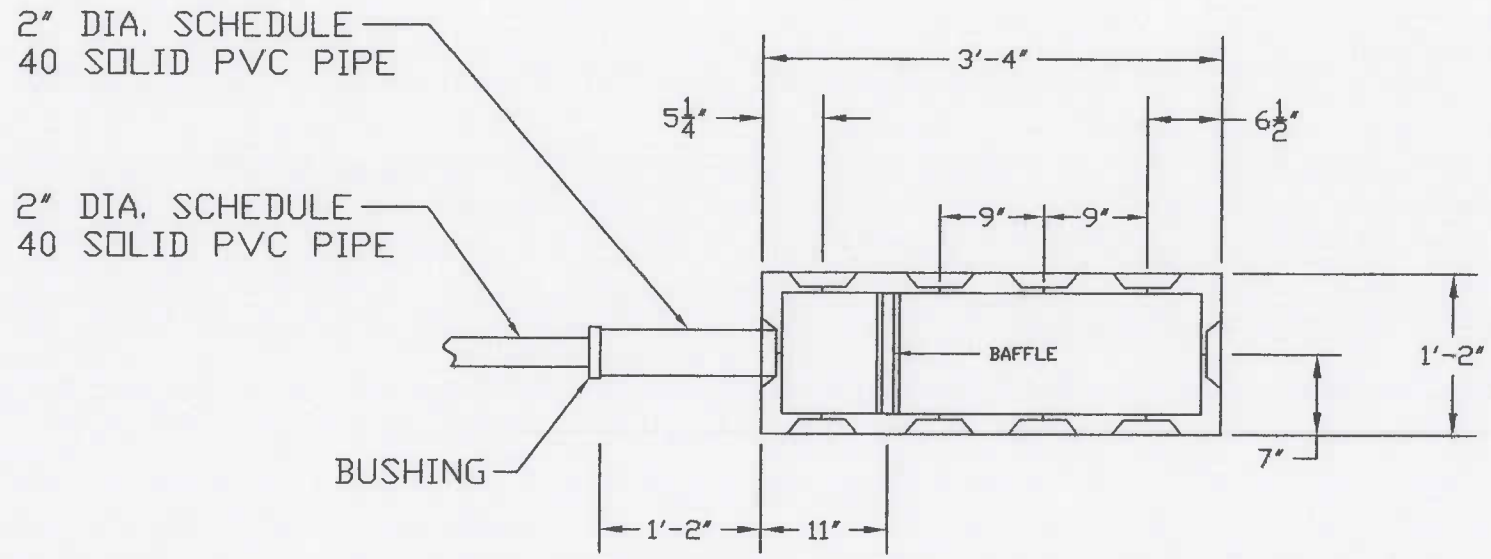
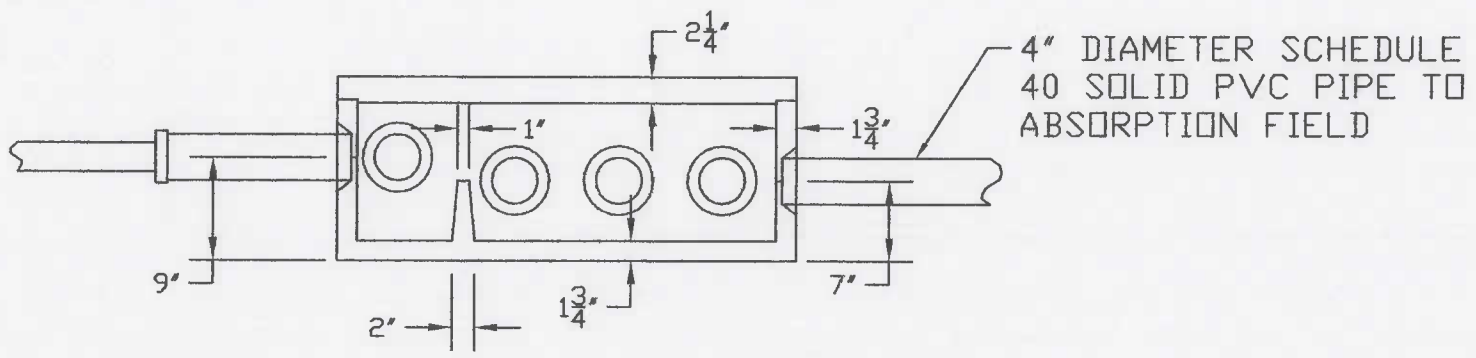


