO BOX 486, HAMPTON, NEW JERSEY 08827
(908) 202–4477

DATE	SCALE	SHEET
2/9/21	AS SHOWN	4 OF 5

GENERAL NOTES:

1. SURVEY BOUNDARY INFORMATION OBTAINED FROM PLAN OF SURVEY PREPARED BY THOMAS A HARRIS, JR., PLS NJPLS NUMBER 34858, DATED 6-18-18
2. TOPOGRAPHIC INFORMATION OBTAINED ON 1/20/21 AND IS BASED ON AN ASSUMED DATUM.
3. ACCORDING TO THE NJ DEP GEO MAP THERE ARE NO WETLANDS/TRANSITION AREAS WITHIN THE AREA OF DISTURBANCE
4. PROPOSED DISPOSAL BED IS >50 FEET FROM ADJACENT DISPOSAL SYSTEMS, STREAMS AND STORM SEWERS.
5. THIS PLAN IS TO BE USED FOR THE CONSTRUCTION OF THE SEPTIC SYSTEM ONLY. IT IS NOT INTENDED TO BE USED AS A PLOT PLAN FOR THE CONSTRUCTION OF ANY IMPROVEMENTS.
6. THE LOCATION OF ALL UTILITIES IN THE VICINITY OF THE PROJECT SITE ARE NOT GUARANTEED FOR ACCURACY AND/OR COMPLETENESS. CONTRACTOR IS TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. (1-800-272-1000)
7. THE CONTRACTOR IS RESPONSIBLE TO BE FAMILIAR WITH ALL LOCAL AND STATE HEALTH CODES.
8. ANY CONDITION DIFFERENT THAN SHOWN MUST BE REPORTED TO THE DESIGN ENGINEER IMMEDIATLY.
9. THE CONTRACTOR IS RESPONSIBLE TO PERFORM THE WORK IN A SAFE MANNER AND TAKE ALL NECESSARY PRECAUTIONS TO INSURE A SAFE WORK ENVIRONMENT. THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR THE CONTRACTORS OPERATIONS OR SAFETY MEASURES.
10. ALL WORK SHALL BE IN CONFORMANCE WITH N.J.A.C. 7:9A "STANDARDS FOR INDIVIDUAL SUBSURFACE SEWAGE
11. DESIGN ENGINEER AND HEALTH DEPARTMENT SHALL RECEIVE 72 HOURS NOTICE PRIOR TO CONSTRUCTION.
12. PRIOR TO ANY CONSTRUCTION, THE DESIGN ENGINEER SHALL:
    - SET A BENCHMARK IN THE IMMEDIATE DISPOSAL AREA.
    - STAKEOUT THE PROPOSED DISPOSAL BED.
    - VERIFY THAT THE ELEVATIONS SHOWN ON THE APPROVED DESIGN ARE CONSISTENT WITH ACTUAL FIELD CONDITIONS.
13. DURING CONSTRUCTION THE DESIGN ENGINEER IS TO INSPECT THE FOLLOWING:
    - OPEN EXCAVATION
    - PERMEABILITY TESTS ARE TO BE CONDUCTED IN SELECT FILL MATERIAL DURING CONSTRUCTION
    - FILL BEFORE PLACEMENT OF STONE
    - TANKS, STONE AND PIPING PRIOR TO BACKFILLING
    - FINAL GRADING, INCLUDING SEEDING AND MULCHING OF DISTURBED GROUND
    - PUMP PERFORMANCE AND FLOAT SETTINGS IF APPLICABLE.
14. SYSTEM WAS NOT DESIGNED TO ACCOMMODATE A GARBAGE DISPOSAL SYSTEM OR SEWAGE EJECTOR PUMP . INSTALLATION OF A GARBAGE DISPOSAL SYSTEM OR SEWAGE EJECTOR PUMP IS PROHIBITED.
15. WATER SOFTENER BACKWASH WATER SHALL NOT BE DISCHARGED INTO THIS SYSTEM.
16. BUILDING SEWER TO BE INSPECTED DURING CONSTUCTION AND REPLACED WITH 3" SCH40 PVC IF APPLICABLE
17. THIS LOT IS SERVED BY PRIVATE WELL FOR WATER SUPPLY. WELL HAS > 50' CASING
18. THE EXISTING SEPTIC TANK SHALL BE PUMPED BY A LICENSED SEWAGE HAULER AND INSPECTED TO INSURE THE TANK IS STRUCTURALLY SOUND AND THE CAPACITY IS A MINIMUM OF 1000 GALLONS. THE BAFFLES SHALL BE REPLACED IF NECESSARY. THE FILTER SHALL BE REPLACED
    THE PUMPING RECEIPT SHALL BE SUBMITTED TO THE HEALTH DEPARTMENT AT THEIR REQUEST.
    TANK SHALL BE REPLACED WITH NEW 1000 GALLON 2 COMPARTMENT IF NECESSARY.
    EXISTING DISPOSAL BED TO BE ABANDONED IN PLACE.
19. SEPTIC SYSTEM HAS BEEN DESIGNED IN A MANNER THAT WILL NOT INCREASE STORMWATER RUNOFF OR PONDING ON ADJOINING PROPERTIES
20. CONTRACTOR SHALL SUPPLY C-33 SHIPPING RECEIPTS TO DESIGN ENGINEER.
21. IN ACCORDANCE WITH NJAC7:9-8.3(b)
    1. ENGINEER IS SUFFICIENTLY KNOWLEDGEABLE OF THE TECHNOLOGY TO DESIGN THE SYSTEM
    2. SYSTEM HAS BEEN DESIGNED IN A MANNER WHICH MEETS ALL MANUFACTURER'S MINIMUM SPECIFICATIONS AND OR RECOMMENDATIONS
    3. SYSTEM HAS BEEN DESIGNED SO THAT RAW WASTEWATER IS NOT DISCHARGED WITHOUT FIRST BEING PROPERLY TREATED BY THE SYSTEM AS IT WAS DESIGNED. AND THAT THE LIQUID LEVELS IN THE TANKS OR OTHER TREATMENT VESSELS ARE MONITORED BY A PROPERLY FUNCTIONING HIGH LEVEL ALARM OR OTHER MONITORING EQUIPMENT OR ALARM AS RECOMMENDED BY THE MANUFACTURER.
    4. THE MANUFACTURER'S RECOMMENDATIONS HAVE BEEN UTILIZED FOR SIZING OF THE ADVANCED WASTEWATER PRETREATMENT WHENEVER A DISCREPANCY OCCURS BETWEEN THE ESTIMATED VOLUME OF SANITARY SEWAGE CALCULATED IN ACCORDANCE WITH NJAC7:9A-7.4 AND THE MANUFACTURER'S SIZING OF THE ADVANCED WASTEWATER PRETREATMENT DEVICE. SIZING OF ALL OTHER COMPONENTS OF THE SYSTEM CONFORM TO NJAC7:9
22. AS OF JANUARY 1, 2013, CONTRACTOR MUST HAVE NEHA CERTIFICATION TO INSTALL THE ATU AND THE EXCAVATOR SHALL PROVIDE COPY OF THE CERTIFICATION PRIOR TO INSTALLATION OF THE SYSTEM.
23. ENGINEER SHALL INSPECT THE ENTIRE INSTALLATION AND SIGN THE CERTIFICATE OF COMPLIANCE FORM.
24. THE OWNER OF THE SYSTEM MUST HAVE IN PLACE A PREVENTATIVE MAINTENANCE AND MONITORING CONTRACT WITH AN AUTHORIZED SERVICE DEALER TO ENSURE IT IS FUNCTIONING PROPERLY AND TO OPTIMIZE TREATMENT PERFORMANCE FOR THE LIFE OF THE SYSTEM.
25. AUTHORIZED INSTALLER SHALL PROVIDE A COPY OF AN EXECUTED AUTHORIZED SERVICE CONTRACT.
26. IN ACCORDANCE WITH NJAC7:9-8.3(b)6 SYSTEM SHALL UTILIZE AN ACTIVE PHONE LINE EQUIPPED WITH AN AUTO DIALER TO NOTIFY THE AUTHORIZED SERVICE PROVIDER OF ALARM CONDITIONS INCLUDING IF POWER TO ANY OF THE SYSTEM EQUIPMENT IS DISCONNECTED. INSTALL MySpy WIFI MESSENGER ALARM SYSTEM



USDA WEB SOIL SURVEY MAP

SOILS MAPPED AS RorAt; ROWLAND SILT LOAM, 0-2% SLOPES
NTS

NJDEP GEO WEB MAP

NTS

NJAC7:9A 8.3 (c) (d)

1. An authorized installer shall be physically present at all times during installation of an advanced wastewater pretreatment device and either install or directly oversee the installation of the advanced wastewater pretreatment device.
2. The authorized installer shall ensure that the property owner has been provided with a copy of the service contract and agrees to comply with the requirements therein by obtaining their written acknowledgement via signature prior to the installation of any system that incorporates an advanced wastewater pretreatment device.
3. All advanced wastewater pretreatment devices shall be installed in accordance with directions provided in the advanced wastewater pretreatment device manufacturer's installation manual and the approved system design.
4. The authorized installer shall be in possession of all necessary permits, approvals and licenses before attempting any portion of an installation. All documentation must be located at the installation site for the duration of the installation and made available upon request by the administrative authority or the Department.
5. The watertightness of any tanks specified in the design must be watertight tested at the installation site after the tank has been installed, in accordance with the same requirements identified for septic tanks at N.J.A.C. 7:9A-8.2(m).

(d) The following requirements are applicable for system start-up of any system containing an advanced wastewater pretreatment device:

1. The authorized service provider shall inspect the system following installation.
   i. The authorized service provider shall complete a manufacturer's system start-up checklist; and
   ii. The authorized service provider shall provide the completed start-up checklist to the administrative authority.
2. The authorized installer that installed the advanced wastewater pretreatment device shall be present at the time of start-up.