TOP VIEW



SIDE VIEW

DISTRIBUTION BOX

BALLEN SUBDIVISION SEPTIC SYSTEM CROWNINGSHIELD ROAD PARCEL #35.4-2-4.000 WILLMINGTON, NEW YORK DISTRIBUTION BOX X-SECTIONS	APA PROJ. # 2022-0133		MARK J. BUCKLEY P.O. BOX 401 WILLSBORO, NY
	DATE: 8-20-22	SCALE: NONE	2

LOT 4, DEEP HOLE INVESTIGATION *

TEST HOLE	DEPTH	SHGW	BEDROCK	HOIZ.	DEPTH	USDA TEXTURE
TP-4	72"	35"	>72"		0-12"	FOREST LITTER, HUMUS/ROOTS
					12-28"	SILTY LOAMS
					28-40"	SANDY LOAMS, MED. DENSITY
					40-48"	SILTY LOAM
MOTTLING AT 35"						

PERCOLATION TEST RATES *

TEST HOLE	DEPTH	PERC. RATE (MINS/IN)	DATE
SP-4A	16	4	*
SP-4B	16	4	*

LOT 5, DEEP HOLE INVESTIGATION *

TEST HOLE	DEPTH	SHGW	BEDROCK	HOIZ.	DEPTH	USDA TEXTURE
TP-5	66"	30"	>66"		0-4"	ORGANICS, HUMUS/ROOTS
					4-31"	SANDY LOAM
					31-50"	FIRM SAND
MOTTLING @ 30"						

PERCOLATION TEST RATES *

TEST HOLE	DEPTH	PERC. RATE (MINS/IN)	DATE
SP-5A	16	5	*
SP-5B	16	5	*

LOT 6, DEEP HOLE INVESTIGATION *

TEST HOLE	DEPTH	SHGW	BEDROCK	HOIZ.	DEPTH	USDA TEXTURE
TP-6	54"	24"	>54"		0-7"	SAND LOAM WITH COBBLES
					7-19"	SANDY LOAM WITH COBBLES
					19-54"	FIRM SAND WITH COBBLES
MOTTLING AT 24"						

PERCOLATION TEST RATES *

TEST HOLE	DEPTH	PERC. RATE (MINS/IN)	DATE
SP-6A	16	20	*
SP-6B	16	18	*

LOT 7, DEEP HOLE INVESTIGATION *

TEST HOLE	DEPTH	SHGW	BEDROCK	HOIZ.	DEPTH	USDA TEXTURE
TP-7	58"	34"	>58"		0-10"	TOPSOIL, SAND LOAM
					10-23"	SANDY LOAM
					23-34"	SAND
					34-58"	FIRM SAND, COBBLES
MOTTLING AT 34"						

PERCOLATION TEST RATES *

TEST HOLE	DEPTH	PERC. RATE (MINS/IN)	DATE
SP-7A	16	3	*
SP-7B	16	4	*

LOT 8, DEEP HOLE INVESTIGATION *

TEST HOLE	DEPTH	SHGW	BEDROCK	HOIZ.	DEPTH	USDA TEXTURE
TP 8	54"	29"	>54"		0-5"	ORGANICS, LOAM
					5-13"	SAND LOAM
					13-28"	SAND
					23-54"	BOULDERS, FINE SAND
MOTTLING AT 29"						

PERCOLATION TEST RATES *

TEST HOLE	DEPTH	PERC. RATE (MINS/IN)	DATE
SP-8A	16	3	*
SP-8B	16	13	*

LOT 9, DEEP HOLE INVESTIGATION *

TEST HOLE	DEPTH	SHGW	BEDROCK	HOIZ.	DEPTH	USDA TEXTURE
TP 9	72"	>48"	>72"		0-5"	ORGANICS, SAND
					5-11"	SAND
					11-48"	GRAVELLY SAND
NO MOTTLING						