NO.	DATE	REVISION

SEPTIC SYSTEM ALTERATION

BLOCK 91 LOT 3.04
TOWNSHIP OF CLINTON
HUNTERDON COUNTY, NEW JERSEY

Erica Busch
ERICA L. BUSCH
NEW JERSEY PROFESSIONAL ENGINEER LIC. NO. 32145
PO BOX 486, HAMPTON, NEW JERSEY 08827

DATE	SCALE	SHEET
2/9/21	1"=30'	2 OF 5

Fee Enclosed
☐ New Design $250.00
X Alteration $225.00
☐ Redesign $ 90.00 (Of previously approved design)
☐ Re-Review $ 15.00 (after initial plan rejection)

Receipt #_____

1st Re-Review Receipt # _____
2nd Re-Review Receipt # _____

Municipality Clinton Block 91 Lot 3.04

HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 1 - General Information

1. Name of Applicant (print): Carmine Fernandez
2. Applicant's Present Address: 27 Hibbler Road, Annandale NJ 08801
3. Applicant's Phone Number: Day 908-334-9129 Night _____
4. Applicant's email address: cjfernan54@gmail

BUILDING LOCATION MUST BE STAKED. DATE STAKED _____

4. Type of Permit Needed (Check applicable categories):

__ a. New Construction
__ c. Alteration/Expansion or Change in Use
__ e. Repair (in-kind replacement)/Malfuntioning System
__ g. Deviation from Standards
_x_ b. Alteration/No expansion or Change of Use
___d. Alteration/Malfunctioning System
___f. Repair (in-kind replacement) System is not malfunctioning
___ h. New system installed (existing structure)

5. Location of Project: Street Address 27 Hibbler Road Zip Code 08801

6. Type of Facility: X Residential Commercial/Institutional _____
Specify Type of Establishment: _____

7. Type of Wastes to be Discharged:
X Sanitary Sewage _____ Industrial Wastes _____Other – Specify Type

8. If d. or e. in 4. Above are checked, indicate the type of malfunction and its cause (check all that apply):
____ Contamination of nearby wells or surface water bodies by sanitary sewage or effluent
____ Ponding or breakout of sanitary sewage or effluent onto the surface of the ground
____ Seepage of sanitary sewage or effluent into portions of building below ground
____ Back-up of sanitary sewage into the building served, which is not caused by a physical blockage of the internal plumbing
____ Any manner of leakage observed from components that are not designed to emit sanitary sewage or effluent
____ Direct discharges to ground water (no zone of treatment)
Describe the cause of the malfunction: _____

9. Please expand on Question #4, above, by checking if any of the following apply:
____ A privy, outhouse, latrine or pit toilet is present, a system must be installed
X A system must be upgraded as part of a real property transfer
___ A cesspool has been identified during a real property transfer and a conforming system must be installed
____ A malfunctioning cesspool has been identified and a conforming system must be installed

10. Other Approvals/Certification/Waivers/Exemptions (attach to application):
_____ U.S. Army Corps of Engineers _____ N.J.D.E.P. – Bureau of Flood Plain Management
_____ Other - Specify:

11. I hereby certify that the information furnished on this application is true. I am aware that false swearing is a crime in this state and subject to prosecution.

Signature of Applicant _____ Date_____

NOTE:
The applicant is responsible for obtaining all other required Federal, State or local approvals prior to the commencement of work under this approval, including but not limited to, NJDEP permits to conduct activities in freshwater wetlands, freshwater wetland transition areas, or flood plain jurisdictions. Failure to obtain these permits prior to conducting regulated activities within these areas may result in removal of the system and or the assessment of significant civil penalties

---

FOR HUNTERDON COUNTY HEALTH DEPARTMENT USE ONLY

_____Application Denied, see attached letter

_____Application Approved

_____Application Approved Subject to Approval of NJDEP

_____Date of Action Signature of Authorized Agent _____

Name and Title _____

EXPIRATION DATE: _____

HUNTERDON COUNTY HEALTH DEPARTMENT
10/93 APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2a - General Site Evaluation Data

MUNICIPALITY: **Clinton** BLOCK **91** LOT **3.04**

1) Name of Site Evaluator (print) **Erica Busch**

2) Business Address of Site Evaluator **PO Box 486 Hampton NJ 08827**

3) Business Phone Number of Site Evaluator **908-202-4477**

4) Special Site Limitations Identified (Check Appropriate Categories)

_____Flood Plains _____ Bedrock Outcrops _____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 _____Regrade/Area _____ Subsurface Drains
_____Other-Specify:_____

B) Existing Ground Surface
Elevation Relative to Ground Surface_____
Method of Identification _____

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 (24 hours)_____

C) Piezometer B: Depth to Bottom_____
Depth of Water Level (24 hours)_____

D) Witnessed by:_____
Signature _____ Date

8) Attachments (Check items included)

__X__ Site Plan
__X__ Key Map Showing Location of Site on U.S.G.S. Quadrangle or Other Accurate Map
__X__ Key Map Showing Location of Site on U.S.D.A. Soil Survey Map
__X__ Other - Specify **Survey**

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. 7:14-9.

Signature of Soil Evaluator _____ Date **2/9/21**

Signature of Professional Engineer _____ Date **2/9/21**

N.J. License No. **32145** Seal

Sa 2b 05/2012

HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b - Soil Log and Interpretation

MUNICIPALITY: Clinton BLOCK 91 LOT 3.04

1. Log Number 1 Method: Profile Pit X Boring ____

2. Soil Log: Date Recorded 1/20/21

Depth (Inches) 132" Description:

0-8" Topsoil
8-70" Disturbed soil and fill material
70-91" Dark reddish brown (2.5YR3/4) friable subangular blocky clay loam with 5% gravel, 5% cobbles.
91-132" Dark reddish brown (2.5YR3/4) friable subangular blocky clay loam with 50-70% fractured shale. somewhat blocky and easily rippable.