PERCOLATION TEST RATES *

TEST HOLE	DEPTH	PERC. RATE (MINS/IN)	DATE
SP-9A	16	4	*
SP-9B	16	3	*

LOT 10, DEEP HOLE INVESTIGATION *

TEST HOLE	DEPTH	SHGW	BEDROCK	HOIZ.	DEPTH	USDA TEXTURE
TP109	64"	>48"	>64"		0-5"	SANDY ORGANICS
					5-15"	SAND
					15-24"	COURSE SAND
					24-60"	FINE SAND
NO MOTTLING						

PERCOLATION TEST RATES *

TEST HOLE	DEPTH	PERC. RATE (MINS/IN)	DATE
SP-10A	16	4	*
SP-10B	16	3	*

* DEEP HOLE TEST PITS PERFORMED JULY 6, 2022 BY THE APA AND MARK J. BUCKLEY, P.E. PERCOLATION TESTS PERFORMED ON JULY 6, 2022 AND JULY 13, 2022 BY MARK J. BUCKLEY, P.E.

STATE OF NEW YORK
MARK J. BUCKLEY
062941
LICENSED PROFESSIONAL ENGINEER

BALLEN SUBDIVISION SEPTIC SYSTEM CROWNINGSHIELD ROAD PARCEL #35.4-2-4.000 WILLMINGTON, NEW YORK SOIL DATA	APA PROJ. # 2022-0133		MARK J. BUCKLEY P.O. BOX 401 WILLSBORO, NY
	DATE: 8-20-22	SCALE: NONE	3

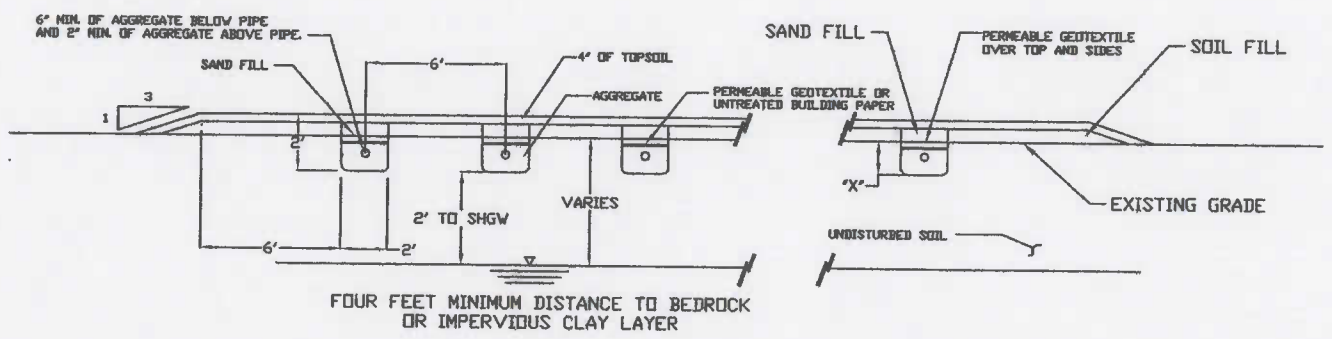
REQUIRED LENGTH OF ABSORPTION TRENCH

LOT NUMBERS	APPLICATION RATE	PERC. RATE	FLOW RATE (GALS./DAY)				
	GAL./DAY/SF	MIN./INCH	220 (2 BDRM)	330 (3 BDRM)	440 (4 BDRM)	550 (5 BDRM)	660 (6 BDRM)
6	0.70	16 - 20	158 FT.	236 FT.	315 FT.	393 FT.	472 FT.
8	0.80	11 - 15	138 FT.	207 FT.	275 FT.	344 FT.	413 FT.
4, 5, 7, 9, 10	1.20	1 - 5	92 FT.	138 FT.	184 FT.	230 FT.	275 FT.
		SEPTIC TANK SIZE (GAL.)	1,000	1,000	1,250	1,500	1,750
		SEPTIC TANK SIZE W/GARBAGE GRINDER	1,250	1,250	1,500	1,750	2,000

NOTES:
1. THE WASTEWATER TREATMENT SYSTEM IS DESIGNED AND APPROVED BASED ON THE INSTALLATION OF WATER CONSERVATION FIXTURES AND A DESIGN FLOW OF 110 GALLONS PER BEDROOM PER DAY. THE SYSTEM IS NOT DESIGNED TO ACCOMMODATE EXTREME WATER USE FIXTURES SUCH AS JACUZZI-TYPE SPA TUBS OR WATER TREATMENT EQUIPMENT. THE SYSTEM IS NOT DESIGNED TO ACCOMMODATE GARBAGE GRINDERS UNLESS THE SEPTIC TANK IS ENLARGED BY 250 GALLONS (SEE ABOVE). THE INSTALLATION OF NON-CONSERVING WATER FIXTURES OR EXTREME WATER USE FIXTURES IS CONTRARY TO THE APPROVAL OF THIS WASTEWATER TREATMENT SYSTEM.
2. NO INDIVIDUAL DISTRIBUTION LATERAL SHALL EXCEED 60 FEET IN LENGTH.
3. ALL HOMES SHALL USE WATER SAVING FIXTURES (POST 1999). WATER CLOSETS TO BE 1.6 gpf max. AND FAUCETS/SHOWERHEADS TO BE 3.0 gpm max.

REQIRED SEPARATION DISTANCES FROM WASTEWATER SYSTEM COMPONENTS (FEET)

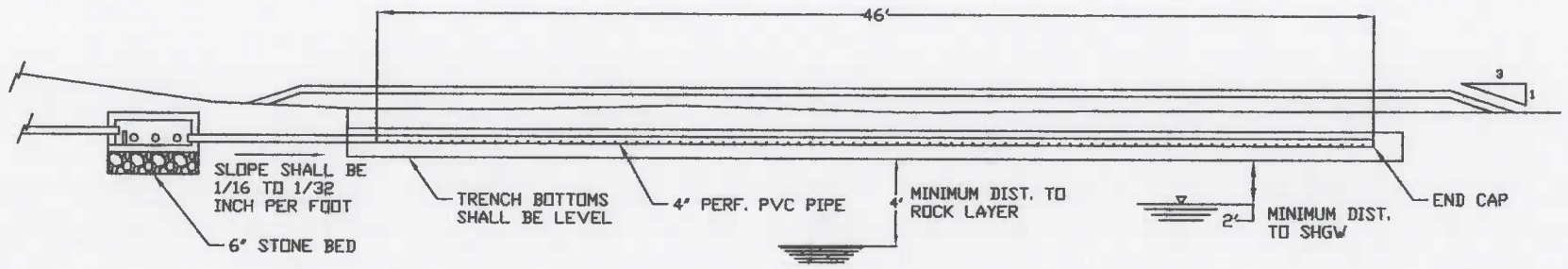
SYSTEM COMPONENT	WELL OR SUCTION LINE	TO STREAM, LAKE WATERCOURSE OR WETLAND	DWELLING	PROPERTY LINE	DRAINAGE DITCH
HOUSE SEWER	50	25	3	10	-
SEPTIC TANK	50	50	10	10	10
EFFLUENT LINE TO DISTRIBUTION BOX	50	50	10	10	10
DISTRIBUTION BOX	100	100	20	10	20
ABSORPTION FIELD	100	100	20	10	20
SEEPAGE PIT	150	100	20	10	20
DRY WELL (ROOF AND FOOTING)	50	25	20	10	10
RAISED OR MOUND SYSTEM	100	100	20	10	20



ABSORPTION FIELD X-SECTION (TYP.)