2a. If mottling give reason for mottling: Few fine faint 42-132" Regional

3. Ground Water Observations:

x Seepage - Indicate Depth 91"

____ Pit/Boring Flooded ____ Depth after ____ Hours

4. Soil Limiting Zones:

x	Fractured Rock Substratum - Depth to Top	91"
____	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	____
x	Regional Zone of Saturation - Depth to Top	42"

5. Soil Suitability Classification: IIWr

6. I hereby certify that the information furnished on Form 2b of this application 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 Eric Burk Date 2/9/21

Signature of Professional Engineer Eric Burk Date 2/9/21

Seal

Sa 2b 05/2012

HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b - Soil Log and Interpretation

MUNICIPALITY: Clinton BLOCK 91 LOT 3.04

1. Log Number 2 Method: Profile Pit X Boring _____

2. Soil Log: Date Recorded 1/20/21

Depth (Inches) 132" Description:

0-8" Topsoil
8-32" Disturbed soil and fill material
32-62" Dark reddish brown (2.5YR3/4) friable subangular blocky clay loam with 5% gravel, 5% cobbles
62-132" Dark reddish brown (2.5YR3/4) friable subangular blocky clay loam with 50-70% fractured shale, somewhat blocky and easily rippable.

Roots to 62"

2a. If mottling give reason for mottling: _____

3. Ground Water Observations:

x Seepage - Indicate Depth 108"

_____ Pit/Boring Flooded _____ Depth after _____ Hours

4. Soil Limiting Zones:

x	Fractured Rock Substratum - Depth to Top	32"
_____	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	_____
x	Regional Zone of Saturation - Depth to Top	108"

5. Soil Suitability Classification: IISc

6. I hereby certify that the information furnished on Form 2b of this application 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 Eric Burk Date 2/9/21

Signature of Professional Engineer Eric Burk Date 2/9/21

Seal

HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 3a - Soil Permeability Data

MUNICIPALITY: Clinton BLOCK 91 LOT 3.04

Assign a number for each test and a letter for each test replicate. Show test data and calculations on Form 3b, 3c, 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 Date	Test Number	Replicate (letter)	Depth (inches)	Result*
SPCR	1/20/21	1A	1B	70-91"	K1
Pit Bail	1/20-21/21	2A		91"	2.7 in/hr

*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 __X__ C-33 fill rate (6-20 in/hr)

3. Type of Limiting Zone Identified Test Number

4. Attachments (Check items included):

_____Form 3b - Tube Permeameter Test Data - Number of Sheets _____

__X__Form 3c - Soil Permeability Class Rating Test Data - Number of Sheets__2__

_____Form 3d - Percolation Test Data - Number of Sheets_____

__X__Form 3e - Pit-Bailing Test Data - Number of Sheets __2__

_____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 Soil Evaluator _____ Date 2/9/21

Signature of Professional Engineer _____ Date 2/9/21

Seal

N.J. License No. 32145

HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 3c - Soil Permeability Class Rating Test Data

MUNICIPALITY: Clinton BLOCK 91 LOT 3.04

I. Test Number 1A Replicate (letter) 1B

II. Sample Depth 70-91" Soil/Pit Boring Number 1 Date Collected 1/20/21

111. Coarse Fragment Content:

Total Weight of Sample, W.T., grams 210.7
Weight of Material Retained on 2mm sieve, W.C.F., grams 98.7
Wt. % Coarse Fragment (W.C.F. / W.T. x 100): 46.8

IV. Oven Dry Weight (24 hrs., 105E C) of 40 Gram Air Dry Sample, grams, Wt. 38.3

V. Hydrometer Calibration, Rc 6.0

VI. Hydrometer Reading - 40 seconds, grams, R1 26.0
Temperature of Suspension, EF 71

VII. Corrected Hydrometer Reading, grams, R1' 20.6

VIII. Hydrometer Reading - 2 hours, grams, R2 16.0
Temperature of Suspension, EF 70

IX. Corrected Hydrometer Reading, grams, R2' 10.4

X. % sand = (Wt. - R1') / Wt. x 100 = (38.3 - 20.6)/ 38.3 x 100 = 46.2

XI. % clay = R2' / Wt. x 100 = 10.4 / 38.3 x 100 = 27.1

XII. Sieve Analysis:

a. Oven Dry Wt. (2 hrs., 105EC) Total Sand Fraction
(Soil Retained in 0.047 mm Sieve), grams 17.3
b. Wt. of Fine Plus Very Fine Sand Fraction
(Sand Passing 0.25 mm Sieve), grams 6.3
c. % Fine Plus Very Fine Sand (b / a) 36.4

XIII. Soil Morphology (Natural Soil Samples Only):

Structure of Soil Horizon Tested Subangular blocky
Consistence of Soil Horizon Tested: Dry _____ Moist friable

XIV. Soil Permeability Class Rating (Based upon average textural analysis of the replicate and other replicate samples) K1

XV. I hereby certify that the information furnished on Form 3c of this application 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 Eric Burk Date 2/9/21

Signature of Professional Engineer Eric Burk Date 2/9/21

Seal

N.J. License No. 32145

HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 3c - Soil Permeability Class Rating Test Data