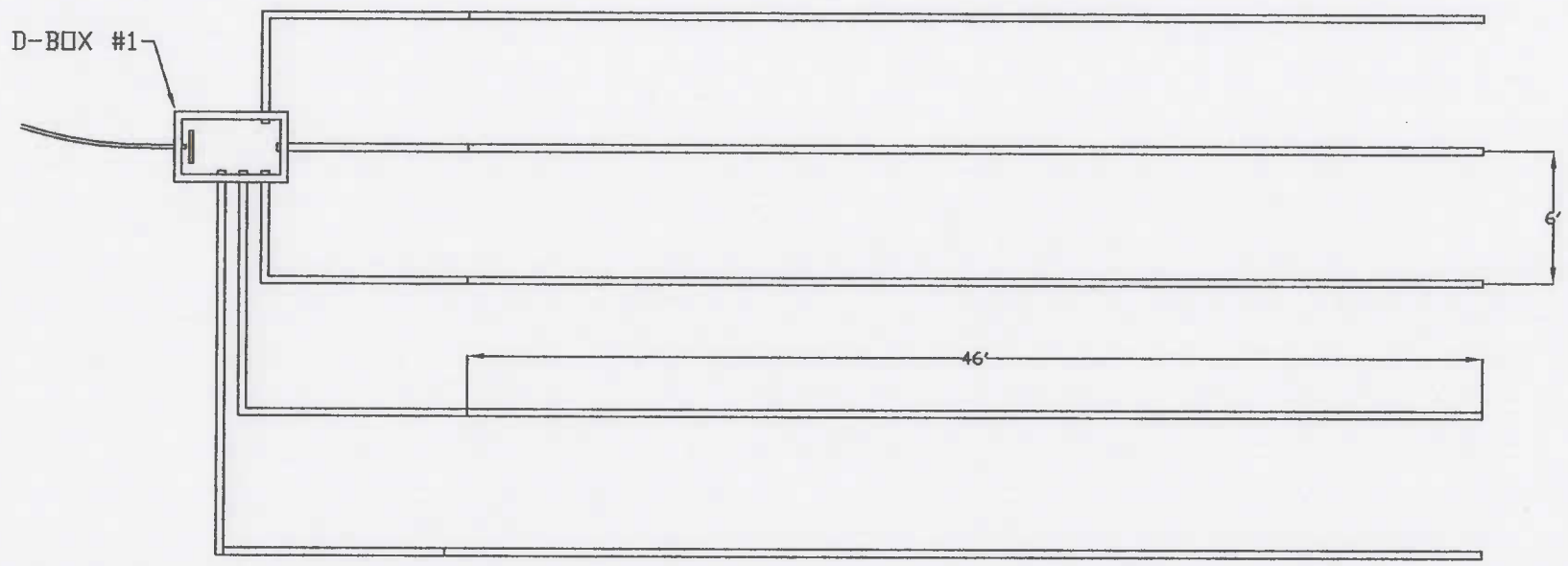
DIMENSION "X"	LOT NUMBER
11"	4
6"	5
0"	6
10"	7
5"	8
24"	9, 10

BALLEN SUBDIVISION SEPTIC SYSTEM CROWNINGSHIELD ROAD PARCEL #35.4-2-4.000 WILLMINGTON, NEW YORK DESIGN DATA	APA PROJ. # 2022-0133		MARK J. BUCKLEY P.O. BOX 401 WILLSBORO, NY
	DATE: 8-20-22	SCALE: NONE	4



D-BOX X-SECTION (TYP.)

ABSORPTION FIELD X-SECTION (TYP.)



ABSORPTION FIELD PLAN VIEW

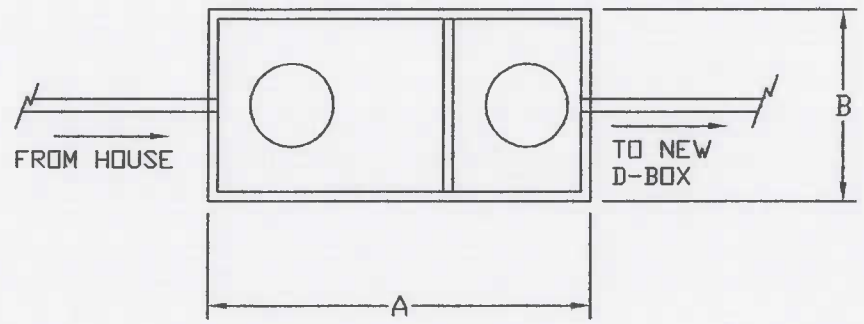
(TYPICAL FOR A 5 BEDROOM HOME ON LOTS 4, 5, 7 AND 10)