MUNICIPALITY: Clinton BLOCK 91 LOT 3.04

I. Test Number 1B Replicate (letter) 1A

II. Sample Depth 70-91" Soil/Pit Boring Number 1 Date Collected 1/20/21

III. Coarse Fragment Content:

Total Weight of Sample, W.T., grams 203.4
Weight of Material Retained on 2mm sieve, W.C.F., grams 88.8
Wt. % Coarse Fragment (W.C.F. / W.T. x 100): 43.6

IV. Oven Dry Weight (24 hrs., 105E C) of 40 Gram Air Dry Sample, grams, Wt. 38.3

V. Hydrometer Calibration, Rc 6.0

VI. Hydrometer Reading - 40 seconds, grams, R1 26.0
Temperature of Suspension, EF 71

VII. Corrected Hydrometer Reading, grams, R1' 20.6

VIII. Hydrometer Reading - 2 hours, grams, R2 16.0
Temperature of Suspension, EF 70

IX. Corrected Hydrometer Reading, grams, R2' 10.4

X. % sand = (Wt. - R1') / Wt. x 100 = (38.3 - 20.6)/ 38.3 x 100 = 46.2

XI. % clay = R2' / Wt. x 100 = 10.4 / 38.3 x 100 = 27.1

XII. Sieve Analysis:

a. Oven Dry Wt. (2 hrs., 105EC) Total Sand Fraction
(Soil Retained in 0.047 mm Sieve), grams 17.0
b. Wt. of Fine Plus Very Fine Sand Fraction
(Sand Passing 0.25 mm Sieve), grams 6.3
c. % Fine Plus Very Fine Sand (b / a) 37.0

XIII. Soil Morphology (Natural Soil Samples Only):

Structure of Soil Horizon Tested Subangular blocky
Consistence of Soil Horizon Tested: Dry _____ Moist friable

XIV. Soil Permeability Class Rating (Based upon average textural analysis of the replicate and other replicate samples) K1

XV. I hereby certify that the information furnished on Form 3c of this application 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 Eric Burk Date 2/9/21

Signature of Professional Engineer Eric Burk Date 2/9/21

Seal

N.J. License No. 32145

HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 3f Pit-Bailing Test Data
(1 of 2)

ALL DATA MUST BE IN MEASUREMENT UNITS INDICATED (FEET OR INCHES). ONLY ONE PITBAIL TEST PER SHEET.

MUNICIPALITY: Clinton BLOCK 91 LOT 3.04

1. Test Number PB1 Reference Soil Log 2 Date Tested 1/20/21-2/9/21

2. Using the reference level established, measured and record the following:

-Depth to Bottom of Pit, ft, D_{pit} = 7.58

-Depth to Water Level after 2 hr. Stabilization Period, ft, D_{water} = 6.04

-Depth to Impermeable Stratum, ft, $D_{stratum}$ = 11.0
(If depth is unknown assume it to be 1.5 times D_{pit})

-Height of Water Level Above Impermeable Stratum, ft, H = 4.96
($H = D_{stratum} - D_{water}$)

-Length of Time Interval, min., T = 10

3. Record the following data in the table below:

-Time in minutes, enter actual time interval for each measurement taken, t_n minutes

-Depth of Water Level Below Reference Level in inches, d_a

-Water Surface Dimensions in feet l & w

4. Calculate the following values and enter in the table below:

-Water Surface Area, ft^2, A_a

-Water Level Rise, in, h_r (Subtract current value of d_a from previous value)

-Ave. Water Surface Area, ft^2, A_{av} (Take average of A_a and previous A_n)

-Ave. Height of Water Level Above Impermeable Stratum, ft, h
(Take ave. d_n and previous d_a, convert to ft., subtract from $D_{stratum}$)

-Permeability, in/hr, K_n (Calculate using formula):
$K_a = [h_r / T] \times [A_{av.} / 2.27 (H^2 - h^2)] \times 60$ min/hr

t_n		d_a (in)	l,w (ft)	A_a (ft^2)	h_r (in)	A_{av}(f^2)	h (ft)	K_n (in/hr)
t_0	9:13	91	1.0,1.0	1.0	*	*	*	*
t_1	9:20	87	2.0,3.5	7.0	4	4.0	3.6	5.1
t_2	9:30	85	3.08,3.5	10.8	2	8.9	3.8	4.7
t_3	9:40	83	3.33,3.5	11.7	2	11.2	4.0	6.9
t_4	9:50	81	4.0,3.5	14.0	2	12.8	4.2	9.4
t_5	10:00	79.5	4.16,3.6	14.6	1.5	14.3	4.3	9.4
t_6	10:10	78	4.25,3.5	14.9	1.5	14.7	4.4	11.9
t_7								
t_8								
t_9								
t_{10}								

5. Record the Following Data:

-Final Depth of Pit, ft, D_{pit} = 11.0

- X Check here if digging was stopped due to machine refusal or machine limitations.
{(See step 6 of Pitbail Test N.J.A.C. 7:9A-6.5(c)}.