STATE OF NEW YORK
MARK J. BUCKLEY
062941
LICENSED PROFESSIONAL ENGINEER

BALLEN SUBDIVISION SEPTIC SYSTEM CROWNINGSHIELD ROAD PARCEL #35.4-2-4.000 WILLMINGTON, NEW YORK D-BOX AND ABSORPTION FIELD	APA PROJ. # 2022-0133		MARK J. BUCKLEY P.O. BOX 401 WILLSBORO, NY
	DATE: 8-20-22	SCALE: NONE	5

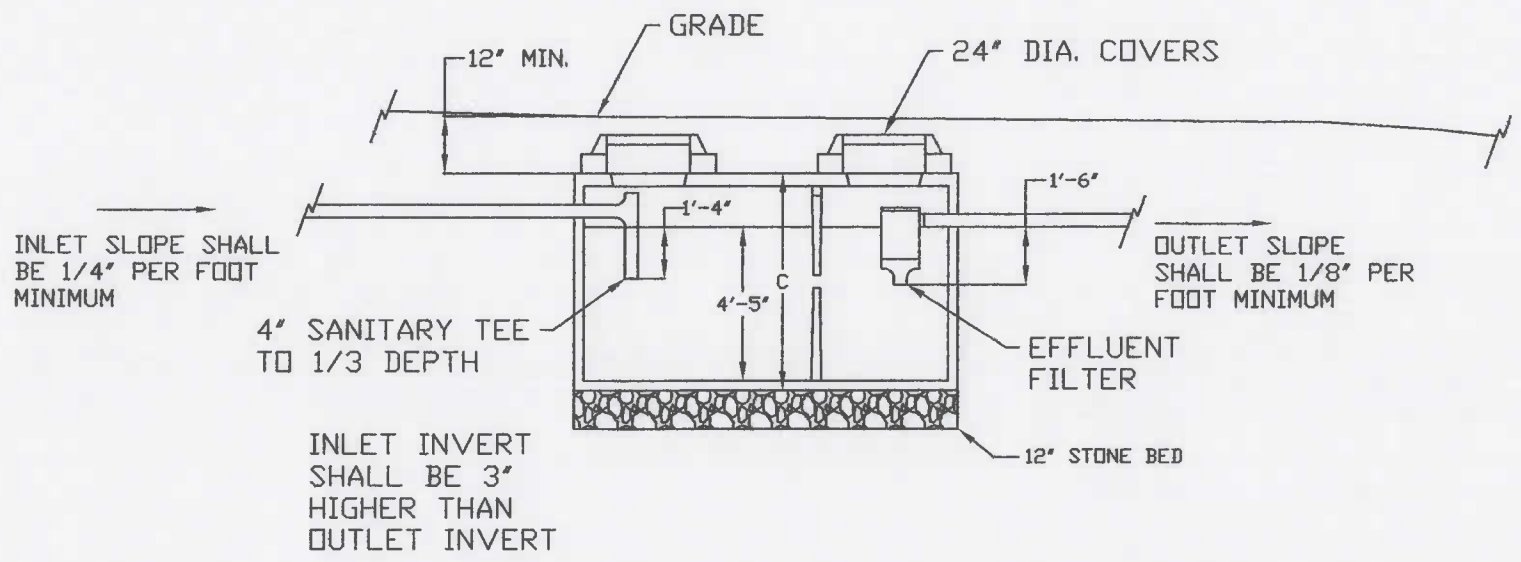
OUTSIDE DIMENSIONS				MIN. LIQUID SURFACE AREA
	A	B	C	
1,000	8'-0"	5'-2"	5'-8"	27 SF
1,250	10'-0"	5'-0"	5'-8"	34 SF
1,500	10'-6"	5'-8"	5'-8"	40 SF
1,750	12'-10"	6'-8"	5'-0"	47 SF
2,000	12'-0"	6'-6"	5'-10"	54 SF

TYPICAL SEPTIC TANKS DIMENSIONS



1,000 GALLON SEPTIC TANK

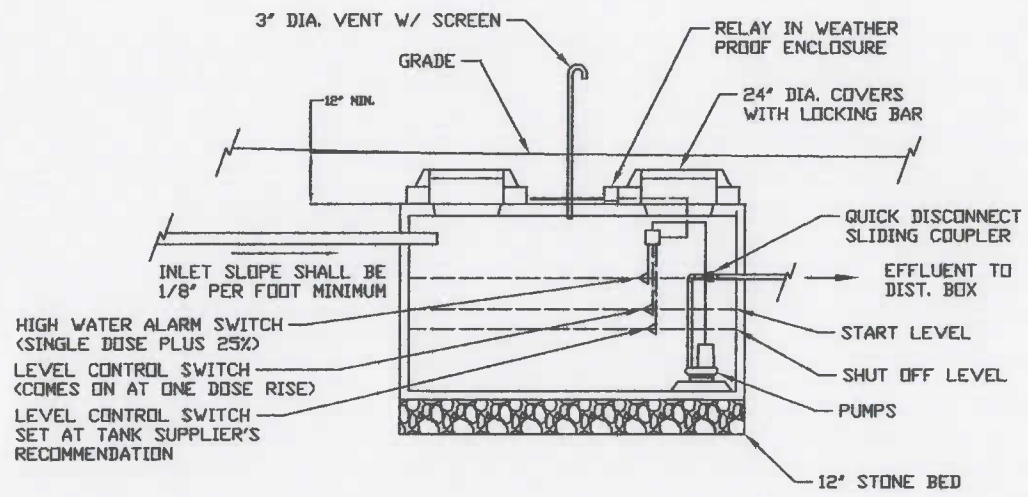
DUEL COMPARTMENT



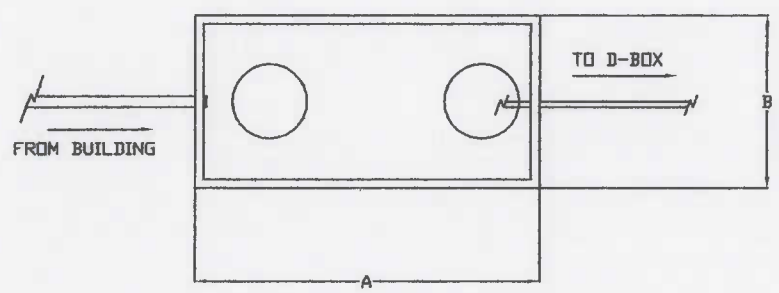
NEW 1,000 GALLON SEPTIC TANK

DOUBLE COMPARTMENT - FRONT COMPARTMENT SHALL CONTAIN 60% TO 70% OF TOTAL VOLUME, BACK COMPARTMENT SHALL CONTAIN 30% TO 40% OR TOTAL VOLUME

BALLEN SUBDIVISION SEPTIC SYSTEM CROWNINGSHIELD ROAD PARCEL #35.4-2-4.000 WILLMINGTON, NEW YORK X-SECTIONS	APA PROJ. # 2022-0133		MARK J. BUCKLEY P.O. BOX 401 WILLSBORO, NY
	DATE: 8-20-22	SCALE: NONE	6



1,000 GALLON PUMP STATION



1,000 GALLON PUMP STATION

PUMP STATION:

1. One or two pumps shall be provided in the pump station. Should two pumps be used, each pump will alternately send effluent to a designated absorption field.
2. Pumps shall be model Myers SRM4 or approved equal.
3. Pumps shall dispense between 70% and 80% of the perforated pipe volume of the absorption field per dose.
4. All electrical components shall meet NEMA 4 specifications or greater.
5. Pump station shall be large enough to store 750 gallons of leachate and house two pumps.
6. Precast concrete shall be treated with bituminous coating.
7. Pump chamber shall be at least 10% heavier than buoyancy of maximum high groundwater.
8. Reserve capacity after alarm sounds shall be 250 gallons.
9. A 1/8 inch diameter weep hole shall be installed on the force main in the pump chamber to permit the force main to drain between doses.
10. An alarm system shall be installed to the manufactures's recommendations and the NYS requirements.
11. All tanks shall be vented for positive air/gas displacement.