-Final Depth to Impermeable Stratum, ft, $D_{stratum}$ = 11.0
(If no impermeable stratum is encountered assume $D_{stratum} = D_{pit}$)

-Height of Standpipe Above Reference Level, ft, h_{pipe} = _____

-Depth to Water Level after 24 hr. Stabilization Period, ft, D_{water} = 4.58
(Take measurement from top of standpipe. Subtract h_{pipe})
(enter 0 if standpipe not used)

-Height of Static Water Level Above Impermeable Stratum, ft, H = 6.42
($H = D_{stratum} - D_{water}$)

-Average Height of Water Level Above Impermeable Stratum, ft, h = 3.84
(Take average d_a from beginning and end of last time interval recorded in Section 4, convert to ft., subtract final $D_{stratum}$)

6. Re-calculation of K using data from Section 5 above and from final time interval of Section 4:

$K = [h_r / T] \times [A_{av} / 2.27(H^2-h^2)] \times 60$ min/hr
$= [\ 1.5/\ 10] \times [\ 14.7\ / 2.27\ (\ 6.42^2 - 4.4^2\ )] \times 60$ min/hr = 2.7 in/hr

7. I hereby certify that the information furnished on Form 3f of this application 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 Eric Burk Date 2/9/21

Signature of Professional Engineer Eric Burk Date 2/9/21

Seal

N.J. License No. 32145

HUNTERDON COUNTY HEALTH DEPARTMENT
0/93 APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 4 - General Design Data

MUNICIPALITY: Clinton BLOCK 91 LOT 3.04

I. Volume of Sanitary Sewage, gal. 650

X Residential: No. of Dwelling Units 1 Total No. of Bedrooms: 4
Expansion attic (y or n) n

_____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 _____

II. Alterations or Repairs

a. Reason for Alteration or Repair (Check appropriate categories):
_____Expansion or Change in Use _____Upgrade Existing Facilities
_____Correct Malfunctioning System X Other Specify_ Real Estate Transfer

b. Describe Nature of Alteration or Repairs: Install ATU and pressure dosed MSR

III. a. Grease Trap Capacities, gals. _____
Show Calculation Used: _____

b. Ejector/grinder pump or garbage disposal
Existing: Yes ____ No X
Proposed: Yes ____ No X
Note: If marked yes, tank must be enlarged by 50%

c. Septic Tank Capacities, gals. 1000 Existing First (Single) Compartment 1000
_____Second Compartment _____ _____ Third Compartment _____

d. Effluent Distribution
Method: _____ Gravity Flow _____ Gravity Dosing
X Pressure Dosing
Dosing Device: X Pump _____ Siphon

e. Dosing Tank Capacities, gals: Total Capacity EcoFlo Unit Dose Volume 162.5 (USE 180)
Reserve Capacity 665

f. Laterals: Number 3 Total Length 504' Pipe Size 5/4"" Spacing 3'-9"

g. Connecting Pipe: Size 2" Length 115'

h. Manifold: Size 2" Length 7.5'

i. Disposal Field: Type of Installation MSR

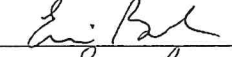
Design Permeability (Percolation Rate) 6-20 in/hr
Trenches: Width __ Total Length __ Bed: Area 13'x48'=624sf (17'x52')

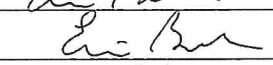
j. Seepage Pits: Design Percolation Rate _____ Number of Pits: ____
Total Percolating Area Provided: _____

IV. Attachments (Check items included):

X General Plan of System Showing Location of All System Components, No Larger That 8 1/2 Inches X 14 1/2 Inches, Unless Prior Approval Given.
X X-Sections of Each System Component Including Grease Trap, Septic Tank,, Dosing Tank, Disposal Field, Seepage Pits and Interceptor Drains
X Pump Performance Curve
X Other - Specify Survey

1. I hereby certify that the information furnished on Form 4 of this application (and 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  Date 2/9/21

N.J. License No. 32145 
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05/2012
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HUNTERDON COUNTY HEALTH DEPARTMENT
APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 5 - Design of Pressure or Gravity Dose System

MUNICIPALITY Clinton BLOCK 91 LOT 3.04

I.Configuration of Distribution Network:

Type of Manifold: X End ____ Central
Distribution Laterals: Number 3 Length, ft 42 Spacing, ft 3.75 Volume: 7.9
Hole Diameter, ins. 1/4 Hole Spacing, ins. 36
Diameter of Laterals, ins. 5/4

II.Lateral Discharge Rate:

Design Pressure Head at Supply End of Laterals, H, ft. 2.5
Hole Discharge Rate, Q, gpm 1.18
Number of Holes per Lateral, n 14
Lateral Discharge Rate, (Q x n) gpm ~~16~~ 16.52 2/13/21 EB

III.Manifold Length, ft. 7.5 Manifold Diameter, ins. 2 Volume: 1.2

IV.System Discharge Rate, gpm 50

V. a. Pump Selection:

Pump displacement volume: +/- 2
Diameter of Delivery Pipe 2 Length of Delivery Pipe 115 Volume: 18.7
Friction Loss in Delivery Pipe, H_f, ft. 6.6
Elevation of Dosing Tank Low Water Level 89.3
Elevation of Lateral Invert 96.25
Elevation Head, H_e, ft. 6.9
Total Operating Head, H_t, ($H_p + H_f + H_e$), ft. 16.0
Pump Model **CHAMPION PUMP INSTALLED WITH ECOFLO UNIT** Rated Horsepower 1/4
Pump Discharge Rate at Total Operating Head, gpm 50

b. Siphon Elevation:

Diameter of Delivery Pipe ____ Length of Delivery Pipe ____ Volume: ____
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 ____
Internal horizontal area of dosing tank in (ft^2) ____

VI. Dose Volume:

Design Volume of Sewage, gal/day 650
Design Permeability, in/hr 6-20 or Percolation Rate, min/in ____
Internal Volume of Distribution Network 27.8 (18.7 will drain back)
Dose Volume 180
Pump tank size in (ft^2) 25.9 inside ATU

VII. I hereby certify that the information furnished on Form 5 of this application (and 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 Eric Burk Date 2/9/21

N.J. License No. 32145

Seal

Block 91 Lot 3.04
22 Hibbler Rd

Township of Clinton ATU

PRESSURE DOSING CALCULATIONS

1.	Length of distribution lateral	42'
2.	Hole spacing (C-33 fill max. 36")	36" (3')
3.	Lateral spacing	3.75'
4.	Number of laterals with END manifold	3
5.	Total number of laterals	3
6.	Select hole diameter	¼"
7.	Lateral diameter (Figure 14")	5/4"
8.	Hole discharge rate @ min pressure head, 2.5'	1.18 gpm
9.	Number of holes/lateral (lateral length/hole spacing)=(42/3)	14
10.	Lateral discharge rate (Number holes)(hole discharge rate) = (14)(1.18)	16.5 gpm
11.	Manifold length	7.5
12.	Manifold diameter (Figure 15)	2"
13.	Minimum System discharge rate (Number of laterals)(Lateral discharge rate)=(3)(16.5)	49.5 gpm MINIMUM

BLOCK 91 LOT 3.04 Clinton Twp **ATU**
2/9/21

PUMP CALCULATIONS

Dose volume Q=Daily sewage volume =650 gallons per day
V=Internal volume of distribution network

Force main	115'π[(2")/12]² /4 (7.48gal/ft)	=18.7
Laterals	42'(3)π[(5/4")/12]² /4 (7.48gal/ft)	= 7.9
Manifold	7.5'π[(2")/12]² /4 (7.48gal/ft)	= 1.2
	V=Total	=27.8

Calculate required dose volume
MIN = 10 V = 10(27.8) = 278.0
MAX= .25 Q = .25(650) = 162.5 **USE 162.5**

Use ECOFLO pump chamber

Required reserve capacity = Q= 650 gal
ECOFLO Total built in reserve capacity above alarm float = 665 gal

Calculate Pump on height – d
ECOFLO pump chamber
Internal volume of distribution network = 27.8**(only 18.7 gallons drains back)**
Dose volume + distribution network = 162.5+18.7=181.2 gallons
Use SLEEVE LENGTH 1 1/2" FOR DOSE VOLUME 180 GALLONS PER ECOFLO

Calculate pump size

Total operating head, H total = Hp + He + Hf

Hp, H pressure head = **2.5'**

He, H elevation = Manifold inv. elev. - pump off elev. = 96.25-89.3 = **6.9'**

Hf, H friction minor losses for **2"force main**

5 90 elbows @ 5.5 each	27.5
1 pitless adapter	12.0
1 check valve	13.0
Pipe length	115.0
TOTAL	167.5

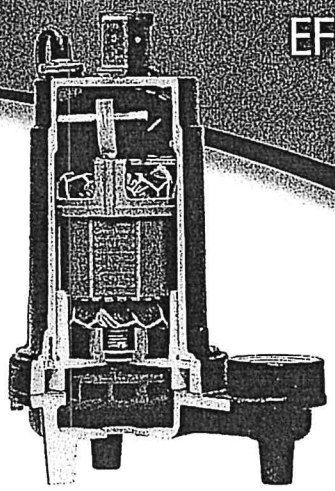
At 50 gpm friction factor = 3.98 ft/100 ft
H friction = (total minor losses) (friction factor) =(167.5)(3.98/100) = **6.6'=Hf**