BALLEN SUBDIVISION SEPTIC SYSTEM CROWNINGSHIELD ROAD PARCEL #35.4-2-4.000 WILLMINGTON, NEW YORK X-SECTIONS	APA PROJ. # 2022-0133		MARK J. BUCKLEY P.O. BOX 401 WILLSBORO, NY
	DATE: 8-20-22	SCALE: NONE	7

SPECIFICATIONS:

1. The contractor shall verify all measurements in the field prior to ordering materials.
2. The contractor shall verify and note elevations and distances of septic tank, pump station, distribution box and absorption field. The contractor shall provide the owner with a set of as-built drawings after the completion of the work.
3. Slope on all non-perferated gravity pipe to be a minimum of 1/8" per L.F. unless otherwise noted.
4. All tanks and boxes to be concrete (4000 psi). Size and specifications to conform to The New York Department of Health Appendix 75-A standards and the NYSDOH Design Standards for Intermediate Sized Wastewater Treatment Systems, dated March 5, 2014.
5. All tanks and boxes shall be water tight and have a minimum of 12 inches of cover.
6. All solid pipe shall be schedule 40 PVC unless otherwise noted.
7. All perforated pipe shall be SDR 35 PVC or equivalent unless otherwise noted.
8. Outlet leveling devices shall be installed on each of the outlets of the distribution box to ensure equal flow to each distribution line.
9. Backfill and bedding of all tanks shall strictly follow manufacturer's written recommendations. After the tanks are installed they shall be inspected to ensure they are water tight. Any visible damage shall be repaired prior to backfilling.
10. All backfill and bedding shall be installed with minimum 6 inch lifts. No rocks greater than 2 inches in diameter will be used for backfill.
11. Washed stone or crushed gravel shall be used as aggregate in the absorption trenches. Aggregate size shall be between 3/4" and 1-1/2".
12. Absorption trenches shall be constructed parallel to ground contours and the trench bottoms shall be essentially level.
13. Absorption fields shall not be built under driveways, parts of buildings, under any other structure or areas subject to heavy loading. Surface waters shall be diverted from the vicinity of the system.
14. Conventional absorption trench systems shall not be placed in areas where the slope exceeds 15 percent. Conventional shallow trench systems shall not be placed in areas where the slope exceeds 8 percent.
15. All tanks and components of the tank system shall be constructed of durable materials resistant to corrosion, frost damage, deformation (cracking or buckling) due to settlement or soil pressures.
16. The contractor shall supply the owner with a set of as-built drawings.
17. The contractor (or installer shall contact "DIG-SAFELY" at "8-1-1" ten days prior the commencement of any excavation Work.

SEPTIC TANKS:

20. Compartments shall be connected by a 4-inch slot at least 18" in width, a 6-inch elbow, two 4-inch elbows or four 4-inch diameter holes located 2/3 the total liquid depth from the bottom of the septic tank.
21. The septic tanks shall have a minimum liquid area as indicated on the table.
22. Septic tank baffles shall have one inch clear on top.
23. A Zable Model A1800 Septic Tank Filter or equivalent shall be used.
24. The wastewater treatment system is designed and approved based on the installation of water conserving fixtures. The septic tank is not designed to accommodate extreme water use fixtures, such as jacuzzi-type spa tubs or water treatment equipment. The system is not designed to accommodate garbage grinders (unless the septic tank is enlarged by 250 gallons). The installation of garbage grinders, non-conserving water fixtures or extreme water use fixtures is contrary to the approval of this wastewater treatment system.
25. All tanks shall be vented for positive air/gas displacement.

BALLEN SUBDIVISION SEPTIC SYSTEM CROWNINGSHIELD ROAD PARCEL #35.4-2-4.000 WILLMINGTON, NEW YORK SPECIFICATIONS	APA PROJ. # 2022-0133		MARK J. BUCKLEY P.O. BOX 401 WILLSBORO, NY
	DATE: 8-20-22	SCALE: NONE	8