H total = Hp + He + Hf= 2.5 + 6.9 + 6.6 = **16.0'**

Champion Pump

CPE 4/10HP & 1/2HP

EFFLUENT

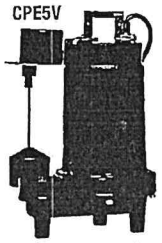


FEATURES/BENEFITS

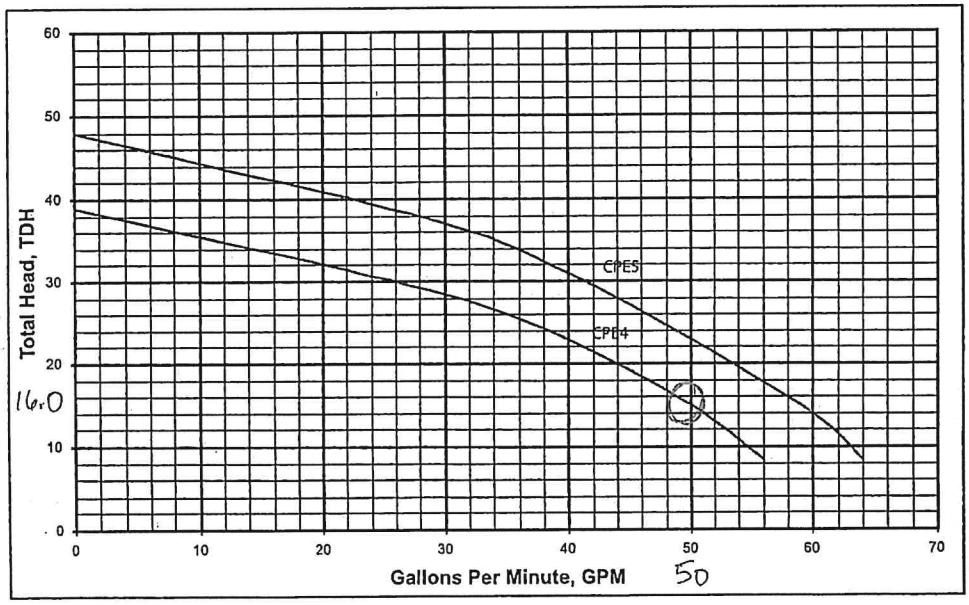
- High Efficient Motor With Upper & Lower Ball Bearings/ Runs Cooler & Last Longer
- Vortex Impeller/ Helps Prevent Clogging
- Inboard Seal-Rotating Components Of Seal Are In The Motor Housing, Lubricated By The Motor Oil/ Seal Will Last Longer If Pump Runs Dry, Hair And Debris Cannot Wrap Around Seal Components
- Secondary Exclusion Seal/ Keeps Debris From Entering Seal Cavity
- Sealed Entry-Replaceable Power Cord/ Easy To Replace In The Field, Prevents Water From Entering The Motor Housing Through A Cut Power Cord (Up to 50' Available)
- Piggy-Back Switch Design/Defective Switches Can Be Diagnosed By Phone; Pump Can Be Operated Manually by Overriding The Switch
- Every Pump Is Tested In Water/Ensures That The Pump Meets Head & Flow Requirements

APPLICATIONS

- Dewatering, Elevator Pits, Septic Systems, Residential & Commercial Developments, STEP Systems



CHAMPION PUMP - PUMP PERFORMANCE CURVE



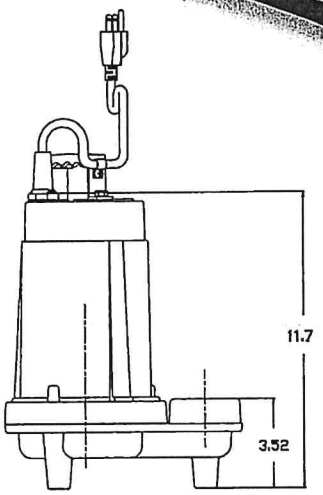
Champion Pump Company, Inc • P.O. Box 528 • Ashland, OH 44805
Phone 419-281-4500 • Toll Free 800-659-4491 • Fax 419-616-1100

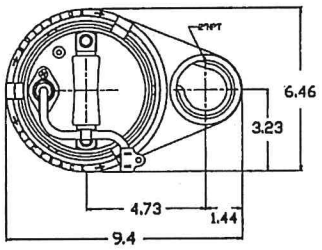
Champion Pump

CPE 4/10HP & 1/2HP

EFFLUENT

Discharge	2" NPT. Vertical
Solids Handling	3/4"
Liquid Temperature	140 Degrees F. (Intermittent)
Motor Housing	Cast Iron
Volute	Cast Iron
Seal Plate	Cast Iron
Impeller	Cast Iron/Vortex
Shaft	Stainless Steel
Shaft Seal	Inboard Mechanical With Secondary Exclusion Seal
	Carbon- Rotating Face
	Ceramic- Stationary Face
	Buna-N-Elastomer
	300 Series Stainless Steel- Hardware
Bearing (Upper & Lower)	Single Row, Ball, Oil Lubricated
Hardware	300 Series Stainless Steel
Square Rings	Buna-N
Cord	(UL/CUL) Listed 16 AWG, Type SJTW
	20' Length Standards. Other Lengths up to 50' Available
Cord Entry	Compression Grommet- Outer Jacket Seal, Quick Disconnect Pin Terminals
Motor (Single Phase)	4/10 & 1/2 HP, 3450 RPM, 60Hz
	NEMA L Includes Overload Protection In The Motor.
	Oil Filled, Class B
	Permanent Split Capacitor
Weight	35lbs (Manual)





Model	HP	Volts	Phase	Amps	Cord Length	Switch
CPE4-12 CPE5-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Manual
CPE4-22 CPE5-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Manual
CPE4-13 CPE5-13	4/10 • 1/2	115	1	6.6 • 8.5	30	Manual
CPE4-15 CPE5-15	4/10 • 1/2	115	1	6.6 • 8.5	50	Manual
CPE4A-12 CPE5A-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Float
CPE4A-22 CPE5A-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Float
CPE4A-13 CPE5A-13	4/10 • 1/2	115	1	6.6 • 8.5	30	Float
CPE4V-12 CPE5V-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Vertical Float
CPE4V-22 CPE5V-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Vertical Float

Champion Pump Company, Inc • P.O. Box 528 • Ashland, OH 44805
Phone 419-281-4500 • Toll Free 800-659-4491 • Fax 419-616-1100